

# MICHIGAN FARMER

AND LIVE STOCK JOURNAL  
PUBLISHED WEEKLY. ESTABLISHED 1843.

VOL. CLVI. No. 19  
Whole Number 4147

DETROIT, MICH., SATURDAY, MAY 7, 1921

ONE YEAR \$1.00  
FIVE YEARS \$3.00

## Indiana Has Led the Way

*Our Sister State Boasts of One Thousand Consolidated Schools*

By R. P. Crawford

WHEN one can find a state that has abandoned four thousand one-room schools, or approximately one-half of all the one-room schools that the state ever had, it is certainly worth talking about. Indiana is the state that has distinguished itself by such a record and now it can boast that it has approximately one thousand consolidated schools, probably the biggest record of its kind that has been made by any state in the Union. While in most states the consolidated school has been a development of only the last five to eight years, in Indiana there were many con-

solidated schools, because of the start that was made more than twelve years ago, and the work that Professor Lee Driver did while county superintendent of the schools there. Mr. Driver is now in Pennsylvania engaged in consolidated school work. In fact, I am told that Mr. Driver himself was converted to the consolidated school idea while serving as the superintendent of Randolph county.

### Typical One-room Schools.

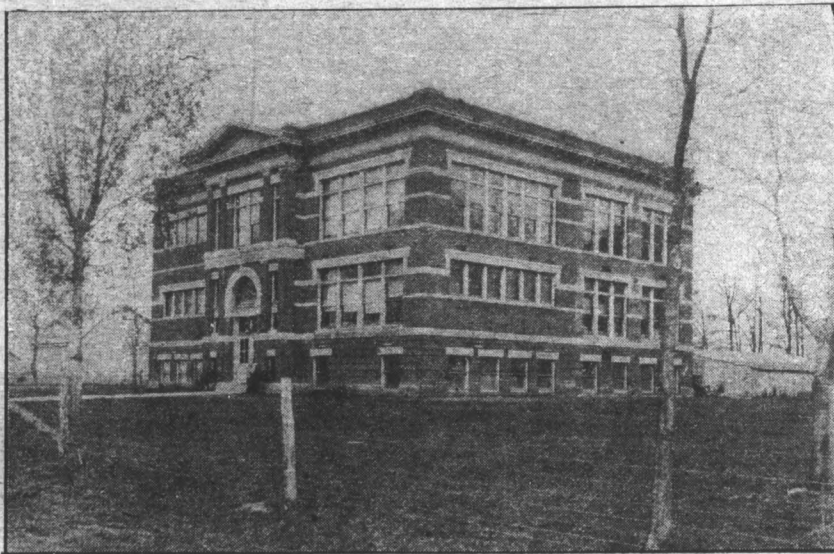
"The one-room schools in this county were just the same as other one-room schools," County Superintendent O. H. Greist told me. "They were poor-

miles west of Union City, one of the two small towns in the county. It is a modern type of brick building, erected in 1917 at a cost of \$20,000. But since the contractor lost money in building it, it undoubtedly has a value much greater. However, it suggests somewhat that which may be accomplished in fairly normal times for an expenditure of between \$20,000 and \$30,000. It is an eight-room structure and has four acres of ground. The building has its own light and water plant, operated by a gasoline engine, and is provided with a good gymnasium and shower baths.

This particular school does not offer high school work, because it is so close to Union City, and there is also another consolidated school in the same township which does offer high school instruction. In fact, out of the twenty-one consolidated schools in the county, five have only eight grades, while the remainder offer full high school courses. There is usually not more than one high school in a township. In passing, it might be remarked that fourteen of the consolidated schools are in the open country, while three

and novel, the Jackson school was heralded far and wide. Even today the school plant compares quite favorably with those erected later. The building itself is set well back from the road in a grove of trees. Needless to say, it is strictly an open country school, with an attendance of approximately three hundred pupils. The school is operated on what is known as the six-six plan, the upper six grades in such a case making the high school. The advantage in such a plan is usually said to be the fact that the children are less liable to drop out of school when they reach the eighth grade. In this particular school there are about one hundred and fifteen pupils in the upper six grades. Of course, the building itself is entirely modern. The Jackson township school district covers approximately thirty square miles, and twelve horse-drawn busses are used for transportation. In this school it is the custom to dismiss shortly after three o'clock in the afternoon, thereby enabling all the children to get to their homes in good season.

We might visit a great number of schools in this township if it would



The Jackson School was Erected in 1910 and is One of the Best Known of the Early Institutions.

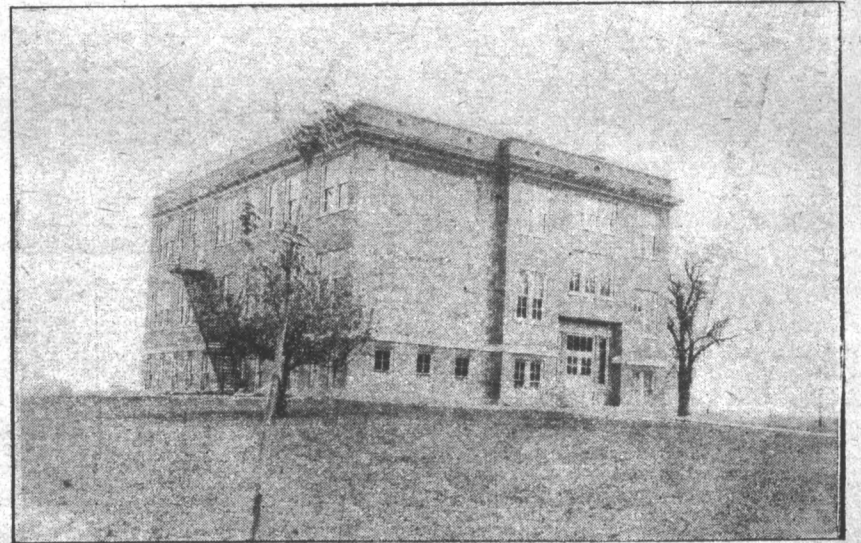
solidated schools established ten and twelve years ago. However, consolidated schools the country over are a recent development and the biggest progress even in Indiana has been made in comparatively the last few years.

In Marion county, where the city of Indianapolis is located, in Montgomery county in western Indiana, and in Randolph county in the east central part of the state, more than ninety per cent of the one-room schools have disappeared. Many of these counties are close to the one hundred per cent mark. In Marion county, out of ninety-eight one-room schools originally built, there were but five left last fall. In Randolph county, where at one time there were one hundred and thirty-one one-room schools, there were but four one-room schools left in operation last fall.

It would be an interesting procedure to visit a large number of consolidated schools in Indiana, but for the purposes of this article we shall pay special attention to those in Randolph county. This is typically a country county, that is, it has no large cities. It also has been a very famous county

ly equipped, had poor buildings, unkept school grounds, dilapidated surroundings, in short, typical one-room schools. Mud roads had been giving way to gravel and macadamized roads, the churches had been gradually remodeled, new farm homes had been built, and in fact, the entire community had responded to the spirit of progress with the exception of the schools. They were still in the same old dilapidated buildings and taught in practically the same old dilapidated way." I have a fleeting suspicion that Mr. Greist's description of the one-room schools in his county might well be used to describe the one-room schools in practically ninety per cent of the states in the Union.

On an almost perfect May day I set out with County Superintendent Greist to visit a number of schools in his county. But when there are twenty-one consolidated schools in a county, instead of only one or two, as is the rule in many of our states, it is quite a job to see every school. In fact, in this county about every direction one turns, up pops a consolidated school. The very first school that we came to was the Wilson school, located two



Stoney Creek School is a Good Type of the Open County Consolidated School.

are near villages, and four are in villages. It is also important to note that the three schools located in little towns have a playground of an entire square block, while the other schools have from three to six acres for playgrounds.

### A Famous School.

It was not so many years ago that the Jackson consolidated school in Randolph county was a very famous institution. In fact, it is still famous enough, but there have been so many excellent consolidated schools erected that those of ten or twelve years ago seem very modest in comparison. But in the day when the consolidated school was something still quite new

serve our purpose, but many of them are quite similar. The Lincoln and Jefferson schools, as well as the Green township school are all old institutions, erected in 1908 and 1910. Among the more modern schools is the Stoney Creek school. It is a fine open country institution, there being no towns in the near vicinity. The school has done quite a good deal of work with agriculture and conducted its own corn and feeding experiments. As will be noted in the illustration, there is provision on the right side of the building for an addition, completing a symmetrical arrangement. Greensfork township school in the southern part

(Continued on page 582).





Published Weekly Established 1843 Copyright 1921

The Lawrence Publishing Co.  
Editors and Proprietors1632 LaFayette Boulevard Detroit, Michigan  
TELEPHONE CHERRY 8384NEW YORK OFFICE-95 Madison Ave.  
CHICAGO OFFICE-111 W. Washington St.  
CLEVELAND OFFICE-101 1-1013 Oregon Ave., N.E.  
PHILADELPHIA OFFICE-261-263 South Third St.M. J. LAWRENCE President  
PAUL LAWRENCE Vice-President  
J. F. CUNNINGHAM Treasurer  
F. H. NANCE SecretaryI. R. WATERBURY Associate Editors  
BURT WERMUTH  
ALTA LAWSON LITTELL  
FRANK A. WILKEN

I. R. WATERBURY Business Manager

TERMS OF SUBSCRIPTION

One Year, 52 issues	\$1.00
Two Years, 104 issues	\$1.50
Three Years, 156 issues	\$2.00
Five Years, 260 issues	\$3.00

All sent postpaid  
Canadian subscription 50¢ a year extra for postage

RATES OF ADVERTISING

55 cents per line agate type measurement or \$7.70 per inch (14 agate lines per inch) per insertion. No advertisement inserted for less than \$1.65 each insertion. No objectionable advertisements inserted at any time.

Member Standard Farm Papers Association and Audit Bureau of Circulation.

Entered as Second Class Matter at the Post Office at Detroit, Michigan, Under the Act of March 3, 1879

VOLUME CLVI. NUMBER NINETEEN

DETROIT, MAY 7, 1921

## CURRENT COMMENT

## The Legislative Record

THE fifty-first Michigan legislature closed its regular session last week. From the standpoint of new and important laws enacted it has made a record not surpassed, and probably not equalled, by any previous Michigan legislative body.

The most important of the new laws passed are those providing for the reorganization of the state government in accordance with Governor Groesbeck's program. This legislation is of great importance because it concentrates the administrative functions of the state government under the direct control of the chief executive. From the standpoint of efficient administration under a competent governor this change is doubtless a good one, inasmuch as it will concentrate responsibility as well as power. And the creation of a governor's cabinet composed of the elective officers of the state under the name of the State Administrative Board will give the governor the benefit of the counsel of the several departmental heads and serve to better correlate and unify the work of the several departments of the government of the commonwealth.

On the other hand, this change will place at the disposal of every occupant of the governor's chair a super-political machine, which might easily enable him to be a near-dictator in the nomination of his party's candidates for important offices. It is easily conceivable that if any incumbent of the governor's office chose to exercise this power, "not wisely but too well," the result might more than nullify the advantages gained through a better business organization of the state governmental affairs.

However, this is a bridge to be crossed only when we come to it. It is mentioned at this time only because this reorganization of the state government increases the responsibility of the voters in the selection of future governors as well as the responsibility of the governors themselves. It also increases the responsibility of the press to keep the voters of the state reliably informed regarding the administrative and political behavior of future governors. If both live up to this responsibility all will be well, and this added responsibility will be an added benefit. To the end that our readers may be fully conversant with the new order of things, the changes effected in the state government by this legislation well as large denominations, and are

and the functions of the several new departments created will be made the subject of a series of comments in future issues.

A number of important laws affecting the agriculture of the state, either directly or indirectly, were also passed, while some measures which were strongly advocated by the farmers' organizations of the state failed of passage, notably the submission of a constitutional amendment which would make possible the passage of a state income tax law. These will also be reviewed in detail in a future issue.

## Watching Our Wood Supply

THE apparent inattention of the general public to the constant destruction of forests by fire promises disaster at a comparatively early date unless the rate of burning timber is materially checked.

The menace of a future shortage of wood threatens to become a real economic fact and this menace extends even farther than the supply of timber, for once the forests are gone the possibility of controlling an adequate supply of water for the successful conduct of agriculture, will have been very largely removed.

America's forest fires during the five years ending 1920 devastated an area exceeding in extent that of the entire New England states and occasioned a loss conservatively estimated at nearly a hundred million dollars. Of the 160,000 forest fires which occurred in the United States during this five-year period it is estimated that human agencies were responsible for around eighty per cent. Proper care and vigilance on the part of citizens would have prevented a very large portion of this great loss.

The secretary of agriculture has written the governors of all the states requesting their cooperation in a nation-wide observance of Forest Protection Week, May 22-28, recently proclaimed by President Harding. In this letter the governors are asked to set apart the week for the purpose of such educational and instructive exercises as shall bring to the people the serious effects of the present unnecessary wastes occasioned by forest fires. The farmer is especially concerned in this program, inasmuch as he is the heaviest user of forest products, as well as a producer, and is therefore interested in prices and in having his woodlot better insured against destruction. He, of all citizens, should not only aid, but should take the initiative in the promotion of this forest conservation program.

## Farm Bonds for Farmers

A RECENT decision of the supreme court has removed the legal obstacle to the activities of Federal Farm Loan Banks, after several months during which the making of loans has been held in abeyance pending the outcome of this litigation. But the Federal Farm Loan Board still has before it the task of financing the loans already passed upon and others for which applications will be made more rapidly than they can probably be granted.

The technical basis of attack upon the federal farm loan law was its constitutionality. But it has been repeatedly charged by the financial interests which have opposed the law that the sale of the federal farm loan bonds in big blocks to men of large means, enabling them to escape taxation on the money so invested, was contrary to public interest. As a matter of fact, these bonds, by the sale of which funds are provided for the making of long-time federal farm loans on the amortization plan, are offered in small as well as large denominations, and are

just as readily available for investment by farmers as by the man with large sums to invest. These bonds can be classed with government bonds in the matter of safety, and bear a reasonable rate of interest for an absolutely safe investment. And the farmer purchaser will have the satisfaction of knowing that his money will help some other farmer to finance his business at a reasonable rate of interest and under favorable terms.

Under present conditions capital is being solicited from farmers for the financing of every conceivable enterprise. And in most cases the salesmen who are offering it do not hesitate to paint the prospect of profit in the most glowing terms, generally unwarranted by the facts, in order to make a sale and get their commission. Their general plan of operation is to get as much as possible of the prospect's ready cash as a down payment for say twenty-five per cent of the face value of the stock and take his note for the balance, often on the unwarranted assurance that the dividends from the enterprise will take care of the note, to the great profit of the investor. Or if he cannot pay cash they offer to take his government bonds at par, as an added inducement to get in on a good thing.

Regardless of whether the investment is sound or not, disappointment is almost sure to result to the investor, as the new business which would "pan out" to equal the promises of the professional stock salesman would indeed be a wonder, especially at a time when the majority of old and well established enterprises are repeatedly "passing" dividends.

The factor of safety is of first importance in the investment of savings. While the earning power of a safe and liquid investment such as a government bond or a farm loan bond is less than may be promised by other classes of securities, they are free from the speculative features which make the returns from the less safe investments problematical.

## The School on the Farm

THERE is an item of danger in hanging onto old tools too long. It was not so long ago that the boys on one Michigan farm revolted against the continued use of one-horse cultivators when the neighbors were getting double and greater service from two and three-horse implements. There is a point where the farmer like every other user of machinery, can no longer afford to get on with the old tools because of the handicap it gives him in production costs. The boys who opposed the continued use of the one-horse cultivators were right in their contention. Fortunately the father complied, and in doing this he not only saved his boys to the farm but this very act put new spirit into the whole family. From then on father took the boys into conference when he wished to decide matters regarding the farm business.

And here is one of the great advantages of the farm for the family with children. The farmer's business, unlike the business of the city man, is closely tied up with the home life and every member of the family is more or less intimately acquainted with what is going on. No educational institution can create better conditions than this for inculcating into the lives of the boys and girls those fundamental principles of business and good sense, providing the parents are awake to the opportunity, and on the other hand, if the parents are found wanting there is no place where children can be made to abhor the work of their fathers with greater intensity. Here, then, is a great opportunity for parents but it carries responsibility of equal magnitude.

## News of the Week

Wednesday, April 27.

THE legislature at Lansing supports lakes-to-sea waterway by passing bill for \$20,000 to further the cause.—Municipal ownership car lines in Detroit now show a \$19,000 deficit.—New census figures indicate a twenty-one per cent increase in the foreign born population in Michigan.—The McCormick bill establishing a national budget system is passed by the United States Senate.—A revival of industry cuts the number of charity cases in Detroit one-half.—Thirty-two I. W. W.'s start sentences at the national prison at Leavenworth, Kansas.—The mayor of Detroit vetoes budget containing salary increases for employees.

Thursday, April 28.

THE reparations board at Paris fixes 132,000,000,000 marks as total war damages due allies from the Germans.—In an effort to settle strike British mine owners guarantee miners that wage reductions will not exceed three shillings.—Masahao Hanihar, of the Japanese diplomatic service, denies that Japan covets Philippines.—Detroit and Cleveland boat lines cut freight rates fifteen per cent.—Eighteen die in tornado that wrecks Braxton, Miss.—The much discussed Greek offensive against the Turkish nationalists failed to materialize.

Friday, April 29.

BY the defeat of the Welsh bill the state legislature continues support of continuation schools.—Charles Bendle, a war hero, dies in Chicago after having undergone nineteen operations in three years.—Twenty-two steel mills in the Shenango valley district, Pennsylvania, resume operations.—Charles M. Schwab reveals a \$100,000,000 war bribe by Germany if he would break his war contracts with Lord Kitchen.—Italian extremists seize city hall in Fiume and proclaim a provisional directorate.—In a talk before the navy, President Harding warns world that the United States will not give up "what is righteously ours."

Saturday, April 30.

ITALY supports the United States stand in regard to the Island of Yap.—A German cabinet member urges Berlin to accept entire entente terms.—The shipworkers' union in Montedideo, Uruguay, boycotts United States shipping board steamer Aeolus.—United States warns Dutch that America will insist on equal rights in the oil fields of Dutch East Indies.—A fifty million dollar firm is organized in Washington to build airships to cruise between the largest cities in the United States.—Townley, non-partisan chief, is again judged disloyal and must serve his sentence.

Sunday, May 1.

THE United States Senate adopts Knox bill for peace with Germany.—The general fund budget passed by the state legislature indicates that taxes will be slightly higher than last year.—I. W. W. Chief Haywood is in Russia but wires that he will return to this country to serve sentence.—Gar Wood's speed boat wins in race with Havana special train from Miami, Fla., to New York, by twenty-one minutes.—Car strike in Detroit, due to wage cut, is called off for one week.—C. A. Bingham, organizer of the Michigan State Farm Bureau, and its first secretary, takes charge of agricultural department of the Detroit Board of Commerce. Mr. J. P. Powers, his associate in former work, will assist him.

Monday, May 2.

THE first slacker list for Illinois, Michigan and Wisconsin issued by the war department contains fifteen names.—Strike of marine workers ties up shipping at New York.—May-day Red uprising throughout the country failed to materialize.—France yields to allies' demand by delaying seizure of the Ruhr district.—Federal reserve board in report says retail prices continue as "sticking point in country's readjustment."—Reds in Argentina cause damage on May Day by bomb throwing.

Tuesday, May 3.

THE allies' ultimatum to Germany makes 6,600,000,000 pounds, plus twenty-five per cent export tax as total damage payment. Germany must accept the terms by May 12, or Ruhr district and customs receipts will be seized.—The United States Supreme Court clears Truman Newberry of all charges of fraud in election.—Printers in various cities strike for a forty-four hour week.—United States warns Republic of Panama to transfer jurisdiction of Coto territory to Costa Rica.



# Winter Feed From Muck Soil

*A Neglected Factor in the Management of Muck Areas on Thousands of Farms*

By Ezra Levin

**G**ROWING root crops as a winter feed is a good idea which is not being used. Roots were extensively and entirely used as a source of winter succulence before the silo was generally known.

It must be understood that there is nothing better for silage that one can grow than a good corn crop yielding from eight to fifteen tons to the acre. But frost is the serious factor which has made corn, either for silage or grain, a risky crop on muck soils.

On the other hand, there are other silage crops for the muck farmer. The importance of the sunflower was especially well shown on muck under extremely varying conditions in the state last year. Exceedingly hardy to frost, drought, excess moisture, giving a high tonnage, the sunflower is only waiting for complete agreement by specialists on its feeding value as compared with corn, to be given unqualified recommendation for the muck farmer.

Of course, the muck farmer should have a silo. If he is situated where he cannot grow corn he can grow the sunflower, or oats and peas for silage. The silo is an important factor in farm management of the muck farmer growing general crops.

The history of the work of muck farmers who began farming by doing without silos, growing corn for grain, or small grains, is not at all encouraging. At a critical time the "black death" in July or August, has caused ruin and failure. It happens every year on our muck lands in some part of the state.

There are three situations in which it would appear that the growing of roots would aid the muck farmer. It would provide the farmer having a silo with additional winter feed; it would be of greater assistance to the one who expects to purchase a silo but who desires to keep stock until the time when he can make that investment and it is the only sensible course for the man who cannot use the silo at all.

Most muck soil is ideal for root crops. As long as agriculture has existed, roots have been a basic crop in the dairy districts of Europe. Many sections depend entirely upon roots for

winter feed. Four tons of roots, such as beets, carrots, rutabagas and mangels equals three tons of silage. Twenty tons of roots to the acre is common on fertile muck soils. Thirty tons have been noted. In 1919, I saw carrots on the Beebe Farm at Niles which went more than one thousand bushels to the acre. Blocking and thinning is much easier on muck soil than on upland.

Feeding carrots and millet hay may not sound ethical, but horses on heavy hauling have come through the winter in splendid condition on such a ration.

At the North Central Experiment Station of Minnesota a test of various root crops has shown rutabagas to be

the most satisfactory. Their reasons are summed up as follows:

"Besides being the largest yielder among root crops rutabagas have several other advantages: (1) seed is cheap; (2) germination is better than with mangels or sugar beets, therefore insuring a more even stand; (3) rutabagas sprout quicker and can be thinned and weeded sooner, which is a great advantage; (4) being of quicker growth they are less likely to be damaged by insects when small; (5) they are the most hardy of the root crops; (6) they are the best keepers, especially as compared with the flat turnip, which is likely to grow hollow and rot in storage."

"In feeding, a pulper or chopper may be used, though this is not necessary unless one wishes to mix them with grain feed. When feeding rutabagas in considerable quantity to dairy cows, it is important that the feeding should be done after milking time as the aroma from the roots in the barn may taint the milk."

There are several very important practical advantages in growing roots. They can be planted later. Roots are adapted to new land. On numerous occasions my attention has been called to successful crops of carrots which have been grown on new muck. Harvesting may be delayed in the fall until the main work is done. Nothing but a hard freeze can harm roots. Root crops should be considered by the muck farmer as a winter feed. They should be considered as an integral part of his farm management plan.



Unusual Growth of Beets on Muck Land by June 18, 1920.

# Why Tile Drainage Systems Fail

*Better Get Acquainted with Your Farm Before Digging a Trench*

By W. Van Haitsma

**M**ANY, if not all, of the failures of individual tile-drains or tile-drainage systems to function properly can be directly traced to failure to properly consider all of the factors that influence the laying out of an efficient, economical drain or drainage system. The result has been the waste of considerable time, labor and money, which has far exceeded in value what it would have cost to employ a competent farm drainage engineer.

There is no improvement on the farm that is more permanent, and that will bring bigger returns than a tile-drainage system properly planned and constructed. It will serve not only the present owner, but future generations of owners as well. The saving of a few dollars in engineers' fees may result in the annual loss of many times this amount, and can only be characterized as a "penny wise dollar foolish," policy. Experience has shown

time and again that no part of the investment in a farm drainage system will bring bigger returns than the fees of a reliable engineer.

The farm drainage engineer should, of course, be a capable civil engineer, but he must be more than that. He must have an intimate, practical knowledge of soils and crops, because the nature of the soil and the kind of farming a farm is devoted to, are important factors in the design of a drainage system. This knowledge can only have been obtained through years of experience as a farmer.

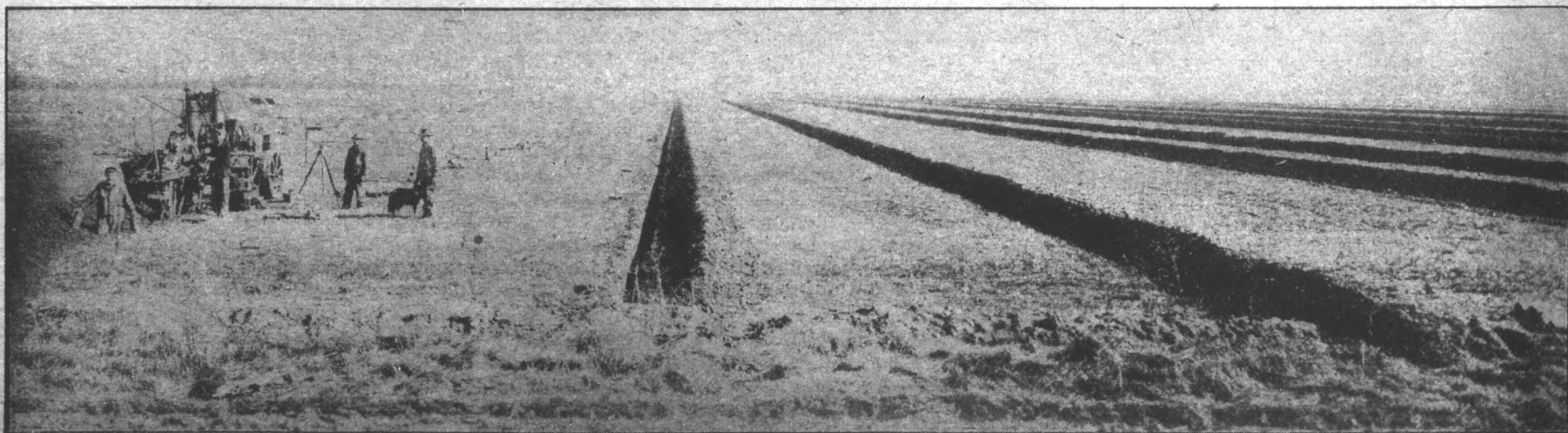
He must be an economist, so that he may be able to advise the farmer not to tile-drain when soil and other conditions are such that an investment in tile-drainage will seem to be unwarranted. Certain soils have impervious

layers of sub-soil near the surface through which water cannot penetrate, and will, therefore, not respond to tile-drainage. The writer was called recently to investigate conditions on a farm which had been tile-drained in 1918. Although there was plenty of fall in the drains, and they were apparently in good condition, they failed to function because the water could not get down to them. The soil was as wet and soggy above the drains as it was in spots a rod or two from them. A study of the soil previous to installing the system would have revealed the fact that an impervious layer of sub-soil would make the tile-drains ineffective and would have saved the farmer hundreds of dollars.

Determining the most advantageous location of the drains, and their proper

depths and grades is equally important. A study of the soil will reveal the required spacing of the drains, their locations to meet special conditions, and the depths to which they must be laid to secure adequate drainage, while a study of the topography or the lay of the land will determine the general location of the drains, and the grades that will meet the demands of the soil, at a minimum cost in labor and tile. The most expensive system of drainage is by no means always the most efficient. A few drains judiciously placed will often give better results than a net-work of drains placed without due consideration to the drainage requirements and the topographical condition of the particular farm. Here, too, the drainage engineer's services may effect a material saving in cost, and an increase in efficiency, compared with which his fees are negligible.

The practice of installing a farm



This Farm Was Carefully Surveyed and the Whole Drainage Requirements of Every Field were Anticipated Before the Trenching Machine was Started.



drainage system piece-meal, without first having made a plan of drainage for the entire farm, cannot be too strongly condemned from the viewpoint of economy. The drainage problem on some farms can be solved by the construction of a single short drain to some pond or spring or seeping hillside. Laying out a drain of this kind can frequently be done by the farmer himself, and may not require the services of a drainage engineer. The following bulletins which can be had free of charge from the institutions publishing them, contain instructions that will be of value: Special Bulletin No. 56, Michigan Agricultural College, East Lansing, Michigan; Bulletin No. 175, Ontario Agricultural College, Guelph, Ontario.

Where an entire farm, or a large portion of a farm needs tile-drainage, an engineer should be engaged to design a plan of drainage that will adequately take care of all the drainage problems encountered on that farm. A map should then be made, on which the complete drainage system is outlined. Should the farmer wish to install the drains in only one field, he can do so, and be assured that whatever drains are installed will fit into the final complete system.

#### The Outlet.

The first essential of a good tile-drainage system is an outlet. The engineer's first step will be to locate an outlet that will be large and deep enough to take care of the water that will be deposited by the main-drain at all times, and that will permit the main-drain to have a good grade, and a depth sufficient to permit of a ready flow from the sub-mains and laterals.

The open ditch is the most common form of outlet. In determining the necessary depth of an open ditch provision should be made for a certain amount of filling in, due to surface-washing, and erosion of the ditch banks. If the open ditch has been comparatively recently dug, a greater allowance should be made for filling in than in the case of an older open ditch.

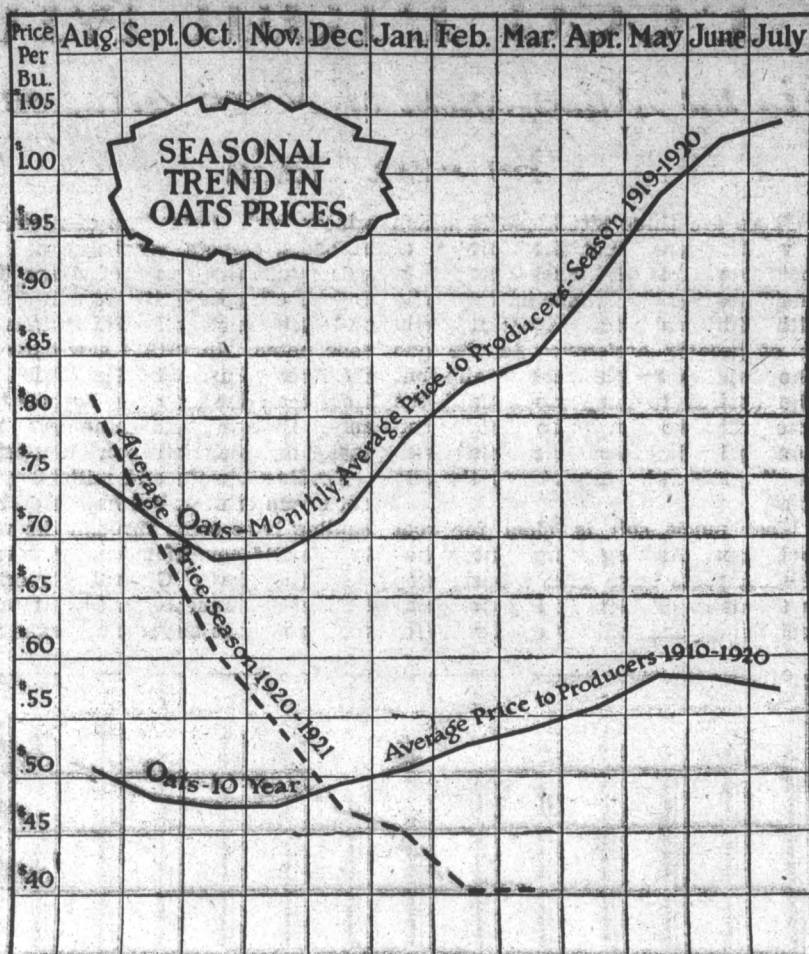
In the closed type of county drain, which is another form of outlet, six or eight-inch tile are often used when the requirements call for tile having twice the capacity of these sizes. A well constructed, properly maintained county tile-drain is an ideal outlet, but an open ditch outlet of adequate size over which the farmer has maintenance control is much to be preferred to an under-sized, poorly maintained closed drain. Before planning a drainage system that is to depend on a closed drain for its outlet, an inspection should be made of the drain, during a wet season in order that its condition and efficiency may be determined. Lack of an adequate outlet has made it impossible for many a farmer to tile-drain his farm.

When neither open nor closed drains are available vertical drainage is sometimes resorted to. Wells are driven to some porous, underground stratum, which furnishes an outlet. These outlets have not, however, proved entirely satisfactory, some of them are efficient for a while, and then for no apparent reason, fail to function.

#### Location of the Drains.

The drainage engineer will next make a soil and topographical survey of the area to be drained. If the soil will not respond to tile-drainage or if it lacks sufficient fertility to warrant the investment involved, his work will be completed. If, however, soil and subsoil conditions are favorable for tile-drainage he will proceed to make a topographical survey in order to determine the lay of the land and the location of the various kinds of soils, if there is a variety. Ponds, seeping-hill-sides, surface ditches, and springs will be located. Having done this he is in a position to plan a drainage system that will meet the general and special requirements of the farm.

## How Oat Prices Have Behaved



AS an average of the ten crop years from August, 1910, to July, 1920, prices for oats have been the lowest during October and November and highest during the month of June. The average advance during this period has been about eleven cents per bushel. As in all other price studies covering this period part of this advance, perhaps half or more, has been due to the advance of prices to a higher and higher level during the last half of the period.

Prices on the 1919 crop reached low point in the fall, after which there was an uninterrupted advance to the highest level on record on July 1, 1920. Beginning with August, 1920, prices slid off rapidly and on December 1, were below the ten-year average for that date. The behavior of prices during February and March indicate that the decline had spent its force.

The mains and sub-mains which are the carriers of a drainage system will be placed as far as possible along the line of lowest elevation in the area to be tile-drained. Their depth will depend on the required depth of the laterals at the junction points. Their grades will be determined by the amount of fall allowed by the outlet, and by the depth of the laterals. In case the grade in the direction of the outlet changes from a very steep to a slight one in a sandy soil, provision must be made for a temporary silt well and if considerable silt is deposited during rainy weather, a permanent silt-well made of concrete or brick should replace it, otherwise a tile may be substituted.

The spacing of the lateral drains depends first of all upon the nature of the soil to be drained. If the subsoil is open and porous the drains can be placed deeper than they can when a

which the nature of the subsoil will allow them to be placed.

The spacing of laterals will also be affected by the nature of the crops grown on the farm. Truck crops will warrant a closer spacing and a greater resultant investment, than grain crops. The closer laterals are placed together, the more quickly will they remove excess water, and the smaller will be the damage to crops. As a general rule, however, laterals spaced from fifty feet in a heavy clay soil to one hundred feet in muck, will give good results.

The location of the laterals will be determined by the direction of the surface and the underground water-flow, by the special problems that have to be met, and by the location of the main drain. The laterals will be laid, as far as possible, across the line of surface and underground water-flow. This will prevent seepage between laterals, and,



tight subsoil is found near the surface. In the latter case it is sometimes advisable to place the tile above the impervious subsoil and to compensate for lack of depth by placing the laterals closer together. Subsoil conditions permitting, the deeper the laterals are placed, the larger the area they will drain, and the lower they will bring the water table. Since water moves through a sandy soil more freely than through a clay soil, it follows that the laterals in a sandy soil can be placed deeper, without materially affecting the rate of drainage, than in a clay soil, through which water moves more slowly because of the greater resistance it encounters.

The spacing of the laterals depends, therefore, largely upon the depth at

to a large extent, erosion and surface-washing of the soil.

The problem of the seeping hillside will be solved by placing a tile drain parallel to the line of seepage and far enough above it to give the drain a depth of from two and one-half to three feet when laid partially in the impervious subsoil that brings the water to the surface. Ponds present no special problem in systematic drainage as far as the location of laterals through or near them is concerned. Their depth will, however, determine the depth of the laterals. Medium-sized open ditches from neighboring fields or farms can be intercepted by building a catch-basin or stone-filter at the point at which they enter the farm to be drained. Tile drains connected to them will

then replace the open ditches, and permit the land they occupied to be utilized.

No hard and fast rule can govern the location of laterals, since no two farms present exactly the same problems. A competent drainage engineer will always bear in mind that efficiency and economy are the determining factors in the design of a tile drainage system.

#### Grades of Tile Drains.

The grade at which laterals are laid will depend largely upon the slope of the land. The depth of the outlet will affect the depth of the main, and this will in turn affect the grade of the laterals. In order to get uniform drainage over the entire farm, the laterals must be placed at as uniform a depth as possible, and the grade that can be allowed will depend somewhat upon this factor. In sandy soils the laterals should have a grade of at least three inches in one hundred feet. In clay soils a grade of two inches in one hundred feet will be found to be sufficient if careful grading is done.

The grade of the main will of course, be dependent upon the depth of the laterals at the junctions. Owing to the greater amount of water flowing through it, main drains are not so liable to become clogged by sand or silt, as laterals, and can, therefore, be laid at a somewhat smaller grade.

#### Size of Tile Required.

The size of tile required in a main drain depends upon its grade, amount of rainfall on the area it serves, the overflow and seepage from other areas, the kind of soil, the spacing and depth of the laterals that drain into it, and the roughness of the inside of the tile.

The following table giving the area in acres from which the various sized tile at various grades will remove one-fourth of an inch of water in twenty-four hours, will serve as a general guide:

Fall per 100 Ft.	Size of Tile.				
	4 in.	6 in.	8 in.	10 in.	12 in.
1/2 in. ....	3	9	21	39	65
3/4 in. ....	4	11	26	48	79
1 in. ....	4	13	30	55	92
1 1/4 in. ....	5	15	33	62	102
1 1/2 in. ....	5	16	37	68	112
1 3/4 in. ....	6	17	40	73	121
2 in. ....	6	19	42	78	129
2 1/4 in. ....	6	20	45	83	137
2 1/2 in. ....	7	21	47	87	145
3 in. ....	8	23	53	97	162
3 1/2 in. ....	9	26	58	107	178
4 in. ....	10	29	67	123	205
6 in. ....	11	33	75	138	229
7 1/4 in. ....	12	36	82	152	250
8 1/4 in. ....	13	39	88	163	271
9 1/4 in. ....	14	42	94	174	289
10 1/4 in. ....	14	44	100	185	307
12 in. ....	15	47	106	196	324

Sizes smaller than four-inch are not recommended for laterals. Owing to slight irregularities which are bound to occur in the grade of a tile line, this is the smallest size that can safely be used. A fall of a quarter or half inch in the bottom will affect the capacity of a three-inch tile much more seriously than a four-inch. A four-inch tile has over twice the capacity of a three-inch, when the smaller wall resistance it offers to the flow of water is considered and costs very little more.

#### Number of Tile Required Per Acre.

The number of tile required per acre for the lateral system depends upon the spacing. The following table gives the number of tile required, provided the laterals are uniformly spaced. The mains and submains are not accounted for, because their length varies with different systems.

Tile Required Per Acre for Laterals.	
Distance Between Laterals.	Amount Per Acre.
25 ft. ....	1,742 ft.
33 ft. ....	1,320 ft.
50 ft. ....	872 ft.
66 ft. ....	660 ft.
80 ft. ....	545 ft.
100 ft. ....	436 ft.





# Molasses for Feed

*Cattle Feeders' Day at Ames Throws Light on Subject*  
By G. C. Terry

CATTLE Feeders' Day in Iowa brought together over seven hundred of the most progressive feeders, who spent the day with John M. Evvard and his associates at the Iowa Experiment Station. Included in this gathering were representatives of several packing companies, commission firms, banking institutions and officials from other experiment stations.

This year's experiment was to show the value of molasses (cane and beet) in the ration for fattening two-year-old steers. Thirty Herefords of good breeding and uniform type were used in the experiment. Based on home weights in the feedlot, December 8, 1920, after being used for a month in the classroom, these steers cost \$9.01 per hundred. Their average weight was 1,065 pounds. They were divided into five groups of six steers, each group followed by three hogs.

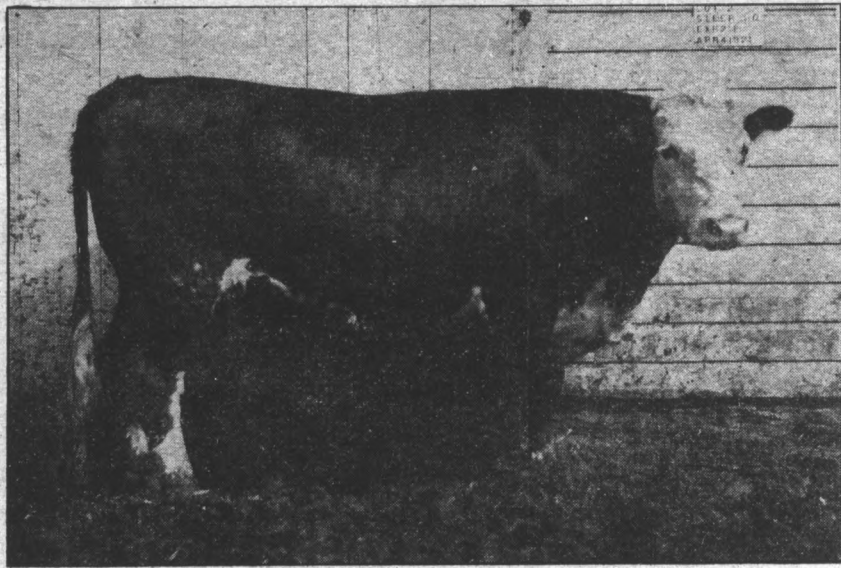
Beginning the feeding period on December 8, the five lots were fed for one hundred and twenty days, each lot received the same ration. This consisted of shelled corn, old process lin-

less of a loss per steer by \$5.22 and they produced one hundred pounds gain at the lowest net cost of any of the five lots.

There seems to be no question as to the value of either cane or beet molasses in helping to make fat cattle when it is properly fed. According to Mr. Evvard the big question is, "Can we afford to ship Cuban or southern molasses into Iowa in competition with our relatively cheap Iowa corn?" At the present time with corn low in price and molasses maintaining a medium high level, Mr. Evvard believes that the feeder will do well to stick close to the time-tried standard rations of the corn belt.

## MARK YOUR PIGS.

IN marking the pure-bred spring pigs use a punch making a long oval notch, as that kind is more satisfactory than a V-shaped one. Any accidental tear is apt to be mistaken for a V-shaped notch, while the oval is unmistakable. Tags are not generally



Gained Three Pounds Daily for Four Months.

seed oil meal, hay (red clover ninety per cent—timothy ten per cent), and block salt at will. After the first forty-one days alfalfa hay was substituted for the mixture of clover and timothy.

Lot one received this ration only, while lots two and three were fed the same as lot one, with two to five pounds of cane molasses added, per day for the entire period. Lot three had free access to the molasses which was figured as an average, as was also lot five. Lots four and five were also fed the same as lot one, with the exception that they received an average of two and five pounds respectively, of beet molasses per day for the period. Feed prices used were as follows: Shelled corn, per bushel, \$0.51; linseed oil meal, \$50 per ton; beet molasses, \$30 per ton; cane molasses, \$30; corn silage, \$7.00 per ton; clover hay, \$25 per ton; alfalfa hay, \$25 per ton, and block salt \$30 per ton.

Estimated valuations, based on the Chicago market for April 8, were made in the yards by Mr. Henry Duplant, of Wilson & Company, packers, and Mr. John Paxson, of Clay, Robinson & Company, live stock commission firm, both of Chicago, Illinois. Their estimates ranged from \$8.65 per hundred for lot three, to \$8.90 for lot one, the top of the five lots. At these figures the loss per steer, crediting the feed saved by the hogs, was from \$26.49 for lot one, to \$40.10 for lot three.

The outstanding fact, according to the above figures, is that lot one, which received the grain ration only, outsold each of the other lots from five to twenty-five cents per hundred, showed

satisfactory for marking pigs, as they are difficult to read and are easily torn out. The system of notches is swift and certain. In marking young pigs the notches must be out of proportion to the size of the ear, for the pig's ear will grow, while the notches do not get larger. Thus when the animal is full grown, notches that were plainly seen on the young pig are barely visible.

## NOVEL SELLING PLAN.

AN unique, although very successful plan of selling pure-bred stock has been worked out by Edwin Houston. He loads into a truck some of his good swine and drives to neighboring county seat towns, where he books orders for stock he has for sale.

He guarantees that the animals sold will be fully as good as the samples in the truck, and ships C. O. D. This novel selling plan has proven to be very successful and might well be adopted by more swine breeders. A very considerable amount of publicity is secured on the trip besides the sales that are made.

## POISON FOR GRASSHOPPERS.

THE board of supervisors of Benzie county has authorized the purchase of a carload of arsenic for the control of grasshoppers in that county this summer. The county already has six tons on hand which, with the additional carload, will insure the farmers protection against the pest as soon as signs of damage appear.—J. W. S.

# WOOD PRESERVATION

*A timely talk in the interests of timber conservation on the farm*



Senator Arthur Capper  
© Beidler, Chicago

## "Preserve—Conserve" urges Senator Capper of Kansas

"Those two words are weighty with meaning to every citizen of the nation. It is necessary that we save and take care of what we already have."

"This is especially true of the lumber resources of the nation. Our timbered areas are being rapidly depleted. We must replenish them. But first it is important that we make the best use of the timber we already have. Not a stick of it should be wasted."

"Wood is so closely linked with every activity of modern life that it would seem impossible to get along without it. Yet we face that possibility. Much wood is allowed to decay needlessly, on farms, in cities, in every industry."

"There are many methods of preserving wood, practically doubling its life and service. These methods are not expensive when the good they accomplish is considered. They should be employed by every person using wood, not only for the benefit of the individual but for the good of every citizen."

## \$350,000,000 Lost by Farmers Annually

This stupendous sum—\$350,000,000—is a conservative estimate by experts, of the yearly loss which wood decay inflicts upon the farmers of America.

And part of that loss is coming out of your pocket.

If you doubt it, take a look at your farm buildings. Note how decay is weakening the foundation timbers, sills, joists and flooring of your barn and outbuildings! See how it is eating away the lumber in your porches, walks, cribs, hog and poultry houses—your hay-racks, silos, shingle roofs, fence posts and fencing!

The cost of practically all repairs to farm buildings, fences and implements can be charged to wood decay. Wood doesn't wear out—it rots out.

## Decay is Natural, but Not Necessary

Stated in plain English, the scientific explanation of wood decay is simply this: Wood destroying fungi are tiny plant organisms so small that, individually, they can be seen only through a powerful microscope. In appearance, decay is a sort of mould, or mushroom growth. Sometimes the wood becomes "punky." To thrive, fungous growths must have air, warmth, moisture and food. Their food is the wood itself—they literally eat it up. These organisms develop most rapidly where wood is subjected to excessive dampness. That is why foundation timbers and fence posts rot away so quickly where they come in contact with the ground.

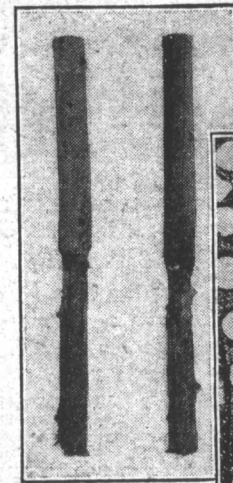
While wood decay is a natural condition wherever timber is exposed to air and the normal heat and moisture of the atmosphere, it is by no means unavoidable. Like any other infection—and decay is nothing more nor less than infection—it can be prevented or at least greatly retarded.

## The Proved Remedy

The only successful method is preservative treatment with coal-tar creosote oil.

In the past, the big obstacle to the practice of wood preservation on the farm had been the difficulty of obtaining a proper wood preservative for home treatment.

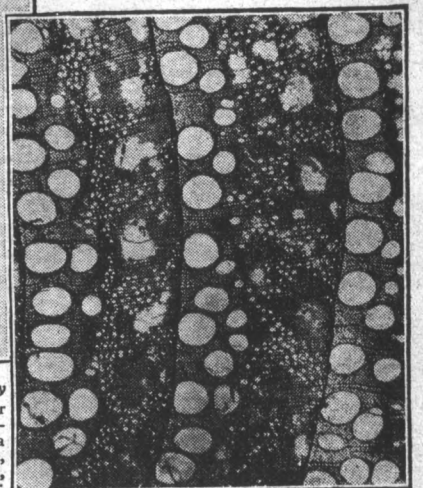
Fortunately this obstacle has been removed. The development of Carbosota Liquid Creosote Oil now brings the money-saving benefits of wood preservation within easy reach of every farmer.



All the eye can see of decay  
Untreated white cedar posts after 9½ years service. (Courtesy of Iowa State College, Ames, Iowa.) If carbosoted, they will easily last 25 to 30 years.

## Standard for Non-Pressure Treatments

Carbosota is recognized as the standard wood preservative for all non-pressure methods of application—brushing, dipping, spraying



What the eye can't see

This photomicrograph shows fungous growths within the cells and structure of the wood that cause decay. The cross section is of three annual rings of chestnut greatly magnified. The small lighter areas or spots are decay pockets. (Courtesy Dept. of Wood Technology, N. Y. State College of Forestry, Syracuse, N. Y.)

and the Open-Tank process. It conforms to Government requirements.

## Makes Lumber Cheapest Building Material

The life of wood can be doubled—often trebled—by preservative treatment with Carbosota Liquid Creosote Oil. This reduces repair and replacement costs, and makes lumber once more the cheapest of all building materials.

## Send for Free Booklet

The questions, *how* and *what* to carbosote, are fully answered in our booklet, "How to

Make Farm Timbers Rot-Proof," a copy of which will be sent free on request to our nearest office. You should also consult your County Agent and State Agricultural College. They will be glad to help you.

Carbosota is sold by the leading lumber dealers throughout the country in one- and five-gallon cans, also metal drums. If your dealer does not carry it, write to our nearest office, and we will see that you are supplied.

## The Barrett Company

New York	Chicago	Philadelphia	Boston	St. Louis	Cleveland	Cincinnati
Pittsburgh	Detroit	New Orleans	Birmingham	Kansas City	Minneapolis	Dallas
Nashville	Syracuse	Seattle	Peoria	Atlanta	Duluth	Salt Lake City
Bangor	Washington	Johnstown	Lebanon	Youngstown	Milwaukee	Toledo
Columbus	Richmond	Latrobe	Bethlehem	Elizabeth	Buffalo	Baltimore
Omaha	Houston	Denver	Jacksonville			
THE BARRETT COMPANY, Limited						
Montreal	Toronto	Winnipeg	Vancouver	St. John, N. B.	Halifax, N. S.	



## FARM BUREAU NEWS

### THE VOLUME OF BUSINESS INCREASES.

**D**EMAND for Michigan State Farm Bureau virgin wool blankets and suitings is assuming such proportions that it may be necessary to add a fourth mill to the present farm bureau connections, says the wool department. Three woolen mills of the state are now devoting a large part of their equipment to the manufacture of farm bureau materials. Other established customers prevent the farm bureau from taking over the entire output of the three mills. The department plans to manufacture approximately 25,000 virgin wool blankets during the summer for a great fall sales campaign.

A portion of the farm bureau head-quarter's main office has been made into a suitings and blanket show room. Bolts of all the suitings and sample blankets are on display. Serges and worsteds have been added to the suitings offered. A tailor has been employed by the wool department. His duty is to take measurements for purchasers coming to the farm bureau and to see to it that chart measurements are correct.

Seventy grading stations have been announced to date. Actual grading of wool started in Eaton county at Mulliken, May 2.

### ASKS FOR REDUCED TRANSPORTATION RATES.

**T**HE American Farm Bureau Federation has declared that railroad freight rates must come down before there is any improvement in the present situation. The farm bureau asks the repeal of the guaranty section of the Railroad Transportation Act of 1920 which attempts to compel the interstate commerce commission to make rates sufficient to produce a minimum net return of five and a half per cent or more above all expenses and taxes on the present value of the American railroads. The farm bureau believes this to be paternalistic class legislation and the reason for the paralysis of American industry. It asks that the commission make a readjustment of railroad rates back to a pre-war basis in harmony with other business.

### A BIG SEED BUSINESS.

**F**IFTY thousand Michigan farmers in seventy-nine counties bought their 1921 seed through the Michigan State Farm Bureau during the past winter and early spring, says the seed department. Many farmers bought their complete requirement of seed through the farm bureau, others purchased smaller amounts. The seed department's sales totalled more than 3,000,000 pounds for the first four months of the year.

Registered Grimm alfalfa acreage in the state was increased five hundred per cent through the work of the farm bureau, which last fall purchased half the world's supply of northern-grown registered Grimm alfalfa for Michigan consumption. More than 750,000 pounds of Michigan-grown clover seed were handled by the farm bureau and retained for Michigan use. Every pound of this seed went out guaranteed as to its origin, purity and per cent germination. No other seed-distributing agency goes to such lengths to insure the grower the origin of his seed as does the farm bureau. Most alfalfa and all the sweet clover seed handled by the farm bureau were scarified and recleaned.

Throughout the winter the farm bureau stabilized the Michigan seed mar-

ket. Marketed cooperatively the seed brought the grower a better price than he could have gotten otherwise and the buyer got a better bargain than he could have elsewhere, says the department. When farmers threatened to glut the seed market because they were hard up, the farm bureau took in seed, issued warehouse receipts and made initial advances which were often equal to what the farmer had been offered by the seed buyers. Later the farm bureau was able to market the re-cleaned seed at prices which added several dollars to the grower's return on his seed. In some instances this additional return was as high as \$6.00 a bushel.

Farm bureau guaranteed seed service to members is going to pay big dividends to Michigan agriculture. With the seed to members at cost and at good returns to the growers, the seed department's plan is sound economically. The policy of handling nothing but northern-grown adaptable seed is a form of seed insurance that no other seed distributing agency offers. Farm bureau seed is cleaned and re-cleaned if necessary before it is allowed to go back to the farms. Such cleanliness means the end of most of the weed seed in the 3,000,000 bushels handled the past season. Such a blessing is almost incalculable. Seed from the farm has often increased in value from \$1.00 to \$4.00 after being freed from weed seeds by special machinery.

### SHIAWASSEE FARMERS TO OWN ELEVATORS.

**C**OMMITTEES have been at work in the vicinity of Owosso, Vernon and Durand, securing finances and laying plans to have a business home through which producers may market their grains and products, and secure supplies cooperatively. These business enterprises will give farm bureau members access to the benefits of the State Farm Bureau and all its exchanges. They will be organized on a strictly cooperative basis, and will be the buying and selling agencies of the farm bureau in each community.

Meetings were held for completing these organizations at Vernon and Owosso late last month. Mr. Cribbs, state marketing specialist, was present and assisted in the organization of these enterprises. He gave forceful talks on cooperative marketing and the workings of the crop contract. Several thousands of dollars were subscribed for these institutions, and committees were appointed to finish the work of securing necessary finances.—J. C. M.

### MR. COOK DECLINES PRESIDENCY OF BEET GROWERS' ASSN.

**D**ECLARING that his duties as master of the Michigan State Grange take up his time to the exclusion of all other major interests, A. B. Cook, of Owosso, informs the State Farm Bureau that he has declined the presidency of the Michigan Sugar Beet Growers' Association, tendered him recently at a meeting of the directors of the sugar beet association in Lansing.

Mr. Cook said in his letter to the beet association that he had not been following closely the affairs of that organization for the past two seasons and considered himself no longer well informed on the industry. He intimated that he would be glad to support the organization, but could not neglect his other duties by adding to them so great a responsibility as president of the Sugar Beet Growers' Association.

Mr. Cook was named as president to succeed John C. Ketcham, of Hastings.



Trade Mark  
This Trade-mark identifies  
genuine Boss Work Gloves.  
Be sure it is on  
every pair you buy.

## Keep Them in Handy Places

**Y**OU'LL find it mighty convenient to keep several pairs of Boss Work Gloves where you use them most often.

Hang a pair up in the barn to slip on when you clean out the stalls. Have a pair in the shed to wear while splitting or sawing wood. Keep a pair in the machine shop for all repair work. Put a pair in the tool box of your car to wear while changing tires and tinkering round the engine.

Boss Work Gloves will protect your hands from dirt, grease, cuts, bruises and all minor injuries. They are tough durable gloves for all rough work. But they are so flexible that you get a free feel of the job in hand.

Ask for Boss Work Gloves by name. They come in sizes for men and women, boys and girls, and in three styles of wrist—ribbed, band and gauntlet.

**THE BOSS MEEDY**—best quality, medium weight canton flannel.

**THE BOSS HEVY**—very best quality, heavy weight canton flannel.

**THE BOSS XTRA HEVY**—finest grade of extra heavy canton flannel.

**THE BOSS WALLOPER**—highest quality, heaviest weight canton flannel.

**THE BOSS LETHERPOM**—heavy canton flannel with tough leather on palms, fingers and thumbs.

**THE BOSS JERZY**—highest quality cotton jersey cloth in many colors.

**THE BOSS TIKMIT**—Roomy mittens made of ticking that wears like iron.

**THE BOSS ELASTO**—strong canton flannel. Made by a patented process in one weight only.

**THE BOSS MANUFACTURING CO.**

Kewanee, Ill.

# BOSS WORK GLOVES

**IMPERIAL BRAND  
PARIS GREEN  
ARSENATE OF LEAD**



Saves the crop and increases the yield. Gets the bugs every time. Best in U. S. A. by actual experiment station tests. Made twelve years at Grand Rapids. Write for prices and SPECIAL FARMERS' CLUBBING OFFER.

**GRAND CHEMICAL COMPANY**  
422 Ashton Bldg., Grand Rapids, Mich., U. S. A.

**FACTORY TO FARMER DIRECT**

### Lump Jaw

Fleming's Actiniform, for 30 years the standard Lump Jaw remedy. \$2.50 a bottle postpaid. Money back if it fails. Send for FREE Vest Pocket Veterinary Adviser. Describes Lump Jaw and 200 other Cattle and Horse diseases. **FLEMING BROTHERS, 252 Union Stock Yards, Chicago**

### PEACH TREES

Large stock, straight, well rooted trees. Free catalogue. Special prices on early orders. **MITCHELLS NURSERY, Beverly Ohio**

**\$24.95 ON TRIAL**  
**95c Upward**  
**AMERICAN**  
**FULLY GUARANTEED**  
**CREAM**  
**SEPARATOR**

A SOLID PROPOSITION to send new, well made, easy running, perfect skimming separator for \$24.95. Closely skims warm or cold milk. Makes heavy or light cream. Different from picture, which illustrates larger capacity machines. See our easy plan of

### Monthly Payments

Now a sanitary marvel, easily cleaned. Whether dairy is large or small, write for free catalog and monthly payment plan.

Western orders filled from Western points.

**AMERICAN SEPARATOR CO.**  
Box 3061  
Bainbridge, N. Y.





## News From Cloverland

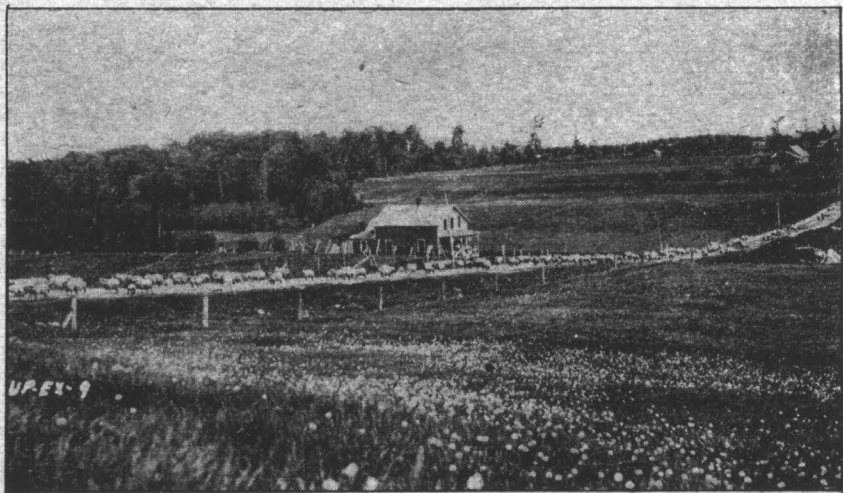
By L. A. Chase

### COX DISCUSSES CUT-OVER LANDS.

LAST year the Michigan Academy of Science held a symposium in relation to the idle lands of Michigan. In his paper on "Cut-over Lands in Relation to Agricultural Use," Prof. J. F. Cox, of the Michigan Agricultural College, summarized his conclusions as follows: (1) Michigan possesses a vast area of undeveloped land; (2) for the most part this land is stump-land or poorly drained land, which will require considerable time and expense to prepare for cropping; (3) long-time loans at a low rate of interest would be of great help to individual farmers; (4) the soils are extremely variable. A comparatively large acreage is well adapted to farming, and an even larger acreage can be termed unsuited for farming under present conditions; (5) the agricultural possibilities of this area are frequently misrepresented to the detriment of its development; (6) with proper crops, under the right con-

the state highway commissioner has announced his approval of a project to widen the road west from Manistique from nine to fifteen feet, and of the completion of the trunk-line east of Blaney, whereby a good road east-west through the county will be secured. The expenditure will rest upon state and federal funds to the extent of 87.5 per cent, according to the Manistique Pioneer-Tribune. It is proposed to push the work both night and day.

A ten-mile stretch of road on Trunk-line No. 28 between Tula and Wakefield, has already been started, it is announced from Gogebic county. While work on this route is in progress, it will be closed to traffic. Menominee county is said to have \$1,200,000 available for road work, and a spirited discussion occurred recently at a meeting of the Menominee Chamber of Commerce, regarding the best method of construction to follow. It seemed to be largely agreed, according to The Herald-Leader, that the county should



Fine Flock of Cloverland Sheep Coming Home to be Shorn.

ditions, a great development of successful farm communities can be made, much to the benefit of the state; (7) forest fires cause great damage to incoming settlers, a great loss to standing timber and the young growth, and injury to soils through burning out of organic matter. More adequate forest fire regulation to remove this menace is necessary; (8) a state agricultural and soil survey to properly designate the value of lands for farming, grazing and forestry purposes and adequate fire control are necessary for the sound and reasonably rapid development of Michigan idle lands; (9) settlers must in all cases be established on the good lands only and prevented by an interested state from dissipating their energies on land which cannot be profitably worked."

It is good that the papers read at the Michigan Academy of Science meeting have been published, and it would be better that many people should read them and think earnestly about the subjects there discussed.

### ROAD WORK IN CLOVERLAND.

THE Houghton County Board of Supervisors unanimously have approved the proposal to submit to the voters presently a proposition to bond the county for \$200,000 for road construction. It is expected that it will overwhelmingly carry. If so, it will relieve the labor situation following the closing of several large copper mines. Menominee county will soon place bonds for half this amount on sale for the same purpose, the proceeds of which will in part be used to put in condition the trunk-line between Stephenson and Wilson. Schoolcraft county sees a chance to spend \$100,000 to \$150,000 for roads this year, since

build macadam rather than concrete, and employ the money saved thereby on better drainage, of which the county is said to stand much in need.

In the upper peninsula conditions favor the construction of macadam roads since there is abundant rock available, both from the waste piles at the mines and from quarries.

### DELTA COUNTY DAIRYMEN ORGANIZE.

TWO hundred farmers have taken stock in the Delta County Milk Producers' Association, says the Escanaba Morning Press. Directors have been elected, who are instructed to go ahead with the project of a milk distribution and utilization plant at Escanaba. The cooperative company is capitalized at \$30,000. The option on the building of the Escanaba Broom Factory is to be closed out and the structure made ready, if possible, by June 15. It is to contain a pasteurizer, an equipment for making ice cream, cheese and butter. If arrangements cannot be made to supply milk for home use through existing agencies, it is the announced policy to establish a retail delivery system. The association will control the milk supplied from 1,500 to 1,600 Delta county cows, says the Press.

### TO DEVELOP RESORT BUSINESS.

MICHIGAMME has its "Advancement Association," and the beauties of its lake are to be featured for resort and summer camp purposes. The lake—one of the largest and most scenic in the peninsula—is dotted with islands, suitable for summer homes. The shore line is also to be similarly utilized.

# BRISCOE

## The Trustworthy Car

### Let Your Nearest Briscoe Dealer Prove This Statement

#### Touring Car

#### Compartment Roadster

\$1285

f. o. b. Factory

#### DeLuxe

\$1500

f. o. b. Factory

#### Coupe

#### Sedan

\$1885

f. o. b. Factory

#### Speedwagon

(with thief-proof open body)

\$1285

f. o. b. Factory

#### Panel Delivery

\$1360

f. o. b. Factory

### 'The 1921 Briscoe Is the Best Car Built Today'

Thousands of farmers have welcomed the Briscoe statement and challenge to any car for a comparative test. It says something and means something—it gives the buyer a chance to get down to hard facts.

You'll find the Briscoe motor stretches a gallon of gasoline further than you would have thought possible. 20-25 miles, and even better is a common record among owners. Power to take you anywhere and back.

Briscoe long flat springs take all the bumps out of the road; and coupled with Briscoe light weight they mean extra-long tire life.

In sturdiness, style and comfort, the Briscoe is the ideal car—and any Briscoe dealer will gladly prove it.

Free Booklet Mailed on Request

BRISCOE MOTOR CORPORATION  
JACKSON, MICHIGAN







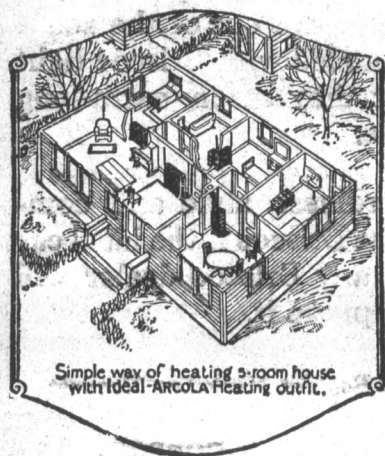
Babies and young children need warm homes. Protect their health and make them happy in a home that has even, hot water heat and give them a good start in life.

## Keep the Boys and Girls on the Farm

WITH stove heat the farmer has no private life. The farm help, family and all must spend their winter evenings sitting in the one heated room around the stove. The farmer's daughter must entertain her company in the same room with the family and help. But install an ARCOLA and heat all rooms with no more fuel than is needed to heat one with a stove. The help then may have their room, the family another and daughter may have a room to entertain her company and will not want to leave home to get the privileges that her girl friends enjoy who live in the city.

### Reduced in Size and Cost

The ARCOLA is made on the same principle and with the same guarantee as our large IDEAL Hot Water Heating plants. The only difference is in the smaller size and lower cost of the outfit.



### Lasts a Lifetime

The ARCOLA burns hard or soft coal, coke or wood. Never wears out or needs repair. Leaks no coal-gas—wastes no heat up the chimney. Absolutely safe—no fire risk! Running water not necessary as same water is used over and over again.

Ideal-ARCOLA Heating Outfits are especially designed for small homes, new or old, with or without cellars, and are sold by heating contractors everywhere. Investigate today!

### Find Out Today!

Write for catalog showing open views of ARCOLA-heated 4- 5- 6- or 7-room cottages, bungalows, flats, schools and small business buildings. The Ideal heat for farm homes, ranch houses, chicken houses and central or colony hog houses.

## AMERICAN RADIATOR COMPANY

Dept. F- 3, 816-822 S. Michigan Ave., Chicago. Sales Branches and Showrooms in All Large Cities

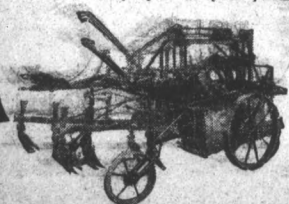
Makers of the world-famous IDEAL Boilers and AMERICAN Radiators

## Amazing New Way to Kill Potato Bugs

While You Cultivate You operate lever-machine sweeps up and crushes potato bugs. Poison stunts plants—Bug'er helps them to grow. Poison falls to kill Shell Bugs—Bug'er gets 'em all. Poison is expensive. Requires extra labor to spray—one man operates Bug'er easily and cheaply. Used by farmers everywhere. Strongly endorsed by Milwaukee County Farm which says: "We are well satisfied with your Exterminator and Cultivator combined, which has done the work fully up to all your promises."

### NATIONAL BUG'ER

Does away with back-breaking method of removing bugs by hand and dangers of using poison. Poison stunts plants—Bug'er helps them to grow. Poison falls to kill Shell Bugs—Bug'er gets 'em all. Poison is expensive. Requires extra labor to spray—one man operates Bug'er easily and cheaply. Used by farmers everywhere. Strongly endorsed by Milwaukee County Farm which says: "We are well satisfied with your Exterminator and Cultivator combined, which has done the work fully up to all your promises."



Our Farm Superintendent is well pleased with the machine, as it not only destroys the bugs, but also cultivates the plants by one operation.

We feel free in giving this endorsement by recommending an unusually good machine for the purposes for which it is used.

Yours very truly,  
House of Correction,  
By Wm. H. Morsen, Inspector.

Write for all details and low price offer.  
We sell on time payments if desired.

NATIONAL EXTERMINATOR CO.  
3010 Meisner Ave., Milwaukee, Wis.

Stop Spraying With Poison

## The Strawberry Patch

By M. N. Edgerton

IN its popularity with the consumer the strawberry easily holds first place. Just why this should be I can not definitely say. It may be that coming first in season has something to do with this evident popularity. Or it may be that its subacid qualities make for this fruit a first place with the consuming public. Be this as it may, the demand for this fruit is more eager and continues strong for a greater length of time than for any other small fruit.

### King of Small Fruits.

The strawberry holds first place also in point of production. As compared with other small fruits extensive areas are devoted to its culture. Some varieties of strawberries hold up well in shipment and may be transported long distances. When I began growing this fruit some thirty years ago present shipping facilities were then undeveloped. The present age shipping industry had yet to materialize. At that time the first berries of the season to be had were home-grown. Our trade was a retail one, a house to house delivery. The first pickings always went like hot cakes. Trade was brisk and it certainly was fun to "peddle" berries. Although in the present times the demand always takes care of the first pickings at an advanced price over the shipped-in fruit, the demand is not so keen and sharp as then. Why? Just because the keen edge of the consumer's appetite has been satisfied by eating of the shipped-in product for several weeks back.

### Market Conditions Changed.

Beginning early in the season, refrigerator service makes it possible to place on our most northern markets the southern-grown strawberry. Being shipped such long distances the fruit must necessarily be harvested a little under-ripe, and when placed on our market is none of the best; still, it has the strawberry flavor and the consuming public take it. Ordinarily, the last berries to be shipped to our local market are from southern Michigan. Some years a few cases reach us from the Traverse region, but not often, nor are the shipments large, for the reason that home-grown berries are not far behind Traverse berries in ripening. Then, too, our city merchants prefer to handle the home-grown product, and will cancel outside orders as soon as our berries appear on the market, even though the outside product may be had for less money.

### Easy to Grow.

In point of possible yields and profits the strawberry holds first place also. Phenomenal results may be obtained under favorable conditions of culture and market. Record crops of fifteen thousand quarts per acre and over have been made. Another reason why this fruit is so popular with the grower is that it comes more quickly into full bearing than the bush fruits. Set in the spring, a full crop is harvested the next year in June and July. With bush fruits two and three years are required to bring the plantation into full bearing.

The strawberry is not difficult to grow. This affirmation is made with certain reservations. The strawberry will not thrive and produce profitably under neglect, or indifferent care. Shiftless methods will not produce large crops. But right cultural conditions are not difficult to supply. The soil must be rich in plant food. Preparatory tillage must be there. Strong plants of the proper varieties must be used, and right methods of handling and setting employed. Maintenance tillage must also be thoroughly scientific. Not hit or miss system will grow a field of plants capable of producing

phenomenal yields, nor a normal yield even. Highly profitable crops are the result of scientific knowledge skillfully applied. Shiftless methods have no place in the system.

Many set out to grow strawberries who fail to make good. The cause of these failures are many. In the abstract, the cause may be attributed to a lack of knowledge and inattention to details. While the profits that may accrue under favorable conditions are large the expense per acre required to produce the crop is great as compared with the expense involved in the production of ordinary field crops. Few can perceive this and the reason therefore, or, perceiving it, are ready and willing to apply the necessary effort to obtain the desired result. Sometimes a good beginning is made only to soon peter out. It is well, perhaps, that the requirements of strawberry growing are over-exacting, else the business would easily be overdone; then there would be no great inducement in the vocation for the diligent and persevering.

### SPRAY FOR APPLE SCAB.

UNLESS apple scab is effectively controlled in time, Michigan is in danger of losing its already meager crop of apples, declare specialists in the botany and horticultural departments at M. A. C. Not only do they recommend the usual pink spray, but also one at the "prepink" stage. This means an application when the blossom buds are distinct and before the buds have separated in the cluster.

By this date it may already be too late to apply the prepink spray on some varieties, but horticultural experts urge its use wherever possible. Definite dates cannot be given for different districts. Every apple grower should watch his trees carefully and not make the common mistake of spraying too late.

"The scab fungus is timed to develop just about as rapidly as the apple buds," says G. H. Coons, plant pathologist at the M. A. C. Experiment Station. "It may be controlled by any of the standard fungicides. Most growers use lime-sulphur 1-0, although Bordeaux mixture is also used by a few. Others will try sulphur dust again this year. Any fungicide will give poor results if it is not put on in proper season. Growers should spray this year before the blossom clusters open, then give the pink spray, the calyx cup spray and the application two weeks later. The nature of the season will indicate whether any more applications are necessary.—HENSHAW.

### GARDEN NOTES.

Nothing pays better than thorough soil preparation for vegetable crops. A fine, deep, well-firmed seed-bed is essential.

Early planting is one of the secrets to success in growing head lettuce. May King and Mignonette are good early varieties for the home garden. Try Big Boston or California Cream for late.

Melons and cucumbers planted now in pots, berry boxes, or inverted sods should be about the proper size for setting in the garden any time after May 25.

Smooth seeded varieties of garden peas are best for extra early planting. The wrinkled seeded sorts should be planted a little later. Try these for a succession: Alaska, (first early) American Wonder, Nott's Excelsior, Gradus, Champion of England, (requires some support).



# Service the Aim

## Of Pure Cooperatives

By Bruce Lampson

Washington-Idaho Wheat Producers' Assn.

**I**N a pure cooperative association capital stock should be eliminated for three reasons.

First, capital stock tends to create adverse interests and eliminates pure cooperation; secondly, it limits the volume of business and effectiveness of the association; and thirdly, it is absolutely unnecessary.

A company operating upon a capital stock basis necessarily must pay dividends. It is true that this dividend can be limited to a definite interest rate, but even in that case a capital stock concern, although that stock is all held by producers, has, to a certain extent, adverse interests to the growers. Such a concern, if successful, must buy cheap enough to protect itself against loss. In this protection its primary interests are adverse to the grower's interests, and cannot be purely cooperative. To be purely cooperative the producers of a commodity must sell only the product which they grow—buying and selling must be eliminated.

Besides creating adverse interests by organizing on a capital basis, this feature absolutely limits the size and volume of business to the amount of credit justified by the capital stock. One hundred per cent is the only limit to the amount of produce that the producers can sell through their own selling agency where no buying is done and no money for buying is required.

### Capital Stock Unnecessary.

If a consumers' organization wants a commodity to consume, it must have capital stock with which to buy, but when producers of a commodity wish to sell their commodity there is absolutely no reason why they should have capital stock with which to buy it from themselves before selling it. A contracted product to a selling agency is ample security for the financing of a strictly selling agency. A producers' selling agency that operates upon a capital stock basis creates adverse interests between the selling agency and the individual, by making the primary object of the selling agency that of paying dividends. Capital stock is absolutely unnecessary in a pure cooperative selling agency.

Some of the largest and most successful cooperative associations are now operating without capital stock, using the contracted product as a basis of financing, for instance, the Almond Growers, The California Fruit Exchange and the Washington-Idaho Wheat Growers' Association. The latter organization is handling two million bushels of wheat upon this basis this year. At the time of this writing they have nearly thirteen million bushels signed up on a six year contract. This year, experience has demonstrated that this great quantity of wheat can be sold by the wheat growers without capital stock.

### Limiting Factors in Setting the Price.

We have learned that any organization must have in its formation, certain essentials, or it cannot efficiently accomplish the purpose for which it was formed. In the foregoing articles I have pointed out the essentials in pure cooperation and have discussed briefly how these essentials have worked and are working to the benefit of the producer and consumer.

Setting the price or not setting the price is by no means of least importance.

"Industrial welfare depends upon an abundant crop and its sale at fair prices." This welfare absolutely demands distribution based upon economic principles. Any system which causes an undue spread between the

producer and consumer must give way. This is being demanded just as the world today is demanding that we produce cheaper by improved machinery and that raw materials be put into finished products by more economic methods. The old wooden mold board plow was eliminated because it was not efficient in its operation. The old hand-binder was eliminated for the same reason. The old methods of making wheat into flour have been discarded.

The welfare of the world demands more efficient and economic methods. With the world demanding such improved methods to meet its necessities, is there any reason why improved methods of distribution shall not be demanded?

### Supply and Demand.

The essentials in economic distribution of farm products have been born of necessity. Cooperation is for the good of all and has permeated the world's mind. The growers of any commodity can cooperate among themselves, but cannot set arbitrary prices and ignore the real value of that commodity to the consuming public. If a price should be fixed above the price commensurate with the price of other food commodities, the growers would be the losers because consumption would be curtailed. Adverse public sentiment would reduce consumption and reaction would follow such a short-sighted business policy. It is a fact that nearly all of the present cooperative selling agencies have adopted a policy of selling in accordance with the supply and demand. It is not at all reasonable to think that these cooperative concerns could make the consuming public pay more for a commodity than do the organized speculators. One of the great difficulties encountered by the California associations is to keep speculators from getting their product and putting the price up to a point where it will curtail consumption.

### Must Consider Consumer.

The consumer cannot and will not buy one commodity if prices are out of proportion to other commodities. Cooperative selling agencies must necessarily consider the consumer. No other policy will endure and bring success.

As an illustration of the impossibility of any growers' organization setting an arbitrary price and yet disposing of the entire crop, I wish to cite an unofficial report:

The walnut growers, the raisin growers, and the lima bean growers of California have practically a monopoly upon their product. The walnut growers last year set the price so high that consumption was curtailed. This year although the price is reduced thirty to forty per cent they are not selling because last year's crop is still on the shelves of the jobbers. The raisin growers boosted the price of raisins to the point of curtailing consumption and only got out because of the sudden demand for raisins to put "kick" into home-made beverages. Another report is that the lima bean growers have boosted the price until they have stimulated production in other countries and this year there are quantities of beans coming into the United States market. There is reaction in unreasonable prices to the consumers. They will not buy. The law of supply and demand cannot be beaten because people cannot be forced to buy.

The producers' cooperative organizations have learned this and are now committed to a policy of selling under the law of supply and demand.

# Oiling the Wheels of the World

**G**ASOLINE is the major product made by the Standard Oil Company (Indiana) and in the manufacture of this most essential product of petroleum, this Company stands in the lead.

Gasoline is only one of the many products sent to the world with the unqualified guarantee of this organization; for as a manufacturer of lubricants it stands among the leaders.

No service performed by this Company is more important, more essential or more far-reaching than the work it is doing to keep the machinery of the world running smoothly and efficiently.

Of the many lubricating oils and greases sent out under its name, none is more widely known or more universally accepted, than those bearing the Polarine brands.

Polarine is a perfect motor oil. It was first introduced to the motoring world in 1908 when 1100 gallons were sold. Year by year the demand has increased until in 1920, 23,979,050 gallons were manufactured and sold to the car owners in the Middle West.

When first introduced there was but one grade of Polarine oil. Now there are four, each designed to meet the need of certain types of engines.

The development of four grades of oil, one of which will correctly lubricate any type or make of internal combustion engine, is but one of the essential services performed by the research department of this Company.

But lubricating motor vehicles is but a small item when the lubricating service of the Standard Oil Company (Indiana) is considered. Every type of machinery has been studied and an oil or grease perfectly adapted to keep the bearings running smooth and cool has been produced.

From the flying spindles of the loom to the ponderous bearings of the steam roller, each problem presented has been met squarely, fairly and with a deep understanding that to meet its needs was not only good business, but was essential if the Company was to live up to the ideals of service, to which it is committed.

While lubricating the wheels of the world is highly essential, it is but one of the many branches of service which the Standard Oil Company (Indiana) is organized to perform.

In every department of its complex and highly specialized business, the same ideals of thoroughness, integrity and efficiency are insisted upon. The underlying principle in all is to give a maximum of service at a minimum of expense.

## Standard Oil Company

(Indiana)

910 So. Michigan Avenue, Chicago, Ill.

2424





"The milker saves two hired men. We are saving \$150 a month now." —ED. GRISSEMER.

## How Much Would Perfection Save You?

**M**ANY Perfection owners save enough in a year to pay for several first class dairy cows. Most owners save enough on wages in less than a year to pay for their machines. Wouldn't you be interested in knowing how much Perfection would save you?

One man with a Perfection does the work of three hand milkers. With the Perfection you can easily milk 24 to 30 cows in an hour. How many men do you use in milking and what's your hourly average? Take your pencil and

figure out the time and wages Perfection would save you in a year. Worth while isn't it? You are paying for a Perfection right along—why not have it?

Best of all, cows like the Perfection and users will tell you it has increased the milk flow in their herds. Cows can't distinguish the natural and gentle actions of the Perfection from that of the calf.

### Find Out More About Perfection

Write for your free copy of, "What the Dairyman Wants to Know." It answers every question about milking machines. Why Milk By Hand? It's wasted energy.

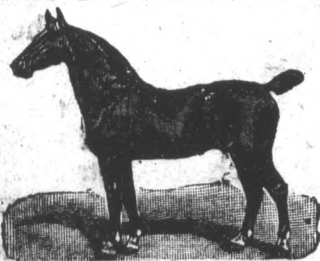
Perfection Manufacturing Company

426 S. Clinton St.  
Syracuse, New York

2126 E. Hennepin Ave.  
Minneapolis, Minnesota

# PERFECTION MILKER

## Warranted to Give Satisfaction Gombault's Caustic Balsam



**Has Imitators But No Competitors**  
A Safe, Speedy, Positive Remedy for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs and Lameness from Spavin, Ringbone and other bony tumors. Cures skin diseases or Parasites, Thrush, Diphtheria. Removes Bunches from Horses or Cattle.

As a Human Liniment and Antiseptic for external use it is invaluable.

Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.75 per bottle. Sold by druggists, or sent by parcel post, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

For Sale cheap-complete threshing outfit.—Red River Special 32-52 separator new 1820. Bidwell Boomer new 1919. Russell Engine 20 h. five years old. Tank wagon, belts and etc. all in A. 1 condition. W. J. McOullough, R. 1, Durand, Mich.

Mention The Michigan Farmer When Writing Advertisers

## PRICES SLASHED!



Here is the biggest value ever offered. Prices lower than before the war. This 7-piece combination outfit would cost you \$8.00 even then. Just send your name and address and we'll send all 7 pieces without a cent in advance. You'll be delighted with your purchase. You get all these for \$4.69. 1 pair good quality grey striped pants, 1 beautiful dress shirt, 1 latest pattern tie, 3 pair good quality socks and 1 balbriggan union suit. Pay mailman when he brings the package. Be sure to give all sizes wanted. No other house ever made such a remarkable offer. Order this outfit today—you'll save at least \$3.50. If you can duplicate this for less than \$3.00 send it back and we'll refund your money. We pay postage. Ask for No. 125 C1007.

HOWARD LUX CO., DEPT. 125 CLEVELAND, O.

Tobacco Kentucky Natural Leaf Mild Smoking, pure mellow tobacco direct from grower. 10 lbs. \$3.20 lbs. \$3. Cheving 12 lbs. \$4.50 prepaid. Send no money. Pay when you receive tobacco. Doron Farms Tobacco Association, Mayfield, Kentucky.

## Our Service Department

### RESTRICTIVE COVENANTS.

A bought land with the understanding that he would maintain the line fence and keep no chickens. A sold to C, who sold to D, who is keeping chickens and hogs and is not maintaining a fence. What remedy has the seller?—Subscriber.

Where land is sold with a restriction upon the use to which it is to be put by the purchaser, such restriction is not binding unless it is put into writing at the time of the conveyance; and as to purchasers from him, it would not be binding unless they had notice of it by its being included in the deed or other instrument on record of which all are bound to take constructive notice, or unless they had actual notice of it; and if notice is shown it then becomes a question whether the covenant is a purely personal one, binding only the original grantee, or a covenant running with the land. The covenant does not prevent keeping hogs.

If the provision is in the deed, is expressly made to be of perpetual duration, and was manifestly intended to bind heirs and assigns, an injunction would lie to restrain the breach of the covenant, or an action for damages for the breach could be maintained.

J. R. R.

### PHOSPHORUS NEEDED.

Will you please tell me what my land requires? It will grow timothy, clover, or corn fairly well but will not mature good wheat, there being plenty of straw with shrunken grain. The soil is a dark sandy loam with patches of sorrel. This sorrel comes up, no matter how often the land is plowed. What is needed to make this good soil for all crops?

S. M. B.

Undoubtedly this soil needs available phosphoric acid. I have personal knowledge of numerous instances where similar results were obtained, the land growing a heavy growth of straw, but wheat did not fill properly. When acid phosphate was added at the rate of two hundred to three hundred pounds per acre, the heads were filled and kernels were plump and heavy. This was particularly true on rather dark-colored sandy loam, so I am of the opinion from your description that that is what your soil lacks. It is usually better to apply this acid phosphate when you sow the wheat, but you can apply on wheat this spring, as soon as the land will do to harrow. Sow on two hundred pounds of acid phosphate. This can be done with a drill if drill does not tear up too much of the wheat, and then you can harrow it with a light spike-tooth harrow, which will not injure the wheat and will mix the fertilizer with the soil. If you add fertilizer this spring it should be done as early as possible.

### GROWING POPCORN.

Will it pay a farmer to grow popcorn on a large scale, and what is the best variety for Michigan? About what should be the yield for a fair crop? It being short, could it not be harvested with a grain binder? What process of curing would be necessary before the popcorn is ready for marketing?

P. C.

The fact that the area devoted to commercial popcorn growing in 1920 approximated 10,000 acres in Michigan, and 30,000 acres in Iowa, is pretty good evidence that there is some money in it. Australian Hullless and White Rice are the standard varieties used for this purpose. Colored varieties are not in demand, owing to the fact that the colored hull still shows after the kernel is popped.

From twenty to twenty-five bushels

per acre is considered a good yield, although more is sometimes raised.

For best popping results popcorn should be allowed to mature thoroughly on the stalk, therefore the stalks should be pretty well dried before they are cut. Under such conditions I think too much damage would be done by knocking off ears and shelling them to make it economical to use a corn binder. However, the standard varieties grow tall enough to cut with a binder. There is too much of a tendency among farmers to cut popcorn prematurely.

If popcorn is thoroughly matured it can be stored in a well-ventilated crib, which is partitioned into bins, two feet wide and eight or ten feet long and eight feet high, and each bin lined with a close mesh wire cloth to keep out mice. If there is high moisture content at harvest time, it is safer to kiln-dry the corn to prevent freezing. If within reach of a wholesale buyer, one could dispose of it directly from the field and save expense.

Various seed houses over the state, in a limited way, handle the fancy or colored varieties. For further information in a general way, I would refer you to Farmers' Bulletin No. 554, which can be secured from the United States Department of Agriculture, Washington, D. C.—J. R. D.

### LIABILITY FOR TAXES.

We sold our farm on September 13, the buyer paying \$500 down and the balance on December 2, when the final papers were made out. Now who should pay the taxes on this farm, there being nothing said about taxes when the \$500 was paid and the agreement was made. The purchaser took possession the day after the papers were made out.—S. B.

The taxes are payable December 1, and are not an incumbrance on the land till that time. Therefore the buyer must pay these taxes.—J. R. R.

### ESTABLISHING BOUNDARY LINE BY AGREEMENT.

Where a line has been established for over sixteen years by both owners, and one sells out and the other party is dissatisfied with the line, can it be taken and changed or not?—J. M.

As soon as the line is established by agreement and the monuments or fence set, the line is fixed; and both parties and all persons claiming through either of them from that time are bound. It matters not that the buyer had no notice of this arrangement; that there was nothing on record to show it, that an inspection of the premises would not have disclosed it, and that there was no writing made to testify to the agreement. That the line so fixed was very far from the true boundary is also immaterial.

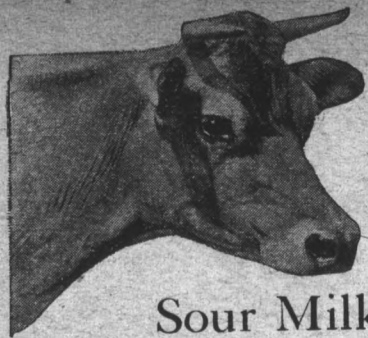
J. R. R.

### SWEET CLOVER ON POOR LAND.

I have some poor land on which I would like to sow sweet clover. How should I prepare the field and sow the seed? What kind of seed would you advise sowing to raise a crop for hay? I might say that this field hasn't had a sod for several years.—M. L.

Sweet clover should be sown on a firm seed-bed, and on soil not acid. Usually an application of two tons of ground limestone will correct this soil acidity. Sweet clover is a very good crop to seed on soils low in organic matter and available plant food. Under favorable conditions, a crop of hay may be secured from sweet clover the first season. Sow the white biennial sweet clover, at the rate of from twelve to fifteen pounds of scarified seed per acre.—C. R. M.





## Sour Milk

*Don't Blame the Cow*

EVERY spring condensary and market milk districts pass through a stage of souring milk. Since sour milk is not acceptable to milk dealers, the loss falls directly on the farmer. However, there should not be a total loss of all sour milk returned to the producer as a large amount of cream can be recovered for churning and the sour skim makes excellent feed for the pigs and little chickens.

During these sour milk epidemics dairymen are always glad to blame any cause but the real one for the souring of milk. At this time of the year there is always the usual number of letters inquiring about the high acidity of milk and causes for the same. Also, if it is natural for some cows to give milk high in acidity. Many dairymen, like most other people, are willing to blame any trouble they may have on anything but themselves and generally turn first to their greatest servant and benefactor—the dairy cow—to place the blame.

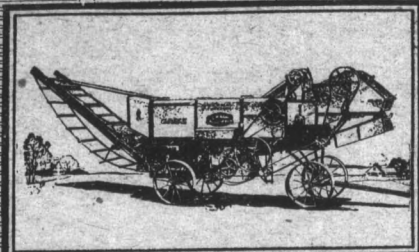
In general it may be said that there are two phases in getting milk to market in a sweet condition. First, by producing clean milk, which means milk with a low bacterial content. Second, preventing as much as possible the development of any bacteria you were unable to keep out. In winter the natural refrigeration keeps milk from souring to such an extent that there is usually a laxness in trying to keep the milk clean.

As spring arrives there are usually a few hot days, as the result of sudden changes in temperature, such as we passed through the first part of April. The natural refrigeration of cool nights changes to an ideal incubator during the day for the multiplication of the germs, which causes the milk to sour.

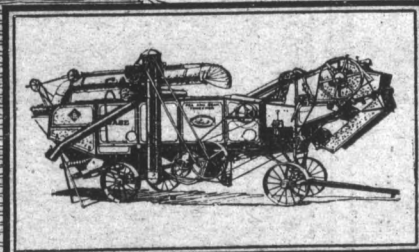
These changes come on so rapidly that as a general rule dairymen do not adapt themselves to the changes, with the result that some milk is returned. This is the time of year dairymen should go over their equipment and thoroughly clean up if they expect their milk to make good on the market.

Start in with the cows and thoroughly clean, and if necessary, clip their flanks and udders, look over the equipment and discard all utensils that have developed rust during the winter, open seams, or cracks of any kind where foreign matter can accumulate. Clean down your walls and barnyard, and especially get the milk house and cooling tanks in summer working condition. In general, start producing as near as possible under summer-time methods, which means, milk in a clean manner into clean utensils, and cool the milk immediately after milking, by setting the can of milk in a tank of running water and stirring until cool, (a milk cooler will substitute for this process). Allow the milk to remain in this tank until time for delivery.

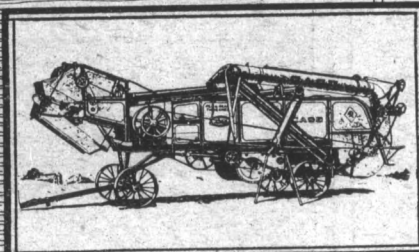
In regard to cows giving sour milk it must be said that all milk freshly milked will give an acid reaction to certain indicators. But two-tenths per cent acidity is considered high for fresh milk. Bacteriologists use the per cent of acidity of milk in determining bacterial counts by making their dilution according to the acidity because there is a relation between the number of bacteria in the milk and the sourness of it. However, if you have sour milk do not blame the cow.—S. J. B.



Case 9-Bar Cyl. Thresher  
Built in 20x28 Size Only



Case 12-Bar Cyl. Thresher  
Built in 22x36 and 26x46 sizes



Case 20-Bar Cyl. Thresher  
28x50, 32x54, 36x58 and 40x62

LOOK FOR THE  
EAGLE  
OUR TRADE MARK

## Save Your Pea or Bean Crop With a Case

WHILE Case Threshing Machines are most widely known for their efficiency and economy of operation as grain handlers, they are also equally popular as pea and bean threshers.

The cylinder and concave teeth of Case Pea and Bean Threshers are designed and spaced in such a way as to insure threshing without breaking or cracking the peas or beans.

Any of our seven sizes of steel-built, galvanized Case Pea and Bean Threshers can be quickly converted into a general purpose grain and grass-seed thresher.

Steel construction throughout, light weight, and simplicity of design in all details, supplemented by patented Case efficiency features—contribute materially to the satisfactory operation and long life of Case Threshers, regardless of the crop handled.

Your pea or bean crop will be threshed perfectly, cleaned thoroughly and saved in its entirety if you entrust it to a "Case".

J. I. Case Threshing Machine Company  
Dept. E16 Racine, Wisconsin

**CASE**  
THRESHING MACHINES



Be Your Own Thresherman

THRESH when the grain is ready—when you are ready—when roads are good—when the market is most favorable to you.

Every farmer who has a tractor of 18 H. P. or over can insure himself against loss of much or all of his yearly harvest—from bad weather and inability to get a machine when his grain is ready—by owning one of these little threshers.

## PortHuron

The Universal Thresher

Threshes All Kinds of Grains and Seeds.

20x34 and 22x38

Tractor Specials

Also Four Larger Sizes

The saving on one crop may be enough to pay for the thresher, which, with proper care, will last nearly a lifetime.

Made and guaranteed by a Company that has built grain threshers for 70 consecutive years. For threshing, separating, cleaning and saving the grain it cannot be excelled.

Write for complete description and specifications—sent free upon request.

Port Huron Engine and Thresher Co.,

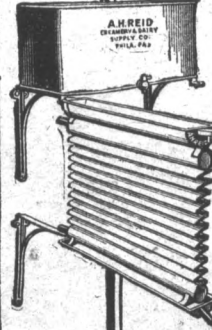
Port Huron, Mich.



MR. FARMER  
Leather is High in Price. Hides are Cheap  
BEAT THE PROFITEER.

Get your Cow, Steer and Calf hides tanned into HARNESS LEATHER. We can SAVE you big MONEY. Write us for information and prices on doing this class of work. We also tan and make Fur Coats and Robes for \$15.00, where you furnish the hide.

THE BLISSFIELD TANNERY  
W. G. White Co., Inc., Blissfield, Michigan



## Reid's MILK COOLER

Get one now. Save the usual sour milk losses. Drives out animal odors and grassy flavor. By far the most efficient and easily cleaned cooler made. Reasonably prompt shipment of orders.

Write for prices at once or ask your dealer.

A. H. REID CREAMERY

AND DAIRY SUPPLY CO.

69th St. and Haverford Ave.

Box 6, Philadelphia, Pa.

Only \$2 DOWN  
ONE YEAR  
TO PAY

\$44 Buys the New Butterfly Jr. No. 234  
Light running, easy cleaning,  
close skimming, durable.

NEW BUTTERFLY Separators are  
guaranteed a

lifetime against defects in material and work-  
manship. Made also in four larger sizes up to  
No. 8 shown here; sold on

30 DAYS' FREE TRIAL  
and on a plan whereby they earn their own cost  
and more by what they save. Postal brings Free  
Catalog Folder. Buy from the manufacturer  
and save money.

ALBAUGH-DOVER CO., 2165 Marshall St., Chicago



## Indiana Leads the Way

(Continued from first page).

of the county has an attendance of about three hundred and forty pupils, employs eleven teachers, has seven motor busses and five horse-drawn busses. Among other things the boys of this school bought an old church and moved it near-by for a gymnasium. This school also raised \$2,500 and distributed it to needy families in the county after a tornado.

### Facts and Figures.

A remarkable feature of all the consolidated schools in this county is the community life. Last year the schools were used for farmers' institutes which were attended by four thousand people, for meetings of parent-teachers' associations, for community socials, lecture courses, home talent plays, and other social gatherings. Many people are brought together who, although living in the same township would be almost entire strangers. Music received special attention in these schools, every consolidated school having a piano, and the Jackson school having two orchestras. In fact, it has been noticeable that the people are interested in a higher grade of music than before the schools were consolidated.

Then, too, a new field has been opened up in agriculture. Every boy and girl in these schools that studies agriculture learns how to test oats for smut and how to test seed corn as a part of the regular work. Usually one ear of corn is taken from each farm in the school district. Every child above the sixth grade has some home project. The boys may make wagons, library tables, etc., or do still more practical jobs in building cement walks, putting siding on the sheds, or re-roofing the farm buildings. Necessarily the work for girls is confined to home-making pursuits, such as cooking, canning and making clothes. Mr. Greist told me that for five years before consolidation the eighth-grade graduates entering high school averaged less than forty per cent, but since consolidation the county has averaged approximately ninety-three per cent of the boys and girls going into high school. It is also stated as further proof that people have no inclination to go back to the old system of schools, that not a single township in Randolph county has asked to reopen the old abandoned schoolhouses, although under the Indiana law this might be done within two years after consolidation takes effect.

Undoubtedly the next few years will see the automobile coming into more and more favor as a means of transporting the children. This will probably be especially true of the newer schools. The tremendous growth of consolidated school transportation in this state is shown by the fact that in 1902 there were only one hundred and eighty-one wagons that were used to haul children to school, but in 1918 the number had jumped to over four thousand, transporting 57,000 children to eight hundred and ninety-seven consolidated schools.

### Special Training.

Some idea of the special training given to pupils in consolidated schools is afforded by some figures compiled a few years ago. They show that while in the one-room schools in Indiana there are fifty-three teachers of music employed, twenty-four teachers of drawing, twenty-four teachers of domestic science and eleven of agriculture, there were in the consolidated schools two hundred and sixty-six music teachers, two hundred and thirty-two drawing teachers, two hundred and sixty-four domestic science teachers, and one hundred and twenty-four teachers of agriculture.

State Superintendent L. N. Hines a few years ago compiled some very detailed statistics regarding all the con-

solidated schools in the state. He found that the average cost of building and equipment for the consolidated schools in Indiana was a little more than \$20,000. The average monthly salary paid drivers of busses was \$55.30. The average cost of hauling each pupil per day was approximately twenty-six cents. For the last year, and probably next year, these figures would be a little low, but with the gradual readjustment, they will be a very fair average for future years.

In the consolidated schools of Indiana the average number of years in a course is approximately ten, while the percentage of daily attendance is ninety-three per cent. The high school courses average 3.7 years, with an average number of students enrolled of thirty-eight, and with an average of three and one-half teachers in each high school. It is recorded that the number of teachers with good professional training in consolidated schools was 2,184, while there were only 1,073 in the one-room schools before consolidation. The number of teachers in consolidated schools that had at least three years of practical experience was 2,213, while in the same districts under the old system there were only 1,295 teachers with that much experience. It was found that under the old one-room system the per capita cost of education was \$27.64 and under the new system of consolidated schools \$39. It will be seen that the increase was comparatively small for the effective work of the new kind of school.

(The last article in this series, "New Schools for Old States," will tell what has been accomplished with consolidated schools in Ohio. It will appear in an early issue.—Eds.)

### FARMERS PLAN TRI-COUNTY FAIR EXHIBITS.

THE executive committees of the Isabella, Mecosta and Montcalm County Farm Bureaus have decided to work together in the presentation of their accomplishments and products at the county fairs of those three counties. A committee composed of Roy Rossman, of Montcalm; M. F. Jackson, Mecosta county agricultural agent, and W. J. Hazelwood, farm bureau business manager of Isabella, are working on a plan for a combined exhibit.

This committee was appointed at a meeting of the three executive committees on Friday, April 22, at Remus, where thirty-five leading farmers were present. The Mecosta committee was host and furnished a dinner to the visitors.

Details of the nature of the exhibit of these three counties are left to the committee. Since exhibition space is relatively limited at the three county fairs it was thought probable that the best plan would be to erect a special tent for the purpose. Cooperation of fair managers with farmers' cooperative organizations are reported to be excellent by the State Farm Bureau. A number of County Farm Bureaus held exhibits last year and the State Farm Bureau was represented at the Detroit and Grand Rapids fairs. The three counties above mentioned reported in their meeting that they would like to see the county fair become an institution which would a little more closely represent the true growth of agricultural development and not primarily an occasion for amusement through concessions and racing. Reports from the State Farm Bureau are said to show a similar sentiment in other parts of the state.

The world has its ups and downs. The downs prevail now but the ups turn comes next.



This Trademark is Your Protection

## Unfortunate?

Fire plays enough havoc in the city, but this ravager of property has visited many a farmer, leaving disaster in its wake.

Due to inadequate fire protection the unprepared farmer has paid the price because of overlooking full fire protection. Unfortunate—perhaps—but really to blame for his own carelessness.

Farm barns are constantly subjected to fire hazard and the thinking farmer is fully appraising his buildings and protecting them accordingly. Fire cannot play ill-fated pranks on him.

### Peninsular Protection

The Peninsular Fire Insurance Company protects the farmer on a regular city property basis, appraising buildings according to location and general condition, with all protective improvements considered.

Without any obligation on your part, just drop our Farm Department a card, and learn more about Peninsular Protection—the insurance you cannot afford to be without.

This information also includes expert advice on safeguarding your CROPS.

**PENINSULAR**  
Fire Insurance Company  
of America

Capital \$1,000,000.00

GRAND RAPIDS, MICHIGAN

COLON C. LILLIE,  
President.

J. FLOYD IRISH,  
Sec'y and Managing Underwriter

**SCHRADER UNIVERSAL**  
**Kwik-on-an-off**  
**DUST CAPS**  
**GUARD YOUR TIRE VALVES**

YOUR TIRE VALVE STEMS NEED PROTECTION FROM ACCIDENTAL BLOWNS AND SAND, MUD DIRT AND GREASE SHOULD BE KEPT FROM THE THREADS OF THE TIRE VALVE STEM AND ITS FITTINGS.

KWIK-ON-AN-OFF DUST CAPS DO THESE THINGS EFFECTIVELY AND WITHOUT LOSS OF TIME.

SUPPLY THESE OVER VALVE STEM AND THEN TURN TO THE RIGHT LINE SCREW DUST CAP UNTIL TIGHT WHEN TAKING OFF REVERSE UNTIL LOOSE ON SMALL DIAMETER TIRE VALVES USE MILLED RIM NUT BUSHINGS ON WHICH KWIK-ON-AN-OFF DUST CAPS FIT PERFECTLY.

1921 MODEL IMPROVED IN DESIGN

4 TO A PACKAGE FOR 50 CENTS

AT ALL DEALERS OR  
A. SCHRADER'S SON, INC., BROOKLYN, N.Y.

**MINERAL HEAVE COMPOUND**  
**FOR HEAVES**

Booklet Free

\$3.25 Box guaranteed to give satisfaction or money back.  
\$1.10 Box Sufficient for ordinary cases. (Includes War Tax).

MINERAL HEAVE REMEDY CO., 463 Fourth Ave., Pittsburgh Pa.

**Ear Tags** 99¢  
**FOR STOCK**

Tag your stock—best and cheapest means of identification for Hogs, Sheep and Cattle. Name, address and number stamped on tags. Catalog mailed free on request.

F.S. Burch & Co., 145 W. Huron St., Chicago

**Saw Mill Machinery** Portable Mills for Farm er's use. Make your own lumber. Send for new Catalog. HILL-CURTIS CO., 1508 No. Pitcher St., Kalamazoo, Mich.

**At Present Prices**  
**Every Silo Owner**  
**Can Afford His**  
**Own Cutter**

**NO NEED OF BORROWING OR RENTING**

**ROSS** Best Cutters Made

Save the expense and waste of hiring the job done, and avoid poor ensilage.

71 years' success back of them. Many bought 20 to 35 years ago still doing good work. The reason for it is that Ross Cutters are made right, have larger capacity, require 25% less power, have more modern improvements than any cutters made. They cut perfectly, no waste, no pulping, no shredding, and put ensilage into silo in steady stream.

**Compare This Construction**

Don't buy any cutter until you investigate the Ross. Find out all about the improvements, then check up our construction, and you'll be convinced that the Ross, with angle steel frame, self conforming flange bearings for main shaft, ball bearing and thrust and knife adjustment, reversible steel cutting bar, etc., offers the greatest value at lowest price. Write for full description.

**E. W. ROSS CO.**  
Dept. 620  
Springfield Ohio

**SPECIAL 30-DAY**  
Low price and easy terms offer to the farmer in each community.

Made in 4 Sizes to Match Any Power



**BUY YOUR PAINT**  
**at Money-Saving Prices**

Lowest prices on best quality house, barn or silo paint.

**Direct from Factory to Your Farm**

Before you start spring repainting, write for our money-saving prices on paints. Color charts and instructions for estimating quantity, sent free on request. Our reputation is your guarantee.

**HOOSIER SILO CO.**  
Paint Dept. M  
Albany, Ind.

GLAZED TILE, LUMBER AND CEMENT  
STAVE SILOS, HOLLOW BUILDING TILE





## Farmers' Auto Tour

By J. H. Brown

THE writer has been over the route of the Michigan Farmers' Automobile Tour recently and made arrangements for camps, programs, receptions and welcome addresses by city officials and chambers of commerce of Norwalk, Ohio, Cleveland, Pittsburgh, Wheeling, Zanesville, and Columbus. These cities will give us a rousing welcome and take part in the programs in our fine camps.

The camp in Cleveland will be in Edgewater Park, on the shore of Lake Erie. At Pittsburgh, the mayor has assigned us Schenley Park Oval, a fine camp site high above and inside the city where we can see out for miles above and over the smokiest city on earth. Mayor Babcock will give the address of welcome. Master John A. McSparran, of the Pennsylvania State Grange, Master L. J. Taber, of Ohio State Grange, and Master A. B. Cook, of Michigan State Grange, will respond. George B. Horton, of Michigan State Grange, will be general chairman of the tour program committee along the entire route.

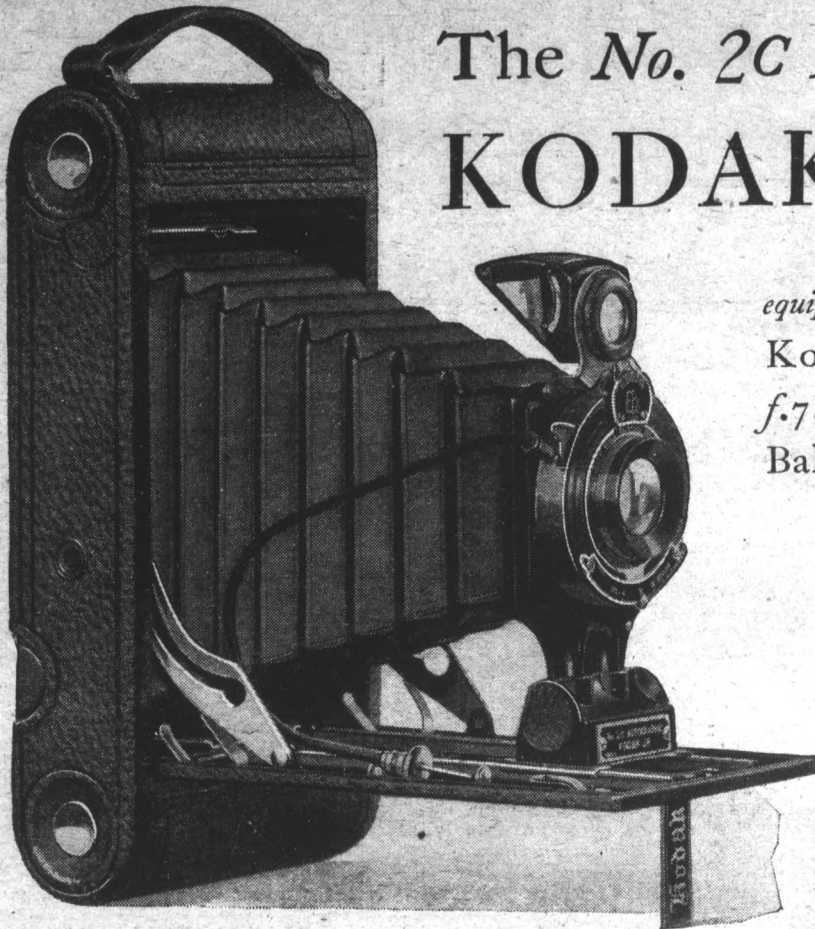
We have changed the route from Pittsburgh to Wheeling, and will drive over some mountainous roads, with steeper grades than we have in Michigan, hair-pin turns, but with the road bed of brick, concrete and macadam, and fine for driving. For two days we will have mountainous scenery that will delight every tourist in the big caravan. On the road half way to Wheeling we expect to camp in or near the Monongahela river in the mountains for one night. Details of this route and one-night camp will be given in the Michigan Farmer later on.

Nearing Wheeling we will be met by the city officials, chamber of commerce, state fair association, and be escorted through the city over a high bridge to our fine camp on the state fair ground at the south end of the island in the middle of the Ohio river. We camp there two nights, and will have a great grange and farm bureau rally of officers and members of these organizations from West Virginia, Pennsylvania, Ohio and Michigan. Speaking by noted men and women, community singing, band music, sports, and so forth, will be the program on Wednesday, August 17. Among the speakers will be our own congressman, John C. Ketcham, who will come fresh from Washington to tell us what's doing lately in that capitol of ours.

And now we have arranged to take in more cars and will have plenty of room. In fact, our fine camp sites in the big cities are big enough to accommodate all the cars we now plan to take in. So write in to the writer at Battle Creek, the sooner the better. Remit fee of \$2.00 for car registration. If you happen to be too late your fee will be returned to you by early mail.

### FOR SOLDERING.

FARMERS have a great deal of soldering to do. Oftentimes when it is desired to mend something, it is found that the supply of soldering flux has been used up. It is very easy to make a good flux by dissolving pieces of zinc in hydrochloric acid. The reaction forms a solution of zinc chloride. Just keep adding zinc to the acid until no more chemical action is observed. The solution can be kept in a glass bottle and applied in the usual way.



## The No. 2C Autographic KODAK, Junior

equipped with  
Kodak Anastigmat  
f.7.7 lens and Kodak  
Ball Bearing shutter

**\$25.00**

*This Camera fits into a niche, all its own. The size of the picture it makes, 2½ x 4½ inches, is particularly pleasing; is almost up to the full post card size—and yet the camera itself is small, light, convenient.*

*The Kodak Anastigmat lenses are made to exactly fit Kodak requirements. They are not merely an adaptation of a lens to the Kodak. They are a Kodak product designed to fit Kodaks, and in each case designed with particular reference to the size and type of Kodak and Kodak shutter that they are to be used with. The f.7.7 lens used on the 2C Kodak has more speed than the best of the rectilinear lenses and is at least equal to the best anastigmats in depth, sharpness and flatness of field.*

*The Kodak Ball Bearing shutter has speeds of 1/5, 1/10 and 1/100 of a second for "snapshots", has the usual time and "bulb" actions for prolonged exposures. It is an unusually reliable shutter, works smoothly and is quiet in its action.*

*The No. 2C Junior is covered with genuine grain leather, is finely finished in every detail, is extremely simple in operation, is "autographic", of course and, with the Kodak Anastigmat lens, produces negatives having that crispness and sharpness that are characteristic of the true anastigmat.*

*The price, \$25.00, includes the excise war tax.*

*All Dealers'*

EASTMAN KODAK COMPANY, ROCHESTER, N. Y., *The Kodak City*

## Harvest 20 to 45 Bushel to Acre Wheat in WESTERN CANADA



Think what that means to you in good hard dollars where land costs less, perhaps, than you are paying in rent. Many farmers in Western Canada have paid for their land from a single crop. The same success may still be yours, for you can buy on easy terms.

### Farm Land at \$15 to \$30 an Acre

located near thriving towns, good markets, railways—land of a kind which grows 20 to 45 bushels of wheat to the acre. Good grazing lands at low prices convenient to your grain farm enable you to reap the profits from stock raising and dairying.

### Learn the Facts About Western Canada

—low taxation (none on improvements), healthful climate, good schools, churches, pleasant social relationships, a prosperous and industrious people. For illustrated literature, maps, description of farm opportunities in Manitoba, Saskatchewan and Alberta, reduced railroad rates, etc., write Department of Immigration, Ottawa, Canada, or

J. M. MacLachlan, 10 Jefferson Ave., East, Detroit, Mich.

Canadian Government Agent.



**BROWN'S BARGAIN FENCE BOOK**

**Get My PRICES First**

**Before You Buy**

(5) see for yourself the money I save you on any fencing you need. **WRITE** today for my big new **FREE** Bargain Fence Book. Shows 150 styles. **Low Factory Prices—Freight Prepaid.** Also Gates, Lawn Fence, Barb Wire at bargain prices. Sample to test and book free, postpaid.

**THE BROWN FENCE & WIRE CO., Dept. 349 Cleveland, Ohio**

**Cut Cost Ditch, Terrace**

Grade roads, build dykes, levees with **the Martin Farm Ditcher and Grader**

Works in any soil. Makes V-shaped ditch or cleans ditches up to four feet deep. Horses or tractor. Get my great labor and cost saving story.

**Owensboro Ditcher & Grader Co., Inc.**  
Box 315 Owensboro, Ky.

**10 Days' FREE Trial**

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

Mailed free to any address by the Author

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

**America's Pioneer Dog Medicines**





## The Farmer's Own Company

The greatest insurance hazard today is the Automobile.  
It is a careless and unwise man who will drive an automobile without insurance.  
Every time an automobile is driven some accident is liable to happen—even to the most careful drivers.

### All Admit the Necessity of Auto Insurance

The question is: "where to get the best insurance for the least money." Big stock companies make but little distinction in the difference in hazards between city and country business. Yet there is a vast difference. It is not fair to ask the farmer as high a premium as the city man, because the hazard is no where near as great.

THE U. S. MUTUAL AUTOMOBILE INSURANCE COMPANY was organized to purposely give the farmer a square deal—pay a premium in proportion to his risk—not to ask the farmer to pay part of the city man's risk.

### Full Coverage Policy

The U. S. gives a remarkable full coverage policy. In fact, there is nothing like it on the market for anywhere near the money. This special farmer's policy covers nearly every conceivable accident that may happen and no deductions are made from any claim. You are paid in full.

This extraordinary coverage only costs \$1.00 per horse power with \$1.00 membership annually. The same coverage in a stock company would cost you five times as much or more. Two other policies costing \$ .50 and \$ .25 per horse power are also written with limited coverage and deductible clauses.

When you have the FULL COVERAGE at \$1.00 per horse power, you have a protection that protects. You have something worth while.

The U. S. is not an experiment. It has on May 1, 1921, 12,054 members. It paid \$116,343.21 on 1,164 claims last year. It is growing rapidly, and is the coming big mutual. We gained 712 new members in March, 1921, and 1,071 in April, 1921. We have paid during January, February and March, 1921, 347 claims aggregating \$34,378.91. This record speaks for itself.

You can have the utmost confidence in the U. S. It is backed by well known men of experience who cannot afford to have their names associated with anything that is at all questionable.

Colon C. Lillie its President is also President of the Peninsular Fire Insurance Company and the Peninsular Casualty Insurance Company.

Harmon J. Wells is Vice President, and also Secretary and Treasurer of the Peninsular Casualty Insurance Company.

Francis F. McGinnis its Secretary and Treasurer is also President of the Agricultural Life Insurance Company and Vice President and General Counsel of both the Peninsular Fire and the Peninsular Casualty Insurance Companies.

Colonel Augustus H. Gansser is Director and General Field Manager. Col. Gansser has served several terms in our State Legislature; has been identified with fraternal insurance and was Colonel of the 32nd—"Over There". He has also served as State Commander of the American Legion. He is still identified with Legion Community service work, and is chairman of the committee on Immigration of the National Americanism Commission.

These men are building the U. S. for Country business almost exclusively. They are prominently identified with other Companies that must charge Bureau rates justly applicable only in cities where the hazard is great.

The U. S. is rated for country business. It is a mutual company and will furnish protection at cost—all just claims plus actual expenses.

Our competitors say that U. S. cannot live and furnish the remarkable full coverage policy it does for \$1.00 per horse power. But three years experience goes to prove that if care is taken in selecting membership, this premium will be sufficient. The U. S. doesn't believe in charging a premium that will pile up a big reserve. That is not the principle of a Mutual Insurance Company. PROTECTION AT COST is the mutual idea. The rate should only be sufficient to take care of losses plus expense.

The U. S. has a plan to secure the co-operation of its members, whereby reckless drivers and undesirable risks may be eliminated. If something along this line can be accomplished there is no question about the adequacy of the rate.

It is proposed to organize Motor Clubs or Motor Troops in every community to get the co-operation of members. An organization will be formed, chartered by the Company. Officers will be elected and the club will be in direct communication with the Company. No one will be insured unless recommended by some member of the Club. In this way it is believed losses for theft, collision, personal injury and property damage can be reduced and the rate will be found ample to care for all emergencies. There will be no expense in connection with these Clubs. If the members will assist the Company just a little in selecting members and adjusting claims it may be possible to even reduce the present rate. Certainly it will not have to be increased. Further explanation of these clubs, etc., will appear in future advertisements. Look for them.

Get a policy in the U. S. Mutual. Help for a motor club in your town.

For information write the U. S. Mutual Automobile Insurance Company:

Col. A. Gansser

Bay City  
Michigan

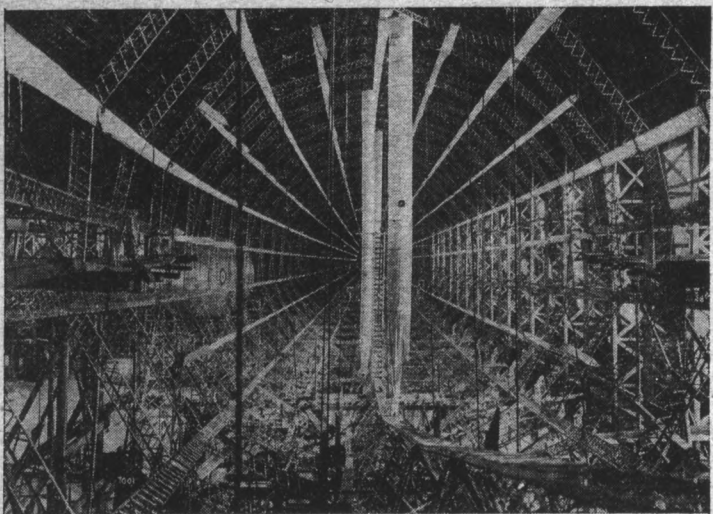
or

Colon C. Lillie

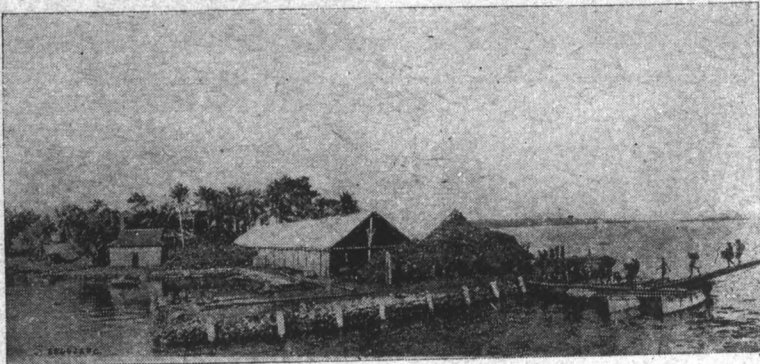
Grand Rapids  
Michigan



## WORLD EVENTS IN PICTURES



Three guesses would probably miss this. It's the interior of the steel hull of a giant dirigible now being constructed in England for our government. It is still minus the outer covering. After it is completed it will make a trip across the Atlantic some time this summer.



The bone of contention between the United States and Japan. This Island of Yap is a strategic point because of its importance as a cable station.

PHONOCRA



There'll be music everywhere when pocket phonographs become popular. This one was exhibited at Chicago.



Harding's secretary, Geo. Christian, accumulating "pep" for official duties.



Caruso's million dollar voice is unimpaired despite recent illness. Photo taken by Mrs. Caruso.



"Uncle Joe" Cannon wears big beaver hat received years ago when chairman of house appropriations committee. J. W. Good, new chairman of that committee, is proud of sombrero just received from one of his constituents.



Little ladies from Venezuela unveiling statue of General Simon Bolivar in Central Park, New York City.



German communists being rounded up because of red uprising in central Germany.



# THE CLAN CALL

By HAPSBURG LIEBE Copyright 1920, Doubleday, Page & Co.

## CHAPTER X.

Major Bradley and Henderson Goff.

WHEN Bill Dale, the expert mining man Hayes and the two mountaineers stepped from a short passenger train at the Halfway Switch, they were approached by the mponshiner, Heck, and a man whom Dale had never seen before. He was tall, and his bearing was erect and soldierlike, though he was every day of sixty years old. His eyes were blue and twinkling with everlasting good humor; his grey moustaches and imperial were exceedingly well cared for; his teeth were his own, and as white as a schoolgirl's, and they bore out his general air of neatness. He was, plainly, a southerner of the old type.

"Who's that?" whispered Dale to John Moreland.

But Moreland didn't hear. He ran forward with his right hand outstretched, and so did Ben Littleford. Men could not have greeted a brother with more gladness, Dale thought.

"Hi, thar, Major Bradley!" the hill-man cried. "And how d'ye come on today?"

"I am very well, gentlemen, thank you," said the major, smiling.

He shook their hands heartily. "The trainmen gave us your message yesterday," he went on, still smiling, "and we were delighted to learn that the young woman was out of danger. I trust you are all in good health, gentlemen."

They assured him that they were. Moreland turned to introduce Bill Dale and the mining man. From the moment that Major Bradley gripped Dale's hand they were friends.

"Mighty glad to know you, sir!" exclaimed the old lawyer. "I've been hearing a great deal about you, sir, over in the valley of the Doe. They seem to think there's nobody just like Bill Dale! It was Bill Dale this, and Bill Dale that; it was 'Here's where Bill Dale whipped Black Adam,' or, 'Here's where Bill Dale was standing when such-and-such happened,' or, 'Here's where Bill Dale crossed the fence!'"

"Hah-hah-hah!" sluggishly laughed By Heck, who stood leaning on the muzzle of his rifle. "Bill Dale is all right, major; ye've shore got my word fo' that."

The others laughed. Then John Moreland said they'd better be moving, or they'd be late for dinner.

When they had put a hundred yards of David Moreland's Mountain behind them, the old southerner tugged slyly at Dale's sleeve and whispered:

"Let us fall behind a little, if you please. I want to speak with you privately."

They began to lag, and soon there

was a distance of several rods between them and the others.

"I heard through Addie Moreland," began Bradley, his friendly hand on the younger man's arm, "about you and what you're planning to do for the Morelands. I tell you, sir, I thanked heaven for your coming, and you may count on me to help in any way I can. The Morelands are quite friendly to me now, though up to the middle of last summer they didn't like me any too well because I made Ben Littleford's cabin my home when out here."

"It was a simple thing that brought

"Is he—has he been here recently?" Dale wanted to know.

"He's here now," answered the major. "He's been here for three days, and he's been working devilment fast. He was up here last summer, trying to buy the Moreland coal for a song; he knows all the people, you see. As soon as he landed here on this present trip, he found out about your intentions. Then, at night, he freed Adam Ball from his tobacco barn prison, and went home with him."

"Well, By Heck followed them and did some eavesdropping—poor By has

And there shall be no charge for any service that I may render."

They were not long in reaching the green valley, which lay very beautiful and very peaceful in the warm light of the early July sun. The soft murmuring of the crystal river and the low, slow tinkling of the cowbells made music that was sweet and pleasing.

Suddenly John Moreland stopped, uttered a swearword under his breath, turned and went back to Dale.

"The's a man a-waitin' on us ahead thar, Bill," he drawled, "at ye shore want to watch like a hawk to keep him from a-stealin' the eyeteeth out o' yore head. His name is Henderson Goff, and he wants the coal."

They went on. Soon they met a man who, in clothing and in manner, made Dale think of stories he had heard and read of Mississippi River steamboat gamblers of the long ago. His eyes were black, and as keen as a pair of spear-points; his moustaches, too, were black, and they had sharp, upturned ends like those of a Mephisto. The major had said that he was a smooth article; he certainly looked it.

He met John Moreland with an oily smile and thrust out his hand. But Moreland wouldn't see the hand.

"Anything ye've got to say about coal," he growled, "ye can say to Bill Dale thar," pointing with a calloused thumb. "Bill he's the high light o' the whole business; and when he opens his mouth, ye can cock yore head to one side and listen fo' gawspel."

Goff was delighted to meet Mr. Dale, of whom he had already heard. Dale had nothing whatever to say. They walked on toward the cabin of the Moreland chief, with Goff keeping up a running fire of talk concerning the scenery, the climate—anything but coal.

At John Moreland's gate, Goff nudged Dale with an elbow and whispered:

"Meet me at one o'clock down there where the big sycamore lies across the river. I've got something to tell you that will interest you."

He didn't wait for a reply, but turned away with By Heck. He went to the home of the Hecks ostensibly to have his fortune told—really, to get his dinner. The old woman didn't like him, but her inborn spirit of hospitality wouldn't permit her to refuse him a meal. She felt that she was almost even with him when, after shuffling and reading the cards, she told him that it would be wise to look out for a big, tall, grey-eyed young man with an oak tree in one hand and a couple of cliffs in the other!

Dale told Major Bradley and John Moreland of that which Goff had said to him at the gate. The major suggested forthwith that he go to meet

## A Call of Spring

By Teresa G. Morris

The frolicsome waves caress the golden sand;  
The gentle zephyr whispers to the tree;  
The brilliant sunshine smiles upon the land—  
What mean these wondrous signs to you and me?

From robin's throat, a note of silver drips;  
The filmy cloudlets flirt with sea and sky.  
The dew beguiles the larkspur's lovely lips—  
All Nature heeds the spring's most gladsome cry.

Each little bud that opes upon the bush;  
Each blade of grass which peeps from out the sod;  
All things a prey to springtime's onward rush  
Reveal the goodness and the love of God.

Whence come these gifts, these beauties many, rare?  
The Hand that fashions them is ready ever  
To show the way that blossoms bright and fair—  
Where spring in happy hearts may reign forever.

us together. John Moreland's little nephew was lost in the woods, and his mother was frantic. There are panthers, you know, and wildcats, rattlers, and copperheads. I was fortunate enough to find the boy. He had stubbed a toe, and it was bleeding; I tied it up in one of my handkerchiefs, and carried him home. That was all. They are a fine people, my boy, and so are the Littlefords. Good old English blood that somehow wandered off. There's no purer, cleaner blood in America sir.

"And now—how are you getting along with your plans for the operation of the coal mine?"

"Excellently," answered Dale. "We have the necessary finance; a geared locomotive and cars and light steel rails have been bargained for; and there is to be a siding put in for us near the Halfway Switch immediately."

"Good!" Bradley gave Dale a hearty slap on the shoulder.

"There's something else I wanted to say, Mr. Dale," he continued, his voice grave. "You're nearly certain to have a barrel of trouble with a shyster coal man named Henderson Goff. He's a villain, sir, if ever there was one! And he's quite the smoothest article I've ever seen. He can make you believe black is white, if only you'll listen to him long enough."

his strong points!" the major went on. "Goff learned that Adam Ball's father knew about the coal vein long before David Moreland discovered it and got lawful possession of the mountain. Then Goff made the Balls believe that they were due a big share of the proceeds of the Moreland coal! It wasn't very hard to do, I guess. The Balls, this set, at least, were originally lowlanders; they took to the mountains, I understand, to keep from being forced to fight during the Civil War."

"Goff's idea," muttered Dale, "is to get the Balls to scare me into selling instead of developing, eh?"

"Exactly," nodded old Bradley. "Then he would settle with the Balls by giving them a dollar or two a day for digging coal; perhaps he would put them off until the mine was worked out for half of that, and then skip. Anyway, Goff, would come out at the big end."

"I see," said Dale.

"If there's anything that I can do, at any time, you won't hesitate to let me know?" said the major.

"You may consider yourself attorney and legal adviser for the Moreland Coal Company, of which I have the honor to be general manager," smiled Dale, "if you will."

Major Bradley's voice came happily, "My dear boy, I am glad to accept!

AL ACRES—Al Finds that Bessie, Like Nature, Abhors a Vacuum

—By Frank R. Leet





the man; it couldn't possibly do any harm, and there was a chance that he would learn something of Goff's intentions.

So Dale went.

Goff was already there, waiting. He was sitting on a stone on the Moreland side of the river, whittling idly. When he saw Dale approaching, he smiled and nodded, rose and pocketed his knife.

"I want to make you an offer for that coal," he said at once.

"All right," Dale replied. "If your offer is big enough, it will be considered. But no shyster price is going to get that coal, Goff."

Goff frowned uneasily.

"You don't know coal, Mr. Dale. You don't know the business of mining—or I've got you sized up wrong. Thousands of men have gone busted trying to do things they weren't used to doing. There's a big chance, too, that the coal isn't what it looks to be on the surface. You'd better take a sure thing, and avoid a possibility of loss. I'll give you five thousand, spot cash, for that coal."

Dale shook his head. "You'll have to come heavier than that, y'know, if you get the Moreland coal."

"And an extra thousand for yourself!"

Dale laughed a low, queer laugh. "You amuse me, Goff," said he. "Seems to me you've missed your calling in life. What a peach of a king-villain you'd make in melodrama! And you wouldn't have to act, either; you'd have to be just your natural self. And you make me mad, too, Goff. Because I'm on the square with the Morelands and everybody else—now get that!"

The corners of the shyster coal man's mouth came down.

"Oh, bosh—don't pass me that virtue stuff. Every man has his price, high or low. You've got yours, and I've got mine. I'll give you five thousand, spot cash, if you'll persuade John Moreland to sell to me for five thousand, and nobody'll ever know you got a rake-down from me. It's all the coal is worth, that ten thousand. Well, yes?"

Dale was of the type that goes pale with anger, and he was pale now. He clenched his hands.

"You can't insult me like that and get away with it, Goff," he clipped. "We're going to fight, Goff, and I'm going to put a licking on you that fifteen horses can't pull off. Get me?"

He threw aside his coat and rolled his sleeves to his elbows. Henderson Goff ran his right hand quickly to a rear trouser pocket and brought back a stub-nosed automatic pistol, which he turned threateningly toward Bill Dale.

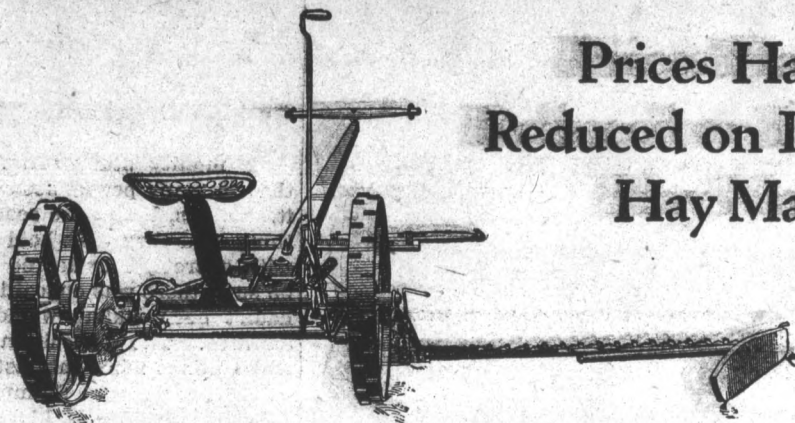
"Go easy, friend," Goff said very complacently. "There's no use in getting sore. I want the coal, that's all. If I can't get it by fair means, I'll get it in another way. Oh, I don't mind telling you; one man's oath is as good in court as another man's. If you don't take me up at ten thousand, I'll give you so much trouble that you'll be glad to sell it to me later for half that amount. The Balls think they own a big interest in that coal! There's a lot of them, too, and they can keep you from working the mine. Well, I can't waste time in dickering with you. What do you say?"

"I say," and Dale smiled an odd little smile, "that your plan appears to be perfect, except that you've overlooked one or two important details. For instance, there's the law, y'know."

"The law—now, don't go and fool yourself!" exclaimed Goff. "The state couldn't afford to keep a hundred men here, month in and month out, just to protect your little mine. My patience is about gone, Dale—for the last time what do you say?"

"I say that I'll beat you at any game you put up against me," very quietly. "Furthermore, I say that you are a

(Continued on page 589).



## Prices Have Been Reduced on International Hay Machines

International hay machines cut operating costs

**W**AS there ever a time when to get maximum production with the smallest possible expense was so necessary as now? How are you going to do it? Probably your biggest problem is labor. Labor is hard to get, and expensive when you get it—too expensive to use at keeping worn-out equipment on the job. Efficient machines are cheapest. International hay machines are efficient—their long, unbroken record of dependable field service proves their worth.

Therefore you make a true investment when you buy International hay machines. They save labor and time, both of which are especially valuable just now. While you are still busy with the hay, grain harvest

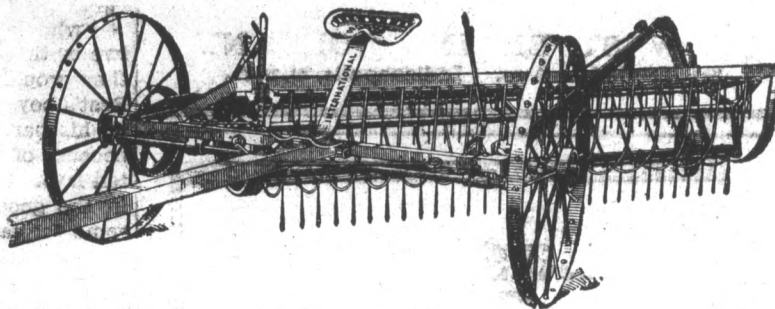
is nearly always at your heels. You wonder how you are going to get your hay out of the way. Do it with efficient machines.

You know your own problems better than anyone else, but, whatever they are, there are machines in the International Harvester line that will put your hay where you want it, the way you want it, in the quickest, most economical way.

A postal request will bring you the International hay machine catalog. It tells all about McCormick and Deering mowers and rakes, International tedders, combined side delivery rakes and tedders, loaders, sweep rakes, stackers and hay presses.

Write for catalog, and see your International Dealer

INTERNATIONAL HARVESTER COMPANY  
CHICAGO OF AMERICA U.S.A.



Sewer Pipe  
Flue Linings  
Corner Beads  
Wall Coping  
Coal

Drain Tile  
Partition Tile  
Backup Tile  
Wall Tiles  
Metal Lath

Hydrated Lime  
Lump Lime  
Fire Brick  
Fire Clay  
Mortar Colors

## Drain Tile

Our Ohio Salt Glazed or Porous tile are recommended by Mr. W. van Hartsma.

We furnished the tile for his demonstration work in St. Clair County. Prices are now at the BOTTOM LEVEL. Get busy and order now and be assured of prompt shipment.

The Cadillac Clay Company,

Manufacturers and Distributors

Building Material

Nicholas J. Engel  
Sec. and Mgr.

Penobscot Bldg.,  
Detroit, Mich.



### Do You Want To Become An Auctioneer

and a better judge of livestock and pedigrees? If so, send for catalog of Col. Reppert's Auction School. Mr. John Latham, known as one of the best judges of livestock and an authority of pedigrees, will have charge of the livestock judging and pedigree work. Col. Reppert will personally instruct each student. Term opens June 27, 1921. Address

Reppert's School of Auctioneering, Decatur, Indiana  
Please mention this paper when writing for free illustrated catalogue.

## U. S. Army Munson Shoe

Guaranteed 6 months.  
Made of pliable  
Chrome Leather  
Broad Solid Oak  
Leather Heels. Double  
Thick Soles. Dirt  
and Water Proof. Bel-  
lows Tongue. Sizes  
5 1/2 to 12.

**\$4.45**  
Guarantee

You must be en-  
tirely satis-  
fied or we will  
refund your  
money.



Pay Postman  
Send no mon-  
ey. Just send  
your name, ad-  
dress and size.  
Your shoes will be sent by  
return mail. Pay Post-  
man \$1.45 and postage on arrival.

Civilian Army & Navy Shoe Company  
Dept. 73, 45 W. 34th St., New York

## TRACTOR For Sale

Moline Tractor with Plow, 2 Row Cultivator, Double Disc. All in first-class condition.

Carroll L. Post,  
P.O. Box 499, Battle Creek, Mich.

Trained American Fox Hounds Rabbit and Skunk  
does all ages. Send stamp.  
W. E. LECKY, Holmesville, Ohio

Mention The Michigan Farmer When Writing to Advertisers





Two cultivating uses for the Utilitor that are especially desirable for truck or berry work. Machines are equipped with shovel cultivating sets.



If you are interested in terms our dealer will be glad to tell you about our Deferred Payment Plan.

A small initial payment puts the Utilitor to work on your place and you have eight months to pay the balance.

### More and Better Cultivating with Less Expense and Effort

The NEW Model Utilitor has all the essentials of a successful motor-driven cultivator. The clearance and the width of the machine are correct for straddle, or between-the-row, work.

A variable speed governor on the New Model keeps the speed constant. The operator guides the machine easily by means of a double clutch control at his finger tips.

The tools are quickly attached. Three minutes is all the time required in most cases. The hitches are very simple and exceedingly flexible.

The New Model is both economical and dependable. Our nation-wide service is behind every owner.

The time and effort you can save with this machine will help to offset the decrease in food prices. Get a Utilitor and STEADY YOUR PROFITS.

See our dealer. The New Model is taking hold fast. Get yours while we can make prompt delivery.

Our dealer's name on request.

**MIDWEST ENGINE COMPANY**  
851 Martindale Ave. Indianapolis, U. S. A.

## It's So Easy to Make the Change

There's no bother and no sacrifice in turning away from the ills which sometimes come from tea and coffee, when you decide on

## POSTUM CEREAL

Then you have a rich, full-bodied table beverage which fully satisfies the taste—and there's no ingredient to harm nerves or digestion.

Thousands have changed to Postum as the better meal-time drink and they don't turn back.

Suppose you try the change for ten days and note the result.

**"There's a Reason" for Postum**

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

## The Revival at Mud Valley

Our Weekly Sermon—By N. A. McCune

(Continued from last week.)

THERE was one encouraging feature about the preacher's community study class. That was, that so many people seemed ready for it. That is, they were ready for something, and they took hold of the class with a pretty fair degree of zest. To be sure, there was opposition. If there hadn't been, Skimp would have been alarmed. The opposition helped to make things more interesting. It was good advertising. Skimp thought of Lincoln's remark to his brother, that he shouldn't brush off the horse fly, as that was what made the horse go. Several new members were added to the class, among them Mr. and Mrs. Eger, who were not members of the church, and Miss Emily Startle. Miss Startle had spent two years at the state normal.

After the class had held three or four meetings, something happened that happens very frequently in country villages. One of the best families in the township moved away to the city. The farm was sold to a man with a foreign name and a huge family. The usual auction was held, and almost all of Mud Valley was there, looking for bargains. Mr. Skimp was depressed for two reasons. Mr. Best was as good as his name, and was about the best all-around man in the church. He supported it fairly liberally. In addition to that, the Best family would be sorely missed in the community. Mr. Best was the man who had agitated getting a small gambling place out of the village, and he had kept at it until the proprietor had packed up his pool tables and departed.

THE Bests were not the only ones who had left Mud Valley within two or three years. And by all tokens, they would not be the last. One of Best's boys hated farming and had given his parents a good deal of anxiety because of some escapades he had gotten into. His father had thrashed him in the good old way, but he had become too large for that, and was more and more unruly. Moreover, the oldest Best girl had as an admirer a youth who had come to "resort" at a lake near Mud Valley for several seasons, and he had filled her to the ears with tales of city life.

When the Community Study Class met the next Sunday night, Skimp said they would not study the life of Oberlin at that time. There was something else to talk about. Why, he asked, were the Bests going away? For the same general reasons that had taken others away—namely, country life, Mud Valley life, was not attractive enough. Wouldn't it be possible, he asked them, to start some movement that would make Mud Valley a more interesting community? What did Mud Valley lack, anyway? He looked around at the brethren and sisters inquiringly. "What does Mud Valley lack. What is the trouble with us?"

Miss Startle: "Everything's the matter with us. We're dead and buried and don't know it." Ed. Dongflapper: "I guess it ain't as bad as that. I guess we're as good as most small towns." Miss Startle: "As good as most small towns! Well, aren't most small towns dead? Did you ever see one that wasn't?"

Mrs. Eger: "Yes, I am thankful to say I have. There is a small town in the far west that beats anything I ever saw. They have the prettiest lawns and streets, and more pride in their town than any spot I was ever in. It all started about ten years ago, I think, when a man with some means noticed the same thing we notice here, that

the best young people were moving away. They would go away to school and college and not come back. And he began to see what he could do to induce the brightest and best of the young people to stay in the old home town. I think the motto the town adopted was, 'The old home town for me.' That may not be it exactly, but it was something like that."

"Well," said Mr. Slow, "did they stay?" "A lot of them did, and more are staying all the time." "What methods did they use?" asked Mr. Skimp. "O, they did everything, I guess. They had a lecture course in the winter and a chautauqua in the summer. They finally hired a man to come and organize the boys and girls into boy scouts and campfire girls, and things like that. But I think the biggest thing they did was to organize a loan concern of some kind so that a young farmer could get credit for getting pure-bred stock, and getting a start in general. They have a big street fair every fall, too. All local exhibits and local attractions." "Sounds like a big yarn," said Simon Dribble. "It isn't, though, because I've been there." "It sounds good to me," said Jake Ready, "if you can only put it across."

"Folks," said Skimp, "Why can't we do this, make a start on something, and work on from that? If we can put one thing across, we can put more things across, and Mud Valley will begin to wake up. What is most lacking? Start where the disease is worst." It was agreed that the most serious aspect of Mud Valley's social and spiritual disease was, that no two people would pull together. Added to that, was the fact that there was a vast amount of very poor farming. Men were cropping fields to death, with but little rotation.

The result of the discussion was, that the preacher was to write to the state agricultural college and see if a two-day institute could be arranged. In the meantime, the affair was to be well talked up. As soon as the class had adjourned, however, Skimp thought to himself, "I'm not the man to get these professors up here. Here's Abreast, a graduate of the institution. He knows them all and he can turn the trick better than I can." Abreast therefore, was commissioned to arrange for the institute, if possible. "I'll get 'em to come," said Abreast, "If I have to go to the college and bring 'em by force." The men, however, were not alone in their efforts to usher in a new order of things. That week there was a meeting of women in the church. They decided to get a teacher of singing from Pufftown, twenty miles away, who was to come twice a month and hold a community singing hour, and train a choir.

Before they broke up, Mrs. Eger had a proposition to make. She reminded them of the deaths of two babies recently, and the fact that many of the school children seemed to be suffering from some kind of ill-care. She said she was raising three children, and she knew she could learn a great deal more about it. She suggested that they start a class in scientific motherhood by enrolling in a correspondence course with a certain university that conducts such courses. "The lessons will come to me, I'll study them over, and we will meet and discuss them." Every woman interested was to pay a quarter. The night after Skimp heard about this, he dreamed about one of his favorite texts: "And the streets of the city shall be full of boys and girls, playing in the streets thereof. Thus saith Jehovah of hosts."

(To be continued.)



## The Clan Call

(Continued from page 587).

coward and a scoundrel, and that you haven't got the insides in you to fight me a fair man's fight. If you'll only pocket that thing you've got in your hand, I'll mow down half an acre of meadow bush with your body."

The other turned red, then white, then red again. Bill Dale's words had lashed him keenly. His eyes became like hard black beads, and he began to raise the wicked-looking pistol as though he meant to fire.

Then there was the sound of a breaking twig behind him, and a voice drawled out:

"Drop it, Mister—drop the funny little gun, or the middle o' Tarment is yore po'tion right now!"

It was the moonshiner, By Heck, and his rifle was levelled. Goff dropped the pistol. Heck grinned, advanced slowly, took up the weapon that the hill-folk call a "cowardsgun" and tossed it into the river.

"Now git—cut the mustard—light a rag away from here," he ordered, "afore I let Bill Dale loose on ye!"

Goff went away rapidly.

"I wonder if you heard him say anything that would make you valuable as a witness," muttered Dale, "In the event we want to have him arrested."

"I heered you tell him 'at he was afeard to fight ye a fair man's fight, and 'at ef he'd pocket that thing he held in his hand ye'd mow down twenty acres o' meadow bush with his low-down body—that'd be vallyble in a co'te, wouldn't it?"

Dale smiled. Then he frowned.

(Continued next week).

### TO A DANDELION.

BY TERESA G. MORRIS.

Cheerful, jaunty little fellow—  
With your tousled head of yellow;  
Down the road you're gaily seen,  
Dressed in ragged coat of green.  
Glad some harbinger of spring—  
Your journey starts when bluebirds sing.

Not ends, until against some wall,  
You crouch and mock the winds of fall.  
One day you're youthful, glad and gay—

The next we find you old and gray.  
Perhaps, a fairy waves her wand,  
O'er you, naughty vagabond!

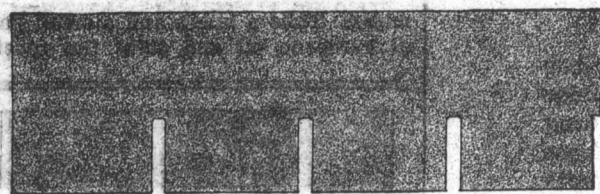
### SUNSHINE HOLLOW.

Martha Mullins has been culling, keeping books and feeding less hens. She says she is tired of raising eggs for city ladies what don't appreciate it and don't want any hens roosting in her coop unless they pay pretty good rent. Now Martha is looking happier and working less and gets just as much from the hens after the feed bills are subtracted.

The grower who refuses to organize and cooperate with other growers and thinks that he is tending to "his business" by individually matching his selling ability against the buying ability of highly organized speculators, with their highly trained specialists to do their buying and selling, reminds us of the bull trying to stop the train.

A double-headed freight train was coming down the track. The bull got on the track, bowed his neck, pawed, snorted, and bellowed. The farmer went out to drive him off the track, but the bull insisted on "tending to his own business," and also insisted on the farmer tending to his by helping the farmer over the fence. As the farmer picked himself up he remarked to the bull, "Stay there, old boy, I admire your nerve, but you sure have poor judgment."

When Dorothy Tooley was talking on the party line with Ima Knutt, they heard a nice clock strike eight times. Dorothy says it wasn't her clock as they have a cuckoo. Ima says it wasn't her clock, 'cause the striker's busted. Dorothy says that somebody must have been listening in on the line without putting her hand over the transmitter,



#### MULE-HIDE Four-Unit Asphalt Shingles.

Easier to lay; made in red or gray-green slate surfaces. Size 10 x 32 inches; 112 strips to the square.

#### MULE-HIDE Shingle-Craft Roll Roofing.

Especially recommended for use over old wooden shingle roofs. Made in the Cut Shingle design and the Square Butt, as indicated.

Both designs may be purchased in either unfading red or gray-green slate, and in the Vertical or Horizontal style.

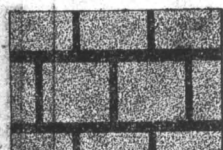
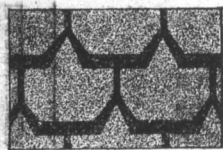


#### MULE-HIDE Smooth-Finish Roll Roofing.

Makes good, tight roofs—any building with a sloping roof. Made in three different weights—Extra Heavy, 60 lbs. per square; Heavy, 50 lbs.; Medium, 40 lbs. Directions for applying, with Nails and Cement, packed in each roll of MULE-HIDE Roofing.

#### MULE-HIDE Slate-Kote Roll Roofing.

Contains the same extra strength and wearing qualities as MULE-HIDE Smooth Finish Roll Roofing with the added advantage of its slate surface. In red or gray-green; Heavy, weight 90 lbs. per square; Extra Heavy, 115 lbs.



## Why They Insist On MULE-HIDE

MANY, many property owners persistently buy MULE-HIDE. They won't accept any other roofing protection. Their insistence is based on their confidence in its additional protective power.

They have found that in the battle with the elements, MULE-HIDE has greater stamina, because it is "stronger and lasts longer"—less expensive because of its long life and freedom from repair.

Home and building owners appreciate the roofing with that remarkable service record:

### "Not a Kick in a Million Feet"

There is a MULE-HIDE roof covering for every requirement, and your dealer will gladly show you samples of any of the following varieties.

MULE-HIDE Smooth Finished Roofing.  
MULE-HIDE Slate-Kote Roofing furnished in Green and Red Slate.  
MULE-HIDE Shingle-Craft Roofing furnished in Green and Red Slate.  
MULE-HIDE Individual Asphalt Shingles in Standard and Double-Thick Weights furnished in Green and Red Slate.  
MULE-HIDE Four-Unit Asphalt Shingles furnished in Green and Red Slate.  
SEAL-SKIN and BLACK-BEAR Waterproof Building Papers.

## The Lehon Company

MANUFACTURERS

44th to 45th St. on Oakley Ave., Chicago

# MULE-HIDE

## Ready Roofings and Asphalt Shingles

## THE AUTO-OILED AERMOTOR

### A Real Self-Oiling Windmill

Oil an Aermotor once a year and it is always oiled. Every moving part is completely and fully oiled. A constant stream of oil flows on every bearing. The shafts run in oil. The double gears run in oil in a tightly enclosed gear case. Friction and wear are practically eliminated.

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

Write today for Circular. **AERMOTOR CO.** Chicago, Kansas City, Des Moines, Minneapolis, Oakland

**\$54.50 PUTS THIS NEW MILL ON YOUR OLD TOWER**

**ALBION**

Albion steel and wood mills are quiet and powerful. One-third the working parts of any other mill. Only main Pinion bearing subject to wear. This is oilless, and easily replaceable. Covers by dependable weight without springs. Fits any 4-post steel tower. Why not shorten your chore hours now with a good Windmill? This is your chance—in Albion direct from the manufacturer, fully guaranteed. Write today for catalog.

**Union Steel Products Co. Ltd.**  
No. 528 N. Benton Street,  
ALBION, MICHIGAN, U. S. A.

**BINDER TWINE**

Get our low price in quantities to GRANGES and FARMERS' ASSOCIATIONS. Agents wanted. Samples free: Theo. Burt & SON, Melrose, Ohio

**Free Sample Annual Sweet Clover** genuine Hughes strain. 2c postage. James Kitchen, R.5, Springfield, O.

**12 Months to Pay**

Enjoy your 1921 "Ranger" at once. Earn money for the small monthly payments on our Easy Payment Plan. Parents often advance first small payment.

**FACTORY TO RIDER** wholesale prices. Three big model factories. 44 styles, colors and sizes in our Ranger line. Delivered FREE on 30 DAYS TRIAL. Select bicycle and terms that suit—cash or easy payments. Ex. prepaid.

**TIRES** lamps, horns, wheels, parts and equipment at half retail prices.

**SEND NO MONEY**—Simply write today for big, free Ranger Catalog and marvelous prices. Special Agent for

**Mead Cycle Company**  
Dept. 6 77 Chicago

**OTTAWA**

Patent Applied For.

**1-MAN FASTEST CUTTING LOG SAW.** falls trees, cuts branches 4-H. P. Light weight. Does the work of 10 men. Easy to move. Does belt work. 30 Days Trial. Cash or Easy Terms. 10 Year Guarantee. Free Book. Get new low factory direct price today.

**OTTAWA MANUFACTURING CO.**  
1501 Wood St. OTTAWA, KANSAS.

Mention The Michigan Farmer When Writing Advertisers

**World's Best Roofing**  
At Factory Prices

"Reo" Cluster Metal Shingles, V-Crimp, Corrugated, Standing Seam, Painted or Galvanized Roofings, Siding, Wallboard, Paints, etc., direct to you at Rock-Bottom Factory Prices. Positively greatest offer ever made.

**Edwards "Reo" Metal Shingles**  
cost less; outlast three ordinary roofs. No painting or repairs. Guaranteed rot, fire, rust, lightning proof.

**Free Roofing Book**  
Get our wonderfully low prices and free samples. We sell direct to you and save you money. Ask for Book No. 167.

**LOW PRICED GARAGES**  
Lowest prices on Ready-Made Fire-Proof Steel Garages. Set up any place. Send postal for Garage Book, showing styles.

**THE EDWARDS MFG. CO.,**  
517-567 Pike St., Cincinnati, O.

**FREE Samples & Roofing Book**

## PECKY CYPRESS

The wood that will last forever in the ground or out of it.

Established 1864

**J. P. SCRANTON & COMPANY,**  
Detroit, Michigan

Will ship any quantity.

**Kentucky Tobacco,** NATURAL LEAF, smoking 10 lbs. \$2.50; 20 lbs. \$4.00; chewing, 10 lbs. \$3.00; 20 lbs. \$5.00. R. F. Veal, Sedalia, Ky. Agent





### Here's the best way to blast small stumps

WITH the driving iron as shown, or a crow-bar—make a hole three or four feet deep under center of the stump. Loosen driving iron by striking on each side and pull out carefully to prevent loose dirt and stones entering the hole. Insert one or more cartridges (number depending on size of stump) of



**DU PONT**

**RED CROSS 20% DYNAMITE**

Unless the soil is wet, each should be slit with a knife except the last one containing cap and fuse (the primer). Fill hole with clay or dirt. Tamp with wooden tamping rod (a broom stick makes a good one)—gently at first and more forcibly as hole becomes filled. This ensures complete confinement of explosive gases and a successful "shot."

Your dealer can furnish you with Du Pont Explosives and Blasting Accessories.

Write today for a copy of our "Farmers' Handbook of Explosives" giving complete instructions covering the latest methods for blasting large and small stumps, ditches and holes for tree-planting.

**E. I. du Pont de Nemours & Co., Inc.**

McCormick Building  
Chicago, Ill.

Hartley Building  
Duluth, Minn.

# HOFSTRA

*The National Insecticide*

**Kills Insect Enemies of Chickens  
and Garden on Wholesale Scale**

Chicken lice on setting hens—little mites on baby chicks—Hard shell potato bugs and the red, soft kind too—Cabbage worms—plant lice—they die by the hundred when you use Hofstra. It's a dust fine powder, more effective than anything you ever used. Just spray it from the metal gun. It floats like smoke off a cigar and completely fills the air for yards. Kills these pests by sealing their skin pores. They die by the hundreds.

**POSITIVELY NOT A POISON**

Hofstra is made of old Fashioned Pyrethrum powder combined with a secret chemical formula and pulverized corn starch to carry it in the air. Nothing else like it, but entirely harmless to humans. Loaded metal guns 15c at drug and grocery stores. Packages of bulk powder for re-filling gun cheaply at 30c, 60c and \$1.20.

**HOFSTRA MFG. CO.**

510 N. Chayenne St.  
Tulsa, Okla.

**Certain  
Death to—**

- Flies
- Ants
- Roaches
- Fleas
- Mosquitoes
- Bed Bugs
- Potato Bugs
- Cabbage Worms

If your dealer hasn't it, send us his name with 45c for trial gun and Liberal package of Powder. Trial guns Loaded with Hofstra 15c.



**When You Write to Advertisers Please Mention This Paper**

## Our Boys' and Girls' Page

### Poultry Lessons

By R. G. Kirby

#### Lesson X.—Fighting Mites and Lice.

THE red mites sometimes found on the poultry roosts are red because they are filled with the blood of the poultry which they have drawn while the birds were on the roost. Hens that are pestered with mites every night are reduced in health and vigor and cannot lay so many eggs. If the roosts are sprayed with mite-killing solutions no mites will ever trouble the hens.

Here are several ways of killing the mites. Take a brush and a small pail of kerosene oil and paint the roosts

the market which are useful in keeping hens free from lice. But we have found that the powders have to be applied often to insure protection while an application of blue ointment in the fall and one in the spring will keep the flock entirely free from lice.

Hens that have a good dust bath will accomplish a great deal in freeing themselves from lice. In the summer they will enjoy dusting on sunny days in the garden loam. Save up a few boxes of garden soil for winter use and it will help in keeping the hens healthy and free from pests.

It pays to spray the nests occasionally to keep them free from lice. Use quarter-inch mesh wire on the poultry house windows and sparrows will not roost in the house. They seem to be carriers of lice and should be exterminated around the poultry houses as much as possible.

#### MAKING FARM AND HOME WORK A GOOD GAME.

BOYS' and girls' extension work in agriculture demonstrates how to make farming and home-making a practical business, and shows rural young people why they should decline to add themselves to the crowded thousands of the city.

But the club work is just as important for city boys and girls as it is for those in the country. The rural young people need the club group work because of their isolation from social life and their lack of community leadership; the city boys and girls need it in order that their gangs and cliques, with oftentimes detrimental atmospheres, may be transformed to associations with constructive, creative, and helpful programs through which they may become familiar with America's greatest industry, agriculture, and the fundamental principles of home-making. Club work does not recognize distinctions in the service of boys and girls. Members of both rural and city club groups attend the same club meetings and work together on a common program of work for the improvement of agriculture and home life.

Through organization work, contests and the help of efficient leaders, farm and home work becomes a good game instead of drudgery, and the standards of achievement set by leaders are more easily reached because of the interest, enthusiasm and reinforcement received from this organized effort.

#### CLUB ITEMS.

THE Michigan Duroc-Jersey Breeders' Association is distributing the prize pigs awarded last fall to the pig club members who won in their respective counties. The association is also giving a year's subscription to the Duroc Bulletin to every pig club member who completed all requirements, regardless of breed raised.

Several dates significant to boys' and girls' club members have been announced by R. A. Turner, state club leader. May 14 has been set for the sixth annual county normal day, when about 250 teachers and students from county normal schools will be entertained at M. A. C. Arrangements will be made by Mr. Turner's department. The annual club week, when the county and state club champions are entertained at M. A. C., will be held July 5-8. The annual training school for boys' and girls' club leaders will take place June 20-24 at the same time as the rural ministers' conference. Ivan Hobson, of the national club office at Washington, will be a speaker, while such men as Professor Carver, of Har-



Ready for what's next, in happy anticipation. It's great to be happy, with few possessions and great desires. "Blessings on thee little man," for your sunshine smile. It makes your dirty face look bright and brings good cheer to those who take their cares too seriously.

about once each month during the hot weather and every other month in the winter. The commercial coal-tar disinfectants can be diluted with water and painted on the roosts or sprayed on with a hand potato sprayer if there are only a few roosts. We find the commercial mixtures a little cheaper than kerosene.

The old oil drained from an auto engine can be used to paint the roosts. Commercial lice paint will give protection for a long time. The main point is to keep up the mite applications often enough so that the pests will never become thickly entrenched in every crack and crevice of the house. In neglected poultry houses the mites will sometimes hang in great red clusters under the roosts. The nests may also become infested. In such cases the birds will often hide their nests and roost anywhere outside rather than come in the infested house. But too often the hens will use mite-infested roosts and they are steadily devitalized by the experience.

Blue ointment is the best treatment for lice we have ever used. It can be mixed half-and-half with low-grade vaseline. Both materials can be obtained at the druggists and a small tin box of the mixture will last a small farm flock for several years. It is applied by placing a bit under each wing and beneath the vent. Rub in the ointment thoroughly. It is poison and must be placed away from the young children and farm stock. There are various commercial louse powders on



vard, and Dr. Warren H. Wilson, of New York City, who will be in East Lansing for the ministers' conference, will also address the club leaders.

When the short courses at M. A. C. open next November it is probable that more than half of the counties will be represented by club champions who accept the scholarship authorized by the state board of agriculture. Inquiries are being received every day by Club Leader R. A. Turner. According to the plan, one boy in each county adjudged the best all-round club worker shall receive his fees and books for a year in the sixteen-weeks' course in general agriculture.

#### GIRLS' CLUB WORK GROWING IN INDIANA.

IN Indiana there were 178 different girls' clubs, with a total enrollment of 2,230, in thirty-two of the ninety-two counties. Ninety-seven sewing clubs with a membership of 1,012, and forty-seven canning clubs with a membership of 315 were formed. Besides, there were twenty-six baking clubs, five home-keeping clubs, two on the cottage cheese-making project, and the remainder of the girls were engaged in poultry, garden, calf, pig or other club work. Twenty-one of the 178 clubs completed their projects with a 100 per cent score.

Blanche Phillips, eighteen years old, who won the canning championship put up 689 quarts of fruit and vegetables, winning because of the quality of her work, excellence of her record and story, and display sent to the state show. However, a fourteen-year-old girl, Edith Miller, of Mauckport, had a record of 950 quarts of fruits and vegetables, losing on points other than quantity. Over 100 of the girls put up more than 100 quarts each.

Lurine Leak, state sewing club champion, has thirty-three new or made-over garments to her credit, besides the patching and darning for the whole family.

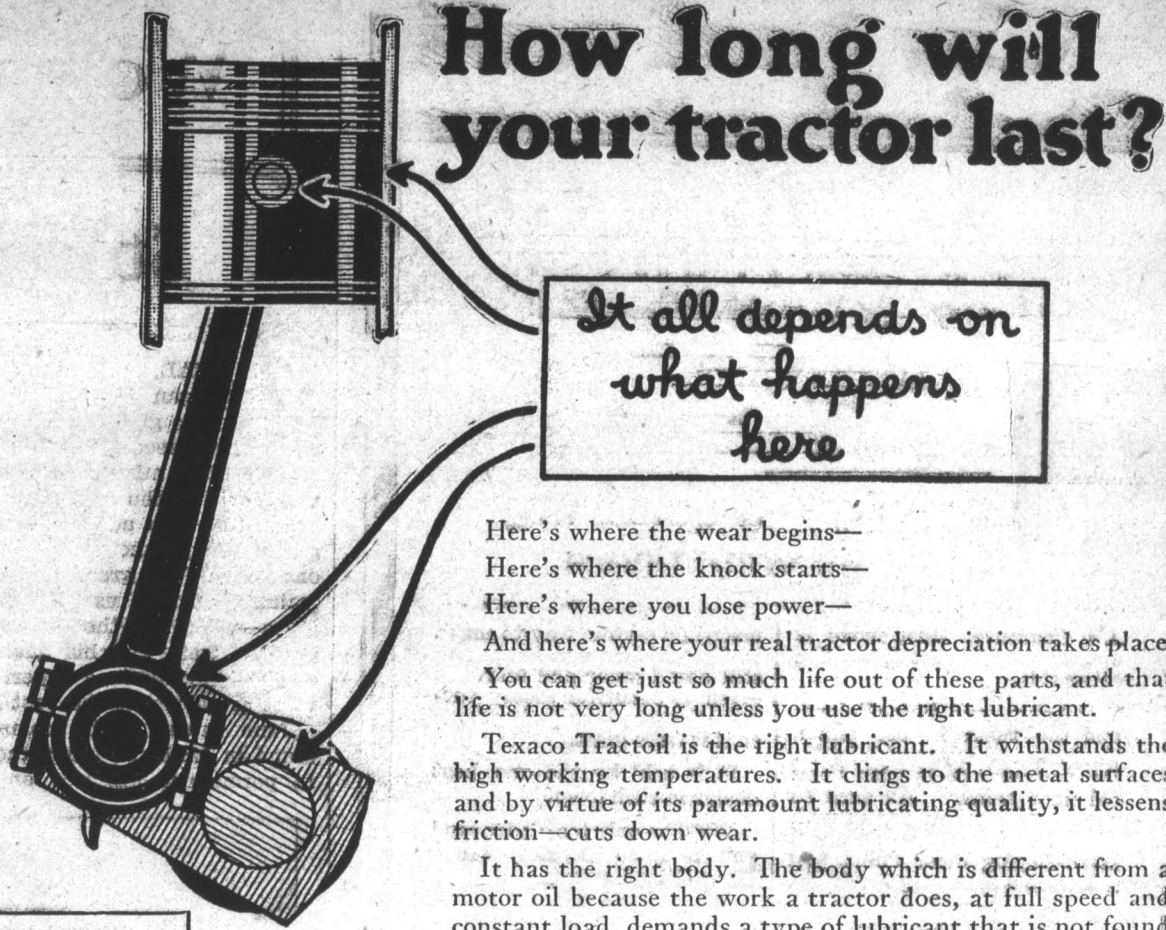
Adelle Davis, a sixteen-year-old girl, won first baking prize with more than 500 loaves of exceptionally good bread, baked during the year. Miss Davis also won the home-keeping contest. Marguerite DeGratta, fifteen, made 403 loaves of yeast bread and 322 of quick bread, showing a record for quantity.

#### FORM CALF CLUB.

THE boys of eastern Iron county have formed a calf club under the encouragement of the Stambaugh Township Development Bureau. Each of the ten boys in the club has agreed to purchase a registered Guernsey calf and enter the dairy calf club contest. This contest involves training in feeding of calves, judging of calves and preparing calves for exhibitions. It is expected that ten herds of registered stock will come out of this boys' club and Stambaugh township is to furnish registered sire service for each of the herds so established. Still other boys are invited to join the club.—CHASE.

#### PRESIDENT RECEIVES ESSAY WINNER.

FROM a little town in Idaho came Miss Katherine Butterfield, pretty seventeen-year-old high school girl, to the White House at Washington to receive at the hands of President Harding the Harvey S. Firestone University Scholarship, which she won in competition with 225,000 other high school students throughout the country. This scholarship entitles her to a full four-year college education in any school in the country. Mr. Firestone offers a new scholarship annually as a reward for the best essay of five hundred words on Highway Transport—Good Roads.



#### TEXACO Motor Oil

The uniform oil that keeps your motor active. It is a fine, lasting oil that completely retains its lubricating properties despite engine heat. It so perfectly seals the clearance between piston and cylinder, that no gasoline can leak into the crank case. Thus full compression is secured, and every last ounce of power used that the gas has to give. Be certain to get the can with the red star and green T.

Here's where the wear begins—  
Here's where the knock starts—  
Here's where you lose power—  
And here's where your real tractor depreciation takes place.  
You can get just so much life out of these parts, and that life is not very long unless you use the right lubricant.

Texaco Tractoil is the right lubricant. It withstands the high working temperatures. It clings to the metal surfaces and by virtue of its paramount lubricating quality, it lessens friction—cuts down wear.

It has the right body. The body which is different from a motor oil because the work a tractor does, at full speed and constant load, demands a type of lubricant that is not found in any motor oil.

Use Texaco Tractoil. Use it right—a little extra attention toward lubrication will amply repay you in the longer life and the greater usefulness of your tractor.

A dealer in your neighborhood carries it in several grades in 33- and 55-gallon steel drums, in wooden barrels and half-barrels, and in 5-gallon sealed cans.

#### THE TEXAS COMPANY

Petroleum and its Products

General Offices: Houston, Texas

Offices in Principal Cities

# TEXACO TRACTOIL



10 B

Drink  
**Coca-Cola**  
DELICIOUS and REFRESHING

For just such happy moments as this, Coca-Cola was created delicious and refreshing.

THE COCA-COLA COMPANY  
ATLANTA, GA.

## HO! THERE

Are you doing anything? We want someone in your locality to write some auto insurance, part time. We write a full coverage policy. Have over \$3,000,000 worth of cars insured. Write:

**Great Lakes Auto Ins. Co.**  
Saginaw, Mich.

#### If you have used Roofing Cement

plastic or liquid, in repairing your own roof and appreciate its value and if you want a well-paying proposition to sell our materials in your county write us at once.

**QUALITY BRANDS COMPANY**  
7016 Euclid Ave. Cleveland, Ohio  
References: Union Trust Co., Cleveland, O.,  
Bradstreet Co. and R. G. Dun Co.

**FOR SALE** The New ANNUAL WHITE SWEET CLOVER, scarified seed, guaranteed true to name. Generous pkg. Enough to sow 500 ft. row, 50c.  
LLOYD A. SHEFFIELD, East Lansing, Mich.

**Graded** No 1. Sir Walter Raleigh Seed Potatoes 50c per bu. f. o. b. Sacks included.  
DAVID LEENHOUTS, R. 2, White-Cloud, Mich.

**FOR SALE** 20 complete cow stalls with 19 water bowls. Decided on no change at present.  
B. B. SMITH, Howell, Mich.

**FERTILIZER—Hardwood Ashes**  
GEORGE STEVENS, Peterborough, Ontario

**WANTED** one or more Milch goats Address W. D. ALLEN 2037 Geddes Ave., Ann Arbor, Mich.

## SAVE \$10 to \$25

Don't buy a battery until you get our lower prices on the better Heavy Duty MOGUL. Built in our own factory. Sold DIRECT TO USER. Money back guarantee. Batteries for Every Car. Send for free folder. Give name and model of your car. Write today. Mogul Storage Battery Works Dept. D, 140 S. Dearborn, Chicago

## 3 BIG BARGAINS

WAIT! Before you buy an engine, separator, spreader or any other machine, get Galloway's new low price; save \$4 to \$4.80, 800,000 pleased customers testify to faultless designs, best materials. Satisfaction guaranteed. Send for catalog. Wm. GALLOWAY CO., Box 857, Waterloo, Iowa

Mention The Michigan Farmer When Writing Advertisers





# Lowe Brothers



## A new way—a quick way to paint your floors

**N**O need to lug out all the furniture. Just move it over to one side; then paint the other side.

48 hours, and it is all done, and the room in use again. That means 2 days and 2 nights. But you can't do it with "any old floor paint." As sure as preaching, if you try it with anything but Lowe Brothers Hard-Drying Floor Paint, you will have a mess on your hands.

Lowe Brothers Floor Paint is made in a certain way to make it dry quickly, and hard, and still stand wear and tear. It gives a beautiful glossy surface, that can be wiped up same as if it were glass.

It is sold by the one best dealer in each town.

We'll be only too glad to send you a little booklet, called Floor Paint Lessons.

The **Lowe Brothers Company**

499 EAST THIRD STREET, DAYTON, OHIO

Boston New York Jersey City Chicago Atlanta Memphis

Kansas City Minneapolis Toronto

Factories: Dayton Toronto

# Paints

## Coleman Quick-Lite Lamp



**More Light Than 20 Old Style Oil Lamps**

This is the light for you—the Coleman Quick-Lite, most up-to-date of all home lamps. Gives a brilliant, mellow light of 300 candle power, without glare or flicker. Easy on the eyes. No wicks to trim; no chimneys to wash; no dripping oil; no smoke; no smell.

**Makes and Burns Its Own Gas From Common Motor Gasoline**

Can't spill, can't explode, even if tipped over. Cost to use only 10 to 12 cents a week. Brass, heavily nickel-plated and polished. Inspected, tested and guaranteed. Will last a lifetime. Take this advertisement to your dealer. He will gladly get a Quick-Lite for you on approval. Free Book on request. Write to Dept. 05.

**THE COLEMAN LAMP COMPANY.**

Wichita St. Paul Toledo Dallas  
Los Angeles Atlanta Chicago

## SAVE 2/3

Sew at Home, the "HOMEWOOL" WAY

It is the way by which thousands of women have dressed better, at 1/3 the price of ready-made. Write for free samples of famous "Home Wool" Cloth—all Virgin Wool; handsome, durable, variety of colors. Sold direct from mill to you. Estab. 1876.

**HOME WOOLEN MILLS**  
204 Main St., Eaton Rapids, Mich.



## Good Reading

OFFER No. 308.

Michigan Farmer, one year.....\$1.00  
American Magazine, one year.... 2.50  
Boy's Life, one year ..... 2.00

Total value .....\$5.50  
All for \$4.35.

## Send Your Name No Money

Just send your name and address, no money and I will send this embroidered summer wash skirt and voile waist to you. You don't pay one penny until they are delivered by the postman.

Delivery Paid



This is a wonderful opportunity of saving about \$2 on this skirt and waist.

**Embroidered Skirt and Waist**

The skirt is made of heavy, serviceable, fine quality Ramee linen, which will wash and iron perfectly. Has broad girde belt and two serviceable pockets trimmed with buttons. The entire bottom of skirt is encircled with a handsome star design embroidery. Colors: Old Rose, Copenhagen blue or white. Sizes: 22 to 36 inches waist measure; 36 to 40 inches length. The waist is made of good quality voile. Collar and front trimmed with lace. 3/4 length sleeves. Color: White. Sizes: 32 to 46 bust; The waist and skirt must be ordered together. The skirt alone is worth the price we ask, so you are getting the waist absolutely free. Be sure to give sizes and color.

**Delivery Free** Just send your name and address—no money. When the skirt and waist arrive, pay the postman \$2.49 for them. We have paid the delivery charges. If you don't find them all you expected, send them back and I will cheerfully refund your money at once. Could anything be fairer? Order by No. 40.

**Walter Field Co., Dept. S-3101, Chicago**

## DON'T SELL YOUR WOOL

Ship to us—We will make it into the finest pure wool Knitting Yarns, Blankets, Shirt Flannels, or Quilt Bunting. You save 50% or more. Supply all your family needs, or you can sell the finished goods to friends and neighbors at wholesale prices and get 50¢ a pound for your wool. Show this adv. to neighbors that have wool; pool together for large shipments. We also sell direct at money-saving, mill prices. Write for samples today.

**MERRILL WOOLEN MILLS CO.**

150 Blaine Street • Merrill, Wisconsin

## Woman's Interests

### Starting a Lawn

By M. A. Cobb

**D**R. BEAL, veteran botanist of the Michigan Agricultural College, used to give the following formula for lawn seed: "Lawn seed should consist of a mixture of four things. One-fourth of the seed should be June grass, to which add one-fourth of the grass June; mix well with another one-fourth June grass, and for the remaining amount use Kentucky Bluegrass—which is the same as June grass." This was his quaint way of emphasizing his long experience as to what grass makes the best lawn.

June grass is the common grass found in Michigan along the roadside, in permanent pastures and in most

your own mixing. On light soils it may be worth while to add white clover, perhaps one-fourth by bulk. The white clover is a legume, and will enrich the soil more than the June grass, it roots deeper hence does not dry out so quickly, and makes a good turf. Avoid using a bunch grass like timothy as the bunches interfere with the evenness of the turf.

Spring is the best time to start a lawn so as to have the advantage of the spring rains. If you decide to use only June grass, sow at the rate of thirty-five pounds per acre. If one desires to add white clover after sowing the June grass, it may be applied at



Every Yard Should be a Picture.

lawns. Under ideal conditions it forms a perfect turf, has a velvety feel under the feet, and has a beautiful appearance except in dry weather, which will affect any grass. The only drawback to this grass is its drying down when the rainfall decreases in midsummer; however, it revives quickly with renewed rain. The fighting qualities of June grass are well known. Give it a good chance by fertilizing the lawn occasionally and it will gradually overcome most weeds.

Do not use lawn seed mixtures in starting the lawn or in reseeding. If you wish to use a mixture, buy the seeds in separate packages and do

the rate of one to four quarts per acre.

In preparing the ground, fall-plowing is the best, and the ground can be worked up in the spring. If you intend to seed soon after plowing, it is best to disk the ground before plowing, and then follow by rolling or disking to establish capillary connection with the subsoil, and fine the seed-bed with disk or spike-tooth harrow. In heavy clays where the sub-soil comes near the surface, or in light sand, it may be advisable to apply a thin coating of good soil so that the young plants may secure a foothold. This covering need not be thick, a half-inch or so will be sufficient.

## The Clothes Moth

By D. B. Whelan

**T**HERE are more than one species of clothes moth that riddle our Sunday-best and make it unfit for wear, but the one doing the most damage in Michigan is known as the case-making clothes moth. The destructive work of the larvae of the clothes moths is only too well-known when, during the summer months, they show their fondness for fur, woolens, carpets and clothes. The little yellowish or buff-colored moths may be seen at times flitting about the room, attracted to lights at night, or perhaps disturbed in their usual haunts in the folds of garments or curtains. They themselves are quite harmless and eat no food as they possess only rudimentary mouths. The destruction caused by these pests is then limited to the feeding at larval stage.

The case-making clothes moth makes a tiny transportable case for its protection and when it feeds, carries this around with it. The larva, in the north, is one-brooded, that is, there is only one generation a year. The time

of year that the larvae are present, to create havoc in garments, furs, feathers and carpets, is from June to August. At other times, it is said, no fear need be had. The moth is about half an inch long between the tips of the wings and dies right after the egg-laying is completed. The minute, almost invisible eggs are laid on material that will serve as food for the newly-hatched larvae. Sometimes they are laid in cracks in trunks so that the young larvae can enter and enjoy a nice quiet existence among the materials within.

Many experiments with various substances have been tried against both the adult moths and the larvae, as well as the eggs, by the bureau of entomology at Washington, D. C. Some of the results are mentioned below.

**Naphthalene.**—This substance is a coal-tar product and very easy to obtain. It has been found to be uniformly effective in protecting woolen garments from being eaten by these pests and also in killing both the larvae and



adults. The fumes from this product seems to be the agent that makes these pests succumb. It was found also that the insect eggs treated with this material did not hatch.

**Camphor.**—Gum camphor used at the rate of five ounces to five cubic feet of space was effective in varying degrees. It is not as efficient as is the naphthalene and costs quite a lot more.

**Red-cedar Chest.**—During an experiment to determine the killing properties of a red-cedar chest, seventy adult moths were liberated within it and at the end of sixty days not one of them was alive. The same experiment was tried again two years later using the same chest and the same results were obtained. Red-cedar chips and shavings, while not altogether efficient in killing the moths and keeping them from laying their eggs, will probably act as a deterrent to keep moths away from garments treated this way.

**Pyrethrum.**—Pyrethrum was very effective, killing one hundred per cent of the moths, when used at the rate of four parts of the pyrethrum to ninety-six parts of flour. It is also very effective against the larvae. Clothing can be protected if thoroughly dusted with pyrethrum powder.

**Nicotine and Powdered Tobacco.**—Neither of these materials were found to be very destructive to the larvae when used at ordinary strengths and if used strong enough to kill them the price would be almost prohibitive.

Cloves and oil of lavender were effective in protecting flannel from the egg-laying moth, while some materials that helped to control the larvae were ninety-five per cent ethyl alcohol as a spray, cloves used as a dust and sodium fluorid as a dust. Materials that were ineffective against the larvae were allspice, angelica root, borax, Eucalyptus leaves, formaldehyde, white hellebore, lavender flowers, lead carbonate, lead oxide, lime, sodium bicarbonate. Sulphur fumigation has proven to be a very good way of killing the adults and larvae on a large scale. Formaldehyde is useless.

A general suggestion on control measures would be to carefully examine and brush every garment before it is put away for the summer and then either apply naphthalene or pyrethrum. Clothing that is frequently brushed is not very apt to become infested.

#### ECONOMICS COURSE REVISED.

ACCORDING to the new system in the home economics division at the Michigan Agricultural College, co-eds may take either technical work, which will fit them for some particular vocation, or general instruction preparing them for home-making. Hitherto girls were required to specialize in one of three or four lines and most of them upon graduation became teachers of home economics.

All girls will be required in their freshmen year to take a course covering the whole field of home economics, so that before electing technical instruction they may become familiar with each particular line of work. Other new courses added cover the home care of children, their psychology, care, habits and feeding, with observation as part of the laboratory work; problems in nutrition, a course in which the girls will learn how to conduct nutrition classes among school children; field work in social service, including a study of family cases and assignments to rehabilitate whole families. Most of the labor of revising the two courses was done by Dean Mary E. Sweeny of the home economics division.—F. W. H.

#### TEACHERS VS. FACTORY GIRLS.

A Constant Reader.—Kindly send your name and address if you wish your letter published. We do not publish unsigned communications.—Eds.



## Built Right--

## Stays Right

When you buy a pipeless furnace, be sure it is not merely a set of miscellaneous castings. A furnace is not a furnace until it has been assembled and the castings ground and fitted to make sure all joints are smoke and gas tight. The place to do this is in the foundry, not in your cellar.

Every Moncrief Pipeless Furnace is carefully assembled, fitted and inspected in our foundry. The sections are then marked, knocked down and kept together as a unit. You can be sure that a Moncrief goes up right, stays right, and heats right.

## MONCRIEF PIPELESS FURNACE

Every part of the Moncrief Pipeless Furnace is carefully made of selected materials. The grey iron that goes into our castings is of the highest grade because we combine the raw materials in our own cupolas. Our experience of a quarter of a century in furnace making assures Moncrief quality.

Hard or soft coal, wood or coke—any kind of fuel, burns freely in the Moncrief firepot, and its straight sides prevent ashes banking. No danger of the firepot's cracking—it is made in two pieces to permit a wide

range of contraction and expansion.

The contour of the firepot, feed section and radiator is such that the circulating air is brought into steady contact with the heated surface, yet is unhindered in its upward flow.

In the course of its long life the Moncrief Pipeless Furnace will pay for itself several times over in the fuel, time and work it saves. Get acquainted with its many good points. Ask the Moncrief dealer. Write us for his name if you do not know him.

Manufactured by

### THE HENRY FURNACE & FOUNDRY CO.

CLEVELAND, OHIO

DEALERS: Many desirable territories are still open. Write for the details of the Moncrief Proposition.



# Aspirin

## Then It's Genuine

Unless you see the name "Bayer" on tablets, you are not getting genuine Aspirin prescribed by physicians for 21 years and proved safe by millions. Always say "Bayer."

Aspirin is the trade mark of Bayer Manufacturing of Monoaceticacidester of Salicylicacid.

## Wool Wanted

Let us make your wool into Blankets, Comfort Bating, Flannel, and yarn.

Send stamp for particulars.

M. J. Clapper, Wool Mfg.,  
Shippensburg, Pa.

## Farms and Farm Lands

80 Acre Michigan Farm With  
Pr. Horses, 3 Cows, 6 Hogs,

Machinery, tools, vehicles, crops, etc.; on improved road, convenient manufacturing city; all tillable; 50 acres now machine-worked; creek-watered, wire-fenced pasture; apples, berries, cherries, plums; 2-story, 7-room house, basement barn, poultry house. To close affairs \$3600 takes all, easy terms. See page 76 Illus. Spring Catalog 1100 Bargains. FREE. STROUT FARM AGENCY, 814 BC Ford Bldg., Detroit, Mich.

## WANT A FARM?

I have the best and fairest proposition to enable you to secure a farm in the famous Clover Seed Belt of heavy clay loam lands near Onaway. Write me today for a booklet.

THAD B. PRESTON, Onaway, Mich.

**FOR SALE.**—Opening a new tract of fertile farm lands well located in the great potato and dairy district of Wisconsin and Michigan. Secure first choice now. Liberal terms. Write for free booklets, etc. Sanborn Company, No. 29, Sanborn Bldg., Eagle River, Wisconsin.

**CENTRAL WISCONSIN FARMS** and cutover lands. 814 loam, clay subsoil. No sand or swamps. A wonderful clover section. Prices very reasonable. Write for list. OWEN REALTY CO., Owen, Wis.

**Homeseekers** Chance 40 acres rich farm land, Central Michigan, \$300 with \$100 or more down. Balance 10 years. Roads, railroads and cities established. See us before buying. Staffed Brothers, 15 Merrill Bldg., W.S. Saginaw, Mich.

**FARMS** Poultry, truck, stock, and grain farms cheap. FIGGS & NOCK, Salisbury, Md.

## H. Eikenhout & Sons

Berry Boxes  
Baskets  
Fruit Packages

ONE  
OR  
CAR  
LOAD

Grand Rapids,  
Mich.

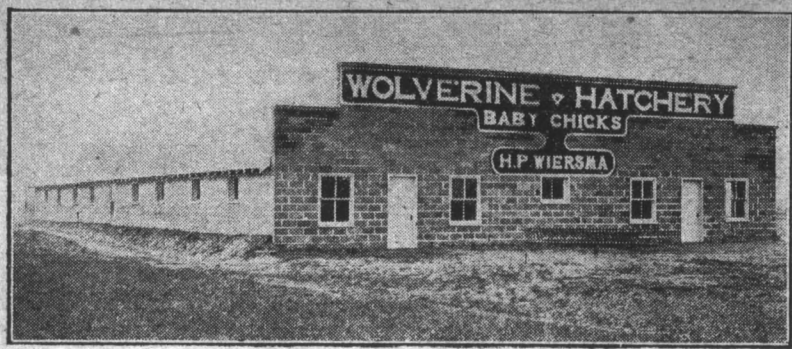
## WOODMAN'S PROTECTION BEE-HIVE

Solves Your Winter Problem

Winters your normal swarms without loss. Keeps bees warm in winter, cool in summer. Double Wall, "Inner Overcoat," and closing protection do it. Low priced beginners' outfit. Start your boy in a profitable business of his own. Write for our all-page illustrated catalog of high grade supplies. Beeswax wanted. A. G. WOODMAN COMPANY, 224 South Avenue, N. W., Grand Rapids, Michigan, U. S. A.

Don't Buy a Farm Before you get our free list of 50 good farms. DECOUDRES, Bloomingdale, Mich.





## CHICKS Established 1911 CHICKS

Improved White and Brown Leghorns. Selected and bred for egg production and are some of the best today. Get some of these good Leghorns for the price is right. \$12.00 per 100. Write for catalogue with price list. Safe arrival guaranteed.

Wolverine Hatchery, R. 2, Zeeland, Mich.  
H. Wiersma, Owner and Mgr.

## Baby Chicks Pure Bred 800,000 in 1921

To your door Prepaid by us. Guaranteed live delivery. All our stock is of the Standard and free range and of heavy egg production at the price to meet times. And they are all No. 1 only



S. C. White Leg. } 12c each  
S. C. Brown Leg. }  
S. C. Buff Leg. }  
Broilers }  
Barred Rocks }  
White Rocks }  
S. C. & R. C. Reds }  
White Wyandottes }  
Anconas }  
B. Orpingtons }  
15c each W. Orpingtons }  
20c each

Give us a trial order and you will always come back for more of our chicks get our big offer on chicks and brooders. Order direct from this ad and save delay. Circular Free.

WOLF HATCHING & BREEDING CO., Dept. M, Gibsonburg, Ohio.

## CHICKS At Reduced Prices CHICKS

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



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

We Ship By Parcels Post and Pay the Postage to Your Door.

We guarantee the chicks to reach you in good condition. Catalogue free.

WYNGARDEN HATCHERY, Box M, Zeeland, Mich.

## Huber's Reliable Chicks--700,000 for 1921

By Parcel Post Prepaid. Guarantee Live Delivery.



This is our 12th season in hatching Baby Chicks of quality, bred for exhibition and high egg production. Prices after Apr. 1st. S. C. White and Brown Leghorns, 13 and 15 cts. Barred Rocks, R. C. and S. C. Reds, 15 and 17 cts; S. C. Anconas 14 and 16 cts; S. C. Black Minorcas 22 cts; S. C. Buff Orpingtons, 21 cts; White Wyandottes 25 cts. Odds and Ends 13 cts. Our chicks are hatched right and full of pep. All we ask is one trial and we know you will come again the same of thousands of others. Combination offer on chicks and Brooder stoves.

HUBER'S RELIABLE HATCHERY,  
East High St., Fostoria, Ohio



## SUPERIOR BABY CHICKS

At reduced prices, from our Farm raised, free range, heavy laying, purebred stock. Order direct from this ad and save time. Hatch every week. Prices are prepaid to your door and we guarantee 100% live arrival

	25	50	100	500	1000
Pure bred S. C. Amer. White Leghorns	\$3.75	\$7.00	\$13.00	\$62.00	\$125.00
Purebred S. C. English White Leghorns	\$4.00	\$8.00	\$15.00	\$72.00	\$140.00
Purebred S. C. Brown Leghorns	\$4.00	\$8.00	\$15.00	\$72.00	\$140.00
Purebred S. C. Mottled Anconas	\$4.50	\$8.50	\$16.00	\$76.00	\$150.00
Broiler chicks 10 cents each.					

Superior Poultry Farms and Hatchery, Box 203, Zeeland, Mich.

## Quality Baby Chicks

and 8 weeks old pullets  
AT REDUCED PRICES

American-English Strain S. C. W. Leghorns our specialty. Produced from the choice of 2000 hens on free range. We are not running a hatchery but produce all the eggs that go into our incubators from high quality selected stock. Only the best are used for hatching. This stock is worth more to you than those bought from the regular hatchery though our prices are practically the same. We are now booking orders for latter part of April, May and June delivery. Our supply is limited so place your orders early.

Macatawa White Leghorn Co.  
R. 1, Holland, Mich.

## DAY-OLD CHICKS

Strong, vigorous fellows, the kind that live and grow. Carefully selected, open range, purebred utility stock. Price reasonable. Circular free. SUNBEAM HATCHERY, 2433 S. Main St., Findlay, Ohio.

BABY CHICKS Hatching eggs, Barred Rocks, Norman strain, trap-nested, bred-to-lay, expertly tested for many generations, large illustrated catalogue 25c, stamps for circular. Norman Poultry Plant, Chatsworth, Ill.

Barred Rocks Hatching eggs from Parks 200-egg strain. Rich in the blood of Parks best pedigree pens. \$2 per 15, \$6 per 50, \$12 per 100. Prepaid by parcel post in nonbreakable containers. R. G. KIRBY, Route 1, East Lansing, Mich.

## May Chicks Buy 'em Near Home

May 9, 11, 16, 19, 23 and 26. Barred Rocks, R. I. Reds \$16 per 100. White Rocks, Orpingtons, Wyandottes, \$18. Brown Leghorns, \$15. Add 50c for half and quarter hundreds. Please name second choice. Prepaid and guaranteed live delivery. Washenaw Hatchery, Ann Arbor, Mich.

Broad View Farm Big Type S. C. White bodied birds. Heavy layers of big white eggs. Exhibition type eggs 15¢, 25¢, 50¢, 100¢. Post paid. E. B. MCKERCHER, Hillsdale, Mich.

Barred Rock Eggs for hatching, selected quality. \$2.00 for 15. \$6.00 for 50; \$12.00 for 100. Prepaid Parcel Post. MR. H. HUNT, R. 1, Dearborn, Mich.

Baby Chicks Good big, healthy chicks of show room quality at utility prices. Catalogue free. Sycamore Hatchery, Sycamore, Ohio

## B-A-B-Y-CH-IX

Crescent Strain S. C. White Leghorns Black Leghorns, Brown Leghorns, Buff Leghorns, Black Minorcas, Rhode Island Reds, Barred Plymouth Rocks, (also White), Wyandottes, (Silver laced and White) and Mottled Anconas. WE HATCH eggs from flocks on range on separate farms. Send for booklet, containing much of value to poultry raisers. CRESCENT EGG COMPANY, Allegan, Mich.

CHICKS English Strain White Leghorns the heavy laying strain at only \$15 per 100; prepaid by mail safe arrival guaranteed send cash with order special rates on 500 or more. JAMESTOWN HATCHERY, Jamestown, Mich.

## The Farm Flock in Spring

By G. K. Riley

THE temperature of a setting hen's breast has been found to be one hundred and five degrees, while the temperature of the plumage varies from ninety to one hundred degrees. This proves that the chick is not confined to one temperature when brooded by a hen, but can select a place where it is comfortable. This idea must be followed out in artificial brooding. Do not confine the chicks in a brooder without ventilation and expect them to thrive.

The hen-brooded chick can at any time stick its head out of the mother's plumage into the cool fresh air. When brooding with stoves keep a good fire burning so that the chick can obtain plenty of warmth when it is needed but also give the chicks a chance to run out away from the heat where they can occasionally breathe the cool fresh air which seems to give them health and vigor.

### Keep Brooder Warm.

When chicks huddle tightly together around a brooder fire it is a sign that the right amount of heat is lacking. A coal burning brooder fire should be warm enough so the chicks will spend the night close to the outer edge of the deflector. Then if the stove cools down the chicks can move closer. Chicks that are warm enough will not huddle but will rest quietly on the floor beneath the deflector. Only an occasional contented peep will tell the operator that several hundred lively young chicks are resting comfortably for the night.

Do not suddenly go into a brooder house at night with a lantern as the chicks may scatter away from the heat and have difficulty in finding their way back when the lantern is gone. It is best to use a flashlight and only keep the light on when it is very necessary.

May will be an important month for chick hatching and brooding this year. The cold damp weather in April has prevented many farmers from making as early a start as usual with the poultry. It seems to take sunshine and warm days to start the kind of poultry enthusiasm that results in large flocks of chicks. Of course, the early hatched birds are the best but the May and June birds can be well fed to make up for some of the lost time. And they will have much better conditions for ranging than is the case with the early chicks. In theory the late hatching does not pay, but in practice the farmers without much brooding equipment find that late-hatched chicks are much better than no chicks and so they raise them when nature is more friendly.

### Break Up Broody Hens.

Broody hens not needed for setting should be fastened up the first night they are found on the nests. Then they have not been devitalized by long periods on the nest and they will soon cease to cluck and be ready to lay more eggs. When a hen is allowed to remain broody for a week she obtains a severe case of broodiness and is not easily broken up. The presence of many broody hens in the nests is a waste of nesting space. If they are rather ugly they may drive the laying hens to hiding their nests in other places.

The use of dry mash is becoming more generally used to develop rapid growth in chicks. The mash may seem costly but the amount of dry scratch grain can be greatly reduced. Some of the commercial growing mashers are very desirable in promoting quick-growing broilers. Of course, the cheapest rations are produced at home, but if home feeds are lacking the poultryman can often use a few sacks of commercial mash to great advantage in

## POULTRY

## For your best quality of CHICKS

Send Your Order to the

## City Limits Hatchery,

Rt. 5, Box 11, Holland, Mich.

Our chicks are of the highest quality and our prices are within reach of everybody. We have S. C. W. Leghorns, S. C. Anconas, English White Leghorns, S. C. B. Leghorns, and Barred Rocks.

## DAY-OLD CHICKS



HOMESTEAD FARMS  
If you are a farmer poultryman, you will be interested in the Michigan bred Pure Breed Practical Poultry

A stock of demonstrated value for practical poultry people: stock bred under the plan of the Michigan Agricultural College and distributed at fair prices. 2,000 Eight Week Pullets Leghorns, Anconas, and 16 other

Breeds. Shall we send you our 64-page descriptive Catalog? Chicks delivered parcel post prepaid.

STATE FARMS ASSOCIATION,  
Desk 1, Kalamazoo, Michigan

Baby Chicks from fine stock, to produce eggs, at utility prices. Catalogue FREE. Lee's Poultry Farm & Hatchery, Edison, O.

## BABY CHICKS

Hatched from free range stock. Quality and live delivery guaranteed. Write for catalogue. STILLWATER HATCHERY, Covington, Ohio.

BABY High Quality, Heavy Laying Strains, Vigorous Chicks from Hardy Stock. Prize winners at N. Y. & O. State Fairs. 35 best breeds—low prices. Safe arrival guaranteed. Cir. free. CRYSTAL POULTRY FARMS, Shepard Strong, 7901 Franklin Ave., Cleveland, Ohio

CHICKS English Strain White Leghorn. Bred to lay Brown Leghorn and Anconas. Bargain prices for our quality stock kept on free range. Order now for early deliveries. Hillside Grove Hatchery Farm, R. 1, Holland, Mich.



## Buff, Barred, Columbian

Partridge, Silver Penciled, White Rocks; Anconas, White Wyandottes, Rouen Ducks. \$2 setting. Catalog 2c. SHERIDAN POULTRY YARDS, R. F. D. 5, Sheridan, Mich.

## DAY-OLD CHICKS

\$16.00 per 100 and up. Hatching eggs, \$2.00 to \$15.00 per setting and \$9.00 to \$15.00 per 100, from 25 varieties of pure bred, farm raised fowls: Chickens, Geese, Ducks, Turkeys and Guinea. Price list and circular free. Plenty of nice breeding stock. Book now for early spring delivery. WILMINGTON HATCHERY & POULTRY CO. Wilmington, Ohio.

Fowler's Buff Rocks: Eggs for hatching. Also a few choice cockerels left. Write for prices. R. B. FOWLER, Hartford, Mich.

## Don't Buy Baby Chicks

Until you get our catalog and prices. Pure bred, heavy laying White and Brown Leghorns, Anconas. Write today. Monarch Hatchery, Zeeland, Mich.

Snowy White Pocks Fishel strain, dandy layers Eggs \$1.50-15; \$4.50; \$8-100 All prepaid. Mrs. Earl Dehnhoff, Vanburen, Ohio

## LOOK [Best Graded] CHICKS

Our Hi-Grade profit paying Bred-to-Lay, M. A. C. tested and exhibition chicks, at reasonable prices. Hatching eggs, 8 varieties, Circular FREE. Lawrence Poultry Farm, R. 7, Grand Rapids, Mich.

## SELECTED WINTER LAYERS

S. C. WHITE LEGHORN EGGS FOR HATCHING, laid by hens that averaged over two hundred eggs each last season. 15 Eggs \$3.00; 30 \$5.50; 100 \$15.00. BABY CHICKS each week beginning March 1st, 15¢; 50¢; 100¢; 50¢; 100¢; 100¢. Valuable catalogue. Dunningville Poultry Farm, Dunningville, Mich.

S. C. WHITE LEGHORN CHICKS Send for Catalog SNOWFLAKE POULTRY FARM, Route 1, Grand Rapids, Michigan

Barred Rocks from Rocky Ridge Hatching eggs from birds bred to lay birds \$2.00 per 15. Prepaid by Parcel Post. W. T. RICHARDSON, Hanover, Mich.

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

CHICKS. Bred-to-lay S. C. W. Leghorn and Barred Rock quality chicks that please, guaranteed full count and to arrive to you "all ready made" in first class condition by parcel post paid. Leghorns \$15 per 100. Rocks \$18 per 100. Special prices on 500 to 1000. Circular. Sunnybrook Poultry Farm, Hillsdale, Mich.

Choice Baby Chicks English and 2 American White Leghorns and Anconas. Catalog free. M. D. Wyngarden, R. 4, Zeeland, Mich.

Eggs from pure Toulouse geese. Ten for five dollars. Parcel post paid. Mrs. Amy Southworth, Allen, Mich.

John's Big Beautiful Barred Rocks are hen hatched, develop quick, good layers, fine show quality, 30 eggs \$3.50, 50 \$5. Postage paid. Photos, circulars. JOHN NORTON, Clare, Mich.

BABY CHICKS Single Comb White Leghorn (T. C. B. Iron Strain), Barred Plymouth Rock, S. C. R. Iron Anconas, White Wyandottes and Brown Leghorns 25 for \$5.50, 50 for \$10.00, 100 for \$18.00, 1000 \$170.00. Ross Wade, Meadow Brook Hatchery, Mt. Morris, Mich.

## R. C. Rhode Island Reds

Choice Rose Comb cockerels—hen-hatched, farm raised, big thrifty, prize winning strains. \$5.00, \$7.50 and \$10.00. We raise only R. C. Reds. No eggs or chicks.

## BIDWELL STOCK FARM

Box D, Tecumseh, Michigan

Additional Farm Ads. on Page 595



growing a large per cent of the chicks into vigorous birds.

Hens that are laying eggs for hatching should not be forced for a large number of eggs. It is better to have a few less eggs and have them strongly fertile and able to produce many vigorous chicks. When hens have been heavily fed to obtain many hatching eggs the owners have often defeated their own purpose. They have fewer good hatching eggs than as if nature had not been overworked.

Exercise is a factor in keeping the breeding birds healthy. That is why free range flocks often show a higher per cent of fertility than special breeding pens confined on a limited area. When the birds are confined it is necessary to make them scratch for their grain in the summer as well as winter. A vigorous hen with a large range will do a lot of traveling in a day and a lot of scratching. She produces a profit with the least worry.

The lazy, poor producers are apt to be last off the roost in the morning and first to bed at night. Possibly considerable culling could be done by opening the hen house in the morning and closing it two minutes later. Then sell all that remain in the house that do not show interest in the nests. About two hours before sunset watch for the lazy hens that roost early. After some of them have gone to roost, cull them out and save the good hens that are still outside working. The above method is not a scientific way of culling hens, but we honestly believe that a lot of slackers could be quickly marked by that method.

#### CONGESTION OF LIVER.

We have lost four hens recently. Some were sick for a long time, while the others died quickly. Upon opening one we found an enlarged liver, the lobes of which were about four inches long and two and a half inches wide. We couldn't tell whether the lungs were in a normal condition or not, but all other parts appeared healthy, and this hen was quite fat. Her comb was red and she had not appeared sick. We are feeding commercial scratch feed part of the time, also screenings, corn on the ear, also a dry mash composed of bran, middlings, alfalfa meal, salt and beef scrap, also give them oyster shell.

F. W. C.

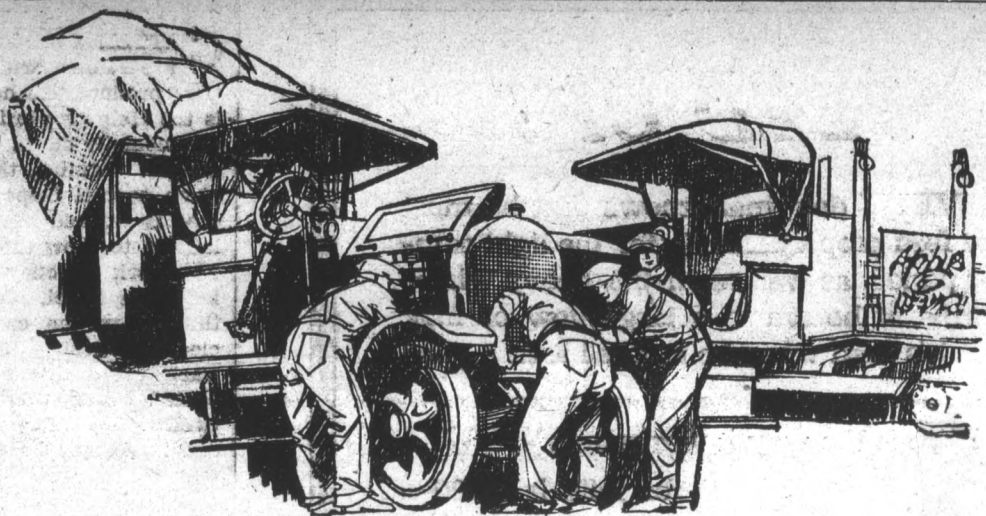
Sometimes the liver of a hen will become congested due to an overfat condition brought on by heavy feeding and a lack of exercise. Occasionally such a case might occur in a flock receiving the best of management. However, it can be controlled by making the hens scratch for their hard grain in a deep litter. Then cull out and market any of the hens which show signs of becoming too fat. Too much corn in the ration is a common cause of this trouble among the heavy breeds.

If hens become emaciated or "go light" there is always a danger of tuberculosis and such hens must be removed from the flock at once. If many such cases occur it will pay to have a veterinarian or experienced poultryman inspect the flock.

#### LEG WEAKNESS.

A short time ago a valuable rooster of mine became lame, and did not seem to have strength to stand. Later his feet started to crook up. He has been fed peas, oats and corn ground together, in the morning, and shelled corn in the evening, and all the separated milk he wants. What is the trouble and what is the cure?—C. B.

Poultry are sometimes affected by leg weakness. It is more apt to attack a cockerel that has been growing rapidly. It seems due to the fact that the weight of the bird is greater than the strength of the legs. This bird might be isolated and given a balanced ration and possibly a little bone meal. It might improve but we should not wish to use such a bird for breeding purposes and believe it would be best to kill this bird and purchase new males that are strong and vigorous.



## Don't let inferior oil hold up your trucks

Profits today depend upon rigid economy

WHETHER you use a little one-tonner on pneumatics or a fleet of 5-ton giants, every truck must pay its way today. Layups for repairs wipe out months of profits.

Scientific checking shows that 90% of all truck engine troubles are due to faulty lubrication. Ordinary oil forms black sediment when subjected to the intense heat of the engine—200° to 1000° F. Cylinders are scored, bearings loosen, over-heating becomes common.

Keep expense like this off your books. Sediment is reduced 86% when you use Veedol, the lubri-

cant that resists heat. (See the two bottles at the left). With Veedol in the crankcase most serious troubles are prevented. Engines pull better, throttle down lower.

Have your men flush out their engines. Instruct them to fill up with Veedol. Leading dealers have Veedol in stock. Consult them for quotations.

Veedol lubricants for every part of the chassis

Use Veedol lubricants for all parts of the car: VEEDOL for the engine (light zero, medium, heavy, special heavy, extra heavy); for the differential and transmission VEEDOL TRANS-GEAR OIL or GEAR COMPOUND; for the tractor and truck WORM DRIVE OIL; GRAPHITE GREASE; CUP GREASE.

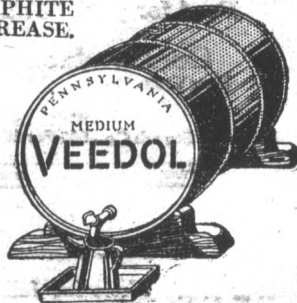


Ordinary oil after use  
Veedol after use  
Showing sediment formed after 500 miles of running

TIDE WATER OIL Sales Corporation

1515 Bowling Green Bldg., New York

Branches or distributors in all principal cities of the United States and Canada



## Royal Baby Chicks



S. C. White and Brown Leghorns  
11c EACH

Delivery May 17th to June 1st.

Place your order now for some of these high-grade chicks from pure-bred stock that has been bred to lay for the past 10 years. Just the kind of stock you need on your farm to bring you a good profit. Our many years of hatching experience enable us to give you chicks that are started right and will grow right. Any size orders accepted. Safe arrival guaranteed. Order direct to save time, or send for catalog.

Royal Hatchery, R. 2, Zeeland, Mich.

#### POULTRY

### Chicks Chicks

15,000 weekly at bargain prices. Pure bred English and American S. C. White Leghorns and S. C. Anconas. Our free range flocks, the finest and best in this section, the result of 12 years constant improvement along with Mich. Agri. College flock improvement methods. Birds with 285 egg records up. Full count, strong lively husky chicks on arrival by mail. Satisfaction and reliable dealings guaranteed. Quality stock at prices to suit your purse. Valuable feeding instructions with each chick order. Now booking orders for May delivery. Catalog and revised price list free.

W. Van Appledorn,  
R. 7, Holland, Mich.

100,000 CHIX 11c UP.

Best selected utility trap-nested exhibition stock ever produced. Always 2,000 chix on hand 5 to 15 days old. 15 varieties. Hatching eggs, Hens, ducks. Early bookings, avoids disappointment. Catalog. Beckman Hatchery, 25 E. Lyon, Grand Rapids, Mich.

### LOOK: BABY CHICKS

at 8 cents each and up for the last two weeks in May, June, July and August. W. Leg. 10c each. Buff Leg. 11c each. Br. Leg. 11c each. Ancona 12c each. Br. Rock 13c each. Buff Rock 13c each. R. I. Red 13c each. W. Wyan. 15c each. Broilers 8c each. 5% discount for order of 500 or more. 10% discount for orders of 1000 or more. All chicks sent by parcel post, prepaid by us, and safe arrival guaranteed. Order direct from this ad, or send for our free illustrated catalogue. OHL'S POULTRY YARDS & HATCHERY, Marion, Ohio.

### BABY CHICKS of Superior Quality

Hot from the Hatchery, right to your door safely, by prepaid parcel post. BIG Strong, fluffy fellows hatched from eggs of selected flocks, and under our own supervision. ROCKS, LEGHORNS, ANCONAS, REDS and MINORCAS. Chicks that live and grow into money. Bred for EGG PRODUCTION and the SHOW ROOM. Save money by sending for our catalogue NOW. THE SUPERIOR CHICK HATCHERY, Lock Box 197, Prairie Depot, Ohio.

S. C. B. Minorcas. Pen No. 1 headed by a son of our \$5.00, \$5.00, 12 lb. cock, mated with 8 of our best hens. \$3.00 per 15. No. 2 pen headed by a cockerel of Pape strain, Eggs \$2.50 per 15. Incubator eggs \$3.00 per 100. R. W. MILLS, Saline, Mich.

Barred Plymouth Rock eggs for hatching. \$2.00 per 13 postpaid. Fullblood stock. Prize winning strain. J. A. BARNUM, Union City, Mich.

R. C. Br. Leghorn Eggs \$1.50 for 15. Pekin duck \$1.50 for 8. W. Chinese Goose eggs 40c each. MRS. CLAUDIA BETTS, Hillsdale, Mich.

Hill's Barred Rocks hatching eggs from heavy-laying, Hogan tested, well-bred flock. 15-\$2.50; 50-\$6.00; 100-\$10. Circular free. Lucian Hill, Tekonsha, Mich.

BARRED Rocks 15 eggs. \$1.50; 100 for \$7; by prepaid mail. Flock average 132 eggs. 33 hens laid 5072 eggs last year. LEWIS B. AVERY, Clinton, Mich.

Barred Rock Chicks 100% safe delivery. Reduced prices. Write for circular. H. H. PIERCE, Jerome, Mich.

BEST Breeds. Chickens, Ducks, Geese, Turkeys, Guinea-fow, Hares, Dogs, Stock and eggs. Write your wants. Catalog free. H. A. Souder, Box 94, Sellersville, Pa.

Chicks, for May and later delivery. Leghorns 13c; S. C. Reds 15c; dollars hun. Circular FREEPORT HATCHERY, Box 12, Freeport, Mich.

### CHICKS FULL O'PEP

Prices Reduced. Here is your chance to get chicks that live, grow and pay. Trap-nested, bred-to-lay and exhibition chicks. Broilers 10c, Leghorns 12c, Rocks, Reds 15c; Anconas, Black Minorcas, and White Wyandottes 16c; Silver Wyandottes and Orpingtons 18c. Safe arrival and full count. Prepaid. Free catalog. HOLGATE CHICK HATCHERY, Holgate, Ohio.

Officially Certified Pedigreed S. C. Buff Leghorns chix and eggs from 213 to 281 record stock. Money makers priced right. HENRY DePREE, R. 8, Box 137, Holland, Mich.

CHICKS 300 EGG STRAIN W. Leghorns 16c, Anconas, 17c, Ringlet Rocks 25c, Park's Barred Rocks 20c. Sent prepaid. Order now. Frank Heinz, Box 9, Comstock Park, Mich.

Day Old Chicks from healthy selected flocks. Reduced prices. Reds, Rocks, W. Wyandottes, W. Leghorns, Br. Leghorns and Bl'k Minorcas. Special reduced prices for June & July delivery. Derr & Adams, Litchfield, Mich.

Baby Chicks \$11 a 100 and up. Postage PAID. 95% live arrival guaranteed. FREE feed with each order. 40 breeds chicks, 4 breeds ducklings, Select and Exhibition grades. A hatch every week all year. Catalogue free. Stamps appreciated. NABOB HATCHERIES, Gambier, Ohio.

Rose Comb R. I. Red eggs for hatching. Orders booked now for Cockerels and pullets for fall delivery. MRS. ALBERT HARWOOD, R. 4, Charlevoix, Mich.

Additional Poultry Ads. on Page 601



## FEED UP!

EVERY dairyman knows that he must feed proportionately for the light summer period, as well as in the heavy winter months, if he wants a large flow of milk from his herd when he can sell it at a good price.

Here is the way it works out:

Suppose your price for milk is \$1.90—with an almost certain prospect of being lower when grass comes, and pastures are good.

Now, if you feed Buffalo Corn Gluten Feed mixture at a cost of about \$30.00, you can produce at least \$130.00 worth of milk from your good milkers.

If your milk price goes down—say to \$1.20—you can still get \$84.00 from the same cows and the same amount of feed.

It has been proven that if you do not feed in the summer your cows will shrink after the first flush of grass. You will not only lose the profit you might have had from them by proper feeding, but, on account of their poorer condition, your herd will not produce as much milk, when you start heavy feeding again.

These are facts that should make every dairyman consider seriously his feeding problem, on a basis of cost and return, during the grass months now coming in. And then order Buffalo Corn Gluten Feed for your herd.

**Corn Products Refining Co.**  
New York Chicago

Write to  
National Starch Co., 606 Ford Bldg., Detroit, Mich.



**FREE** Write for full information giving the correct mixture for feeding Buffalo Corn Gluten Feed. If your dealer cannot supply you with Buffalo Corn Gluten Feed tell us who and where he is. Write today to Corn Products Refining Company, Feed Department, 17 Battery Place, New York.

## Look for this Bag

When you buy salt, get the best salt, the pure, flaky kind, without lumps or grit. Be sure this name is on the bag:



### COLONIAL SPECIAL FARMER'S SALT

Better for every farm purpose: meat curing, butter making, cooking, baking.

Packed in 70 pound bags of strong material that make excellent toweling. If your dealer doesn't have it, send us his name.

**THE COLONIAL SALT CO., Akron, O.**  
Chicago, Ill. Buffalo, N.Y. Boston, Mass.  
Atlanta, Ga.

### Barn Paint \$1.35 Per Gallon

Get factory prices on all paints. We guarantee quality. We pay the freight.  
**FRANKLIN COLOR WORK, Dept. M, Franklin, Ind.**

**SENATOR DUNLAP** Strawberry Plants at \$3.50 per 1,000; \$2.00 for 500; \$1.00 for 250. Guaranteed first class or money refunded. **C. H. STANLEY,** Flower View Farm, R. 2, Paw Paw, Mich.

### LIGHTNING RODS

Exclusive agency and quick sales to Live Dealers selling "DIDDLE-BLITZEN RODS". Our copper tests 99.96% PURE. Write for agency. Prices are right. **L. D. DIDDLE CO., Marshfield, Wis.**

**BUY FENCE POSTS** direct from forest. Prices delivered your station. **M. M. care of Michigan Farmer**

### WHAT "KOSHER" MEAT IS.

CATTLE and sheep slaughtered in accordance with Jewish religious rites produce "kosher" meats. Kosher is the Hebrew word for clean, that is, ceremonially clean. The animal is bled without stunning, the vital organs are given special inspection and the carcass is washed in a special way and labeled to show the date of slaughter. The work is done under the supervision of a rabbi. If not used within three days the carcass becomes unclean or "tref." It must then be re-washed and this process may be repeated every three days until the twelfth day after slaughter when it can no longer be considered Kosher. Because of the time limits on such meat, it is impracticable to ship it from middlewestern markets to eastern cities. Most of the heavy cattle shipped east on foot are for the Kosher trade. New York and Jersey City remain as slaughtering points chiefly to supply local Kosher demand.

Only the forequarters of the beef or mutton carcass are used by orthodox Jews and sometimes even the rib cut from the forequarters is excluded.

Medium to choice grades of steers, cows and heifers are used in the making of Kosher beef. Animals having considerable weight seem to be preferred. Hebrew holidays when the Jews eat no red meat, reduce the demand for heavy fat steers and cows and often are responsible for temporary declines in prices.

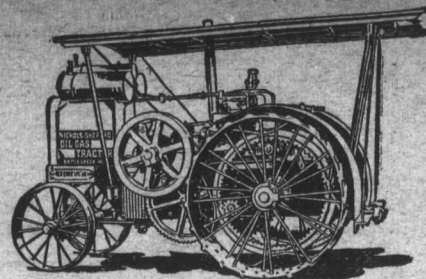
### CARRYING ENSILAGE OVER.

I have nine and a half feet of ensilage left in my twelve-foot silo. My steers are gone and I have but one cow. I would like to keep this ensilage for next winter, as I can get only about \$2.00 per ton for it. My silo is a cement stave with a galvanized roof. I have no cement bottom, ensilage resting on straw. Soil is genuine clay, well-drained. I have only six inches of pit. A neighbor told me it would not keep, but would spoil from the top down and bottom up in hot weather. I cannot believe this. My corn was nearly ready to shock when I filled. And my ensilage has been most excellent all winter. My silo is new and tight, and doors were all sealed with yellow clay on inside. My idea was to sow oats thick over top of ensilage and spread chaffy straw over this and wet down, with perhaps some coarse straw on top. If I can keep the ensilage this way I will not fill my silo this fall, but will depend on corn in the bundle to help out. Do you think I can keep this ensilage, or do you think I had better sell it for what I can get and refill? I would rather keep it if possible. Do you know a better way to make it keep?  
Washtenaw Co. P. D. C.

In a well constructed silo there will be very little loss in carrying over ensilage, if nothing whatever is done. The settled silage is so compact that the air, which causes decay, could only penetrate a few inches. The decayed surface will hermetically seal the balance from air and prevent any further loss.

In your silo I cannot give you an opinion about the decay from the bottom where you do not have a cement bottom. Here the question is rather problematical, but I am inclined to think if the ground is clay and your foundation wall is down a foot or two into this clay, that the air will not come in from the bottom. It probably will keep just as well as on a cement floor. On the other hand, if the soil is more or less porous, I am inclined to think that some of the ensilage is liable to spoil.

You can prevent practically any loss on top if you will cover your ensilage with cut straw or fine chaff to a depth of six or eight inches and then wet this down thoroughly. If it dries out before it is thoroughly packed down wet it again. This will prevent the air from penetrating to your ensilage and you can keep it almost as perfectly as fruit in a glass jar.—C. C. L.



### Delivers An Even, Steady Threshing Power

Here is the Oil-Gas Tractor that drives steadily like a steam engine—especially built for threshing. Has plenty of reserve power to insure keeping the thresher humming steadily until the job is finished.

### Nichols-Shepard Oil-Gas Tractor

Burns kerosene, gasoline, or distillate. Unlike the average light gas tractor—delivers an even, steady power with high reserve. Built with a big, heavy fly-wheel, which means steady pulling and clean threshing—built up to the quality of the old dependable Nichols-Shepard Steam Engine. Has two-cylinder, low speed, powerful motor, a strong main shaft, large fly-wheel, and a sturdy frame, heavy enough to hold it in place.

Besides being an excellent thresher power plant, it does general tractor work.

Write for Circulars

### Nichols & Shepard Co.

(In Continuous Business Since 1848)

Builders Exclusively of Red River Special Threshers, Wind Stackers, Feeders, Steam and Oil-Gas Tractor Engines.  
**Battle Creek, Michigan**

### Get the New Saginaw Silo Prices

Particularly when it means a big saving in cost. Right now we have a limited quantity of Saginaw Silos at astonishingly low prices. They are all standard Saginaw Silos—Steel-Built Stave Silos, Standard Stave Silos, Hollow-Wall Wood Silos, and Vitrified Tile Silos. Four kinds to choose from. Write today for special list.

Address Dept. 10

**McCLURE COMPANY**  
SAGINAW, MICH. CAIRO, ILL.

### BICKMORE'S GALL CURE

#### ON HORSES

For sore shoulders, sore necks, cuts, etc., rub into the skin about the sore. Use sparingly. Only what the skin absorbs does good. A smooth paddle makes application easy. Write for circular.



The  
**Bickmore Co.**  
Box 155  
Old Town, Me.

### WITTE

2 H-P. Pulls 2 1/2

Special Prices on Larger Sizes. Immediate shipment. Offer includes engine on skids—ready to use. From Pittsburgh add \$5.00. All sizes 2 to 30 H-P. lower now.

**WITTE ENGINE WORKS**  
2100 Highland Ave. Kansas City, Mo.  
2130 Empire Bldg. Pittsburgh, Pa.

**\$39.95**  
FOR K.C.  
Engine Catalog FREE



## Market Milk Costs

MICHIGAN dairymen have the advantage of cost figures gathered by their own state experiment station. Nevertheless every one of these dairy farmers is interested in additional data. Over in Vermont specialists from the department of agriculture at Washington have been gathering figures on the cost of producing market milk with special reference to the difference in cost during winter and summer months. While the figures obtained show the requirements of producing milk in that particular section and may be approximate of the requirements in similar sections, the specialists point out that they do not apply to dairy sections where other conditions and methods of management prevail.

In winter the cost of feed, bedding and pasture amounts to thirty-nine per cent of the yearly cost of producing milk in a typical Vermont dairy section, while in summer it amounts to 15.9 per cent. It was found that 31.1 pounds of concentrates were required to produce one hundred pounds of milk in winter, while to produce the same amount in summer only 8.7 pounds were necessary. Other requirements for producing this amount of milk in winter were: Hauling and grinding concentrates, two cents; dry roughage, 129.9 pounds; silage and other succulent roughage, 191.3 pounds; bedding, 11.2 pounds; man labor, 2.7 hours; horse labor, 0.6 hours; other costs 55.5 cents.

In summer the unit requirements for producing one hundred pounds of milk other than concentrates were: Hauling and grinding concentrates, 0.5 of a cent; dry roughage, 18.7 pounds; silage and other succulent roughage, 27.8 pounds; pasture, 0.1 of an acre; man labor, two hours; horse labor, 0.4 hour; other costs, 42.5 cents.

In one year it was found that 1,030 pounds of concentrates were required to keep a cow. Other requirements were: Hauling and grinding concentrates, sixty-one cents; dry roughage, 3,600 pounds; silage and other succulent roughage, 5,307 pounds; bedding, 263 pounds; pasture, three acres; man labor, 123 hours; horse labor, 24.1 hours; other costs, covering interest, taxes and similar items on the dairy's share of buildings and equipment, but not including management, \$25.36. It was determined that the dairy's share of the total investment in buildings, equipment and herd amounted annually to 11.5 per cent of the total inventory value.

## ORGANIZE LIVE STOCK ASSOCIATION.

THE live stock breeders of Gladwin county have formed a pure-bred live stock association for the purpose of advertising, promoting and developing the pure-bred live stock business in that county. Nearly all the live stock breeders have expressed a willingness to push this important business, because it is conceded by everyone that a higher quality of live stock would greatly benefit the county. The plan of the association is to assist in getting all farmers interested in high-grade stock and to build up their herds for greater profits.

Breeders of dairy and beef cattle, hogs and sheep are the leaders of this movement; and the first action taken was to hold a consignment sale of pure-breds in Gladwin to afford an outlet for surplus stock. This gave the prospective buyer an opportunity to make a selection from a large number of cattle offered at one time, a chance to get a pure-bred sire, for instance, and choice of ages from some very choice breeding stock. The farmers were given the first chance to secure stock from home breeders.

# Divide the price of a De Laval by its years of service for its real cost.

THAT the best is the cheapest in the long run is doubly true of the De Laval Cream Separator.

Divide the price of a De Laval by the years of use you will receive—there are thousands in use from ten to twenty years, and even twenty to thirty years is not an unusual life for a De Laval—and you get a yearly cost that is much lower than that of any other separator you can buy.

Consider also that during all these years of use the De Laval will skim with the utmost efficiency; that it will save instead of waste cream; that it will pay for itself over and over and return you the greatest cash income; and you will readily see why it is the most economical separator to buy.

The De Laval serves the longest time and saves the most cream; that's why there are more than 2,500,000 in use the world over.

Furnished with hand, power or electric drives; sold only through agents; and if desired, on such terms that it will pay for itself.

**THE DE LAVAL SEPARATOR COMPANY**  
NEW YORK 165 Broadway CHICAGO 29 East Madison Street SAN FRANCISCO 61 Beale Street



# Sooner or later you will use a De Laval Cream Separator or Milker

## BREEDERS' DIRECTORY

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

### THE HOME OF Imp. Edgar of Dalmeny Probably The World's Greatest Breeding Bull

Blue Bell, Supreme Champion at the Smithfield Show 1919, and the Birmingham Show 1920, is a daughter of Edgar of Dalmeny.

The Junior Champion Bull, Junior Champion Female, Champion Calf Herd and First Prize Junior Heifer Calf, Michigan State Fair, 1920, were also the get of Edgar of Dalmeny.

A very choice lot of young bulls—sired by Edgar of Dalmeny are, at this time, offered for sale.

Send for Illustrated Catalogue.

### WILDWOOD FARMS ORION, MICHIGAN

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

### For Sale Woodcote Trojan-Ericas

We are offering ten cows bred to either IMP. ELOHO OF HARVESTOWN, or IMP. EDGAR OF DALMENY.

Write for our 1921 BULL SALE LIST  
Woodcote Stock Farm, Tonia, Mich.

### REGISTERED Aberdeen-Angus. Ten heifers, six bulls from eight to fourteen months. Best of breeding, the growthy kind that make good. Reasonable. Inquire F. J. WILBER, Ono, Mich.

### CLOVERLY ANGUS

Cows and Heifers Bred to Blackcap Branch of Woodcote 2nd For Sale  
GEO. HATHAWAY & SON, Ovid, Mich.

### Reg. Aberdeen Angus

bulls and heifers of the very best of breeding, from 2 to 15 months of age. For next 30 days will price bulls at \$100.00. Real bargains. Inspection invited. RUSSELL BROS., Merrill, Mich.

Dutch BELTED Cattle registered and tuberculin tested at reasonable prices for particulars, Address, Z. Veldhuis, 3723 Maxwell, Detroit, Mich.

### GUERNSEYS

Bull calves for sale. Sired by Anton's May King that sold for \$7,000. Farmers prices and guaranteed to please. GILMORE BROTHERS, Camden, Mich.

Registered Guernseys a Three yr. old heifer, her half or calf born Feb. 1, for \$350. An 8 mo. old bull calf no relation to above for \$100. The three for \$400. J. M. WILLIAMS, North Adams, Mich.

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

Guernsey Bulls of May Rose Breeding  
420 to 650 lbs. fat also a few cows and heifers are offered. H. W. WIGMAN, Lansing, Mich.

FEDERAL Inspected Guernsey Bulls. Paced to sell. Nine sold in 10 mos. A fine Masher Sequel 3 yrs. old, sure, sound and right \$175.00. Four grandsons of Ex-Champion A. A. cow under 8 mos. old from cows on test. G. W. & H. G. RAY, Albion, Mich.

For Sale 5 young imported Reg. Guernsey cows  
for \$250 each. Also May Rose herd bull; his 5 nearest dams average 725 lbs. fat, \$300. E. A. BLACK, Howard City, Mich.

Reg. Guernsey bulls for sale cheap. State T.B. test. Red and from good producing and A.R. cows. Age 1 to 12 mo. O. E. Lambert & Sons, Linwood, Mich.

FOR SALE Guernsey bulls, old enough for light service. L. J. BYERS, Coldwater, Michigan

I have one yearling Guernsey bull left; May Rose breeding; cheap if taken soon; write or come. John Ebels, R. 2, Holland, 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.

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

Reg. Holstein Bull Calf \$60 Reg and Del. Born in Dec. J. R. HICKS, St. Johns, Mich.

### BLYTHEFIELD FARMS

If you want to get a pure bred Holstein Herd Sire from a Dam who produced 752 pounds of milk and nearly 84 pounds of butter in seven days, write to JOSEPH H. BREWER, Grand Rapids, Mich.

Holstein or Guernsey calves, practically pure, 7 weeks old, \$25.00 each, crated for shipment anywhere. Satisfaction guaranteed. Bonds Accepted. Edgewood Farms, Whitewater, Wis.

For Sale 8 reg. Holstein cattle, 5 cows, 3 heifers. Price \$1200. For information write HENRY BAILEY, Wyandotte, Mich.

## WinnWood Herd

Registered  
Holstein-Friesian Cattle

We breed them to sell. If you are looking for seed stock, we have it.

John H. Winn, [Inc.]  
Rochester, Mich.

## Four Handsome Daughters

of the 34 lb. show bull "Judge Joh. Lyons" and out of A. R. O. cows all for \$1200.

Also bull calves from the same sire from \$50 up.

Bulls ready for service from \$100 up.

SINDLINGER BROTHERS  
Lake Odessa, Mich.

## A Proven Blood Line

KING SEGIS transmitted to his sons the power to transmit to their daughters the greatest of production over long periods. It is his offspring that has recently made the greatest yearly production ever dreamed of 37,321.4 pounds of milk in a year. We have for sale at moderate prices. Beautiful individuals of show type KING SEGIS BULLS.

GRAND RIVER STOCK FARM,  
315 N. East Ave., Jackson, Mich. O. J. Spencer, Owner,  
Under State and Federal Supervision

39.60 lbs. butter average of 8 mos. old bull. Can have him for present cost of service. Liberty Bond or note. M. L. McLAULIN, Redford, Mich.

Registered Holsteins—bulls, heifers or cows always for sale. Priced reasonable. Satisfaction guaranteed. Write or come. B. B. Reavey, Akron, Mich.



## Livingston County Holstein Association

## Quality Sale

At Howell, Mich., Wednesday, May 18, 1921

At 10:00 O'clock A. M.

THE HOME OF HEALTHY CATTLE From herds under FEDERAL SUPERVISION 60-90 day retest privilege.

## 90 HEAD REGISTERED HOLSTEINS

Two-thirds either have A. R. O. records or are from record cows. 5 cows with records from 25 to 29 lbs. 1 daughter of a 32 lb. cow. 9 bulls whose dams have records from 25 to 32-lbs.

JAY B. TOOLEY,  
PresidentJ. G. HAYS,  
SecretaryFor catalogs (ready May 6th) Address  
F. J. FISHBECK, Howell, Mich.Third  
Michigan State Sale

75 of Michigan's Choicest Holsteins, selected from thirty of the best herds in the state.

Every herd represented is under State and Federal Supervision and Fully Accredited or has passed one or more clean tests without reactors. There is no better guarantee of health.

Every animal has passed critical inspection by one of the best judges of Holstein cattle in Michigan, and we invite your attendance at a real Quality Sale, a sale in which you can select healthy foundation animals of the highest type and with the best of breeding—true "Michigan Holsteins."

The sale includes:

- A 34.9-lb. Senior three-year-old.
- Five 30-lb. cows.
- Eleven from 26 to 29.4 lbs.
- Twenty-six others from 20 to 26 lbs.
- Four daughters of 30 to 32-lb. cows.
- Five daughters of 29-lb. cows.
- Twenty-seven daughters of 20 to 27-lb. cows.

At Grand Rapids,  
Friday, May 27, 1921

The Michigan Holstein-Friesian Association

H. W. Norton, Jr., Secretary,  
Old State Block, Lansing, Michigan

## "Top Notch" Holsteins

Buy a "milk" Bull of Quality from the Breeders of the world's only cow to produce 800 lbs. milk in 7 days, having an 800 lb. daughter.

Our herd is rich in the blood of Colantha 4ths Johanna, the only cow that ever held all world's records in every division from one day to one year at the same time. She produced 651.70 lbs. milk in 7 days. We are offering for sale a bull, whose dam exceeds this record by over 7½ lbs. in 7 days.

His dam's records are:  
Milk 1 Day 100.1 lbs.  
Milk 7 Days 659.3 lbs.  
Butter 7 Days 28.31 lbs.His name is  
KING VALE CORNUCOPIA WAYNE, No. 312599  
Born February 6, 1920His dam and sire's two nearest dams average  
Butter 7 Days 33.02 lbs.Milk 7 Days 607.3 lbs.  
Handsomely marked about one third white.  
\$250.00 f. o. b. Howell.McPHERSON FARMS CO., Howell, Mich.  
All herds under U. S. Supervision.

## Registered Holstein Bull.

Sired by a son of King Ona and from a 22 lb. cow. \$90 delivered your station. Write for pedigree.  
EARL PETERS, North Bradley, Mich.

## Cluny Stock Farm

Offers

Cluny Konigen Colantha Silver 326205

Born May 29, 1920

A white bull with a few black spots.

His sire a 30 lb. son of King Segis Pontiac Konigen.

Sire's 7 nearest dams average 32.301 lbs. butter 624.1 lbs. milk in 7 days.

His dam has a Jr. 3 year old record of 17.683 lbs. butter from 418.7 lb. milk and is a granddaughter of Colantha Johanna Lad.

2nd dam—a 21 lb. cow that our barn records show milked over 145,000 lbs. in 14 milking periods producing 15 calves.

Pedigree on application.  
Price \$250.00. Federal Accredited Herd.

R. Bruce McPherson, Howell, Mich.

Thumb Hereford Breeders Association  
now offering some excellent young males and females of choice breeding. Can furnish one or a carload. Priced right. Your inspection solicited.  
Jas. R. Campbell, Secretary, Bad Axe, Mich.

## HEREFORDS

Two high class, registered bulls, nearly a year old, for sale. One double standard, and one with horns, good size, color, and markings. Both the making of show bulls.

COLE & GARDNER,  
HUDSON, MICH.BUTTER BRED JERSEY BULLS  
CRYSTAL SPRING STOCK FARM,  
Silver Creek, Allegan County, Michigan.

## The Wildwood Farm

Jersey Cattle, Majesty strain. Herd on State accredited list, R. of M. testing constantly done. Bulls for sale. ALVIN BALDEN, Phone 148-6, Capac, Mich.

JERSEY BULLS Ready for Service, Raleigh—Oxford and—Majesty breeding. Meadowland Farm, Waterman &amp; Waterman, Packard Rd., Ann Arbor, Mich.

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

Meridale Interested Owl No. 11311 heads my herd bull calves from this great sire and out of R. of M. dams for sale. Leon E. Laws, R. 6, Allegan, Mich.

Registered Jersey Bulls ready for service from high producing dams. R. B. FOWLER, Hartford, Mich.

Jersey Bulls For Sale ready for service from R. of M. dams. T. H. tested. Will give time. SMITH &amp; PARKER, R. 4, Howell, Mich.

Registered Shorthorns. Bulls and heifers. prices within reach of all. G. R. DESHETLER, R. 4, Tecumseh, Mich.

Milking Shorthorns, bulls and heifers 5 mo. to 1 year old for sale at reduced prices to make room for younger stock. E. H. KURTZ, Mason, Mich.

## Fourth Central Michigan Breeders Sale

May 23, 1921, at Michigan Agr. College,  
East Lansing, Mich.

## Sixty Head of Selected Holsteins

FEMALES will include a 26.4 lb. cow, a 22 lb. heifer, a daughter of a 31 lb. cow with 19 lb. at 3 years 4 days, and many others over 20 lbs. bred to such bulls as a son of King Joh. from a 34 lb. daughter of King Segis, King Lansing a son of Sir Kornelke Veeman Hengerveld from Dora DeKol Oosterbaan with 32 lbs. from 745 lbs. milk at 10 years.

BULLS: There will be a son of a 31.77 lb. four year old sired by a 30 lb. son of Sir Ormsby Banostine Champion ready for heavy service.

There will be a four months son of Judge Joh. Lyons from a 24 lb. two year old that took first prize in Michigan in 1919-1920.

A son of a 31 lb. cow that milked over 96 lbs. in a day sired by a son of Glista Erica 35.29 lbs. by a son of King Segis.

A son a Sycamore Stella Johanna with 27 lbs. butter and a milk record of 772 lbs. and over 3000 lbs. in 30 days sired by the son of Glista Erica ready for heavy service.

You can buy these cattle with the assurance that they are healthy.

Sixty to ninety day retest privilege. Guaranteed breeders.

For catalog address

Albert E. Jenkins, Sale Mgr.,

Eagle, Mich.

SHORTHORN  
SHOW AND SALE

Central Michigan Shorthorn Breeders' Ass'n.

GREENVILLE FAIR GROUNDS  
GREENVILLE, MICHIGAN

TUESDAY, MAY 10, 1921

SHOW 10 A. M.

SALE 1 P. M.

39 Head: 29 Females, 10 Bulls; 27 Milking Strain, 12 Scotch Topped

Write for Catalog to M. E. Miller, Sec'y, Greenville, Mich.

Auctioneer: O. A. Rasmussen, Greenville; Judge: L.R. Mackie, M.A.C.

## 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.

## Here Is a Good One

Born June 2nd. by Maplecrest De Kol Hengerveld, a sire having three sisters each having records of over 1200 pounds of butter in a year. Two of them former world champions, calf's dam by an own brother to Highland Hartog De Kol yearly record of 124.85 pounds. This combination of breeding will give results. HILLCREST FARM, Kalamazoo, Mich.

## HEREFORDS

Cows with calves at side, open or bred heifers of popular breeding for sale. Also bulls not related.

Allen Bros. Paw Paw, Mich.

616 So. Westnadge Ave.,  
Kalamazoo, MichiganBIDWELL SHORTHORNS  
BUY A BULL

that will put weight on your dairy calves—the difference will soon pay for the bull. Now selling good Scotch and Scotch-topped yearlings, reasonably priced. We guarantee every animal to be a breeder. Federal Test. One hour from Toledo, Ohio, N. Y. C. R. R.

BIDWELL STOCK FARM,  
Box D, Tecumseh, Michigan

## Stop! Look! Listen!

Have you a catalog of the Shorthorn Sale to be held at M. A. C. Feb. 25th at 1 P. M. We are listing four valuable females and two show bulls.

Richland Farms,  
C. H. Prescott & Sons, Tawas City, Mich.

## The Maple's Shorthorns

Kirklevington Lad, by Imp. Hartford Welfare, in service. Stock for sale.

J. V. WISE, Gobleville, Mich.

Shorthorns. Bull calves for sale from the best milking blood obtainable. ROSEMARY FARMS, Williamston, Mich.



## 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.

**Teat Stricture.**—A few weeks ago one of my cows freshened. Now she has teat stricture. E. C., Mio, Mich.—Dilate teat canal, using a smooth dull pointed, highly-polished steel probe. Treat her twice a day.

**Partial Loss of Power.**—Sow due to farrow April 15 has stiffness in hind quarters, but seems to be healthy. I would like to save her and litter. W. H., Jr., Hawks, Mich.—Feed her less corn, more ground oats, oil meal tankage, alfalfa, clover and roots. Keep her dry and warm, hand-rub back.

**Deep-milking Sow.**—What can be done to prevent udder congestion and cracking of the skin on sow's teats? I applied camphor and lard, which helped, also doted her with poor results. She is inclined to be ugly at such time. B. B. H., Morgan, Mich.—I know of no better plan than to milk her every day or two, also lessen her grain and keep her clean.

**Abnormal Appetite.**—Our eleven-year-old horse is inclined to eat earth, or mud of any kind, but seems to be in perfect health. I am afraid to turn him out, fearing that he might eat too much mud. Mrs. C. H. M., Springfield, Mich.—Mix equal parts of baking soda, powdered gentian, powdered quassia, ground fenugreek, and common salt. Give a tablespoonful or two in each feed, also give two tablespoonfuls of powdered wood charcoal in every feed. Grass is the best remedy.

**Horse Lacks Vim.**—We have a nine-year-old work horse that eats plenty of feed, but lacks vim. H. M., Mancelona, Mich.—His molar teeth may need floating. Give him forty grains ground nux vomica and half an ounce of powdered gentian in ground feed three times a day. Perhaps you are overworking him.

**Cracked Heels.**—Have a mare that is troubled with scratches in both hind legs. J. J. S., Metropolitan, Mich.—Apply equal parts of flowers of sulphur, oxide of zinc, boric acid, twice daily.

**Chronic Navicular Lameness.**—Have a valuable horse that has been lame in coffin joint for the past three years. Is there any help for him? W. E. F., Constantine, Mich.—Standing him in wet clay for two or three hours daily will palliate his lameness, but he is incurable.

**Cough.**—My nine-year-old mare has been coughing some lately. Have been giving her a little raw linseed oil in feed, but it fails to help her. G. G., Monroe, Mich.—Ask your druggist to sell you some equine cough syrup and give it according to directions. Rub throat with camphorated oil daily.

**Warbles.**—Some of my cows are troubled with grubs in their back. Tell me how to treat the cows. C. F. H., Brutus, Mich.—With pressure squeeze out grub, kill him, but if hole is too small, enlarge it with clean pen knife, then they will pop out. Apply boric acid to sores.

**Bunches in Mouth.**—Have two big fat lambs four weeks old that have bunches in their mouths. Some of the bunches are on lower lip, both inside and outside. These bunches are not sore, but itch. They are hard and do not contain pus. J. B., Temple, Mich.—The bunches should be cut out, but not many of them at one time, especially if they bleed much. Dissolve one ounce of borate of soda in one quart of water and wash out mouth twice daily.

**Looseness of Bowels.**—Deep Milker.—What is the cause of my five-year-old mare purging? Have had her teeth floated. Have another seven-year-old mare that had a colt last year, weaned foal last fall at which time we dried her, but at three different times since she has given milk. I am told her former owner treated her for udder ailment. A. S., Deckerville, Mich.—Certain horses are inclined to purge, especially if driven faster than a walk and if not carefully fed. The feeder is the person who can control such bowel ailments, feed well-cured fodder, not much clover. Give her one dram of powdered sulphate of iron at a dose in feed three times daily.

**Flat Feet.**—I have a mare that has flat fore feet, the wall of hoof is brittle and shoes do not remain on very long. hoofs? L. Y., Lachine, Mich.—Stand her in wet clay for two or three hours daily. Shoe her with bar shoes; ten nails in each shoe.



## A pipe's a pal packed with P. A.!

Seven days out of every week you'll get real smoke joy and real smoke contentment—if you'll get close-up to a jimmy pipe!

Buy one and know that for yourself! Packed with cool, delightful, fragrant Prince Albert, a pipe's the greatest treat, the happiest and most appetizing smoke-slant you ever had handed out!

You can chum it with a pipe—and you will—once you know that Prince Albert is free from bite and parch! (Cut out by our exclusive patented process!) Why—every puff of P. A. makes you want two more; every puff hits the bullseye harder and truer than the last! You can't resist such delight at any stage of the game!



Copyright 1921 by  
B. J. Reynolds Tobacco Co.  
Winston-Salem, N. C.

Prince Albert is sold in tippy red bags, tidy red tins, handsome pound and half pound tin humidors and in the pound crystal glass humidor with sponge moistener top.

## PRINCE the national joy smoke ALBERT

## A Complete Dispersal Sale of 40 Head of Reg. Holstein-Friesians

(Herd Federal tested with a clean test). Sold subject to 60 to 90 day retest. Many creditable A.R.O. Records in Herd. 25 Head fresh or safe in calf to our Young Herd Sire—Sir Ormsby Lilith Segis whose dam made 30 lb. butter and over 600 lbs. milk as a 4 yr. old.

**Sale Saturday, May 21, 1921 at 1 o'clock**

Rain or Shine to be held under cover  
Catalog ready May 1st. Terms to responsible buyers. Bring Bank references.

**WM. GOTTSCHALK, New Haven, Mich.**

Stop Fairchild's. Electric Cars Leave hourly from Detroit to Pt. Huron. Free transportation from Cars at Fairchild's. Location of farm 8 miles northwest of Mt. Clemens, 4 miles southwest of New Haven 1 1/2 miles southeast of Meade.

**Albert E. Jenkins,**  
Sales Manager

**Col. D. L. Perry,**  
Auctioneer



## HOLSTEIN CATTLE

J. W. Freeman, Joplin, Mo. writes:

"Registered Holsteins are in a class by themselves. They fill the milk pail and cost no more to feed. The hired help takes pride in caring for them. They are the best producers and money-makers." Send for free booklets.

**The Holstein-Friesian Association of America**  
164 American Bldg., Brattleboro, Vermont

## O. I. C. HOGS

all ages sired by Callaway Edd 1918 world's grand champ. boar and C. C. Schoolmaster 1919 world's grand champion also Wonder Big Type and Giant Buster. Write your wants, all stock shipped on approval.

**CRANDELL'S PRIZE HOGS,**

**Cass City, Mich.**

### CATTLE

**Huron County Shorthorn Breeders Ass'n.**  
offer for sale Scotch and Scotch topped males and females of all ages. 300 head to select from. For information address Jas. R. Campbell, Secretary, Bad Axe, Michigan.

### BUY SHORTHORNS

of Central Michigan Breeders' Association at farmers' prices. Write for sale list to M. E. Miller, Sec'y, Greenville, Mich.  
**Reg. Red Polled** cattle choice young bulls from 5 to 18 mo. old for sale.  
**FRANK KEBLER, R. 1, Grand Ledge, Mich.**

## FIVE BRED HEIFERS

We now have that we will sell cheap if taken at once. Inquire about them or better come and see them.  
**CARR BROS. & CO., Bad Axe, Mich.**

## Francisco Farm Shorthorns

and BIG TYPE POLAND CHINAS. Now offering 3 heifers, 2 bulls, all Scotch. Sows to farrow in Aug. and Sept. Spring pigs. 50 head to choose from.  
**SCOPE BROS. CO., Mt. Pleasant, Mich.**

## Two Scotch-topped

Shorthorn bulls for sale.  
**W. E. MORRIS, R. 5, Flint, Mich.**

**Reg. Red Polled** bull calves, from 3 mos. to 1 year old, sired by Famous Charmer, 75% same blood as Charmer 1919 International Grand Champion. Our herd State and Federal tested. Westbrook Bros., Ionia, Mich.

### HOGS

**Berkshire Bred Sows** and Gilts \$50 and up, for April, May and June farrow. Have a few good fall pigs at reasonable prices for sale.  
**M. G. MOSHER & SONS, Oshtemo, Mich.**

**Berkshires** spring pigs. A few bred gilts and sows. A few young boars. After May 1st Duroc \$1.50, setting postpaid. Chase Stock Farm, Marietta, Mich.

**Buy Pigs Now** Registered Duroc pigs bred and delivered to express station for \$20 each. Either sex or can furnish them unrelated to each other. These are late fall pigs sired by State Fair winners and weighing over 100 lbs. Write for particulars. Michigan Farm Ltd., Pavilion, Mich.

## Brookwater Duroc Jerseys

### FALL BOARS OPEN GILTS

All of the right type and the best of breeding. Prices reasonable.

Mail orders a Specialty. Satisfaction guaranteed.

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

### DUROC JERSEYS

Bred gilts, service boars and fall boar pigs at Bargain prices. Your correspondence or personal inspection is cordially invited.

**RUSH BROS., Oakwood Farm, Romeo, Mich.**

**Duroc Boars** at bargain prices large growthy hogs 15 months old at \$50. Will send C. O. D. and register in the buyers name. Orders booked for Apr. pigs to deliver June 1st. W. E. Bartley, Alma, Mich.

**Write Me** at once I have just what you want heavy bone registered Duroc Jersey boars ready for service.  
**W. H. MAYES, L. B. 505, Durand, Mich.**

**DUROC Jerseys.** Boars for spring service, heavy boned type, from the most popular blood lines at reasonable prices. Partridge Rock eggs from best laying strain \$2 per lb. Drott & Berns, Monroe, Mich.



Spring pigs by Walt's Orion, First Sr. Yearling Detroit, Jackson, Gd. Rapids and Saginaw 1919  
**Phillips Bros, Riga, Mich.**

**DUROC SOWS** and gilts bred to Orion King No. 169239 Son of the \$10,000 boar owned by Longview Farm, Le Summit, Mo. also young boars ready for service out of good sows. Apply  
**THE JENNINGS FARM, Bailey, Mich.**

**Duroc Jersey Sows** and Gilts bred for March, April, May farrow. Also a few spring boars. Best of blood lines and splendid individuals. Satisfaction guaranteed. Write for pedigree and prices, or better come and see, visitors welcome. Thos. Underhill & Son, Salem, Mich.

**A FEW CHOICE** Bred gilts for sale.  
**Carey U. Edmonds, Hastings, Mich.**

**DUROCS** Bred sows all sold. A few choice fall boars for sale.  
**W. C. TAYLOR, Milan, Mich.**

**Duroc Jerseys** Am booking orders for spring pigs. Few fall gilts.  
**E. D. HEYDENBERG, Wayland, Mich.**

**DUROCS** A few choice, ready for service, boars for sale.  
**HARRY FOWLER, Sturgis, Mich.**

**O. I. C. Swine** Strictly Big Type with quality. A few gilts bred for last of April, and May farrow. A few Sept. and Oct. fall pigs either sex. Extra good ones. Of our State Fair prize winning blood lines. Will ship C. O. D. and record them free. **NEWMAN'S STOCK FARM, R. 1, Marietta, Mich.**

**O. I. C's** Choice gilts for April and May farrow, also fall pigs. Booking orders for spring pigs.  
**A. J. BARKER & SON, Belmont, Mich.**

**O. I. C's.** 8 last spring gilts due to farrow in Mar. and Apr. some tried sows service boars and last fall pigs, not often, big growthy stock. Registered free. Citz. Phone 124, Otto B. Schulze, Nashville, Mich.

**O. I. C's.** 2 sows for May farrow. Orders booked for March pigs.  
**J. C. THOMPSON, Rockford, Mich.**

## Central Mich. O. I. C. Swine Breeders Ass'n.

Hogs of all ages of popular blood lines. Every sale guaranteed by association.

**DR. H. W. NOBLES,**  
Sales Mgr. Coral, Mich.

**O. I. C.** Big type serviceable boars, weigh from 150 to 250 lbs. Gilts bred for May and June farrow. Write for prices. G. P. Andrews, Mason, Mich.

**Saginaw Valley Herd.** Prize winning O. I. C's. Jan. and Feb. pigs, priced reasonable. J. Gibson, Fosters, Mich.

## SPOTTED POLAND CHINAS

Our herd boars Rio, Grand Giant, a litter mate to the \$2000 Marshall Giant boar, his dam Art Osa, the largest sow of the Spotted breed. King Onward known as one of the greatest back and color breeders. English Back Builder, a wonderful breeder. 50 Last spring gilts bred for July and August farrow. \$50 per head while they last. Fall pigs either sex, \$35. Will take orders for spring pigs for June shipment, either sex, \$25. Cholera immunized. Satisfaction guaranteed.  
**SAMUEL GERBER, R. 4, Bluffton, Ind.**

Additional Stock Ads on Page 601



# LATEST MARKET REPORTS

## GRAIN QUOTATIONS

Tuesday, May 3.

### Wheat.

Detroit.—Cash No. 2 red \$1.52; May \$1.50; July \$1.30; No. 2 white and No. 2 mixed \$1.50.

Chicago.—No. 2 hard \$1.49½@1.50½; No. 1 mixed \$1.51.

### Corn.

Detroit.—Cash No. 2 yellow 65½c; No. 3 yellow 64½c.

Chicago.—No. 2 mixed 60@60¼c; No. 2 yellow 60@61¼c.

### Oats.

Detroit.—Cash No. 2 white 42½c; No. 3 white 41c; No. 4 white 38c.

Chicago.—No. 2 white 37¼@38c.

### Beans.

Detroit.—Immediate and prompt are steady at \$3.65 per cwt.

Chicago.—Market is unchanged and steady. Demand fair. Hand-picked beans choice to fancy at \$3.60@4.25; red kidney beans \$8.75@9.50 per cwt.

New York.—The market is higher. Choice pea \$4.25@4.40; do medium \$5; red kidney \$9.75@9.85.

### Rye.

Detroit.—Cash No. 2 rye \$1.38½.

### Seeds.

Detroit.—Prime red clover, cash at \$12.50; October \$9.50; alsike at \$14; timothy \$3.15 per bushel.

### Hay.

No. 1 timothy \$19@20; standard and light mixed \$18@19; No. 2 timothy \$17@18; No. 1 clover mixed \$16@17; No. 1 clover \$14@15; rye straw \$13@14; wheat and oat straw \$12.50@13 per ton in carlots at Detroit.

## WHEAT

Large export sales combined with reduced sales by growers gave the market a firmer tone during the week. The world reserves of old crop wheat are sufficient until the new crop is ready, but the demand is concentrated upon the United States supply because of quicker shipment and easier financing. Argentina and Canada have a good-sized surplus yet to dispose of. These countries are selling less to Europe than is the United States, due to the reluctance of their farmers to let go, and may be competitors with our new crop a little later in the season. Supplies on farms probably remain larger than usual at this season, partly offsetting the light stocks in mills, elevators and primary markets. Crop reports are slightly less favorable than a month ago, frost and wet weather both causing some damage and a crop scare is not impossible, but it has not developed yet. Foreign crop news is less favorable than our own.

## CORN

Stocks of corn in terminals have begun to contract, due to a larger domestic demand and liberal exports combined with light sales by growers. The visible supplies, however, are the largest on record for this season.

The Argentine surplus from the corn crop just harvested is estimated at 154,000,000 bushels. Prices are less attractive than for American grain but the total appears about enough to supply European needs.

## OATS

Oats is in a weak position as export demand is slight, the visible supply is excessive and the interval till harvest is not long. The oat crop is not getting a very flattering start because of wet and freezing weather and corn planting is being delayed longer than expected, although the season is up to normal. Both corn and oats for September delivery are higher than the cash market. Apparently trade interests do not expect the new oat crop to sell at lower prices than old oats are now bringing.

## SEEDS

Although the demand for clover and seed held out longer than expected, especially for timothy seed, it is now practically over and prices have been easy. Reports upon the carryover are conflicting but it does not seem to be excessive. It is too early to determine the amount of damage to the new crop by April freezes.

## FEEDS

Bran and middlings held the advance noted a week ago but linseed oil meal prices continued to recede. Bids for bran for season shipments have been

made as low as \$10@11 a ton at Kansas City but without acceptance. Prices are low now compared with the pre-war levels and are not likely to sag much further. Latest quotations a ton (100-lb bags) in carlots were: Detroit. Bran \$27; standard middlings \$24; flour middlings \$29; coarse cornmeal \$31; cracked corn \$32; chop \$27.

## HAY

The hay situation shows but little change. Receipts are light but the demand is sluggish. Country stocks are large and there is nothing to lift prices except unfavorable weather for the new crop.

## EGGS AND POULTRY

Receipts of eggs still run larger than a year ago, but cold storage holdings show less margin over last year than they did last month. Receipts of poultry are considerably larger than last year, suggesting that growers are reducing egg production and taking advantage of the high prices for poultry meat.

Latest quotations as follows: Chicago.—Eggs, fresh firsts 22@22½c; ordinary firsts 19@21½c. Poultry.—Hens general run 27c; roosters 14c; ducks 26@32c; geese 16@18c; turkeys 40c.

Detroit.—Eggs fresh current receipts 23c. Poultry.—spring chickens, 28@30c; heavy hens 30c; roosters 15@18c; geese 18c; ducks 32c; turkeys 40c.

## BUTTER

Although receipts of butter at Chicago, New York, Boston and Philadelphia failed to show as large an increase as expected, prices declined from three to six cents. Distributors are unwilling to carry stocks and have pressed all receipts for sale as fast as possible in the expectation that supplies will continue to expand and the market trend will remain downward until a storing level is reached. Chicago has been more generously supplied than eastern markets because of its proximity to the producing territory but lower prices have been rather quickly reflected in the east. Much butter of poor quality has arrived and sold at extremely low prices. Prices for 92-score fresh butter as quoted by the bureau of markets on April 30 were: Chicago 31c; New York 35½c;

Boston 37c. Prices at Detroit were 29@29½c for fresh creamery butter.

## POTATOES

Potato stocks are moving slowly into consumption with supplies holding about 500 cars per day, a liberal total. Market tone is weak with prices about \$1@1.20 per hundred pounds for sacked northern whites, U. S. Grade No. 1 in consuming markets. New potatoes are bringing about \$8 per barrel of around 167 pounds on northern markets for No. 1 stock.

## 300 THOROUGHBREDS IN MICHIGAN HERD.

NORTHEASTERN Michigan, fast gaining a countrywide reputation as the breeding place of good live stock, is now the home of one of the three largest herds of thoroughbred Shorthorns in the United States. C. H. Prescott & Sons, long among the leading Shorthorn breeders of the middle west, a few days ago purchased the entire herd of thoroughbreds owned by Louis Harmon, proprietor of a big ranch at Cornell, a few miles from Escanaba, and this purchase gives the Prescotts a herd of nearly 300 thoroughbred animals. The Harmon herd consisted of twenty-one cows, two herd bulls, three yearlings and ten calves and was the largest Shorthorn herd in the upper peninsula.

## COMING LIVE STOCK SALES.

Guernseys.—May 10, F. E. Fox, Sales Manager, Eau Claire, Mich.

Holsteins.—May 18, Livingston County Holstein Association, J. G. Hays, Secretary, Howell, Mich.

Holsteins.—Holstein-Friesian Association of America, May 31 to June 4, Syracuse, N. Y.

Holsteins.—May 23, Central Michigan Breeders' Sale, M. A. C., East Lansing, Albert E. Jenkins, Sale Manager, Eagle, Mich.

Shorthorns.—May 10, Central Michigan Shorthorn Breeders' Association, Greenville, Mich. M. E. Miller, Secretary, Greenville, Mich.

Holsteins.—May 27, Michigan Holstein-Friesian Association, Grand

## Live Stock Market Service

Wednesday, May 4.

### BUFFALO

Medium and heavy hogs sold today at \$9.25@9.50; others at \$9.75@9.85; lambs \$11.50; calves \$11.50.

### DETROIT

#### Cattle.

Market steady.

Best heavy steers .....	\$ 7.50 @ 8.00
Best handy wt bu steers .....	7.50 @ 8.25
Mixed steers and heifers .....	6.75 @ 7.50
Light butchers .....	6.00 @ 7.00
Best cows .....	4.00 @ 5.00
Butcher cows .....	4.00 @ 5.00
Common cows .....	3.50 @ 4.00
Canners .....	2.50 @ 3.00
Best light weight bulls .....	6.00 @ 6.50
Bologna bulls .....	5.25 @ 6.00
Stock bulls .....	4.00 @ 5.50
Feeders .....	6.00 @ 7.25
Stockers .....	5.00 @ 6.50
Milkers and springers .....	\$ 45 @ 95

#### Veal Calves.

Market active and \$1 higher.

Best .....	\$12.00 @ 12.50
Others .....	7.00 @ 8.00

#### Hogs.

Market 25c higher.

Mixed hogs .....	\$ 8.75
Roughs .....	6.75
Heavy .....	8.25 @ 8.50
Pigs .....	8.75 @ 9.00

#### Sheep and Lambs.

Market steady.

Best lambs .....	\$10.00 @ 10.25
Fair lambs .....	7.50 @ 9.00
Light to common .....	4.00 @ 7.00
Fair to good sheep .....	5.50 @ 6.00
Culls and common .....	2.00 @ 3.50

### CHICAGO

#### Hogs.

Estimated receipts today are 16,000; holdover 4,000. Market 10@15c higher; light and medium active; others slow. Bulk of sales \$8.25@8.70; tops \$8.85; heavy 250 lbs up medium, good and

choice \$8.15@8.50; medium 200 to 250 lbs medium, good and choice at \$8.35@8.70; light 150 to 200 lbs common, medium, good and choice at \$8.40@8.85; light lights 130 to 150 lbs common, medium, good and choice \$8@8.70; heavy packing sows 250 lbs up smooth \$7.15@7.90; packing sows 200 lbs up rough \$6.85@7.15; pigs 130 lbs down medium, good and choice \$7.25@8.35.

#### Cattle.

Estimated receipts today are 7,000. Market steady to 15c higher. Beef steers medium and heavy weight 1100 lbs up choice and prime \$8.75@9.40; do medium and good \$7.50@8.75; do common \$7@7.50; light weight 1100 lbs down good and choice \$8.25@9.40; do common and medium at \$6.75@9.25; butcher cattle heifers, common, medium, good and choice \$8.50@9; cows, common, medium, good and choice at \$5@7.25; bulls bologna and beef \$5@7; canners and cutters cows and heifers \$2.25@5; do canner steers at \$3@4.50; veal calves light and handy weight medium, good and choice \$8.25@10.50; feeder steers common, medium, good and choice \$6.75@8.15; stocker steers common, medium, good and choice \$5.50@7.85; stocker cows and heifers common, medium, good and choice \$3.50@6.

#### Sheep and Lambs.

Estimated receipts today are 22,000. Market steady to 25c lower. Lambs 84 lbs down medium, good, choice and prime \$9.25@11.25; do 85 lbs up medium, good, choice and prime \$8.75@11; do culls and common \$7.75@9.50; feeder lambs medium, good and choice at \$9.50@12; spring lambs medium, good, choice and prime \$8@9.50; ewes medium, good and choice at \$5.50@7.25; ewes cull and common \$2.25@5; yearling wethers medium, good and choice \$7@8.50.

Rapids, Mich. H. W. Norton, Secretary, Lansing, Mich.

Holsteins.—May 21, Wm. Gottschalk, New Haven, Mich.

Guernseys.—October 19, Michigan State Sale, Lansing, Mich. F. E. Fox, Waukesha, Wis., Sales Manager.

Aberdeen-Angus.—June 9, Michigan Aberdeen-Angus Breeders' Association Sale, East Lansing, Michigan. Ward Hathaway, Ovid, Mich, Secretary.

Aberdeen-Angus.—June 22, Ohio Aberdeen-Angus Breeders' Association Sale, Fair Grounds, Columbus, Ohio. C. D. Littleton, Kenton, Ohio, Secretary.



## Self-Balancing Bowl

The Secret of Perfect Skimming

The Belgium Melotte is the only single-bearing-bowl ever made. This patented bowl hangs from one frictionless ball bearing and spins like a top. It is self-balancing. It skims as perfectly after 15 years' use as when new. Positively cannot ever get out of balance and vibrates, thus causing cream currents which waste cream by remixing with the milk. Six hundred pound Melotte turns as easily as 300 pound Separator of other makes. Spins for 25 minutes unless brake is applied. No other Separator has or needs a brake.

## Belgium Melotte Imported—Duty FREE

Invented by Jules Melotte — the Edison of Europe, stands first in Europe where every penny must be saved. Used on 95% of the Belgium dairy farms. Holds 288 international prizes. Admitted duty free by special act of Congress to save money for American farmers. The world's greatest Separator at a bargain price.

## No Money Down

We don't want anyone to send us any money on the Melotte. We want to prove to you first that it is the best separator made. There are no papers to sign—no deposits or promises—no formalities. You are under no obligations. We take this liberal offer because we know a test of the Melotte will convince you.

## \$7.50 After 30 Days Free Trial

To convince you that the Belgium Imported Melotte is the best cream separator possible to buy anywhere in the world we will send one direct to your farm on a 30 day, absolutely unconditional free trial. Use it as if it were your own. Compare it with others—put it to every test. You alone are the judge. When the Melotte has sold itself on merit alone, send your \$7.50 as first payment and make small monthly payments of \$1.50 until the Separator is paid for.

## Send for Free Book!

Don't buy any Separator until you have found out all about the Melotte, its 15 year guarantee and our 30 day free trial offer. Get our free book containing full description of this wonderful cream separator and the story of Jules Melotte, the inventor. Don't hesitate—don't do another thing until you write us.

## MELOTTE

H. B. BABSON Dept. 3105  
U. S. Manager. 2843 W. 19th St., Chicago

## Fleece Wool Wanted

Cash paid for the following grades of Michigan Fleece Wool f. o. b. Detroit for immediate shipment:

Delaine 25c  
Fine clothing 18c  
¾ and ½ blood combing 22c  
¾ blood combing 19c  
Rejections 11-14c

Wool sacks furnished for packing wool. Check sent upon receipt of wool.

## Traugott Schmidt & Sons,

508-560 Monroe Ave.,  
Capital \$1,750,000 Detroit, Mich.

**Housekeeper** Would like to hear from widowed housekeeper. Lived on farm 20 years. Can make butter of best quality and care for all kinds of poultry. Have little girl 6 years old. Care more for good home than high wages. References exchanged. Address Box A-57 care of Michigan Farmer, Detroit.

**Russet Rural** Certified Seed Potatoes grown in Obeygan Co. For price address W. L. Thomas, Afton, Mich.



**REYNOLDS SHINGLES**

**"Grow More Beautiful With Age"**

After being saturated with one mixture of pure asphalt and then thoroughly coated with another, shingles are covered with granulated minerals. Besides having a wearing surface that lasts for years, the natural greens, reds, and grays fairly sparkle with beauty. Farmers with Reynolds Covered Roofs know what it means to have Reynolds Protection—backed by Reynolds Guarantee. We will work with your nearest dealer and solve your roofing problems.

**H. M. REYNOLDS SHINGLE CO.**  
"Originators of the Asphalt Shingle"  
GRAND RAPIDS, MICHIGAN  
Reynolds Shingles Grow More Beautiful With Age

## HOGS

**O. I. C.'s** choice boars and spring pigs at farmers prices.  
CLOVER LEAF STOCK FARM, Monroe, Mich.

**O. I. C. GILTS** Bred for June and July farrow.  
H. W. MANN, Dansville, Mich.

**Raise Chester Whites**

**Like This**  
the original big producers

I HAVE started thousands of breeders on the road to success. I can help you. I want to place one hog from my great herd in every community where I am not already represented by these fine early developers—ready for market at six months old. Write for my plan—More Money from Hogs.  
G. S. BENJAMIN, R. F. D. 10, Portland, Michigan.

**Big Type** Polands. Some very choice fall boars. ready for spring service for sale. They are sired by The Clansman; dam, the \$1025 Miss Columbia, a littermate to the \$40,000 The Yankee. Also a few choice boars by The Clansman, son of The Clansman. WESLEY HILE, Ionia, Mich.

## L. T. P. C.

Spring boar pigs \$15 to \$25. Fall gilts sired by Harts Black Prince. \$30 to \$50. Also have two gilts which are granddaughters of the Yankee and were bred to Harts Black Prince March 24th. They will go quick at \$50. HART, FULCHER & OLIVE, address F. T. HART, St. Louis, Mich.

P. C. Bred sows. Fall pigs singly or in pairs. Also S. C. Minorca cockerels all this type of the best of breeding. Satisfaction guaranteed. R. W. Mills, Saline, Mich.

**Write for Prices** on Feb. and March pigs both sexes. Sire C. C. Callway Boy. Good long ones the kind that fills the Pork bbls. Some good bull calves of the Albertas Jubilee kind. All stock reg. in buyer's name.  
VILLAGE STOCK FARM, Jeddo, Mich.

**L. S. P. C.** a few choice boars bred gilts all sold. Also a grandson of The Clansman and Harrison Big Bob.  
H. O. SWARTZ, Schoolcraft, Mich.

**Big Type Poland Chinas.** Choice spring boar pigs \$15 each when 8 weeks, sired by Clansman Buster and their dam being a prize winner at the State Fair. Also gilts bred for Sept. Farrow for \$40 and up. Guarantee Satisfaction.  
DORUS HOVER, Akron, Mich.

**Leonard Farm** BIG TYPE P. C. boar pigs at weaning time, \$25 from Mich. Champion herd. Satisfaction guaranteed. Call or write. E. R. LEONARD, R. 3, St. Louis, Mich.

**Big Type P. C.** some very choice boars double imbrune, out 1100 lb. sire and mammoth sows from Iowa's greatest herds. E. J. Mathewson, Burr Oak, Mich.

**Big Type Poland Chinas** at lowest prices. Both sex, all ages, and bred sows and gilts.  
G. A. BAUMGARDNER, R. 2, Middleville, Mich.

**Large Type Poland Chinas.** Nothing for sale at present.  
A. A. FELDEAMP, R. 2, Manchester, Mich.

**L. T. P. C.** If you are looking for something good, in bred gilts at a right price. Write  
W. J. HAGELSHAW, Augusta, Mich.

Sows bred for spring litters all sold. Have some choice gilts bred for Aug. litters, also some Sept. boars for sale. Clyde Fisher, R. 3, St. Louis, Mich.

## PINE GROVE HAMPSHIRE

We are offering a few tried sows bred for March and April farrow. These sows are all closely related to our winning show herd and of popular blood lines, and the price! Way Down!  
Geo. Coupar & Sons, Marlette, Mich.

**Hampshires** Bred gilts all sold. Spring and fall boar pigs at a bargain. JOHN W. SNYDER, R. 4, St. Johns, Mich.

## SHEEP.

**Wool-Mutton Shropshire Rams.** Good strong individuals, royally bred, priced right. A. H. FOSTER, Allegan, Mich.

## HORSES

**Percheron** Stallions and mares at reasonable prices; inspection invited.  
F. E. KING & SON, Charlotte, Mich.

## WOOL

Wool prices continue weak except for choicest staple. Manufacturers are picking up low-priced imported offerings and these domestic wools which growers are anxious to unload. It is estimated that the supply in this country on July 1 will total 825,000,000 lbs., while there are about two to three million bales of 450 to 500 lbs. each available from Australia. The pooling movement is spreading rapidly in the west and state pools have been formed in Texas, Utah and Montana. Sales at Boston have hardly been numerous enough to establish values on all grades and quotations from that point are partly nominal. Some buying of new territory wools at 20 cents in the grease at Boston has been reported, but most recent sales have been of pooled wools from the old clip.

## FARM BUSINESS OUTLOOK.

PROGRESS was made toward "balanced readjustment" during the past two weeks but much more of it is needed. Prices for various products are still badly out of line and lower values at wholesale in many cases have not reached the consumer. One by one the obstructions in the path to normalcy are being removed but the end of the road is still to be seen.

Money conditions are gradually improving. Rates for time loans are slightly lower. The Bank of England has cut its rediscount rate from seven to six and one-half per cent after remaining at the former figure for the longest period on record. This may help British demand for our products, especially cotton.

Nearer home, Governor Harding, of the federal reserve board, and treasury officials are taking interest in the farmer's plight and a personal investigation in the field is to be made. Pressure to hasten deflation may be relieved in the case of agriculture and some other over-deflated industries.

Industrial labor costs are still excessive with a few labor unions still jockeying for further increases. In other lines wage reductions are being accepted more or less cheerfully. Unemployment is believed to be ten to fifteen per cent less than two months ago, due to greater building activity and the requirements of farm work. Both of these are seasonal in character, however.

What is to be the effect of tariff laws, lower wages, cheaper money and other betterments upon prices of farm products? They will be stabilized no doubt, but with the new harvest near at hand the period of big advances will be deferred for awhile unless the season is unfavorable. It seems that actual supply and demand rather than economic factors will gradually become the controlling market influences.

## EXPECT BUTTER TAX RULING TO BE PIGEONHOLED.

DAIRYMEN throughout the nation who have been up in arms over the internal revenue bureau's ruling in regard to a tax on so-called adulterated butter, will be interested in knowing that Commissioner of Internal Revenue William M. Williams has resigned and his resignation has been promptly accepted. Deputy Commissioner Millard F. West, who has been in the internal revenue service for twenty years, is now acting commissioner. The date set for the butter ruling which, if enforced, would be very damaging to the creamery butter interests, was postponed and will probably be postponed again from time to time until it is pigeonholed for good. The representatives of the dairymen's organizations are not anticipating any serious trouble from this order on a point in law which was never intended for butter as now manufactured.

## EUROPE BUYS HOG MEATS AND LARD.

ALTHOUGH many foreign buyers have been discouraged by the fall in prices of hog meats and lard after they had purchased at higher prices, some new foreign buying has been attracted at the lower level. Packers report that demand from this quarter shows marked improvement.

## FEW HORSES NEEDED AT MARKETS.

SMALL runs of horses are sufficient to supply the limited demand at central markets. Receipts have fallen off almost two-thirds from the late March level and prices are practically steady at the recent decline. Demand for heavy horses is much broader than for light weights.

**\$40**

**For this CLARK Perfect Cultivator Sprayer**

No man can afford to neglect his crop protection when he can buy an automatic, labor and time saving sprayer at this low price.

**Spraying is Important and Means More Money to You**—It saves the plant—gives you a bigger yield of cleaner and better potatoes which will bring you top prices and bigger profits.

**Cultivate and Spray in One Operation**

The Clark Perfect Cultivator Sprayer easily fits any make of cultivator. Easy to install—does not take up much room—is not heavy or cumbersome and requires no attention from operator. Spray nozzle always in full sight of operator. The Clark Cultivator Sprayer drives the spray at an angle which thoroughly covers plant—top and bottom. Positively kills potato bug and any parasite in incubation.

**Money-Back Guarantee**

Every Clark Cultivator Sprayer must satisfy. If you do not find it as represented we will return your money immediately. Don't delay—lost time now means money lost. See your dealer today, if he can't supply you, write us.

**FREE**—send today for new Sprayer Folder. It contains valuable worthwhile information. Write us now.

**Tegeler Machine Works Inc.**  
Dept. S-A, Minneapolis, Minn.

## MICHIGAN LIVE STOCK INSURANCE COMPANY

INDEMNIFIES Owners of Live Stock—Horses, Cattle, Sheep and Hogs  
Against Death by Accident or Disease

308 Davidson Building,

Bay City, Michigan

**HAY** Apples, Potatoes Wanted Highest prices paid.  
E. L. RICHMOND CO., Detroit, Mich.

**HAY** Ship to The Old Reliable House  
Daniel McCaffrey's Sons,  
623-625 Wabash Bldg., Pittsburg, Pa.

**I NEED BRANCH MANAGERS**

**Rideezy INNER TIRE**

Will pay big money to men with autos. Install Rideezy, the BETTER THAN AIR INNER TIRE. Cheaper than tubes, a light resilient substance guaranteed ten years. Equip your car at agent's price. Sell to friends. The business of the future.  
RIDEZEY CO., ST. PAUL, MINN.

## FARM HELP

## WANTED

farm help. Married man by month the year around, to take my place on farm of W. F. Hind, 4 1/2 miles south of Ionia. 34 mile from school and church. Must have farm experience, no other need apply. Good wages, \$65.00 per month, house, garden, cow kept, privilege of keeping chickens and hog.

**Bargain** will sell to same my complete outfit of 5 room outfit and Jersey cow, 1 brood sow, 16 chickens, tools and garden tools at a bargain price \$900. This job and bargain will be open until June 1. Job with or without outfit. Apply at once to HENRY MORRISON, R. F. D. No. 2, Ionia, Mich.

**Farmer Agents** wanted to sell the famous Blue-Bar line of Hog and Chick Feeders on liberal commission. Write the BLUE-BAR MFG. CO., Sycamore, Ohio

## POULTRY

**5 lb. English White Leghorns**  
Barron strain. My free catalog describes them, gives feeding methods, a new way to cull hens and much valuable information. A. Wauchek, Gobleville, Mich.

**Useful Anconas.** Send for my booklet. Useful facts about Useful Anconas it is free. Hogan tested layers, beauty and utility combined, reduced prices on hatching eggs for the balance of the season 15¢-25¢; 50¢-60¢, 100¢-110¢. Specialty breeder S. O. Mottled Anconas, COLLEGE VIEW FARM, R. 3, Hillsdale, Mich.

**S. C. Brown Leghorns** Barron S. C. White Leghorns, 252-278 strain. Eggs 15¢-1.50; 30¢-3.00; 50¢-4.10; 100¢-7.70, prepaid. Miss V. Fulton, Gallipolis, O.

**Baby Chix** 12,000 standard quality, every Tuesday day at reduced prices; Mottled Anconas, English and American W. Leg. Brown Leg and Barred Rocks; all S. C. safe arrival guaranteed; catalog free. Knoll's Hatchery, R. 3, Holland, Mich.

**Baby Chicks** and eggs for hatching. Reduced prices after May 25th. Leghorns 11 cents; Rocks and Reds 16 cents for May and 15 cents for June and July. Get your order in early at these prices. Hatch every Tuesday. Interesting catalogue free. Brummer's Poultry Farm, R. 8, Holland, Mich.

**RHODE ISLAND WHITES** win over all breeds at the egg laying contest. 30 eggs \$5; 50 \$8; 100 \$15 order from this ad. Some chicks. H. H. JUMP, R. 5, Jackson, Mich.

**S. C. Black Minorca** cockerels exhibition and utility prices after May 25th. Leghorns 11 cents; Rocks and Reds 16 cents for May and 15 cents for June and July. Get your order in early at these prices. Hatch every Tuesday. Interesting catalogue free. Brummer's Poultry Farm, R. 8, Holland, Mich.

**S. C. W. Leghorn** Eggs Barron Strain stock from 100 for 30. V. O. YORK, Box 403, East Lansing, Mich.

**Single Comb Buff Leghorn** Baby Chicks. Good strong ones from good layers.  
WILLARD WEBSTER, Bath, Mich.

**Quality Chicks** Black Minorca, Light Brahma, 25¢ each. Tyrone Poultry Farm, Fenton, Mich.

**Whittaker's R. I. Red** Chicks and Eggs. Both Combs. Michigan's Color and Egg strain. Prepaid and safe delivery guaranteed. Send for free catalog. INTERLAKES FARM, Box 39, Lawrence, Mich.

**White Wyandottes:** 207 egg average. Hatching eggs, \$2.00 per 15. Baby chicks 28 cents each. Cockerels, hens and pullets.  
FRANK DeLONG, R. 3, Three Rivers, Mich.

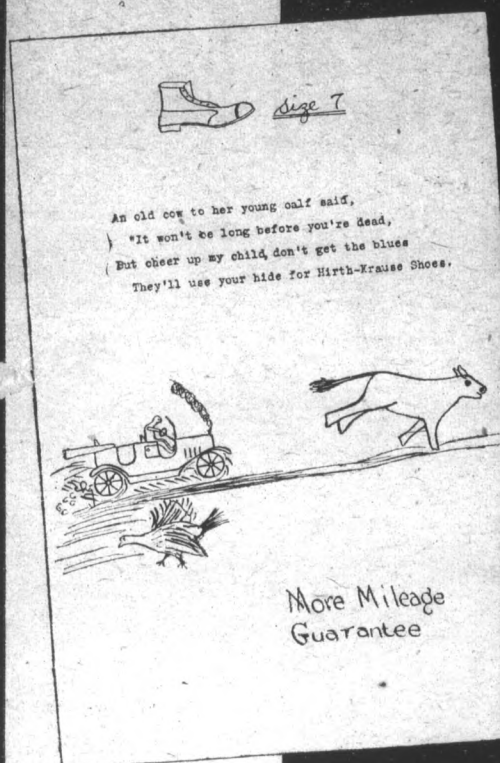
**60 BREEDS** chickens, ducks, geese, turkeys, guinea fow, pigeons, hares, dogs, fine felines and desc. catalog only 10c. Edwin A. Souder, Sellersville, Pa.

**White Wyandottes** Official records, five hens 1074 eggs. Eggs for hatching at reduced prices. Catalog free. G. W. SCHOTTSMANN, Montrose, Ill.

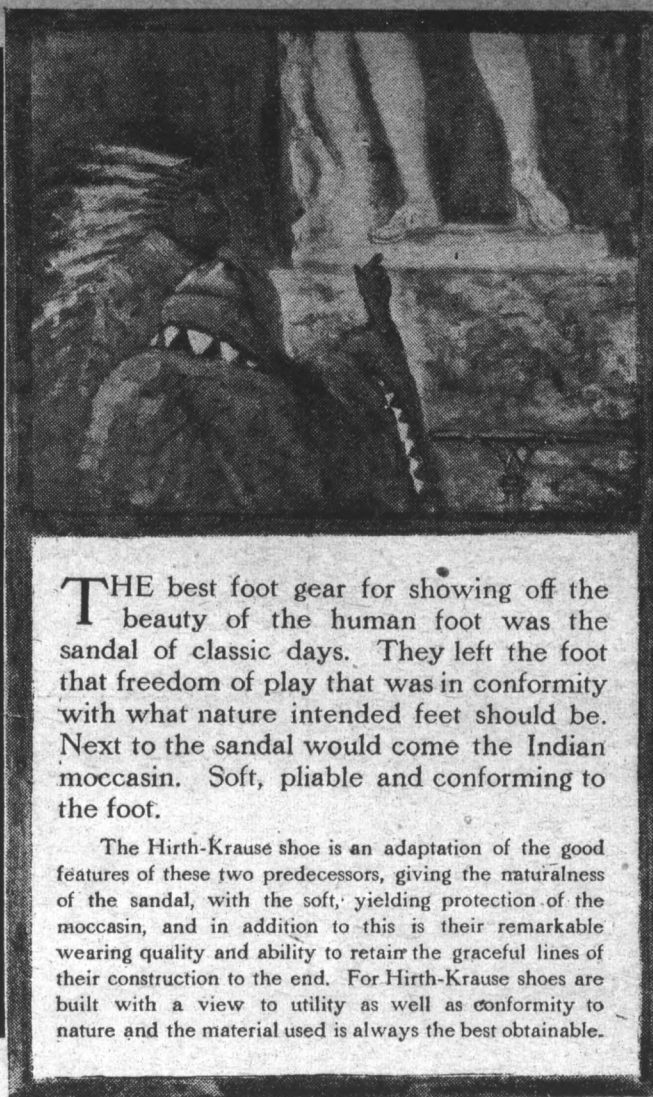
**White Wyandottes** BARRED ROCKS bred to lay Eggs \$2.50 per 15; \$4.50, 30, Baby Chicks. HOWARD GRANT, Marquette, Mich.

**WHITE Rocks.** Fishel strain. Every male on farm direct from Fishel yds. Prices on eggs reduced in April to \$1.15; \$5-100. D. Barnett, Waynetown, Ind.

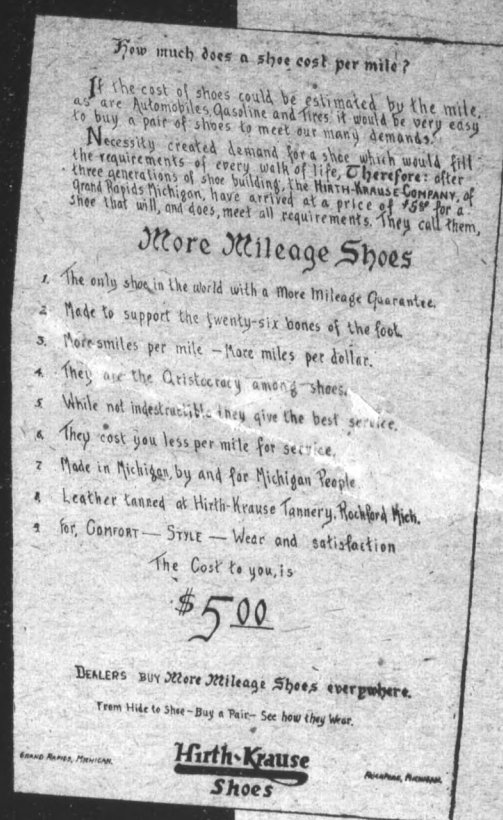




Second Prize



First Prize



Third Prize

## WINNERS OF PRIZES in the Big Ad-writing Contest

**IT WAS A WHIRLWIND CONTEST.** We got ads. from all over Michigan and from all surrounding states, some from way afar.

It is quite evident that Hirth-Krause Shoes are well known. We thought they were—but were surprised at what has been brought out by this novel contest.

We present the names of the 36 prize winners. The first three winners, whose advertisements are reproduced here, are specially complimented on their clever efforts. Much talent in advertising was shown by the others. We have in Michigan many embryo advertising writers. John H. Clarke of Grand Rapids wins first prize of \$100. Herbert E. Clark of Mayville draws second prize of \$25.00. Charles D. Hatfield is the third lucky one, getting a prize of \$10.00. All the others win a pair of Hirth-Krause More Mileage Shoes. Prizes of money will be sent the winners. Those winning shoe prizes will get them from their local dealers, who will be duly advised.

Write for circular showing the prize winning advertisements.

### These Are The Winners

- |   |   |   |
|---|---|---|
| 1st Prize, John H. Clarke, 617 Jefferson Ave., Grand Rapids.    | 13th Prize, George Veldman, 133 Brown St. S. W., Grand Rapids.    | 25th Prize, W. S. Williams, 1103 Randolph St., Traverse City. |
| 2nd Prize, Herbert E. Clark, Route 2, Mayville.                 | 14th Prize, Howard McMullin, 2032 Palace Ave., Grand Rapids.      | 26th Prize, Mrs. Earl McNair, S. Boardman.                    |
| 3rd Prize, Charles D. Hatfield, Box 1025, Marquette.            | 15th Prize, A. N. Nesman, Brown City.                             | 27th Prize, Miss Linnie Elbers, Coopersville.                 |
| 4th Prize, Margaret J. Sherk, 1805 Division Ave., Grand Rapids. | 16th Prize, Howard Chartrand, Armada.                             | 28th Prize, Mrs. J. Tracy, 309 S. Fourth Ave., Saginaw.       |
| 5th Prize, Mrs. Ray E. Dillenback, R. No. 1, Box 9, Harrison.   | 17th Prize, Mrs. Wm. E. Poling, 163 Davis St., Ypsilanti.         | 29th Prize, Mamie A. Gillison, 211 W. Park Ave., St. Johns.   |
| 6th Prize, John A. Van Coevering, 308 Clinton St., Grand Haven. | 18th Prize, Frank Gambel, R. F. D. No. 4, Box 172, Benton Harbor. | 30th Prize, G. M. Peer, R. F. D. No. 1, Lake Odessa.          |
| 7th Prize, Raymond Weaver, Box 342, Saranac.                    | 19th Prize, Hattie Ainsworth, cr. U. S. Hatchery, Charlevoix.     | 31st Prize, G. R. Wood, Petersburg.                           |
| 8th Prize, Mrs. Louise Rehkopf, R. R. No. 1, Petoskey.          | 20th Prize, D. L. Ephlin, 429 Worden St. S. E., Grand Rapids.     | 32nd Prize, Chas. W. Dean, LeRoy.                             |
| 9th Prize, Lloyd Lowry, Brooklyn.                               | 21st Prize, Mrs. A. E. Larrabee, Vassar.                          | 33rd Prize, Mrs. Esther Parker Peterson, Tustin.              |
| 10th Prize, La Rue Lowry, Brooklyn.                             | 22nd Prize, Lloyd E. Ashe, Vassar.                                | 34th Prize, Mrs. C. J. Hankerd, R. R. No. 1, Munith.          |
| 11th Prize, Miss Emily A. Fuller, 409 Union St., Greenville.    | 23rd Prize, Constance Gallop, R. R. No. 1, Boyne Falls.           | 35th Prize, Evelyn Morley, cr. Seth Ainsworth, Charlevoix.    |
| 12th Prize, E. J. Burt, 209 Crescent Road, Jackson.             | 24th Prize, W. C. Ruthenberg, R. R. No. 1, Hartford.              | 36th Prize, Jr. H. A. Morley, cr. U. S. Hatchery, Charlevoix. |

**HIRTH-KRAUSE**  
Shoemakers for Three Generations  
GRAND RAPIDS, MICHIGAN

