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## Will Michigan Stay in the Mud?

*"Can the Farmer Afford to Invest in Tile Drains?" Is the Question Answered in This Article—By W. van Haitsma*

ONLY one of the elements which combine to make what we call season, is partly within the farmer's control, and that element is moisture. The only agencies the farmer has for its control are conservation, drainage, and irrigation. Of these drainage is the most efficient and essential from the viewpoint of the Michigan farmer. It is impossible to grow any of the crops generally grown in Michigan successfully on any soil that is not well drained. Some land is naturally well drained, but there are millions of acres of fertile soil that is producing only a small fraction of its productive capacity, because of the lack of adequate drainage. This undrained area constitutes Michigan's drainage problem.

### Michigan's Drainage Problem.

Michigan's drainage problem is a two-fold one. On the one hand we have nearly 4,500,000 acres of fertile land under cultivation that needs artificial drainage. On the other hand, there are, according to the Michigan Geological and Biological Survey of 1918, over 5,500,000 acres of swamp land that is reclaimable through artificial drainage.

Regardless of the agricultural value of some of this swamp land, it is a question whether its reclamation will be of any value to the farmer. Michigan farms have been under-manned for years. Many farmers are "land-poor," to use a favorite term. They have spread their efforts over such a large area that very little of the land gets the attention it should have. The results are similar to the results obtained when a quantity of manure sufficient for one acre is spread over three or four acres. The present scarcity of labor should militate against a program calling for early swamp reclamation. Increasing the tillable area of the state will aggravate this scarcity. Improvement of Land Under Cultivation by Means of Drainage Urgent.

The problem of draining the 4,500,000 acres of poorly drained, cultivated land in Michigan is one that should be given immediate attention. Although this poorly drained soil is more fertile than similar well-drained land because it has never been robbed of its fertility through continued cropping, it is pro-

ducing only twenty-five per cent of what it might produce if properly drained. In other words, the equivalent of over 3,000,000 acres of farm land is yielding annually no return for the labor, seed, and fertilizer that is put into it. If it were possible to estimate the annual loss in man, horse and tractor power, seed, fertilizers, and crops on this land, that can be directly charged to poor drainage, the result would stagger the imagination.

Thousands of Michigan farmers are working this land, year in and year out, under the handicap imposed on them by inadequate drainage. While neighbors on well-drained land are sowing seed in a well-prepared seed-bed, these wet-land farmers are trying to make a seed-bed out of soil so wet in spots that it resembles a hog-wallow. If, by dint of over twice the labor that is ordinarily required, they have succeeded in getting the seed into the ground, chances are that a re-seeding will be necessary because the ground is so cold and wet that the seed cannot germinate but rots instead. More seed and labor are then invested in

the field. The crop has a cost of seeding charge against it double what it should be. Dry, hot weather follows



Dean Shaw of M. A. C., Believes in Tile Drainage.

### Who the Author Is

There are few persons better qualified for discussing the question of drainage for the farmers of Michigan than Mr. van Haitsma. He has been instructor in Farm Drainage at the Michigan Agricultural College and has done considerable extension work. During the past two years he has been in charge of the demonstration work in St. Clair County which work has attracted nation wide attention. Previous to this connection with the state he had served seven years as a drainage engineer.—Eds.

of acres of oats in that county were only partially harvested, much of it was mowed and cured like hay, while some was not harvested at all. Farmers on drained land reported yields of from fifty to eighty-five bushels per acre, which were harvested with little difficulty.

The frequency with which reversals like that described above become the lot of the wet-land farmer, is responsible in a large measure for the scores of well-equipped farms that are deserted by their owners, who driven to despair by repeated crop failures, are lured to the city where they can at least make a living. The worst feature of these wet-land tragedies is, that in most cases, they need never have been enacted. The remedy for poor drainage is more certain and effective and less costly when compared with the benefits it brings, than the remedy for most of the other troubles with which the farmer has to contend.

### Under-drainage—the Remedy.

Adequate drainage involves more than the removal of the surface water from the soil. In suggesting to farmers that tile-draining portions of their farms will benefit them, the reply the writer gets is often in substance, "Why, my land doesn't need drainage!"



Mr. Bunte Gets Eighty Bushels of Worthy Oats Per Acre on a Field which had Never Before Produced a Profitable Crop.

and the ground becomes cracked and hard. The crops starve from a lack of moisture, practically all of which has evaporated. The result is a crop of inferior quality that will very likely fail to cover the cost of seeding and harvesting it.

This typifies the experience, not of a few isolated farmers, but of thousands of farmers in the state. In an extremely favorable season the field may give promise of a good yield, as was the case on scores of poorly drained farms in St. Clair county last season. Just before a crop of oats, which promised to be fair, was ready to harvest, continual heavy rains and wind caused it to lodge, with the result that hundreds

of it naturally drained. The water runs off it perfectly. I'll admit crops aren't what they should be, but I'm sure tile-draining won't help it." Although such land may appear well drained, an inspection with a soil augur to determine the location of the water level, will generally reveal the fact that the sub-soil is saturated to such a high level that deep-rooted plants like alfalfa and other legumes, and beets cannot be grown successfully.

Whether or not a soil is well-drained depends much more upon the nature of the sub-soil than upon the slope of the surface of the ground.

A well-drained soil is one in which (Continued on page 499).



Well-drained Land Yields Good Crops in Off Years.





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## CURRENT COMMENT

## Cooperative Grain Marketing

OUR readers are familiar with the work of the Committee of Seventeen, appointed last July, to work out a feasible wholesale cooperation in the marketing of surplus grain produced on American farms. After months of investigation and work a plan was developed, which was presented to the farmers of the grain producing states at meetings called by the farm bureaus of those states. At these state meetings provision was made for the sending of delegates to a national ratification meeting for the final acceptance of the plan as presented or as it might be modified.

The general provisions of the plan advanced by the Committee of Seventeen have been previously given in these columns. In brief, the plan provides for the organization of a national sales agency on the usual non-profit basis of cooperative organizations, to be controlled by farmer-elected directors. Only grain growers or farm owners receiving grain as rent are eligible to membership, members to enter into a contract to market all or a prescribed portion of their surplus grain through their organization for five years. Under the plan several subsidiary corporations are contemplated, including a finance corporation controlled by farmer capital, which would loan money and issue debenture bonds on warehouse receipts held by members; a terminal warehouse corporation; an export corporation, and such other subsidiaries as may be needed. Service departments, including an efficient statistical bureau are also contemplated under the plan.

At the national ratification meeting held in Chicago last week, a report of which appears in this issue, the plan was unanimously indorsed with only slight modifications as to pooling arrangements. A board of twenty-one directors was elected to carry out the plan. Mr. James Nicol, president of the Michigan State Farm Bureau, was one of the directors so elected, to represent a group of states consisting of Michigan, Kentucky, West Virginia and Maryland.

In developing this plan the Committee of Seventeen took the best features of other successful wholesale cooperative marketing plans and adapted them to the grain-selling proposition. Its essential features seem to be in close alignment with the general policy now being carried out in coopera-

tive marketing. It is a strictly commodity proposition, and utilizes the cooperative elevators already established as the first link in the marketing chain. The plan seems to be well calculated to check the evils of the present grain marketing system, without destroying established marketing machinery, and put the growers on the "inside" of the grain market. Michigan farmers are to be congratulated on having an able representative on the board which will work out this plan. Practically every farmer is interested to some extent in grain mar-

keting and all should be interested in the development of this project.

## Progress and Reactions

gives much emphasis to the law of equal relations as a controlling principle in the affairs of the race. His work has brought him into very intimate touch with hundreds and thousands of businesses and the men who are mak-

THERE has just come from the press a volume from the pen of Roger W. Babson, the great statistician, in which he

ing these businesses go, and from the facts gathered he has arrived at the conclusion that the law of equal relations as stated by Newton for the physical world, has a definite application to the everyday affairs of men, whether these men be in the field, the shop, the office or the store. Mr. Babson does not take the credit for discovering the social and business application of this law, for he points out that two thousand years ago it was recorded that "with what measure you mete it shall be measured to you again."

What he wishes us to know is that this law is not a matter of sentiment, but of scientific fact, which is just as certain in the business and moral world as in the physical. Newton said, "Every action is followed by an equal reaction." Babson declares "that every act, word or thought is followed by an equal reaction of the same character." In other words, what we do to others, or say or think about them, is certain to react to our own advantage or disadvantage in accordance with whether our act or word was helpful or harmful to these others. An era of prosperity he declares, is simply the reaction of the industry and economy and righteousness developed during a period of depression. A panic is likewise the reaction from the inefficiency, extravagance and the corruption which develops during the years of prosperity.

If, then, it be true that when we render service we are certain to get our reward and when we overstep in our demands and insist that we have more than our due, that later we must pay full price for the things we get, it would seem wise in this period of readjustment that we work with and for the spirit of cooperation, not only within, but between the various groups of producers and consumers. Neither the farm nor the factory produces all the materials employed in the regular line of business. No railroad produces the raw materials nor the finished products which it transports. Every member of each group keeps steadily at his task; the farmer in the field, the mechanic in the shop, the miner under the ground, the clerk in the store, the trainman on the railroad, and the capitalist in his office; each sharing in the very complicated process of adding something to the value of commodities which are eventually purchased by some consumer to satisfy his wants. It would appear that the sooner these facts are recognized the sooner will the solution of many of the complicated problems which are now besetting our civilization be arrived at. Of all classes the farmer, with his newly created organized power, is perhaps best situated to lead the way.

## News of the Week

Wednesday, April 6.

ACCORDING to Wm. C. Grace, president of the Bethlehem Steel Corporation, the steel industry again shows a gain in business.—A hurricane from off the Gulf of California has caused a big toll of human life in Santa Rosalia and southern Arizona.—All mines in great Britain are idle and there is general rioting in Scotland, with danger of mines being flooded. A class war is feared.—Viviani, French representative, has asked the United States for a specific alliance against Germany.—Final agreement between American and foreign operators to stabilize ocean rates between North Atlantic and European ports will cause increases of from twenty-five to two hundred per cent above present levels.

Thursday, April 7.

CHICAGO will start a cottonseed oil exchange similar to that in New York; due to the packing industry Chicago is the largest consumer of cottonseed oil in the country.—A Baptist minister at Tecumseh found motion pictures a great stimulus for church-goers when he showed "The Man Without a Country" on Sunday evening.—Secretary of State Hughes calls allies' league decisions void without United States signature.

(Continued on page 524).

## Farmers Ratify Grain Plan

*Delegates ratify plan proposed by Committee of Seventeen unanimously; established United Grain Growers, Incorporated; elect temporary Board of Twenty-one Directors*

THE marketing plan proposed by the Farmers' Grain Marketing Committee of Seventeen was unanimously accepted at a big ratification meeting in Chicago, April 6-7-8. One hundred and three selected delegates from the twenty-five surplus grain producing states voted "aye" unanimously at the end of a two-days' stormy discussion.

Should grain growers who contract to sell their surplus grain under the plan devised by the Farmers' Marketing Committee of Seventeen be required to pool at least one-third of their grain? This question proved to be the rock which for a day and a half threatened to split the conference.

The final plan submitted by the Committee of Seventeen gives to the farmers composing the local grain growers' association absolute option as to whether their grain shall be pooled or sold outright on consignment through the national selling organization known as the United States Grain Growers, Inc. It developed, however, that there had not been absolute unanimity among the members of the committee and six of them were ready to defend the compulsory pooling of the grain.

## Argued for Compulsory Pooling.

The issue was raised shortly after the plan drafted by the committee was read to the delegates when C. O. Moser, from Texas, offered an amendment which provided for compulsory pooling of one-third of all the grain marketed by individual growers through the National Sales Agency. J. R. Howard, president of the American Farm Bureau Federation, who presided over the meeting, gave both sides equal opportunity to present their arguments on the floor.

The amendment was seconded by Aaron Sapiro, representing the Pacific Northwest Wheat Growers, who made a vigorous argument in its behalf. Only by pooling at least one-third so that the grain could be fed upon the market as it is able to absorb it will it be possible to introduce the plan of merchandising grain. Without it there will be a continuation of the practice of dumping grain which farmers now follow. Mr. Sapiro believed that the plan provided too many options, and that by giving the farmer the opportunity to sell all of his grain immediately, the pooling plan would not be given a real chance. Most growers are familiar with the plan of outright sale or sale on consignments while few of them are familiar with the pooling plan. Mr. Sapiro advised that without the compulsory feature the number who would volunteer to pool their grain might not be sufficient to stabilize the market and therefore the pooling principle would not be given the acid test of the survival of the fittest as claimed by the committee. Mr. Sapiro's contact with cooperative marketing organizations in California has led him to believe that the pooling feature was the life of the proposed plan.

Delegate after delegate presented his personal point of view on the question or that of the organization which he represented. All delegations were more or less divided except those from the Pacific Northwest or from the southwest. Among these sentiment in favor of the pooling idea was almost unanimous.

## Would Provide for Limited Pool.

Proponents of the pooling plan asserted that the burden of carrying any surplus production should be borne by each producer in proportion to his total production instead of imposing it entirely upon those who pooled their grain, as might be the case in the event that the policy of withholding grain from the market until later in the year proved to be unprofitable as a result of a decline in market values beyond the control of the sales agency. Also they argued that farmers were ready to pool their products when the plan was properly explained to them as illustrated by the success of the wheat pools in the northwest and the southwest, cotton pools in several southern states, by wool pools and milk pools in various states in the north. They stated that a pooling clause in the contracts would be no more "compulsory" than any other feature of it.

Delegates who opposed the amendment maintained that farmers would be unwilling to sign up for the sale of their grain under the plan if they were obliged immediately to contract for the pooling of even one-third on a five-year basis. Almost invariably, however, delegates prefaced this argument by the statement that they personally were entirely ready to contract for the pooling of their own surplus grain. The possibility of alienating public opinion might be construed as a national monopoly, was also brought out, while Clifford Thorne, attorney, and certain other members of the Committee of Seventeen, considered it unwise to incorporate the compulsory pooling clause lest such a plan be declared illegal thus imperiling the entire scheme whereas if pooling were made optional, in the case of such legal decision the machinery could continue to operate.

After about one hundred and fifty speeches had been heard for and against the "compulsory pooling amendment" the roll was called. The vote stood thirty-eight for and sixty-one against, with two delegates absent. Immediately afterwards the vote was taken upon the ratification of the plan as presented by the committee and it was passed unanimously.

The principal features of the plan of the committee were made public in these columns some time ago. There are to be two contracts, the first running from the farmer to the local cooperative elevator, the second from the local elevator to the central agency. The farmer signing the contract agrees to sell his grain exclusively through the sales agency for a five-

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# Onion Growers to Pool Interests

*Localized Production Areas Can Easily be Organized into Effective Marketing Institutions*

**R** EPORTS of distress from all of the forces interested in the onion growing industry have reached the office of the Michigan State Farm Bureau. It is, therefore, making a study of the onion industry in Michigan and the neighboring states with a view of discovering exactly the problems confronting the onion growers and determining what means should be adopted for their solution.

As a result of a survey which it has just completed, it has been found that the situation was not in the least overstated by Mr. H. J. Cheney, manager of the Grand Rapids Growers' Association, when he recently wrote, "This has been a particularly bad season for all parties concerned on account of high freight rates, no storage houses, unfavorable weather, and an abundant crop to dispose of."

While all of these factors have combined to contribute to the present dilemma of the onion growers, the chief drawback lies in the lack of organization and cooperation on their part. Mr. Cheney recognizes this fact when he says: "I am convinced that each cooperative organization should have a warehouse for the storing of farm produce and that there should be careful inspection and grading at point of shipment, also collective selling and marketing by experts who would be in touch with the entire distributing proposition."

This plan has also been advocated by Mr. Ezra Levin, muck specialist at the Michigan Agricultural College, who states that the onion growers must have warehouses or remain entirely at the mercy of the dealers. The onion dealers are well organized—in fact, so well organized that two or three years ago they were indicted for violating the Sherman anti-trust laws. They had adopted the policy of sending only one dealer to each onion-growing center and thus setting their own prices. In many cases the big dealers even own the land and the growers grow the crop on shares. Mr. Levin recommends cooperative marketing and storage as the only solution of the problem of the onion growers.

That such cooperative marketing of the onion crop has been successful in other states is indicated by a statement made by Mr. C. E. Durst, manager of the Fruit and Vegetable Department, of the Illinois Agricultural Association, who recently visited Michigan to study the onion situation in Michigan. Mr. Durst states, "The cooperative association at South Holland sold all the sets of its members and had to buy more to serve its trade. Furthermore, it did not slash prices and its leaders expect to net the growers about one dollar per bushel. On



Weed Sacks Used for Carrying Weeds from the Field as they Are Pulled.

the other hand, you will be interested to know that most of the contractors lost heavily this year. I am told that one contractor will dump over 100,000 bushels of sets and that he did not average over sixty cents per bushel for the sets sold. Practically all the contractors will dump a lot of sets."

In view of the success of the cooperative associations already in operation in Illinois, Mr. Durst states that a much more complete organization will soon be effected. He says: "There are a considerable number of growers ready to join as soon as plans are completed. Leaders from various parts of the district are already agreed on the general principles and they are now working out the details in conference. We are planning to organize on much the same plan as that of the Michigan fruit and vegetable associations."

**T**HE keynote of the whole situation was struck by Mr. Alfred Bentall, county agricultural agent of Allegan county, where many onions are grown, when he recently wrote the State Farm Bureau: "There is, apparently no machinery at present operating in the state able to care for the onion crop in anything like an efficient manner and something surely will have to be done before next year."

The situation of the onion growers who have not yet disposed of their crop is doubly serious, for the Texas onions are coming on the market, thus increasing the competition. The United States Department of Agriculture

states that for safety Michigan onions should all be marketed by March 1, so as to avoid competition with the Texas product.

The two organizations that have been of the greatest assistance to the growers, aside from the regular dealers, have been the Michigan Potato Growers' Exchange and the Grand Rapids Growers' Association. These organizations have been of considerable assistance, but the problem in hand has not yet been settled. Relative to his experience with these two organizations, Mr. Alfred Bentall, county agricultural agent for Allegan, under date of March 15, wrote the farm bureau as follows: "We arranged with the Grand Rapids Growers' Association to market the onions from the Moline and Dorr territory, and the last I heard, which was only about a few days ago, only about one-quarter of the cars had been settled for. There were still thirty cars for which full settlement had not been made, some of which did not even pay the freight. Other cars were sold fairly well through the Michigan Potato Growers' Exchange, but the price was very low. I think it probable that the onion industry in this county will not pay expenses this year."

The Grand Rapids Growers' Association recently held a meeting with the Allegan growers in which a detailed report of each car handled was made.

Information gathered by the State Farm Bureau indicates that many onion growers have lost heavily during

the past year and some of them, due to lack of any market, have lost all they raised during the past season. Few of the onion growers have realized cost of production.

Studies in the cost of producing onions have shown widely different results. For instance, the Massachusetts Experiment Station determined that the cost of growing a 460-bushel per acre crop of onions was \$142.58, or thirty-one cents per bushel. Figures for the Pleasant Valley onion district in Iowa show that under their conditions the cost of raising a 600-bushel per acre crop was \$336 per acre, or fifty-six cents per bushel. The Massachusetts Department of Agriculture found the cost of growing an acre of onions to range from \$148.50 to \$211.50.

In view of this present emergency, C. W. Waid, M. A. C. Extension Specialist in potatoes and vegetables, favors the proposal of a tariff of one and a half cents per pound, as was recommended by congress in the emergency tariff. He maintains that better grading of onions must be practiced and that cooperative organizations are necessary for the accomplishment of any such standardized grading.

In the past, onion growing has proved a comparatively profitable proposition. The United States Department of Agriculture, after an impartial study of the incomes from a large number of farms found that the average labor income from onion farms was \$1,732, as compared with \$394 for the celery farms, \$1,519 for the peppermint farms, and \$1,056 for grain and stock farms.

With adequate organization and marketing facilities, there is no reason why Michigan onion growers should not realize a fair profit, for as Mr. Levin states, "Michigan can grow the finest northern onions of any state in the Union."

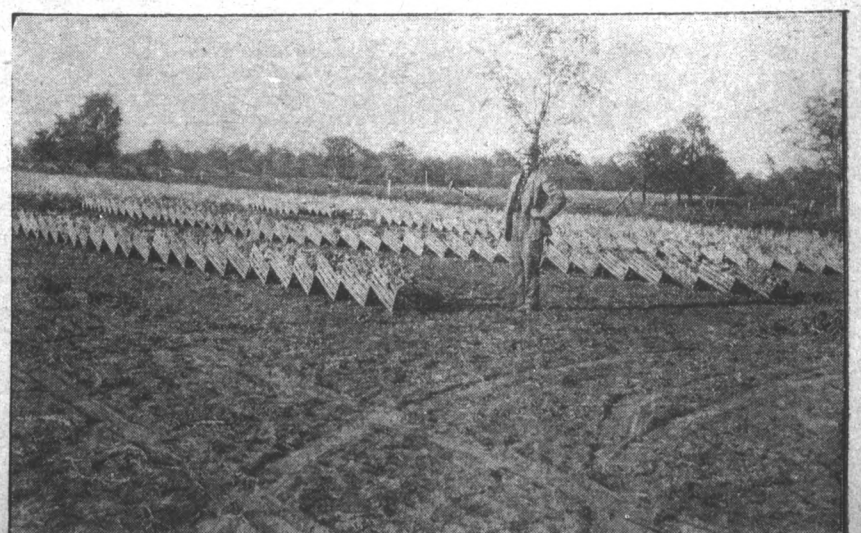
Not only can Michigan produce onions of superior quality, but the average yield on onions in this state is considerably above the average for the United States as a whole. Michigan, with 1,235 acres of commercial onions, had an average production of 468 bushels per acre, while the national acreage of 38,260 acres averaged only 395 bushels.

One of the most notable examples of the results of cooperation in the onion industry is the case of the onion growers in the Pleasant Valley onion district in Iowa. These progressive growers have devoted their entire attention to the growing of onions and have been successful from every standpoint. The five hundred acres of land in this district which is devoted entirely to onion

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Forking Onions into Crates After Being Partly Cured in the Windrow.



Curing Crop of Onions in Open Crates in the Field Before Topping.



# LATE AGRICULTURAL NEWS

## Live Stock Committee Reports

**T**HE Farmers' Live Stock Marketing Committee of Fifteen held its second meeting in Chicago, on April 7-8, with all the members of the main committee and all but two of the ten alternates in attendance. Vice-Chairman A. Sykes, Ida Grove, Iowa, presided as chairman.

This committee, which was appointed by President J. R. Howard, of the American Farm Bureau Federation, as the outcome of a conference held in Chicago on October 8, at which representatives of all live stock producers' organizations were present is expected to work out a plan for the cooperative marketing of live stock comparable with that which the Committee of Seventeen developed for the grain growers of the United States.

Tentative outlines of work presented by its various sub-committees which were appointed at the first meeting held on February 23-24, were presented and after discussion by the main committee these sub-committees were authorized to proceed with the inquiries which they had outlined. No details of these plans were made public. The various sub-committees are as follows:

(1). Orderly marketing or control of flow; (2), cooperative marketing on centralized markets; (3), live stock statistics, reports and market reporting; (4), transportation; (5), legislation.

The next meeting of the committee will be held at Chicago in the La Salle Hotel on May 25.

Is cooperative selling of live stock better than competitive selling? Both sides of this question were presented to the committee on the opening day of its session. E. E. Withey, manager of the Farmers' Union Live Stock Commission Company at Omaha, and H. M. Osborne, of the Equity Live Stock Commission Company at South St. Paul, presented the argument for cooperative selling, while Everett C. Brown, President of the National Live Stock Exchange, Bruce Stafford, president of the Chicago Live Stock Exchange; T. W. Jerrems and Kay Wood, of Chicago; Thomas Dealtry, of Sioux City, Iowa; Nat C. Rogers, of South St. Paul, and William Ramsdell, of St. Joseph, spoke on behalf of the present method of selling which they described as competitive selling.

Both Mr. Withey and Mr. Osborne outlined the history of the development of their commission companies. The Omaha Company is owned by the Farmers' Union of Nebraska. Last year it handled a total business of \$40,000,000, was able to return fifty per cent of the commissions in the form of a patronage dividend to the growers, and in addition put aside a small amount for surplus. It is now the largest commission firm on the Omaha Yards and has no difficulty whatever in disposing of live stock consigned to it although members of the live stock exchange will not purchase from it. Mr. Withey stated that it would be impossible for such a firm to succeed without an organization among the producers to back it up.

Mr. Withey also spoke in favor of the establishment of one farmers' cooperative commission firm at each stock yards and the formation of an overhead council which would be made up of one representative from each of the terminal companies.

Mr. Osborne stated that the cooperative company at South St. Paul was an offshoot of the Equity Cooperative Exchange which has been engaged in

the marketing of grain for a number of years. This live stock company has been in operation since 1916. It is paying its first patronage dividend this year.

Both of these commission firms charge the regular commission at the time the live stock is received. Neither one has obtained membership in the Live Stock Exchange and neither one is now seeking membership, although when first organized they both had made application for membership. Both of these men believe that their presence on the market has helped to bring about certain reforms on the part of Live Stock Exchanges which would not have occurred in their absence. The present method of handling feeder cattle on most markets whereby they are sold by the line commission companies to speculators was condemned. The South St. Paul organization in particular has been successful in the development of a stocker and feeder trade direct with farmers, thus saving to the live stock producer two commission fees and avoiding the excessive fills which feeder buyers frequently encounter.

J. E. Poole, Publicity Director for the Chicago Live Stock Exchange, discussed at length some of the complaints which producers advance against the present method of selling. After brief statements from other representatives of the live stock exchanges, numerous questions were asked by the members of the committee.

The two principal questions raised by the committee with the exchange members were: In what way is competitive selling superior to cooperative selling? Why are the cooperative live stock commission companies already in operation, even though handicapped by the refusal of exchange members to deal with them, able to return so large a portion of the commission to the shippers? To these questions answers were of necessity, general and unconvincing.

### WIRELESS FARM MARKET REPORTS PLANNED.

**B**EGINNING April 15 agricultural market reports will be sent to farmers and other agricultural interests by wireless from Omaha, St. Louis, Bellefonte, Pa., and Washington, D. C., announces the United States Bureau of Markets. The wireless of the post office department will be used for this purpose. Each station will have a three-hundred mile radius and farmers in twelve central and ten eastern states will be able to obtain directly, or through local wireless agencies, information regarding prices and conditions at the leading agricultural market centers of the country the same day the business is transacted. The radio call signal will be "Q. S. T." which means "everybody listen."

### MORE RELIABLE FARM STATISTICS.

**R**EPEAL of the present law requiring threshermen to send in to the secretary of state reports of the crops threshed was assured when the senate on April 5 by a vote of twenty-one to nothing voted to discontinue this cumbersome and inaccurate method of gathering crop statistics.

Repeal of this law is not regarded as an evidence that the present legislature does not appreciate the importance of agricultural statistics, but is generally conceded to be merely clearing

the decks for the passage of the bill to place the gathering of statistics relative to crop acreages and the number of the various classes of live stock among the duties of the township supervisors. These figures would be collected at the time of making the spring assessment of property and would be forwarded to the newly created state commissioner of agriculture.

This proposal has met with favorable consideration in the house and will in all probability be enacted. It has the approval of the federated legislative committee of the cooperating Michigan farm organizations and of other agricultural leaders of the state.

### NEW COURSE AT M. A. C.

**A** NEW course teaching general science and its relation to agriculture will soon be made available to new students at M. A. C. This course of applied science will interest those who do not want to specialize in technical subjects but yet want a general education on science as related to agriculture, engineering or veterinary work. The course will give the student a broad view of the whole scientific field and such other instruction as will make him an efficient citizen with a well-balanced education. A number of the departments will enlarge their scope to give thorough instruction along this line.

### CONDUCTING CLASSES IN FARM ACCOUNTING.

**M**R. W. G. CURTIS, of the research and extension department of M. A. C., has just completed a series of classes in farm accounting in Saginaw county. On Wednesday, March 30, he met with Maple Grove farmers who wanted to know the college plan of farm bookkeeping, and the evening of the same day held a meeting for the same purpose in Buena Vista. On Thursday afternoon he was in Frankenthum on this mission, and that night instructed the farmers of Albee.

As a result of these meetings more than fifty farmers adopted the farm accounting system and took account book sets of the new system. The county agriculturist keeps a moderate supply of the bookkeeping sets on hand, and is prepared to aid all farmers who want to take up the plan.

### STATE FIRE PROTECTION FOR FORESTS.

**F**OREST fires are cutting a big swath out of our forests and pocketbooks, says the State Farm Bureau, which is pushing vigorously a campaign to conserve the forests of the state through adequate fire protection and a system of deferred taxation on standing timber which will make wise lumbering operations a more profitable undertaking than they are now.

With but twenty-five per cent fire protection and a system of taxation that is the equivalent of taxing farm crops in the field twice a week during the growing season, Michigan's remaining three million acres of standing timber and seven million acres of idle land do not occupy a position that is safe for the future interests of the state, argues the farm bureau, in urging timber consumers of the state to take action. After the Michigan supply of timber is gone, practically all the lumber used by the state will have to pay a freight haul from the Rocky Mountains.

The farm bureau forestry depart-

ment's plan for state fire protection is that developed by foresters of the state, providing for a full-time chief forester of the state, in charge of all forest fire prevention, and assisted by three state district chiefs and forty trained forest fire rangers. The deferred tax plan would place a nominal tax on standing timber land, but none on the trees until they were cut for lumber. Then one, and only one, lumber tax would be collected instead of the many annual taxes under the present plan. The present system is held to tax forests to an untimely and uneconomical end.

In this country there are about three hundred and sixty million acres of absolute forest land, that is, land not adapted to farming but where climatic conditions permit the growth of forests. This is approximately equal to one-tenth of the total forest land of the rest of the world, and not quite twenty per cent of the total area of the United States.

This land if protected from fire and properly handled, is sufficient to produce all the wood needed by the people of this country and a surplus for export, according to forestry department figures.

To accomplish the desired result there must be cooperation between the federal government, the state government and the land owner, says the department. The owner must be given the benefit of a moderate tax while his crop of timber is being grown. The land must be protected from forest fires due to the negligence of his neighbor or the negligence of the community, and he must be required to employ sufficient safeguards in the way his timber is cut, his slash disposed of, and fire danger avoided to actually reforest the land.

### VASSAR MAKES STRONG APPEAL FOR NEW COLGROVE ROAD.

**W**ITH the news that the senate bill creating the new Colgrove trans-state highway, connecting Saginaw and the Thumb with southern Michigan and Indiana, had passed that branch of the legislature, the people of Vassar awoke to the importance of this highway, and held a big meeting in the opera house, at which more than two hundred and fifty good roads boosters agreed to work for the success of the project.

W. J. Spears called the meeting to order, and after an opening address, named A. W. Atkin, of Vassar, chairman of the meeting. William S. Linton, president of the Michigan Good Roads Association, and W. M. Bryant, of Kalamazoo, gave enthusiastic talks. Mr. Linton told the audience that the bill pending in the legislature had been amended to include Vassar on the list of towns through which the road would pass, and that the highway is being strongly backed by the Detroit Automobile Club and many influential business men's clubs in the state. The association plans to make the proposed road one of the most beautiful to be found anywhere.

With the appointment by Mr. Spears, vice-president of Tuscola county, of chairmen from the various townships through which the road would pass, as a boosting committee, the mass meeting adjourned. The committee appointed consists of: Conrad Miller, Denmark; Harry Price, Vassar; I. F. Hyman, Tuscola; Myron Safford, Junata; Al. Phelps, Fremont; H. M. Underwood, Dayton; Robert T. Chambers, Wells; Andrew Millikin, and Mrs. Sidney Barnes.—M.



# When to Fit Horses for Market

**T**HE man who offered his kingdom for a horse has been out of sight for the last eight months. Although horses had a brief boom last spring it was short lived and since that time values have worked lower and lower until on January 1 the average value as reported by the department of agriculture for the entire United States was the lowest since 1906. When the decreased buying power of the dollar is taken into account the average value per head makes a still less favorable showing.

The behavior of horse markets furnish a contrast in a number of ways with markets for meat animals.

1. Prices of horses are less flexible in the country. Once priced a horse may be held by the farmer for a certain figure for a long time. Central market prices also vary less rapidly.

2. Since prices are on the basis of so much per head they are more difficult to quote because of variations, soundness, disposition and training which may affect the preference of the individual buyer.

3. Heavy receipts over a period of several weeks means that high prices are being paid. Horses are usually making money where they are, or they are being kept cheaply in the country so that there is no incentive to send them to the market in large numbers unless demand raises prices to a high level. In cattle and hog and sheep markets when the receipts are heavy prices are low.

The circle of the year brings changes in the total number of horses which are wanted and also in the particular kinds which sell to advantage. Demand is broadest during the spring months and as shown by the chart which accompanies this discussion, prices at that time average ten to fifteen per cent higher than in the period of low prices. During the ten years, 1911 to 1920, April, May and June have been the high months and November, December and January have been months of low prices.

During the late winter and early spring farm chunks, which are medium-sized horses with a preponderance of draft blood, are in demand, particularly from the eastern states. This is the first pronounced trade feature and becomes the backbone of the market during late February and continues strong throughout March and most of April, then wanes until early June. Mares are wanted for farm use, and when there is any interest in horse breeding will command a small premium over geldings at this season.

Construction work opens up in the spring months and ice companies also

are in the market for "rugged workers" from April to the middle of June. Industrial activity and the movement of goods become more active so that the market for big horses suitable for heavy hauling also improves at this season.

Demand for carriage horses, roadsters and saddlers is largely concentrated into the spring months. These classes are for city use during the summer primarily, so that they are left in the country when they are raised and where they can be kept cheaply until they are wanted.

During the summer months the mar-

kets cannot absorb so many horses as city and farm buyers have supplied their wants and prices weaken. Many horses also are sent in from the farm as soon as heavy spring work is completed. Many of these are jaded, thin in condition, with sore shoulders and unfit to go into city work. Naturally they do not sell well.

Many horses are disabled on city streets by extremely hot weather. These are cheap ones as a rule, and the same kind is purchased to replace them. They may be blemished but must be horses ready to go to work. Overfat kinds and green young ones are not wanted at this season.

"Southern" horses, or chunks, are small in size and show a preponderance of light horse blood. They are in demand from September to March normally, the market reaching its zenith usually in January.

Lumbering companies buy "loggers" during October, and coal companies purchase during the same month.

During November the demand grows dull. December has a semi-holiday aspect in the horse market except for southern horses when the south is buying.

Severe weather increases the winter demand for horses for city use. Deep snow puts many nags which are already nearly played out, completely out of commission. Such a factor is of slight importance, however, in influencing price trends.

Of course, horses of the different classes should be fitted and marketed during the period when each is in demand. This means February, March and April for farm chunks; March and April for drafters; April and May for pleasure horses, and southern chunks, in January. Mules are in demand by the south where most of them are used during the same period as southern chunks. January and February are good months in which to have them ready for market.

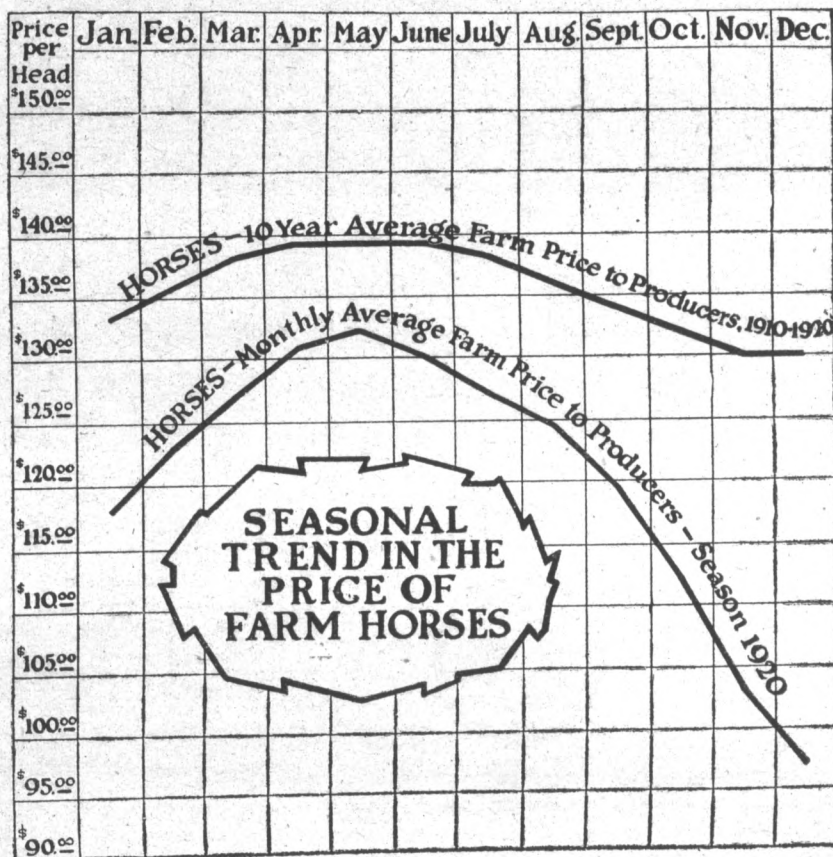


Chart Showing Average Monthly Prices Paid for Horses on Farms.

## Will Michigan Stay in the Mud?

(Continued from First Page)

the stationary water table is kept below the level to which ordinary plants grown on it normally extend their roots. In order to maintain this condition, underground outlets are essential. In a naturally drained soil, the subsoil is sufficiently porous to allow excess water to pass through it readily to underground passages which nature has provided. Where this condition does not exist the farmer must resort to the use of artificial under-drains.

### Open Ditches vs. Tile Drains.

Except under special conditions which will be discussed later, an under-drain, in order to bring the water table down to the proper level for healthy plant-root development, should be at least three feet deep. Open ditches are, therefore, out of the question because of the large waste of land they entail. An open ditch three feet deep must be over six feet wide at the top in order to minimize upkeep. Besides the waste of land involved, a strong objection to open ditches is the cost of maintenance. They require frequent attention while tile drains require practically no attention except an occasional inspection of the outlets. A third objection to the use of open ditches as under-drains is the obstruction they furnish to field operations. Tile drains are the most economical and efficient under-drains that are obtainable.

Whether or not land needs tile drainage can generally be readily determined by an examination of its surface, and its sub-soil, and by the location of its water table relative to the surface. Indications of the need of under-drainage are:

1. Sleeping hillsides. The water comes to the surface along the side of the hill, and soaks the land below the line of exit, often for a distance of several rods.

2. Water standing on top of the land in pools and furrows in late spring and during the growing season.

3. Large cracks during a dry season.

4. A springy, soggy condition.

5. Loss of crops due to heaving by frost.

6. Ponds and swampy areas.

7. Water-table in the soil too high for the healthy development of plant-root systems.

8. Inability to grow alfalfa, clover,

and beets successfully on the heavier types of soils where lime is not the limiting factor.

9. Growth of weeds and grass common to waterlogged soils.

Land showing any of the above characteristics that is fertile enough to grow a crop in dry seasons will be benefited by under-drainage, unless the sub-soil is impervious to water.

### Tile Drainage as an Investment.

"Why risk with men your hard-won gold?

Buy tile and drain—your brother, dust,

Will pay you back an hundred fold

Earth ne'er commits a breach of trust."

—(Adapted from a Hindu poem).

Although the benefits of tile drainage are fully appreciated in some counties, whole townships of which are drained, there are thousands of farmers in other counties where the drainage problem is just as important, who know little or nothing of the value of tile drainage as a means of overcoming the biggest handicap they have to contend with in their farming operations, the handicap of wet land. Others, who appreciate the value of tile-drainage, hesitate to undertake the job of tile-draining their farms because they do not understand the engineering requirements involved in the work. Still others are under the impression



Undrained Field of Corn in Foreground and Tile-drained Field in Distance.



that a poor man cannot afford to drain, although, in reality, the poor man, who is entirely dependent upon the income from his farm, is the one who above all, "cannot afford not to drain."

In order to convince farmers who are skeptical or ignorant as regards the value of tile-drainage, the writer has secured testimonials from farmers from various sections of the state. Questionnaires were sent to these farmers, with the request that they use them as a means of telling the thousands of readers of the Michigan Farmer what tile-drainage has done for them. Information and data obtained in these questionnaires will be used to show the value of tile-drainage as an investment in this article, and of the practical benefits of tile-drainage in a second article. Acknowledgments are due these farmers for the generous way in which they responded to the writer's appeal for information, many of them sending pictures and letters giving information and experiences not called for in the questionnaires.

It is not within the scope of these articles to present in detail all the information obtained. Most of it has been summarized in tables which will be presented from time to time, as occasion demands.

The following quotations from letters and questionnaires are representative. The experiences they relate are not extraordinary. In studying the reports, the writer has been unable to detect any tendency to exaggerate. Conservatism is a characteristic of all of them. The writer has seen all of the experiences related, duplicated many times.

#### Farmers Testify.

Here are quotations from the questionnaires mentioned above and from letters from farmers who have had experience with tile drainage:

John A. Brighton, Romulus, Michigan, writes: "I consider tile drainage the best ever as an investment. It is a wonderful benefit financially. The first year after my land was tiled I raised one hundred and sixty bushels of corn per acre, where the average before was eighty bushels. The increase in crops has paid for the cost of tiling in three years. There has been an increase of from forty to fifty per cent in alfalfa, clover, timothy, beets and potatoes. My entire farm is tile-drained."

Fred W. Kennedy, Plymouth, Michigan, is enthusiastic. He goes on to say: "I am sending you with the questionnaire a picture of a wheat test-plot. Before I tiled this field I had it planted to wheat. I got a yield of one hundred and twenty-nine bushels from twenty-nine acres. The first crop of wheat on the same ground after tiling, with no change in fertilizer, yielded thirty bushels per acre. Part of the same field was in rye and threshed ninety-seven bushels from less than two and three-fourths acres. Tile-drainage is the best investment in the world for a farmer that intends to make his living off the farm. On very wet land two years will pay for the cost of tiling. The increase per acre due to tile-drainage on my farm in 1920, was: Corn, forty to sixty bushels; wheat twenty-five bushels; barley, thirty bushels; oats, twenty bushels.

"I had a full crop of clover where I never had any before."

Chris. Stein, St. Clair, Michigan, has had a very convincing experience. He says: "About two years ago I tile-drained forty acres of land that hardly ever produced a good crop except in a dry season. The soil was a medium clay. Half of the field was high land and the other half low land. The water from the upper half drained on to the lower half, where it would stand until the sun dried most of it up. Some years it was impossible to get any seed in this land because it was so wet. In the fifteen years I have worked this land I never got a good crop of corn off it until last year, the year after it was tiled. About the best I ever raised was thirty bushels per acre. Last year I got over ninety bushels per acre from the same field. I figure that the increase in crop has paid for over two-thirds of the cost of tiling the land.

"Twice last year this corn field had nearly a foot of water standing on it, but the tile carried it all away in a few hours, and this water did little or no damage because the corn was the best where the water stood the deep-

est. I use no dead furrows after tile-draining because I don't think it is necessary. Water collects in them and it takes longer for the ground to dry out near them.

"There was a pond in this field which was never dry before the land was tile-drained except in a very dry season. A tile line came along two sides of it and one through the middle, and there has never been any water stand in it since. This pond is now producing a crop, while formerly it was a nuisance, because I always had to work around it.

"Tile-draining is the only thing on heavy land where a man wants to use a tractor. The land is made dry more even so he can work all over the field without miring down, and can be worked much earlier in the spring and also much easier. I think it takes only a little over half as much work to get the ground ready for a crop and the best part of it is, that crops are certain. Once a farmer works tiled land he hates to work any other kind. I expect to keep on tiling until the whole farm is tiled.

"Neighbors who thought I was crazy to put my labor and money in tile-draining have changed their minds and are planning on doing some draining themselves this year. Two of them have gone in partnership with me in a tiling machine so we can do the work whenever we please, and find it to be very handy."

#### These Farmers Are Convinced.

Here is what fifty-two Michigan farmers think of tile-drainage as an investment:

Best investment a farmer can make.—Fred Nickel, Monroe; Jos. T. Davis, Fairgrove; L. H. Kirtland, Erie; Aug. L. Bunte, Flat Rock; S. J. Murday, Fairgrove.

A worth-while investment.—Forest B. Christian, Woodland.

No farm investment that will bring

bigger returns.—F. J. Drodt, Monroe.

No better investment for a farmer.—Gerrit J. Huizenga, Zeeland.

Best investment a farmer can make, for a well-drained soil is first requisite to maximum crop production.—R. B. Emens, Holton.

Although a new beginner, I believe it the best possible investment.—F. P. Wilson, Smith's Creek.

One of the best investments a farmer can make in Monroe county.—David Wellman, Ida.

There is no better. Better than government bonds.—Fred Teets, Yale.

A very good one by all means.—W. L. Huber, Charlotte.

Where clay has a sub-soil, the very best.—George H. Gray, Vassar.

A good one. I mortgaged my farm in order to tile-drain it.—H. A. Offley, Nashville.

A paying investment.—Bernard Begeman, Allegan.

A better investment than buying land and building it up. Once drained it is built up.—Fred Garlinger, Nashville.

Best in the world for a farmer that intends to make his living off the farm.—Fred Kennedy, Plymouth.

All right. Capital back in three years.—H. J. Vogt & Son, Richmond.

I know of no other investment that will pay back as often as drainage.—Stacy V. Phillips, Charlotte.

One of best mortgage lifters a farmer can invest it.—L. H. Peck, Keeper, Ottawa County Infirmary, Coopersville.

Increase in yield in first year paid two-thirds of cost.—Christ Stein, St. Clair.

Best thing a man can invest his money in.—G. B. Dalman, Zeeland.

One of the biggest factors from the standpoint of permanent improvement of a farm.—Fred F. Cornair, Chesaning.

About the best investment a farmer can make.—Paul O. Marvin, Holton.

The best ever. A wonderful benefit financially.—John A. Brighton, Romulus.

Land fit for pasture only has produced, since drained, good crops of corn and oats.—C. Boone, Zeeland.

One of the best investments a farmer can make.—Frank Layle, St. Clair; Timothy Sheridan, Fairgrove.

I consider it one of the best investments that can be made on a farm where drainage is necessary.—Irvin Hendrixson, Hopkins.

It is a good investment.—Wm. A. Grozinger, Woodland.

I think there is no better investment than tile-drainage.—Joe Van De Velde, Zeeland.

As good as a government bond.—G. W. Kennedy, Plymouth.

Have a low "muck" farm. Drainage has done wonders for it.—H. W. Hancock, Charlotte.

Good.—A. M. Todd, Co., Mentha; Fred C. Miller, Willis; A. D. Miller, Woodland.

It will pay a good rate of interest, even at present high prices.—H. A. Shaw, Algonac.

No better investment on farm having medium to heavy soil.—Frank C. Hambleton, Coopersville.

Extra amount of beets on one field, due to drainage, paid for the whole job of tiling.—P. H. Distelrath, St. Clair.

Increased yield of corn fifty per cent. Half the time to prepare soil for crops.—North Westbrook, Marine City.

Where land is used for grain crops, the investment is a very profitable one.—James H. McKenney, Belleville.

I think tile drainage is a very good investment.—J. D. Wise, Woodland.

Gilt-edge.—Alfred Vincent, Durand.

Best I ever made on the farm.—G. Hurteau, Allegan.

The very best.—Petter Bareman, Zeeland.

I consider it an extra good investment.—M. E. Parmelee, Hilliards.

A good investment.—Ed Wynne, Allegan.

O. K.—Irwin Doan, Crosswell.

It is a paying investment providing there is a good outlet.—Nicholas De Weerd, Hudsonville.

All right if the land is productive enough.—Merriman Bros., Deckerville.

It is the basis of all soil improvement on land that needs drainage.—Colon C. Lillie, Coopersville.

#### Returns from Investments in Tile Drains.

Here is a table showing the term of years during which the value of crop increase has paid for the cost of drains as estimated by fifty farmers:

Term of Years.	Farmers Reporting.	Per Cent. Return on Investment.
One .....	9	100
Two .....	12	50
Three .....	17	33 1/3
Four .....	10	25
Five .....	2	20

The value of any investment is determined by its earning capacity. The table above shows that five years was the longest term required for the earnings on the investment in tile-drainage to equal the total cost. Some farmers reported that the increase in crops due to tile-drainage, had paid for the cost of the drains in one wet season. This report shows that the returns on the investment varied from twenty per cent to one hundred per cent. The average return based on the number reporting was nearly thirty-eight per cent.

#### Tile Drainage an Ideal Investment for a Farmer.

Tile-drainage has all the requisites of an ideal investment. There may be investments that yield bigger returns, but there are none that offer so splendid a combination of desirable features.

Tile-drainage is a permanent investment. It is not a novelty. It is based on principles that are as unailing as the law of gravity. It has stood the test of centuries in European countries, and of many decades in America. Properly installed, it never loses its efficiency. It is the most permanent improvement possible on the farm. Buildings and fences deteriorate, but tile-drains go on forever!

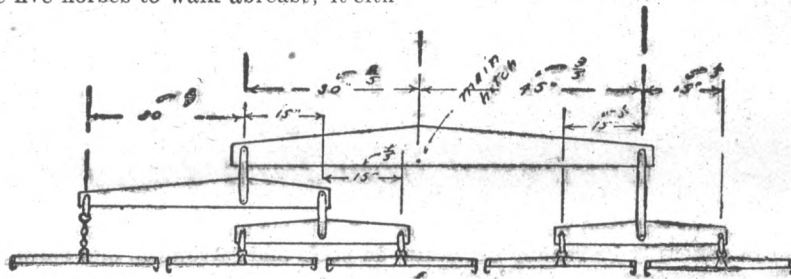
The security of tile-drainage as an investment is unexcelled. It is as secure as Gibraltar; its backing is the strongest in the world. "Earth never commits a breach of trust."

## Making a Five Horse Evener

WHEN the five horses are to be used abreast the main evener is divided into five equal parts between the centers of the end holes and the hitch applied as indicated in the drawing, two of these divisions being on one side and three on the other. A three-horse evener is then attached to the short end and a two-horse to the long.

In some work, as plowing with a heavy gang-plow, it is not desirable for the five horses to walk abreast; it either

greatest thickness in the direction of the pull. A two-by-four-inch will support a much greater load when on edge than when flat. Second-growth hickory, white ash, red elm, oak and long-leaf southern pine are used in evener construction. The woods first named when they can be obtained in clear lengths, make the best eveners, and when they contain a portion of sapwood will be stronger if made up with the sap to the back, as it usually has

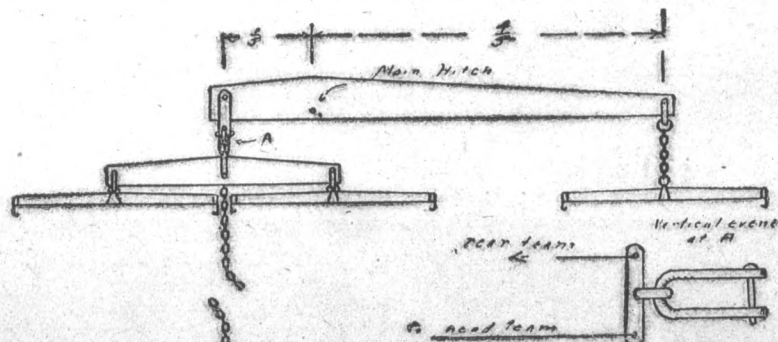


Evener for Working Five Horses Abreast.

er necessitates travel on the plowed ground or causes too much side draft. This can be remedied by letting one horse work against the other four, placing two teams tandem on the short end of the main evener. The hitch will then come on the main evener one-fifth of its length from the point where the four horses are attached. A short vertical evener with equal arms at "A" equalizes the load between the two teams in tandem.

Eveners should be made with their

greater tensile strength than the heart wood. Close, fine-grained, heavy pieces are the strongest. The easiest material to get, however, is the pine, as the local lumber yard is more likely to have a good grade of it on hand. Select a piece that is slash-sawed, i. e., one in which the grain runs across the end diagonally, for greatest strength. Keep eveners and whiffletrees painted or oiled, and they will reward you with extra service.—HARLEY M. WARD, Agricultural Engineer.



This Hitch Provides for Two Teams Working Tandem Against the Fifth Horse.



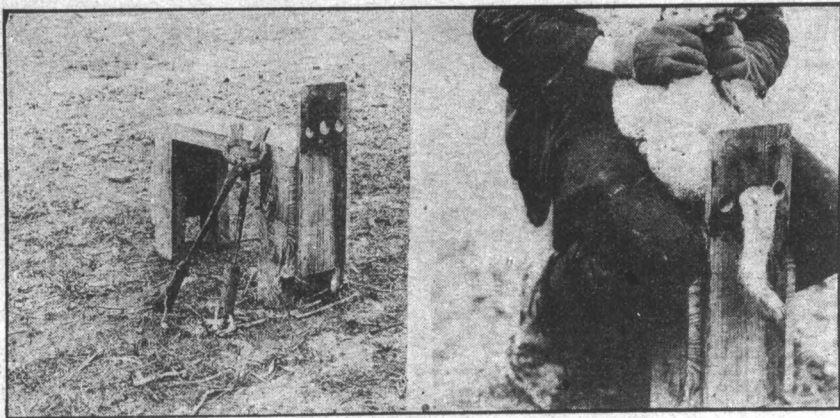
## Importance of Docking

### Why Lambs Should Be Docked and How It Is Done

THE sheep industry depends for its principal returns upon the lambs and wool produced from the flock. The meat side of the industry is of great importance and bears a direct relation to the profits from the flock. A desirable lamb carcass must first be the result of good breeding; second, the result of proper feeding, and third, the result of castration and docking of the lamb. The most desirable, and thus the most profitable lamb carcass can not be produced from lambs which have not been docked and castrated. Agencies interested in

part lean and showing no uniformity in weight, quality or condition.

The custom of docking all lambs is almost universal in the west and to this, in large measure, may be attributed the fact that lambs produced on our western ranges outsell native lambs at the market on the average of \$1.00 to \$1.50 more per hundred pounds. It is true, however, that uniformity in breeding is a factor in favor of the western lambs. It is certain that had the western flock master not found docking of lambs highly profitable, the operation would not be so



Equipment Required and Lamb Properly Held.

the sheep business are making an effort to educate the American public to eat more lamb. If this effort is to be a marked success, the lambs must be properly bred, properly fed, and the carcass of a desirable character. The competitive prices of beef, pork and lamb are on equal footing, and thus the larger consumption of lamb depends upon its being as palatable and tender when served on the table as beef or pork. The farmer does not market his bull calves as bulls, nor his boar pigs as boars. Why should he market his lambs as ram lambs, rather than wethers? The correction of this neglect with regard to the docking and castration of lambs, is vital, and upon a more general practice of docking and castration in the farm states hinges real profits and more general success.

#### Large Percentage of Lambs Not Docked.

If the industry is to be made to yield satisfactory returns, the docking of

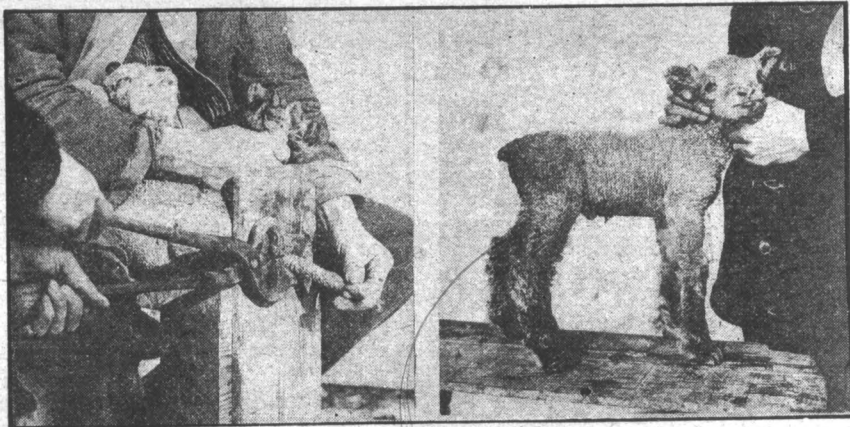
universally practiced in that great lamb-producing section.

#### Benefit of Docking.

All lambs should be docked. It should be a uniform practice of those who keep sheep, that the tail should be removed when the lambs are seven to fourteen days old. The lamb's tail renders no substantial benefit to the lamb. Second, its presence is injurious because of the filth that accumulates around and beneath the tail. Third, lambs are more attractive, look neater and deeper in the leg and twist if the tail is removed. When the tails are left on females they are apt to fail to breed.

#### Method of Docking.

The preferable ways to remove a lamb's tail are by using a sharp knife or docking irons. One man holds the lamb, as shown in picture. The operator, by feeling on the inside of the tail, can detect where the joints are. He should push the skin on the tail back toward the body of the lamb so



Docking with Heated Irons and Properly Docked Lamb.

lambs should be attended to without fail at the proper time. It is conservatively estimated that eighty per cent of the native lambs, those produced in farm states, which reach the markets, come to the market undocked, and that the percentage of ram lambs among the offerings during the last year has been as large as ever before. The remark, "What a trashy lot of natives," is one often heard in the sheep houses of the leading markets. This is because lambs come to market from the farm states in lots weighing all the way from forty to one hundred and forty pounds, undocked, part fat and

as to leave some surplus skin to grow over the stub, and then cut the tail at a joint about one and a half inches from the body. The cut should be made quickly with a sharp knife. If any particular lamb should bleed too much a piece of cord may be tied very tightly on the stub of the tail close to the body. This will stop the bleeding. The string must be removed in a few hours or the tail will slough off.

By using the hot punches no danger need be feared from loss of blood. Old sheep can be successfully docked with the hot punches. The punches should

(Continued on page 505).

## WOOD PRESERVATION

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



Prof. F. H. Sanford  
Manager Forestry Dept.  
Michigan Farm Bureau

### Prof. Sanford of Michigan Farm Bureau advocates home methods of Timber Conservation

"Woodlot devastation and forest devastation differ only in acreage concerned. Woodlots must be 'farmed' to the best advantage. 'Woodlot farming' with crops of timber equal to yearly growth is coming in the form of judicious cutting, pooling and sale of timber. Selected cutting, better care, closer utilization, less waste and a state-wide marketing system means conservation of the farm woodlot.

"Replacement cost, following decay of posts and poles not rendered immune to fungus attack makes the practice of wood preservation a business consideration worthy of closest attention by those who place wood in contact with soil."

### Stop the Decay of Fence Posts

No matter what kind of fence posts you use, it will pay you mighty well to protect them against decay by preservative treatment with Carbosota Liquid Creosote Oil.

The properly carbosoted fence post is the *cheapest per year of service*. Think of setting out a post and not having to replace it for 20 to 30 years. It will last as long as the wire and will prove highly resistant to grass fires.

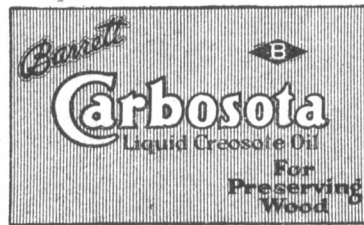
And you can creosote your own fence posts, using the so-called "scrub" timber from your own woodlot—the non-durable species such as cottonwood, willow, ash, sap-pine, second-growth cypress, red and mixed oaks, as well as dozens of other species. They will readily last 20 years instead of from three to five, and will save you over \$20.00 a year per mile of fence as compared with the same species untreated. Further, they are cheaper than the so-called permanent posts of substitute materials.

### A Big Saving

The saving varies with conditions and species, averaging about 50% on the less durable woods as compared with the same untreated, and approximately 20% as compared with untreated cedar posts. This is based on home-grown posts costing from 25c to 55c each, including 15c per post for labor of setting.

There are few investments on the average farm that offer half the percentage of profit. It's also a great satisfaction in setting out your creosoted posts to know you won't have to replace them every few years.

Every farmer can grow his own posts. When properly cut, peeled, seasoned and creosoted with Carbosota, they prove a most profitable crop. If you need help, ask



### Chestnut and Cedar Posts

Only the butt ends of these require treatment as the upper portions are not subject to quick decay. A convenient method of treatment is the "hot and cooling bath."

One steel drum is all that's needed. The butt ends of the posts are kept in hot Carbosota (heated to between 175 and 200 deg. F.) for four to six hours. The fire is then put out and the posts are left in the bath until the preservative cools to atmospheric temperature, minimum 50 deg. F.

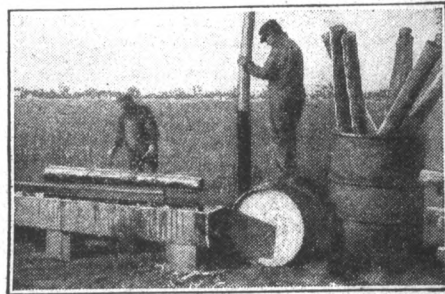
If your lumber dealer does not carry Carbosota, write us and we will see that you are supplied.

### 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	Lafayette	Bethlehem	Elizabeth	Buffalo	Baltimore
Omaha	Houston	Denver	Jacksonville			

THE BARRETT COMPANY, Limited

Montreal	Toronto	Winnipeg	Vancouver	St. John, N. B.	Halifax, N. S.
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Farmer's home-made treating plant for non-durable posts.



# ACTIVITIES OF FARM BUREAUS

*Latest News From Local, State and National Organizations*

## DISCUSS STATUS OF THE FARM BUREAU.

**T**HE unanimous decision of the presidents and secretaries of the Midwest Farm Bureau Federations who met at Indianapolis on April 4 was that county agents and farm bureaus should not directly engage in commercial and business activity. The prevailing idea was that much work of commercial and business nature must be done through farm bureau efforts, but that it should be done either through subsidiary organizations or through independent cooperative organizations.

M. L. Mosher, of Eureka, Illinois, president of the National Association of County Agricultural Agents, said said that in the eight years he had served as county agent he had become fully convinced of the fact that the main work of the county farm bureaus and county agents is educational and should continue to be such. Mr. Mosher pointed out, however, that many times this educational work could be accomplished easiest through commercial channels. He told how he spent several years trying to get farmers in his county to use more rock phosphate, but with only moderate results. Then he turned his attention to making it easier for them to secure phosphate by organizing a farmers' company which acts as dealer and local distributing agent for phosphate. Immediately the amount of phosphate used in the county jumped several hundred per cent.

Mr. Mosher gave another instance of how commercial activity of the farm bureau had helped some of the educational work. He was trying to improve the kind of clover and grass seed used by the farmers in his county when he bumped into the proposition that they could not buy high-class seed anywhere in the county. The solution was the organization of a farmers' cooperative seed company which went into the seed business in a commercial way and made it possible for the farmers there to secure a high-quality of seed without difficulty and at a reasonable price.

"I feel that these are legitimate kinds of county agent and farm bureau activity," said Mr. Mosher, "because these commercial activities have actually accomplished more in a strictly educational way than all the teaching that we could do in ten times as long a period as it took to establish them."

Mr. Mosher's remarks were warmly endorsed by Clark Brody, of the Michigan Farm Bureau, Charles E. Gunnels, of the American Farm Bureau Federation, Chester H. Gray of the Missouri Farm Bureau Federation, and Murray D. Lincoln of the Ohio Farm Bureau Federation.

The presidents and secretaries also warmly endorsed the idea of constructing country roads of gravel and other cheap materials and then maintaining them through a system of patrols. The paved road idea was condemned on account of its present cost.

The road question was brought into the conference by Howard Leonard, president of the Illinois Agricultural Association. "We will all be dead and forgotten before we can get enough country roads paved to benefit any considerable proportion of farm people," he said. "After a thorough study of the various systems of road construction and management, we have concluded that the plan followed in Wisconsin of using available cheap materials for road construction and then keeping these roads in proper

shape for travel is the best road system for present conditions. That is the reason why the Illinois Agricultural Association is asking the Illinois legislature to provide such a road system in Illinois, and we have found that the members of that body are very favorably inclined toward our request."

### A Farm-to-Market System.

A large percentage of the roads in Wisconsin are of gravel construction, according to Mr. Leonard, while others are made of mine waste or other material at hand. "This enabled the Wisconsin authorities to improve a good percentage of the roads in that state, seven thousand two hundred miles, to be exact, or all the principal highways leading into the towns. This means that Wisconsin has a real farm-to-market road system."

Mr. Leonard's remarks were warmly endorsed by other farm bureau officers. "The interest on a \$40,000 concrete or brick road will build and maintain a gravel road," said John G. Brown, president of the Indiana federation. "Present prices have about driven hard roads out of the question."

"The Wisconsin system sounds like it is suited to Missouri needs," said Chester H. Gray of that state. "A special summer session of the legislature is to be called this summer on road matters, and before that time I intend to familiarize myself with the patrol plan."

James R. Riggs, of Sullivan, Indiana, former assistant secretary of agriculture, and a man of many years' experience in road building, also announced himself as unqualifiedly in favor of gravel roads and the patrol system. "They are just as satisfactory as concrete or brick, are much cheaper, and can be built and maintained for the interest charge on hard roads," he said.

The conference of presidents and secretaries also sent a telegram to Henry C. Wallace, secretary of agriculture, asking him to impress upon President Harding and congress the necessity of an emergency tariff upon farm products in order to prevent miscellaneous importation of products from foreign countries.

## WOOL GRADING HOUSES BEING LOCATED.

**W**OOL pooling days at the various local grading warehouses of the State Farm Bureau throughout the state promise to develop into community affairs of some size, says the farm bureau in commenting upon the enterprise of merchants who propose to make the first day of the local pooling period one of sales and bargains. Lapeer merchants have arranged for such a day. Other towns where warehouses will be located are planning similar action.

Farm bureau men report that general interest in the wool pool is increasing. The program for blanket and suitings manufacture as additional important outlets for wool in the pool have met with general approval, they say, and the consuming public has an eye on the situation. Farmers are reported keen to see their wool graded. Specialists from the college will assist in explaining the process and will present some new ideas in the sheep business.

Local grading houses which have been announced by the farm bureau are at Lapeer, Imlay City, Holly, South Lyons, Howell, Oxford, Merrill, Durand and Lansing. Warehouses are being located every day. Wool growers' recommendations have been considered

and will continue to be considered seriously, says the wool department.

Repeat visits of graders will be made when necessary, says the farm bureau. Farm bureau growers who live in remote districts will probably find it to their advantage to ship to the nearest grading station or to Lansing. The freight to Lansing is said to be about one-half cent a pound. The local warehousing system will eliminate all local freight rates and extra handling charges.

## OTHER STATES BUSY.

**P**LANS for the pooling and marketing of the state's wool has been approved by the Utah Farm Bureau. Two directors of the Utah Wool Growers' Association have been placed on the farm bureau wool marketing committee to perfect the pooling and marketing details. Officers of the Utah Farm Bureau estimate that five million pounds of the state-grown wool will be consigned to the pool.

A recent sale of more than a million and a quarter pounds of alfalfa seed in a single transaction by the Utah Farm Bureau seed marketing department has completely cleared their 1920 seed pool of over two million pounds of seed representing the crop of four hundred individual growers.

By organized fighting of excessive tax assessments a local township farm bureau in Dakota county, Minnesota, effected a cut of \$8,000 from the township tax rolls.

Indications of a strong farm bureau organization in Rhode Island are reported by E. B. Heaton, of the American Farm Bureau Federation organization department. Mr. Heaton is in charge of the membership drive in that state and reports the signing of sixty-five out of the eighty-five farmers seen the first day.

Kansas Farm Bureau has asked the Kansas State Agricultural College to establish a course in cooperative marketing. Michigan's agricultural college has been offering such a course for two years.

## FARMERS RATIFY GRAIN PLAN.

(Continued from page 496).

year period. He pays a membership fee of ten dollars with no assessments, to become a member of the United States Grain Growers, Inc. This corporation is to be a non-profit, non-stock company with no dividends to be operated on a cost basis. The grower would receive every cent obtained for his grain, less the cost of marketing. Grain sold on a consignment basis would be handled at a maximum charge of one per cent of its value corresponding to the present commission charges.

On grain placed in storage or involving other marketing facilities, the total deduction for capital investment would not exceed one per cent of the value of the grain and for this deduction certificates not bearing interest would be given. Funds thus acquired and from membership fees would be used to establish subsidiary corporations for warehousing, financing, exporting and for a service department involving legal transportation, news-gathering, statistical and other divisions.

Local elevators to become a part of the scheme must be organized on a truly cooperative basis, paying dividends in proportion to patronage.

President Nicol, of the Michigan State Farm Bureau; A. B. Cook, Master of the Michigan State Grange, and

Hale Tennant, agent in marketing for Michigan, represented this state at the conference. Mr. Nicol was elected as one of the twenty-one directors of the national organization. He represents the twelfth district, which comprises Michigan, Kentucky, Virginia and Maryland.

### Abstract of Resolutions Adopted.

Continuing in open session following the ratification of the plan of its Committee of Seventeen, the delegates to the Farmers' Grain Marketing Conference adopted twelve resolutions which stripped of legal terms, are as follows:

One resolved that farmers must be able to bargain on equality with purchasers of farm products, and urged congress to enact proper legislation permitting of the same in the most efficient method possible in order that the farmer may obtain a reasonable rate for his labor, and that food may be furnished the consumer at a minimum cost.

A second one, resolving that the farmer is entitled to a protective tariff if the manufacturer is, urged that the tariff be so revised as to correctly reflect the difference in the cost of products at home and abroad on farm products.

Speculation in futures on grain exchanges of the country was condemned in a resolution which urged the proper legislation which would effectively prohibit short selling or gambling in prices on one of our staple foods.

Any substitution of a sales tax which would place the burden of sustaining the government on the people in proportion to what they consume instead of in proportion to their ability to pay was strenuously opposed in one resolution.

Stating that the present railroad rates are unfair, another resolution earnestly petitioned the railroad to grant relief from the high rates as soon as possible and petitioned the Interstate Commerce Commission to use its influence to accomplish this end.

The development of the Great Lakes-St. Lawrence waterway was urged in one resolution.

Another resolution urged extension of credit facilities of the government through federal banks to the agricultural interests of the country.

One resolution favored such revision of the federal reserve bank act as shall adjust credit facilities of the bank to the legitimate needs of agriculture and that the amount of credit extended to agricultural interests be on equality with that extended other industries.

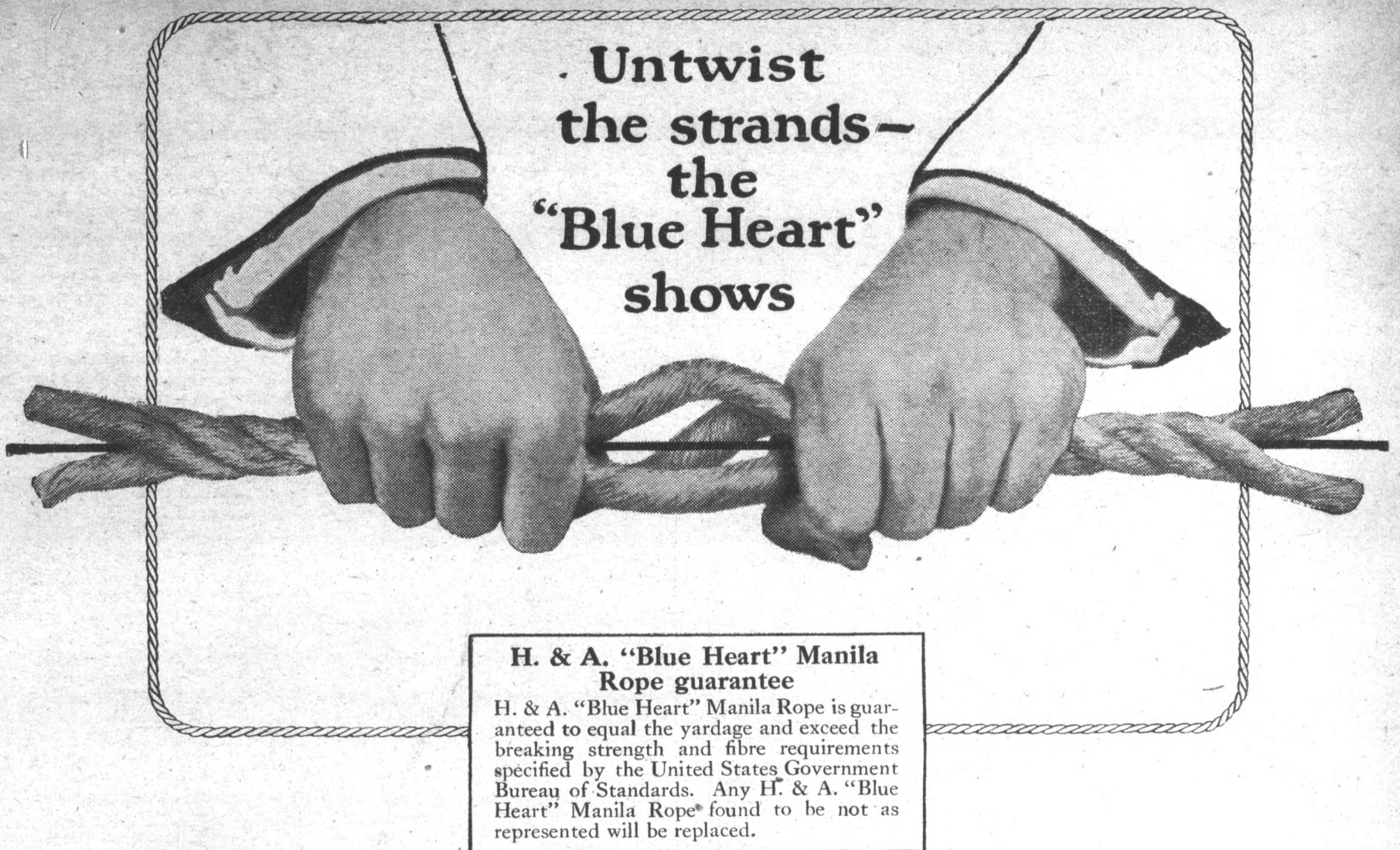
Admiration for the stand of Secretary of Agriculture Henry C. Wallace on the question of cooperative marketing and satisfaction for the admirable way he has taken over his office was expressed in a resolution.

Deep appreciation of the work of Dr. Charles McCarthy, of Wisconsin, was stated in a resolution, a copy of which is to be placed on the minutes of the meeting.

Stating that the United States Grain Corporation made a profit on wheat of a sum aggregating millions during the war to which it had no moral right, a resolution was passed asking congress to appropriate or set aside this fund into a permanent revolving fund to furnish the grain farmers an additional credit in the moving of crops.

George A. Mansfield, president of the Oregon Farm Bureau Federation, made a resolution that the committee selected to organize and put into operation the plan ratified by the convention work in cooperation with existing farmers' organizations in the various states,





**Untwist  
the strands -  
the  
"Blue Heart"  
shows**

**H. & A. "Blue Heart" Manila  
Rope guarantee**  
H. & A. "Blue Heart" Manila Rope is guaranteed to equal the yardage and exceed the breaking strength and fibre requirements specified by the United States Government Bureau of Standards. Any H. & A. "Blue Heart" Manila Rope found to be not as represented will be replaced.

## Rope spun from the toughest of manila

*H. & A. "Blue Heart"—the trade-mark  
which insures against rope breakage*

**W**HEN your time is short, when your work is hurried by approaching rain—then you want a rope that will take the weight of your extra loads—a rope that will deliver more strength than you usually need.

Such a rope is H. & A. "Blue Heart" Manila Rope—the rope that is built to respond to every demand.

It is a rope so tough, so strong, that a piece the size of your little finger will lift three 1200 pound horses without breaking.

H. & A. "Blue Heart" Manila Rope—spun from the toughest of manila fibre—is guaranteed to deliver more strength than is specified as standard by the United States Government Bureau of Standards. If it doesn't, you are entitled to a new rope.

Test it in your heaviest work—and see it respond with more strength than you require.

Yet the cost is no more than that of ordinary rope!

### A rope whose strength is insured

There are many fibres used in rope making, of varying strength and durability. Manila, the strongest, the toughest, has numerous substitutes which closely resemble it.

The public, confused by this similarity in appearance, has had to buy in the dark and trust to the honesty of the maker for good rope.

The eye cannot detect adulterations. What looks like excellent rope will often fray to pieces when comparatively new.

How, then, can you tell? There's an easy way. Pick up any piece of rope in your hands, untwist the strands, and—

If you find a thread of blue running through the center of the rope then you will know that you have found a *good* rope, a rope built to deliver more strength than you require.

Then you will know that you have found genuine H. & A. "Blue Heart" Manila Rope.

### Let H. & A. "Blue Heart" Manila Rope do your heavy work

A halter made of H. & A. "Blue Heart" Manila Rope has three times the strength of a leather halter. A piece of H. & A. "Blue Heart" Manila Rope the size of your little finger will carry the weight of fifteen or twenty men.

And with this strength you get a rope that is flexible, smooth-surfaced, easy to handle, and that resists water.



**H&A "Blue Heart" Manila Rope**

H. & A. "Blue Heart" Manila Rope is eliminating the guess from rope buying. It is a rope that will answer your every requirement—a rope built to meet your severest rope tests.

Insure yourself against rope breakage, against delay in your work—with H. & A. "Blue Heart" Manila Rope.

Leading merchants throughout the United States are selling H. & A. "Blue Heart" Manila Rope. If yours cannot supply you, write us.

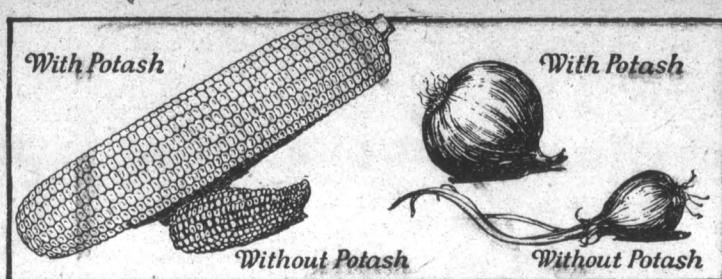
**The Hooven & Allison Company**  
"Spinners of Fine Cordage since 1869"  
Xenia, Ohio

For purposes where the great strength and long-wearing qualities of H. & A. "Blue Heart" Manila Rope are not required, use H. & A. rope made from one of these less expensive fibres:

"Red Heart" identifies H. & A. rope made of sisal fibre  
"Green Heart" identifies H. & A. rope made of istle fibre  
"Purple Heart" identifies H. & A. rope made of mauritius fibre  
"Pink Heart" identifies H. & A. rope made of African sisal

In your lighter work, where you do not need the rugged strength of H. & A. "Blue Heart" Manila Rope, you will find H. & A. "Red Heart" Sisal Rope of supreme value. Spun from selected sisal fibre, H. & A. "Red Heart" Sisal Rope is guaranteed to give that satisfaction which you should demand in the highest grade of sisal cordage.





## Potash for Swamp Land

**D**OES the corn grown on your swamp or muck land look like the large ear or like the small one? The small one shows the kind of corn produced on potash hungry muck land. When 100 to 200 lbs. per acre of Muriate of Potash, or 400 to 800 lbs. of Kainit, are broadcasted on potash hungry muck, full yields of sound corn are produced.

For onions, on such lands, 100 to 200 lbs. per acre of Sulfate of Potash is the right amount to produce full yields of sound onions that ripen normally and keep well.

With potatoes and truck crops, like results are obtained.

Even at war prices potash gave a good profit on swamp lands. Now it can be bought for very much less. It will help you reduce the cost of production, and greatly improve the quantity and quality of your crops. There is plenty of it if you will take the trouble to insist on having it.

*The following firms have requested us to state that they will sell unmixed Potash Salts:*

Ashcraft-Wilkinson Co.,	Atlanta, Ga.
Dawhoo Fertilizer Co.,	Charleston, S. C.
Harby & Co.,	Sumter, S. C.
A. F. Pringle, Inc.,	Charleston, S. C.
The Nitrate Agencies Co.,	85 Water St., N. Y.
Baltimore, Md.	Columbus, O.
Norfolk, Va.	Savannah, Ga.
Jacksonville, Fla.	New Orleans, La.

SOIL & CROP SERVICE, POTASH SYNDICATE  
H. A. HUSTON, Manager  
42 Broadway New York

## POTASH PAYS

## Our Service Department

### PEAS VS. CORN FOR HOGGING DOWN.

Do field peas make good hog pasture? We have about eight acres that we will either put to corn or peas, to hog down. How many hogs would the eight acres carry if put to peas, and about what time could the pigs be turned in? How many peas would you sow to the acre? Would you advise sowing oats with them, if so what proportion? Do you think peas are better sown broadcast or in drills?

Ingham Co.

D. J. S.

It used to be quite a common practice to sow Canada field peas for hogging down. Hogs were turned in just as soon as the peas were ripe. It is a splendid idea to fence off a portion of the field, let them clean it up, and then move the fence over. In this way they will not wallow the peas down, tramping them into the ground and wasting so many. Theoretically speaking, peas are a better food for hogs than corn, because they contain more protein and hogs do well on them. You would not want to turn the hogs in till the peas are ripe. In other words, this would not be hog pasture, but more for finishing the hogs that had been pastured up to this time. There probably is no better hog pasture than Dwarf Essex Rape and you could run your hogs on rape pasture with a little corn until the peas are ready to be turned into. This would be early in July. Ordinarily hogs would have the peas all cleaned up before the corn is ready to hog down. I would suggest that you plant one-half of this field to peas and one-half to corn, then when the hogs have cleaned up the peas the corn will probably be ready to finish them off.—C. C. L.

for a definite period he is bound to surrender it at the end of the term without notice to quit, but if from the statement we are to understand that there has been a holding over from year to year by custom without a formal new lease, then the holding is what we call tenancy from year to year, and the failure of the lessor to give the lessee notice to quit entitled the lessee to presume he is to have the lease for another year, and in this case he would be entitled to retain the property for an additional year, or to be reimbursed for what he has expended. The important fact is, whether the lease under which he held was a definite lease for one year, in which case A. B. U. has no redress, or a customary holding from year to year, in which case he is entitled to the benefit of his new crop. His lease may be terminated by one year's notice at any time or by six months' notice before or by notice to quit at the end of any year served six months before the end of the year.

J. R. R.

### RIGHTS UNDER LAND CONTRACT.

A sold his land to B in September. They made the contract and B paid \$1,000 down. B was to take possession in March and a deed was to be made then. There is a gravel pit on the farm. Did A have a right to sell the gravel between September and March?—J. S.

In the absence of an express agreement giving the seller the right to mine and remove gravel after the sale he has no such right. His right is confined to holding possession and use till the time specified for delivery, and to his lien on the land for the balance of the purchase price.—J. R. R.

### LIABILITY FOR TAXES.

I had a farm that I rented in fields on halves in 1920. In July I sold my farm and all my personal property. The parties were to have my share of the crops and pay the taxes. I had nine cows, all giving milk, and they all freshened this fall, and they had the milk and increase from the time of sale, also the horses and tools to gather their crops and put in their fall crops. Now, who should pay the taxes? They were assessed to me and I paid them. Was that right? I knew nothing about it until I received a note that they were assessed to me.—F. H.

Unless the taxes are paid, the property will be sold to pay them, but the tenant is liable to F. H. if collectable, on his contract for what he agreed to pay. The taxes were probably properly assessed.—J. R. R.

### ESTOPPEL BY SURVEY.

In June, 1914, I saw my neighbor about building a line fence. I asked him where the line was and he said he didn't know. He suggested getting it surveyed, so we made an agreement to have it surveyed, each paying half the expense. I was to build the south half of the fence, he the north half. The two farms were surveyed and everything was satisfactory. I started to build the fence the following August and built forty rods. Three years later the other forty rods, then he became dissatisfied and went to see the prosecutor, claiming that I had eight feet of his ground. Will the law allow me to claim the surveyed line, or will the old line fence hold?—J. F. B.

Where adjoining owners have a survey made, agreeing to be bound by a survey and the stakes are set, each is bound by the survey so made by a species equitable estoppel, although there were no writings ever made concerning it. It matters not whether the survey made was correct or not, it settled the boundary question.—J. R. R.

### TERMINATION OF LEASE.

I have rented a farm for the last three years, cash rent. Have paid for it each spring in advance by check. Last fall I wrote to the owner who lives in the city, that unless I heard from her to the contrary within seven days, I would continue to work her farm the same as I had for the last three years, and that I would sow wheat. This was September 16, and I mailed her a registered letter with a "return in five days" printed on the envelope. I did not hear from her, and on October 2 commenced to sow wheat and sowed thirty-five acres, finishing October 10. I used forty-five bushels of seed wheat, three tons of fertilizer at \$37 per ton, and about ten days' work with three or four men and teams. On October 14 this registered letter came back to me "uncalled for" after twenty-eight days. The owner now says she will not rent her farm as she has had some offer to sell, and that I must lose all that I have done. Of course she is ignorant of what I was doing, and I was ignorant of her not receiving the letter, and innocent in what I was doing. Now, must I lose, and who is at fault?—A. B. U.

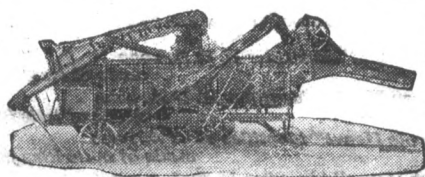
It would seem that A. B. U. is unfortunate. If a person rents property

### TIME OF RIPENING OF RASPBERRIES.

Will you kindly indicate the relative difference in time of ripening of the following varieties of berries? Plum Farmer Black Cap, Cuthbert Red, Columbian Purple and Eldorado Blackberry. I am anxious to know the difference in the time of ripening of these varieties.—C. V.

From our experience, the Plum Farmer is a few days ahead of the Cuthbert Red. The Columbian Purple Cap is a mid-season variety and the Plum Farmer would be practically gone by the time the Columbians were in their mid-season ripening. Of course, the Cuthbert Red Raspberry lasts over a very long season, usually much longer than any of the black raspberries.

As blackberries usually follow the black and purple raspberries, Eldorado blackberry would be the last of those mentioned to ripen.—T. A. F.



## PortHuron

The Universal Thresher  
Threshes All Kinds of Grains and Seeds.  
**20x34 and 22x38**  
**Tractor Specials**  
Also Four Larger Sizes

### Be Your Own Thresherman

**T**HRESH 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.

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.

Get your Cow, Steer and Calf hides tanned into **HARNESSES 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



## ONION GROWERS ORGANIZE.

(Continued from page 497).

ions is worth from \$500 to \$1,000 per acre and gives an average yield of five hundred bushels per acre. As a result of the activities of the "Pleasant Valley Onion Growers' Association," these Iowa growers received an average price of \$2.25 per cwt., or \$1.12½ per bushel.

While the onion producing sections of Michigan are widely scattered, there are several centers, such as those in Allegan, Ottawa, Kent, Wayne and Washtenaw counties, where the onion business is sufficiently concentrated to allow for the organization of strong local cooperative associations. That formation of such locals and their union under some such type of organization as the commodity plan of the State Farm Bureau is the logical solution of the most fundamental problems of the onion growers, is the opinion of C. W. Waid, of the M. A. C.

In concluding a recent statement on the problems confronting the onion industry, H. J. Cheney, manager of the Grand Rapids Growers' Association, states: "The last, but not the least, consideration would be the planting of pure seed tested as to germination and variety." The seed department of the State Farm Bureau stands ready to handle the seed for the onion growers whenever they organize and present their needs a year in advance.

Cooperation and organization should be the watchwords of the onion growers, declare prominent growers, who believe that an organized onion industry would prove well-nigh invincible.

## LIVE STOCK SHIPPING ASSOCIATION HAD GOOD YEAR.

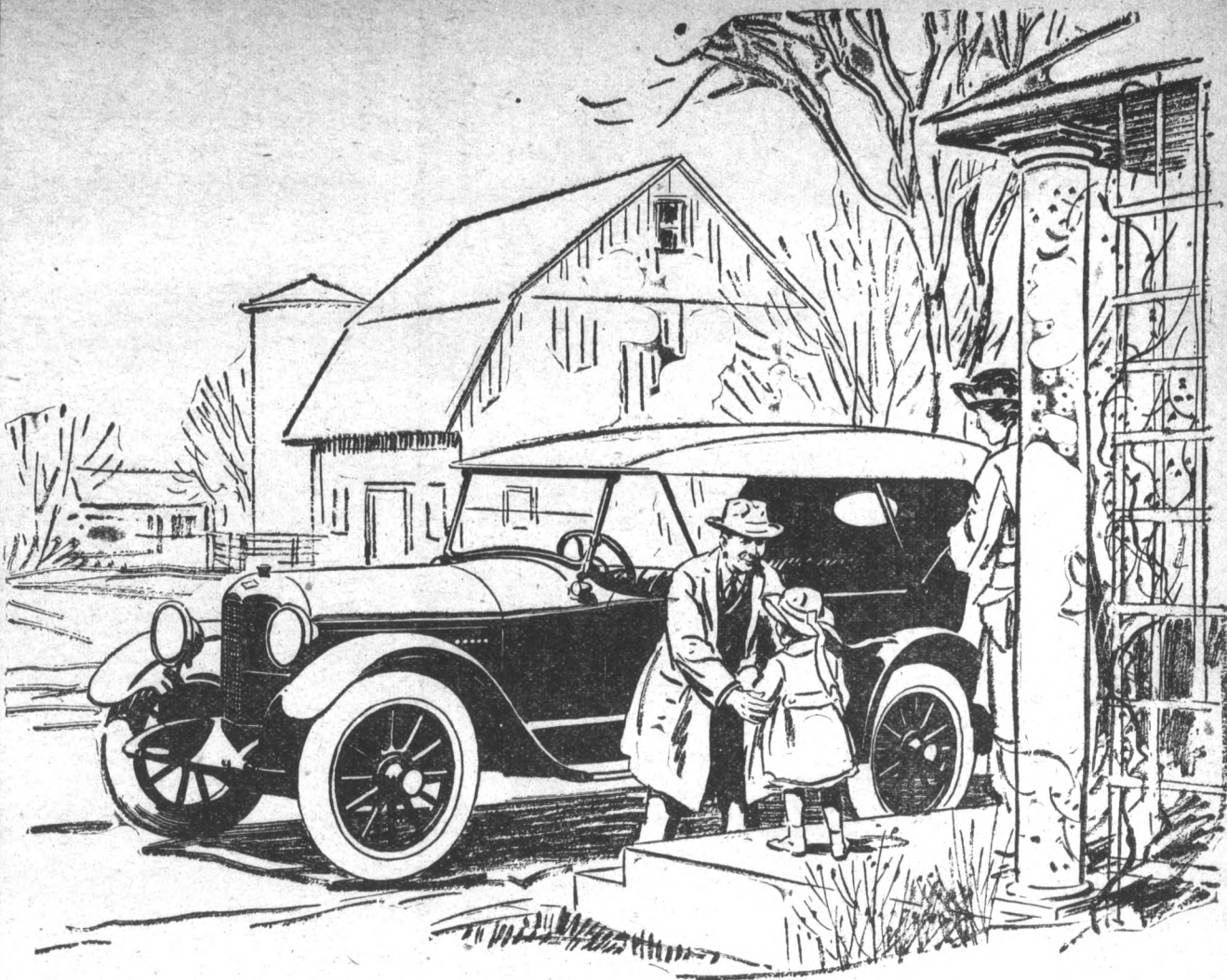
THE Caro Live Stock Shipping Association held its second annual meeting at the court house on Tuesday, March 22, and elected officers for the ensuing year. The report read by Manager Nate Pattison stated that fifty-six loads of stock were shipped last year, netting the members a total of \$125,400, an increase from the previous year when thirty-nine carloads were shipped, valued at \$101,000. The membership of the association increased from one hundred and eighty-one to two hundred and ninety. The new officers are: Edward Coler, president; J. P. Richardson, secretary-treasurer; Henry Lane, Frank Arnold and R. Robinson, directors. The association manager will be elected at a special meeting of the board of directors. Considerable discussion ensued over the question of the association joining the local farm bureau, and it was finally decided to leave the decision with the board of directors.—M.

## DOCKING LAMBS.

(Continued from page 501).

be heated to a cherry red heat and the tail seared off at one to one and a half inches from the body. The wound will be seared over and no blood will be lost. It is true that the tail does not heal quite so quickly when the docking irons are used, especially if they are too hot. When the irons are used at proper temperature the wound will heal just as quickly as when the knife is used. When the lambs are handy with one man to catch them and a third to hold them, nine to twelve lambs can be docked between the heating of the irons. The wound is also sterilized and needs no further attention. The lambs should be watched for a few days to see that they are recovering from the operations satisfactorily.

Over forty per cent of the fat pig is water, and a reduction of the water supply, below natural requirements, will reduce the gain just as surely as a reduction of food.



# PAIGE

*The Most Beautiful Car in America*

## Ride With the Champion

In every section of the nation our dealers are now conducting a special series of demonstrations with the complete line of Paige cars.

Our Daytona 6-66 model now holds the world's stock car record for speed. It is the purpose of this demonstration work to prove that any Paige car in the hands of an unprofessional driver is indeed Master of the Highway.

By proving itself the fastest car, the 6-66 has revealed qualities of endurance and strength that are beyond dispute. World's championship form is a guarantee of all-around efficiency—the best guarantee that the sporting world affords.

But these are facts that we want you to establish for yourself, and now you have an unrivalled opportunity. You have but to get in touch with our dealer and he will book you for a ride that will prove finally convincing.

Then, with an actual record of the tests, you will be in position to compare the Paige 6-66 with any other motor car—at any price—on the American market.

You will also be able to determine whether the New Series Glenbrook 6-44 is or is not the greatest dollar for dollar value in the light six field.

Surely no man could ask for a fairer or more sportsmanlike proposition.

*Whether you contemplate buying a motor car or not, we very cordially invite you to ride with Paige at the first opportunity. It will prove a revelation, we believe, and a liberal education in strictly modern engineering.*

**PAIGE-DETROIT MOTOR CAR COMPANY, Detroit, Michigan**

*Manufacturers of Paige Motor Cars and Motor Trucks*



## For bigger crops, break up the soil crust with a Planet Jr.

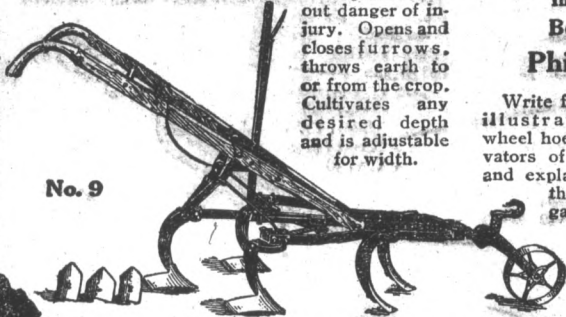
A baked and crusted soil does as much damage to your crops as cold or dry weather. Cultivate with a Planet Jr. to break up the soil and keep it from baking, to give the roots air and warmth, to form the dust mulch that holds in moisture and soaks up the rain.

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## Horticulture

### Fruit Growers Discuss Marketing Problems

**F**ruit growers are now successfully marketing their fruit through growers' cooperatives in a large number of states stretching from the Atlantic to the Pacific and from Texas to Michigan. This was brought out at the Fruit Growers' Conference at Chicago, April 5. Sixty-five delegates from twenty-four states representing every class of fruit grown in the United States were present.

At the close of the meeting four resolutions were passed. The most important of these authorized the appointment of a Committee of Twenty-one by President Howard to undertake a study of the various problems affecting the fruit industry and to prepare a plan whereby fruit producers may establish and conduct cooperative fruit marketing organizations on the most favorable methods.

Stating that the big problem of American fruit growers was one of over-production and under-consumption, R. B. Peters, of DeVore, California, representing his State Farm Bureau, showed the need of an export outlet for the American-grown fruit. He advocated a trading protective tariff. The present prohibitive tariff walls of foreign countries forbid an export outlet for us. Were the government to put a high tariff on imports from other countries and an equally high one on our fruit exports, an arrangement could be made to let one duty equalize the other and a market would be secured. It was thought by Mr. Peters that this tariff might be arranged through the state departments. The need of an export outlet for California fruit is dire. Even with canning and drying the fruit surplus is great.

Unfair transportation rates were discussed by W. H. Armstrong, president of the Washington Farm Bureau.

"I presume most of you are familiar with the peculiar situation that confronts us of the western coast. We are now paying twice the freight rate that we previously paid. Apple growing has become a precarious pursuit as a result.

It was brought out that prevailing transportation rates are doing more than any other one thing to stagnate business all over the country. They are standing in the way of the great domestic fruit market which awaits opening.

A fruit growers' organization based on the cooperative marketing plan, capable of expanding east and west, and doing splendid work, was presented by E. M. Plank, of the Ozark Fruit Growers' Association. It was started as a local organization. When it was found that the neighboring counties were competing with it on the same markets, they were brought into the organization, which became known as the Ozark Fruit Growers' Association. It operates in Tennessee, Arkansas, Missouri and Oklahoma. It is purely a cooperative. It has standardized the pack and stabilized the market. The price is ascertained by the central manager. Mr. Plank declared that the organization has been very successful and is simply a sensible application of business principles to marketing.

"The production of fruit is nationwide but the marketing of our fruit is world-wide," said Mr. Plank. "It is a problem too big for the individual. We must cooperate, coordinate our interests and solve these problems together."

Other resolutions were passed as the conference drew to a close. It was re-

solved that the fruit growers commend to the several states that laws be enacted empowering the chief market officials to promulgate grades and standards with power to amend as necessary.

To offset the unjust competition which is ruining the lemon and other fruit industries of this country, it was resolved to commend such duties to be levied as will enable American fruit to fairly compete with foreign offerings.

It was further resolved that the American Farm Bureau should create a fruit department with a fruit man of ability at its head who should devote his entire time to this department. A committee of five was appointed to work with the farm bureau on a plan to finance this department.

Many words of approval were heard from the delegates as the conference drew to a close. It marked one more step in advance in the cooperative marketing movement. It added one more group to the roster of those who seek a new future for American agriculture.

#### ORCHARD DEMONSTRATION AT MIDLAND.

**A** LARGE number of farm orchardists from several counties gathered at Midland, April 1, under the direction of the County Farm Bureau Agent. The morning was spent going through the inspection department of the Dow Chemical Company, and in the afternoon Mr. H. H. Dow's orchards were visited. Extension Specialist T. A. Farrand gave a spraying demonstration and answered many questions on fruit growing. Mr. H. H. Dow told of his experimental work demonstrating that the water-holding capacity of the soil was the limiting factor in successful orcharding.

#### EFFORT TO SECURE FEDERAL VETERINARIAN.

**O**NE of the numerous pieces of work planned by the local farm bureaus this year is attempting to rid the dairy herds of tuberculosis. As near as can be ascertained from tests already made, about one of every ten head is afflicted with the disease, and this means that it is spreading rapidly. A warning has been sent out urging farmers to lose no time in finding out which of their animals have the disease or a tendency to it.

The farm bureau is in a position to secure a veterinarian appointed by the state and federal government to do the testing, provided the farmers are willing to pay a portion of the expense. By having this veterinarian appointed it is possible for the farmers to secure \$25 to \$50 per head more indemnity than when the testing is done by a local veterinarian. By paying at least \$10 for the testing of a herd this advantage is secured, provided two hundred farmers agree to the plan. The saving to the farmers in loss of cattle slaughtered because of the disease, is well illustrated by the fact that had this plan been practiced up to March 1 fully \$4,750 would have been gained in payments on the one hundred and fifty-one head killed.

To consider this important subject an enthusiastic town meeting was held in Saginaw township Tuesday evening, April 5, under the auspices of the local farm bureau organization.—M.



## Bordeaux Mixture

By G. H. Coons

**W**HAT is Bordeaux mixture? It is made when a two per cent copper sulphate—bluestone or blue vitriol—is mixed with a two per cent lime solution. In ordinary practice four or five pounds of bluestone is dissolved in twenty-five gallons of water. Six pounds of stone or hydrated lime is dissolved in 25 gallons of water. If stone lime is used, it is first slaked in a little water. To make Bordeaux, equal parts of the weak bluestone solution and the weak lime solution are mixed and then stirred vigorously. If the lime is good, the quantity suggested is sufficient.

### Hints on Making.

Copper sulphate dissolves in hot water, or it will dissolve over night if suspended in a cheesecloth sack in cold water. It will not dissolve quickly if merely thrown in the barrel. If concentrated solutions are mixed a heavy precipitate results. Good Bordeaux can only be made by putting thin solutions together and mixing them thoroughly. Best mixing will result if the lime solutions and the bluestone solutions are poured at the same time into a third barrel and then stirred. Wooden barrels are handiest for making Bordeaux mixture. For small amounts a barrel may be sawed to make two tubs, or wooden candy pails may be used. Bordeaux should be strained before putting in sprayer.

### Uses of Bordeaux Mixture.

Bordeaux mixture is our best fungicide for use on vegetables, potatoes, grapes, and ornamental plants. For apples and stone fruits, lime-sulphur replaces Bordeaux. On potatoes Bordeaux mixture not only protects the potato plant against fungous diseases, but also prevents the burning of the leaves which comes in hot, dry seasons. Sprayed plants outyield the unsprayed plants. For use on potatoes to control the potato beetle, one-half pound of Paris green, or two pounds of arsenate of lead may be added to the Bordeaux mixture.

Will it keep? Stock solutions of bluestone and of lime will keep—merely make up the water lost by evaporation. Mixed, they should be used within a few hours. Addition of a half pound of sugar or molasses will keep fifty gallons of the prepared mixtures over night.

### Tests for Bordeaux.

How test for right proportions? Make the Bordeaux as directed and the test will be right. It should be alkaline to litmus (turns paper blue) and should not deposit copper on a clean nail. (Drive new nail into a piece of wood to clean it of grease, then leave in Bordeaux for five minutes). Ordinarily the test is not necessary.

Is air-slaked lime any good for Bordeaux? It is worthless. Use hydrated lime or stone lime.

What kind of stone lime should I use? One that is low in magnesium. It must be quick to slake.

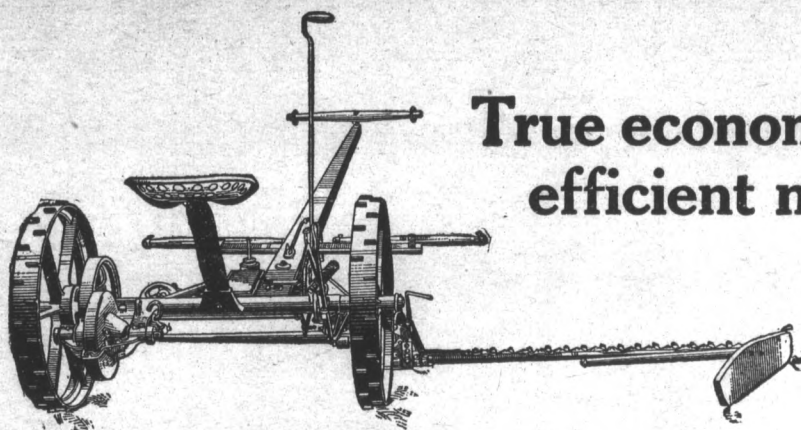
How slake lime? Sprinkle with a little water until the lime gets hot. Then add more water until the lumps crumble. Too much water will prevent proper slaking.

Is hydrated lime all right to use? Yes.

Should Bordeaux be strained? Yes, through a brass sieve or a loose-textured cloth. Don't use burlap sacking as the fibers will clog the nozzles.

What kind of nozzle? Use a disc nozzle with a new plate if the old one is corroded.

Why not use blue vitriol direct if it is the active chemical? (1) it will burn plants if used direct; (2) it will wash off; (3) it does not have lasting effects.



## True economy calls for efficient 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

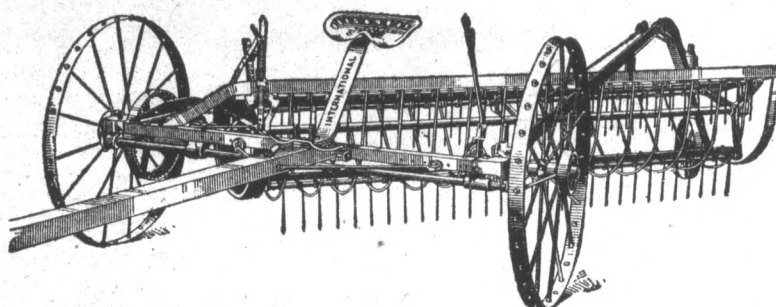
is nearly always at your heels. You wonder how you are going to get your hay out of the way. Do it with efficient machines.

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.

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**Certified Petoskey Seed Potatoes,**  
Grown in Presque Isle County. Price \$2.50 per cwt. F. O. B. shipping point. OTTO GRAMBAU, Metz, Mich.

**Agricultural Lime** High calcium hydrated lime in 50 lb. paper bags, in car lots of 20 tons or more. Delivered, price promptly quoted on request. Northern Lime & Stone Co. Petoskey, Mich.

**Grape Vines** Strong thrifty, best varieties. Buy of me and get what you order 60 cts. each \$50 per hundred post paid. JOHN J. KIESLING, St. Johns, Mich.

75 bu. "Early Everett" potatoes—splendid variety resembles Early Rose. \$1.75 per 100 lbs. sacks Bartlett's Fruit Farm, Central Lake, Antrim Co., Mich.

**For Sale—**Red Kidney Seed Beans, Northern grown, \$11.50 per cwt. A. L. Meredith, McBain, Mich.



## News From Cloverland

By L. A. Chase

### CUT-OVER LAND DEVELOPMENT.

I HAVE heard it said that some farmers are opposed to the development of north Michigan cut-over lands, because the market for agricultural products is already over-supplied, and diminished rather than increased production, is the thing to be desired to restore good conditions for the farmers of the state. It may, therefore, be of interest to state the other side of the question. Of course, every group of inhabitants views our economic problems from its own more or less narrow outlook. That is as likely to be true of one section as another. In the long run, the broad, far-sighted view wins everything, if our economic interests are not to suffer.

America has grown great by developing every natural resource to the limit without reference to local self-interest. In Michigan agriculture is now in a bad way, it is primarily due to defects of distribution of its product rather than of over-production. Plainly, the world as a whole is short of foodstuffs. We are attacking the problem from the wrong end, if we curtail production. In any case, the present situation is undoubtedly temporary and we shall reach a normal price basis long before any large proportion of our cut-over lands are brought under cultivation. Development is a very slow process and the product of these lands will only very gradually reach the market outside of the district. Indeed, much of the product will be consumed locally. Nor is it proposed to place anything like all of our ten million idle acres under the plow. Large areas should go into new forests to replace the old forests that once occupied these lands. Other portions will go into ranches for grazing; others into fruit, whose product will be gradually and locally absorbed without any appreciable effect on the general market for farm products.

Those who purchase northern cut-over lands are either persons, usually of recent European origin, whose financial resources are too small to buy expensive improved farms elsewhere, or they are ranchers who require much larger tracts than could profitably be acquired in the older sections of the state. We should by all means encourage our foreign population to get back to the land. It is best for the country and it is best for them. Many of these people cannot afford high-priced improved lands, but with sweat and hard labor they will improve rough stump land, make a home in what was recently a wilderness, and make a taxable property, where formerly lands were going delinquent for non-payment of taxes, thus easing the tax-burden of the whole state. The progressive improvement of our cut-over areas diminishes the forest and brush fire danger and the grasshopper pest, whose source is in these same tracts of wild grass and brush lands.

Finally, if it is true that the productivity of many of the older farms is falling off because of too continuous cropping, soil erosion, etc., it would be well to turn to the virgin soils of the north country, and give these over-worked, washed-out lands a rest, letting them return to grass or forest, as has been done in the oldest sections of the United States in the east.

If it is true that farmers in the older sections cannot make a return on their investment, that is partly due to their lands being valued too high. If they were to capitalize their net return at the current rate of interest, they would probably find that this is so. Then

would it not be well to reduce their investment in lands as such by investing in more acres at less money farther north—but not too far north, as the recently published report of the bureau of crop estimates, referred to in these columns recently, shows, to obtain a high return per acre—a higher return, indeed, for many crops, than the southern counties of the state realize?

It would be quite un-American to keep these idle lands in their present condition, and it would be contrary to the interest of the state and its inhabitants everywhere. We cannot maintain monopoly prices in agriculture any more than in manufacturing without suffering for it. Let every acre do its best.

### CLOVERLAND CROPS.

THE Farm Bureau News Letter of Iron county recently issued, lays out a planting program for its members. After noting that there "is not a better climate in the world than we have for grass, potatoes, rutabagas, oats, barley, rye, celery, cabbage, and probably a dozen other things," the letter advises against the growing of corn; and it notes that while tomatoes, beans, cucumbers, squash and wheat may give profitable yields, farmers ought to be cautious in regard to them. The writer seems to think that the "town-fellows" are responsible for an over-production of potatoes, and urges caution as to the plantings of this crop in the coming season, and advises giving consideration to certain other crops whose over-production has not yet occurred.

### CONSERVATION OF TIMBER.

THE unfavorable condition of the copper industry, has led the people of the copper country to consider other industrial possibilities of the county. The board of supervisors at its recent monthly meeting discussed the subject at length and a committee was named to take the situation under consideration. It is proposed to correlate Houghton, Baraga and Keweenaw counties in this investigation. The manager of the largest saw-mill in the district is reported to have conceded that only forty per cent of the timber cut by his company is made use of commercially and that the remaining sixty per cent can, with good management and enterprise, be most profitably made use of. The director of another mill referred to the nine billion feet of standing timber of saw-log dimensions found within a radius of forty-five miles of the county seat, or which fifty-five per cent is hemlock, best of any variety, he claimed, for paper pulp making.

### A NEW SOCIAL CENTER.

THE Bay de Nocquet Lumber Company has just opened a fifty thousand dollar club house for its employees at Nahma, on the peninsula east of Escanaba. This is an isolated community of farmers and woodsmen, and the magnificent new structure erected for their recreation and entertainment is sure greatly to be appreciated. As described in The Delta County Reporter, the building is provided with rest-room for ladies, a big dancing and basket ball floor, bowling alleys, smoking and lounging-rooms, library, candy and ice cream stand, shower-bath and billiard rooms. How is that for the "frozen north?" The club house will be managed by a committee of employees and company officials.

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**3 H. P. \$27.50**  
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PRESENT REDUCED PRICES: 1½ H.P., \$62.50; 3 H.P., \$107.50; 6 H.P., \$175.00  
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The simple, sturdy "Z" is a better engine particularly adapted for

farm service. Advanced engineering and manufacturing methods, specially designed machines, volume production make possible this rare combination of quality and right price.

That is our part—but farmers themselves everywhere made the combination a continued success by buying over 300,000 of these engines.

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Are you going to Re-roof or Build? If so, you should use our peerless Inlaid Diamond Roofing applied over boards or shingles, laid lengthwise or updown. Made on an extra heavy woolfelt foundation, high-proof asphalt saturation and double coating, unfading crushed rock surfacing, with an unstoned leakproof lap—this Roofing, for permanence, durability and modern design stands supreme. Without a Rival. Fully guaranteed. Inlaid Diamond Roofing Red and Green 32 in. wide in rolls of 108 sq. feet, weight 90 lbs. \$5.00. Plain Red or Green in rolls of 108 sq. feet, weight 80 lbs. \$3.85 including nails and cement, all F. O. B. Detroit. Write for illustrated catalog.

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High grade foreign muriate of potash 50% K<sub>2</sub>O in less than car lots for immediate shipment at greatly reduced prices, almost pre-war prices. Also Nitra Po. (15% Nitrogen 15% K<sub>2</sub>O.)

Manufacturers of Arsenate of Lead, Bordeaux Calcium Arsenate, Paris Green, etc.

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### Annual White Sweet Clover

Guaranteed Seed of the Hubam or Hughes Variety  
Makes growth in one season that ordinary clovers do in two. Yields under cultivation two tons hay or 300 to 800 pounds of seed. Price \$1 for trial package or \$10.00 per pound. A pound will seed an acre. Make a big profit growing seed for yourself and neighbors. Order before small supply is exhausted from The Henry Field Seed Company, Shenandoah, Iowa, or direct from The Grower Who Guarantees. The DeGraff Food Company, DeGraff, Ohio.

**Certified** Russell Rural Seed potatoes for sale \$1.00 per bu. F. O. B. Manton, Mich. J. V. HARRISON, Manton, Mich.

**SALESMEN** Wanted to sell well-known line of roofing materials direct to farmers. Men average from \$100 to \$200 per week. Commissions paid weekly. Bonuses monthly. Wengard made \$480 in one week—Meyers took 102 orders first month. Fine opportunity for live wire salesmen. Shipping points—Cleveland, Chicago, Kansas City, Minneapolis. For proposition write Central Petroleum Company, Cleveland, Ohio.

**MOLASSES** Richest Food Lowest Cost Write for Special Price  
CHICAGO MOLASSES COMPANY, 1131 East 77th Street, Chicago, Ill.

"Tobacco" Kentucky's pride. Rich, mellow chewing, 10 pounds, \$3.50; mild smoking, 10 pounds, \$2.50, prepaid. John Sanderson, Box 72, Mayfield, Ky.

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

### FARM HELP

**Man and wife** Protestant, for 160-acre farm near Detroit. Man to superintend and wife to cook. Dairy farm and general crops. Modern house and equipment. Good man who can furnish satisfactory references and get results can make good connection. Address Box 3416 care of Michigan Farmer, Detroit, Mich.

### Wanted Married Man

On farm, must be good milker. State age, nationality, number of children and wages wanted. E. J. HURD, GAGETOWN, MICH.



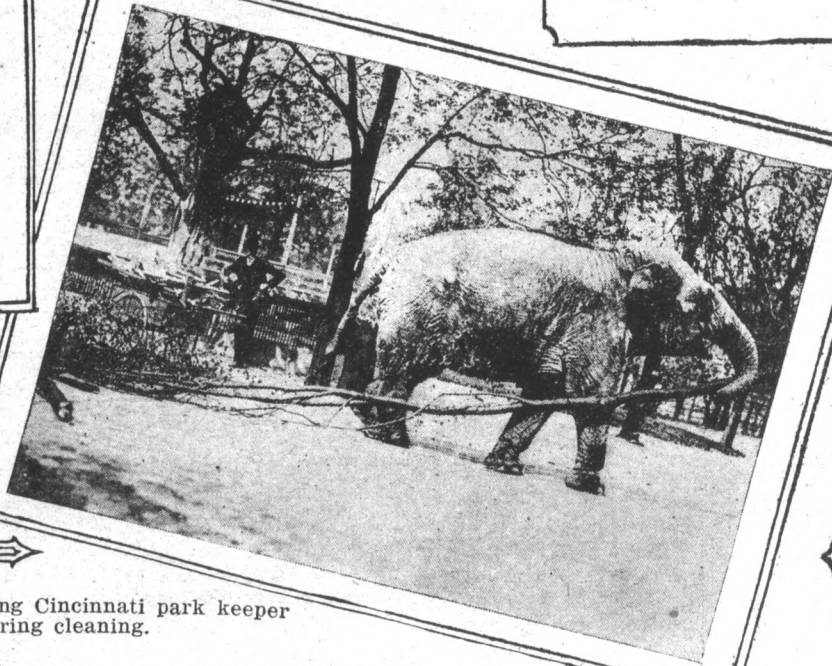
## WORLD EVENTS IN PICTURES



British aeroplane patrol passing over Belgian and French troops several days after allied occupation of Dusseldorf, Germany, as penalty for failure of the Germans to comply with allied demands.



Dorothy Miller, "Auction Bride," need not marry for money to save mother's life—she gets stage offer instead.



"Old Lil" enjoys helping Cincinnati park keeper with spring cleaning.



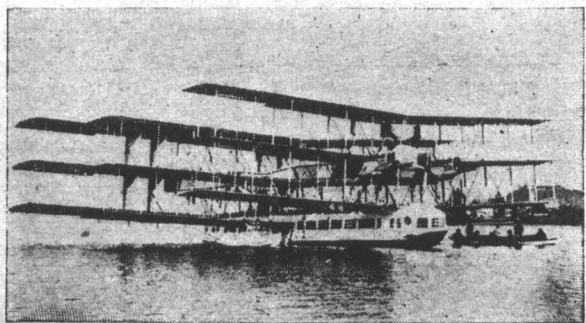
At eight has intelligence of adult.



Hilda Moreno, Spanish beauty, teaches Mexicans to "Shimmy," but finds Mexican bull fights tame.



Famous contralto, Marguerite d'Alvarez, is descendant of Incas Princess of Peru.



Largest aeroplane in the world, accommodating one hundred passengers, with private cabin for each.



# THE CLAN CALL

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

## CHAPTER VII. Almost a Martyr.

EARLY the following morning, Dale made ready for his journey to Cincinnati. Having learned the evening before that he was going, By Heck had come to accompany him to the Halfway Switch. Heck became very enthusiastic and declared that he would like to go clean to Cincinnati, just for the sake of seeing the town; and he looked decidedly blue when John Moreland told him, with a sly wink at Dale, that Cincinnati was made up almost wholly of revenue officers.

Heck finally became desperate about it. He didn't care, he said, if Cincinnati was twice as big as Cartersville and made up altogether of revenue officers; he'd lick them, just as he'd always licked revenue officers!

"I shore wisht ye could see yore way clear to le' me go with ye," he growled into his long and drooping moustache. "Ef ye could, Bill, old boy, I'd take along a jug o' yaller cawn whiskey twenty year old."

"Which was made the day before yesterday," laughed Dale.

Heck was forced to admit it.

The two set out for the Halfway Switch. They had three hours in which to cross David Moreland's Mountain before the arrival of Dale's train, and they walked leisurely.

They had not gone a dozen rods when there came from somewhere down near the river the sound of a rifleshoot. Both stopped and faced about quickly.

"I'll be dadgummed ef the Littleford's ain't found their weepens," exclaimed By Heck. "They have, igod, as shore as anything."

"How do you know?" Dale's voice was troubled.

"I shore know," and Heck narrowed his gaze. "'At was Ben Littleford's old .45 Winch. I'd know that gun ef I heered it at the nawth pole. The bar'l it's been cut off, and it don't sound like other Winchester. Plague take my hide, Bill—I feel like we was a-goin' to hear somethin' drap hard!"

"Caleb Moreland was down near the river cleaning out the springhouse ditch," Dale muttered, facing his companion. "I think we'd better go back."

Together they went back to the cabin. John Moreland and his wife and their son Luke were standing at the weatherbeaten front gate, with their eyes turned anxiously toward the river. Caleb was coming up through the meadow, and he carried his hat in his hand.

"Who fired that shot?" asked Dale.

"Ben Littleford," John Moreland answered readily.

Two minutes later, Caleb leaped the old rail fence on the other side of the road and approached them hastily. He was breathing rapidly, and his strong young face was drawn and pale—with the old hate.

"Well," said his iron father, "what is it?"

Caleb held up his broad-rimmed black hat and ran a finger through a hole in the upper part of the crown's peak.

"He didn't miss!" snapped John Moreland.

"No," quickly replied Caleb, "he didn't miss. He don't never miss. You know that, pap, as well as ye know God made ye. He done it jest to show me he meant what he said. He told me to go and tell you to gether up yore set o' rabbit-hearted heathens and come down to the river fo' a lead-and-powder picnic, unless ye was a-skeered to come. He said to tell ye the wimmenfolks had hid our guns, and we'd find 'em under the house floors."

John Moreland took it with utter calmness, though his face was a little pale behind his thick brown beard. He turned to his wife, who looked at him squarely.

"Addie, honey," said he, "I'm mighty sorry."

"Ef—ef you was much sorry, John," Mrs. Moreland half sobbed, "ye would not go down thar to the river."

"Me a coward?" Moreland appeared to grow an inch in stature. "Me let a Littleford send me news like this here which Cale brings, and not do nothin' at all about it? I thought you knowed me better'n that, Addie."

He faced his two stalwart sons. Always he was the general, the leader of his clan. He sent Caleb in one direction, and Luke in another, to arouse his kinsmen.

Then he beckoned to Dale, who had been trying hard but vainly to think of something to do or say that would be of aid to the cause of the women.

"I don't want you in this here mix-up," he said decisively. "You must stay clean out of it. You ain't used to this way o' fightin'. Asides, you're our hope. More'n that, mebbe, you owe yore life to Babe Littleford; ye can't git around that, Bill Dale."

He went on, after a moment, "Ef I git my light put out today, I want ye to do the best ye can with the coal. But o' course ye will. Somehow I got a notion, Bill, 'at this fight ain't a-goin' to be no ord'nary fight. When all o' both sides gits into it this-away, the's allus lights put out, and gep'ally lots of 'em. I want ye to do me two fav'ors, Bill Dale, ef I have my light put

out today. Will ye do 'em fo' me, my friend?"

"Certainly," Dale promised.

"Much obleeged to ye, shore. The fust is this: I want ye to take good pay out o' what the coal brings, pay fo' yore work. The second is this: I want ye to go to Ben Littleford atter I'm gone—pervided he is yit alive—and tell him about the end o' my bed-time prayer; I want him to know I went him one better, 'at I was a bigger man inside 'an him. Remember, Bill, you've done promised me. Now you go ahead to Cincinnati, and do jest like ye didn't know the least thing about this trouble we're a-goin' to have. So long to ye, and good luck!"

"I don't like the idea—" Dale began, when the big hillman interrupted him sharply:

"Go on! Ye cain't do no good here!"

Heck started. Dale turned and followed the lanky moonshiner; there seemed to be nothing else to do.

A battle between the factions was not such a new thing to By Heck. He sang as he toiled ahead of Dale up the crooked and rainwashed path:

Oh, when I die, don't-a bury me deep. Put no tombstone at my head and feet. Put a bear's jawbone in my right hand On my way to the Promised La-a-and, Oh! On my way to the Promised Land!

When they had reached a point a little way above the foot of David Moreland's Mountain, the pair halted and looked back. They saw the Littlefords and the Morelands, every one of them armed, going toward the river. It had a strange and subtle fascination for Bill Dale, a fascination that he did not then try to understand.

As the fighters reached dangerous ground, they dropped to their hands and knees and began to crawl through the tall grasses, the ironweed and the meadow clover. They were intent upon reaching the shelter of the trees that lined the banks of the river without being seen. The stream here was more than fifty yards wide; this was Blue Cat Shoals. The two lines of trees stood back a rod or so from the water, making the final shooting distance some seventy yards.

Drawled Heck, "Le's set down here and watch it; hey?"

Dale was silent. The very air was filled with the spirit of tragedy. The faroff tinkle of a cowbell seemed tragic; tragic, too, sounded the song of a bird somewhere in the tree branches overhead.

"Did ye hear me, Bill?"

"I think," Dale muttered, "that I'd better not go away until tomorrow. I can't leave matters like this. Do you

know of any way to stop that down there?"

By Heck shrugged his thin shoulders.

"Do you know o' any way to stop the risin' and settin' o' the sun?" he grinned.

They went back to John Moreland's cabin.

It was altogether by accident that the Littleford chief found his weapons. He had dropped a small coin through a crack in the floor. Babe was quick to say that she would crawl under the house and look for the coin, although she had just put on a freshly-laundered blue-and-white calico dress. Her anxiety showed plainly in her face. Her father questioned her sharply, and she stammered in spite of herself. Ben Littleford's suspicions were aroused.

So Ben Littleford came out from under the cabin floor with his hands full of the steel of rifle barrels, and with the money forgotten. He placed the rifles carefully on the floor of the porch, turned and caught his daughter by the arm.

"Who hid 'em?" he demanded.

"I hid 'em," was the ready answer, defiant and bitter—"I, me! What're you a-goin' to do about it?"

Littleford flung his daughter's arm from him. He was king, even as John Moreland was king. His keen eyes stared at the young woman's face as though they would wither it.

"What made ye hide 'em?" he growled. "Say, what made ye do it?"

"To try and save human lives, 'at's why!" Babe answered. "That man from the city—what'll he think o' us a-doin' this-away, a-fightin' like crazy wildcats?"

"Ef he don't like the way we do here, he can go back home," retorted the angry mountaineer. "He ain't tied, is he?"

Babe smiled a smile that was somehow pitiful, and turned off.

"The' ain't no use in a-argyin' with you, pap," she said hopelessly. "I—I might'nigh wish I was dead."

At that instant the gate creaked open. Babe glanced toward it and saw coming that black beast of a man, Adam Ball the Goliath, and he was armed heavily; in one hand he carried a new high-power repeating rifle, and around his great waist there was a new belt bristling with long, bright smokeless cartridges fitted with steel-jacketed bullets.

When Dale and his companion reached the cabin, Addie Moreland met them. Anxiety was breaking her heart.

"Mr. Dale," she pleaded, "I want you

AL ACRES—Al Incubates Patriotism

—By Frank R. Leet





to go down thar to the river and see ef the's anything ye can do to stop it afore it begins. You jest walk out bold in the open and ye won't be shot at, and I'll be obleeged to ye. Oh, I know the' ain't but one chanst in ten thousand, but I'm a-prayin' ye'll strike that one chanst."

Dale knew that he could do nothing toward bringing peace, and he knew that John Moreland would be angry at his interfering. But he nodded and went toward the river. He didn't have the heart in him to refuse.

As he crossed the old rail fence into the green meadow, he frightened a lark that had been singing to the rising sun. The little sun-worshiper flew a hundred feet, alighted, and began to sing again. The wild bees were humming about the purple crowns of the ironweed and the scarlet bloom of the meadow clover—

Then there came the keen thunder of a rifle shot.

Dale halted for a moment. Between two sycamores on the nearer side of the river he saw a puff of smoke rising lazily from behind a watroak on the farther side; a Littleford had fired first. Dale went on, moving rapidly and trying to keep himself always in plain view.

Then came a puff of white smoke and a report from one of the Moreland rifles, then shots from both sides—and the battle was on. Dale heard the nasty whine of a bullet in full flight; he heard the coarse zzz of a half-spent ricochet. He knew that he was in some danger now, and he was surprised to find that he was not frightened.

When he halted again, it was on his knees behind the big white sycamore that sheltered John Moreland.

"Back, are ye?" frowned the mountaineer. And with the grimmest humor, "I reckon ye had a fine, large time in Cincinnati. Yore friend Harris was well, I hope. Git that money from him?"

"Cut that out," said Bill Dale. "It doesn't get us anywhere—"

A bullet threw particles of sycamore bark to his face, interrupting. John Moreland pointed to a green furrow in the side of the tree.

"Ben Littleford hisself," said Moreland. "He's ahind o' that watroak acrost thar. Don't stick yore head out!"

The mountaineer turned his gaze over Dale's shoulder, and his countenance seemed to freeze. Dale looked around quickly and saw Babe Littleford, less than ten feet behind him! She had crept up through the tall grasses and weeds. In one hand she carried a white flag made of a man's handkerchief and a willow switch. She halted and sat up.

"Babe!" Dale cried out. "What are you doing here?"

Babe gave him a pale smile. She opened her lips to speak, when John Moreland broke in angrily:

"This ain't no place fo' you. You git away from here."

Babe went pale.

"Ef pap'd shoot me, a-thinkin' I was a Moreland, mebbe it'd stop the everlastin' fightin'," she said.

John Moreland stared, and Bill Dale stared. They were in a Presence, and they knew it. Babe went on:

"I've come to save all o' yore lives; but ef I do it, ye'll haf to make yore men quit a-fightin', and hold up this here—and I promise ye on a Littleford's word at' pap'll call ye a better man 'an him 'cause ye done it—"

She tossed the white flag to him. "The' ain't no time to lose, John Moreland; hold up the flag! Ef ye don't, ye'll every one be killed, 'cause ye're every one in a trap!"

"I don't believe ye, Babe!" snapped the Moreland chief. "Yo're people can hold up a white rag jest as well as we can!"

Babe went paler. There was a sud-

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den burst of firing from the Moreland her limp figure into his arms. John rifles, and she crept a little nearer to John Moreland in order that he might hear plainly that which she had to tell him next.

"I'm a-goin' to tell ye o' this danger," she said, "and trust to you a bein' man enough to do what I axed ye to. Black Adam Ball, he's got a new fashioned rifle and smokeless ca'tridges and steel bullets; and in a few minutes he'll be hid in a clum o' sassafras back thar in yore meadow, whar he means to set and pick off you Morelands one by one—and you and Bill Dale fust, 'count o' the beatin's you two put on him! But pap had nothin' to do with it, and rickollect that! Now I've saved all o' yore lives, 'cause ye couldn't ha' heered the sound o' his rifle in all o' this noise; and ye couldn't ha' seed the smoke o' his gun, 'cause it don't make no smoke. Hold up the white flag, John Moreland—hurry!"

Babe thoughtlessly arose to her feet, and one side of her brown head appeared before the sights of her father's rifle—her father fired quickly, too quickly for a perfect aim—the bullet burned its way across her temple and through her hair, and she crumpled at Bill Dale's knees, totally unconscious. Dale gave a hoarse cry and gathered

"Come over here, Ben Littleford!" shouted John Moreland. "Ye've shot yore own gyurl!"

And to his brother, Abner, whose right forearm was wrapped in a blood-stained blue bandana:

"Black Adam is hid som'eres in this meadow; go and ketch him, and don't take no chanst with him. Shoot him like a dawg ef he tries to trick ye!"

A dozen men ran to look for the would-be sniper. The Littlefords, still armed, came dashing across the river. Ben Littleford threw down his rifle and knelt beside his daughter; he wrung his big hands and cursed the day that had seen him born.

Dale held her close. His face was as white as hers, and his eyes were flaming.

"Why don't you shoot all your womenfolk?" he said to the Littleford chief, and every word cut like a knife. "It's by far the simplest way; it's merciful y'know. See, she isn't breaking her burned its way across her temple and through her hair, and she crumpled at now. No, keep your hands away—you're not fit to touch her."

(Continued next week.)

## The Revival at Mud Valley

Our Weekly Sermon—By N. A. McCune

(Continued from last week.)

MATTHEW SKIMP had never been accused of being a great preacher. Even if he had been so accused, he never could have been convicted of it. But on this particular Sunday morning he spoke like a new man. There was urge, sweep, grip, in his manner. He spoke like a man released from long imprisonment. He took a double text: "Where there is no vision, the people perish," from Proverbs, and, "Give attendance to reading," from Timothy. As the sermon moved along, it was evident that some were going to be cheated out of their accustomed Sunday morning nap. Ed Dongflapper, who had slept in the same pew for twelve years, never took his eyes off the preacher. The superintendent of schools, Mr. Ruler, was manifestly pleased, and old Mrs. Hearn, who was deaf, leaned on the seat in front of her the whole time.

The main points of the sermon were these: People who attend rural churches very often do not get any new ideas about their church, and hence fall into bad ruts. They continue doing things the same way that their fathers did, for no other reason than that their fathers did them that way. Skimp waxed humorous as he enlarged on this point, giving examples of old chaps with lace curtain whiskers (who lived in California) who made it a part of their religion to oppose everything new that the minister proposed. He instanced one deacon who refused to come to church and listen to the sermon, after he learned that his pastor wrote his sermons on a typewriter. He said it was a devil's machine. Skimp's next point was that the church in the country was on the decline, and was fast losing its young people, for want of life and progress. Incidentally, it was also losing many of its best ministers who were going into business, because of the smallness of their salaries, and the salaries not paid at that. Then he turned to the other side of the picture and told of famous country churches; that had become known on two continents. He spoke of that leader and prophet, Oberlin, who remained his entire life among the rough and (at first) illiterate peasants of the Vosges Mountains, until the section fairly laughed with crops, every mountain path was a good road, and every mountain home contained a Christian family. He reminded

her limp figure into his arms. John Moreland waved aloft the white handkerchief and bellowed to his kinsmen to stop firing. Then silence came. "Come over here, Ben Littleford!" shouted John Moreland. "Ye've shot yore own gyurl!"

MR. SKIMP concluded his sermon by making a proposition to his people: It was, that instead of the sparsely populated Sunday night congregation, averaging about one person to a pew, they should start a study course, on problems dealing with the country community. He knew, he said, that there would be opposition to having such a course on Sunday night, but he had considered it thoroughly, and was convinced that there could be no better use of the Sunday night hour and a half, than just that. He closed his sermon with an appeal to begin a new era in the Mud Valley church, that would bless generations yet unborn, and remake the whole community. He said there would be ten minutes for discussion and conversation. Then he would ask all who would do so, to sign the card, pledging them-



selves to attend as regularly as possible, for twelve Sunday nights. He closed with an earnest prayer that God would incline all present to receive the "new light, which has been granted us, in these later days."

"Good land!" said John Thick to his wife, "What's got into Skimp? He musta eaten something powerful fer breakfast." "Some life in the old hound yet, eh' Mose," said Mr. Slow to Mr. Grasp. "What do you think of it?" was heard on all sides. The answers were not always couched in words of flaming enthusiasm. "Nothing to it," said Thick. "Give us the old, simple gospel," said Mr. Flat. "I ain't much on this new-fangled stuff," said Mr. Shift. "What we want is not the reading of a lot of books, but a hell fire, gospel revival," said Mrs. Firm. "That's true enough," said Jake Ready, "But what's the use of havin' a preacher if you don't follow him? That's what the bell wether's for, ain't it? I ain't much on this kickin' and knockin'."

It was time to call the people together again. Mr. Skimp had been busy answering questions. How much would the books cost? What was the good of it, any way? Was it right to study on Sunday night? What would the young people think, if they saw their parents working on Sunday night? Did St. Paul read books? Didn't the Bible say that he that increaseth wisdom increaseth sorrow?

WHEN the people were seated again, Mrs. Firm got up and said, "It seems to me, that what we want is not a lot of reading man-made books, but a real, old-fashioned hell-fire revival, with people getting converted, and mourning over their sins. This idea of reading might do very well for children in school, but it had no place in the church." There were many heads that nodded as Mrs. Firm uttered these sentiments, and Skimp's plan looked as sick as a horse. Then Jake Ready got up, and, looking over his specks, he said, "Well, ain't this a revival, the preacher's been talkin' about? That's what I'd call it. When we have our county fair, it's a revival. And when we git out and holler fer Harding or Cox, that's a revival. When spring comes and we get to work in the fields, that's a revival. Of course, these ain't hell-fire revivals but they're revivals all the same. This is a new kind of revival, that the preacher's talkin' about, and let's go in fer it. What's the use of havin' a leader if you don't follow him?" Jake Ready had not shaved for a week and had a generally uninviting appearance, but Skimp could have kissed him for all of that. (To be continued).

#### THE VISION.

BY L. M. THORNTON.

Play beside the hearthstone, Little Lad of mine,  
Scamper through the garden though you trample flowers,  
Learn to love the home nest, every shrub and vine  
This is all my longing, through the passing hours.  
Bring to me your troubles, bring to me your joy,  
Share with me your secrets, sure I understand,  
Happily thus I keep you, still my little boy  
Till you cross the portal, into Manhood's land.  
Noise of drum and timbrel, noise of shout and song,  
Every sport and pastime that you call delight,  
Well glad am I to hear them for the day were long  
Had I no such memory, left with me at night.  
Home and hearth and mother, all belong to you  
Let them only serve you, training heart and hand  
Till a gallant laddie, strong and staunch and true  
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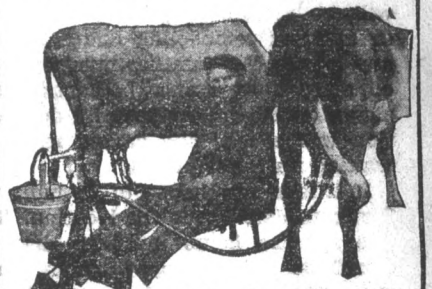
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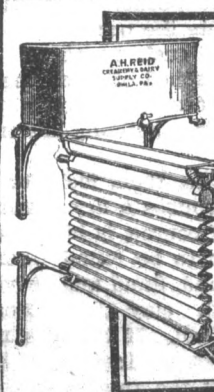
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*Fine natures are like poems; a glance at the first few lines suffices for a guess into the beauty that waits you if you read on.—Bulwer Lytton*

## Woman's Interests



# BUILDING THE NEW HOME

## *Location, Material, Foundation*

**B**UILDING operations have been well-nigh suspended in the United States since 1917. Patriotic considerations, either voluntary or enforced, prevented all but necessary building during the months of the war. Since its close the high cost of material and of labor has kept back not only the erection of new buildings, but a great deal of needed repairs. Absolute necessity, however, will force

If possible build the home on a knoll where it will receive sun and air from all sides. The old way of building your home in the midst of a grove is passed. We know now that such a course invites dampness and tuberculosis. This does not mean that there is to be no shade. A few trees located so as to shut off the fiercest sun in midsummer, or perhaps to break the cold winter winds, add to the comfort of the

proper, the basement walls will be of concrete. In building your basement, remember the first point in home-building, the avoidance of dampness. Having selected the driest spot available, use every precaution to keep your cellar dry in future. To do this it must be tile drained, of course. As a further precaution, waterproof the walls. There are many ways of doing this. Sometimes a waterproof coating is put on the outside. This may be tar mortar, tar or pitch mixed with sand, a thin coating of asphalt, or even glazed tiles. Often a commercial compound which prevents dampness is mixed with the concrete. Another method of preventing dampness is to leave a space from a foot to a foot and a half outside the wall, and fill this in with broken stone or gravel.

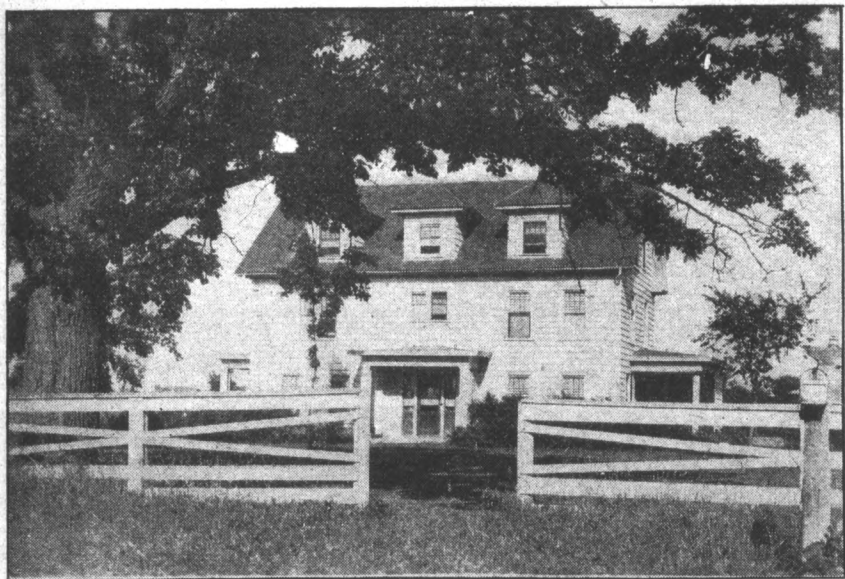
Dampness is sometimes caused in spite of all these precautions, by the use of poor materials. See that your contractor uses only the best gravel, sand, and cement in mixing the concrete. In spite of all your precautions for a damp-proof basement, a damp house may result from too rapid building. Time should be given for all material to dry thoroughly before plaster is laid.

The thickness of the foundation wall depends upon the material for the superstructure. If you are to have a frame house, the basement wall should be at least a foot thick. For a brick house, a sixteen-inch wall is required. A stone foundation should be a foot and a half thick for a frame house, and twenty-two inches thick for brick. If brick is

been traced to unventilated vegetable cellars beneath old houses. Then if you are to have a modern house with furnace and laundry in the basement, provide for windows through which coal may be put into the coal bin and light thrown on the furnace. A window over the laundry tubs is an absolute necessity for successful washing. If you are to have laundry and furnace, separate the two by a solid concrete wall, otherwise your washroom will be always flecked with coal soot. The best location for the cistern is below the basement floor.

The location of the furnace must be considered. If a hot-air furnace is used it is thought to give better results if placed about the center of the basement. This does away with any extra long pipes. If hot water or steam are used, the plant may be put in a corner of the basement. An outside chimney saves planning rooms to conceal it, but wastes heat. Decide which is most important to you, symmetrical rooms, or the small amount of heat lost by having the chimney run up the outside wall. If you are to have a fireplace, the chimney must have a separate flue. Arrange to have an ash pit for the fireplace built into the chimney, with a door in the basement for the removal of ashes.

Whether you expect to have electricity right away or not, have the house wired for electricity when it is built. If women are to stay on the farm they must have the work made lighter, and there is no cheaper nor more efficient helper than electricity. Even if you



A Roomy Farm House of the Colonial Type.

some building during 1921. Scores of families that have been "holding off" to see what would happen to prices, will be unable to postpone building, or at least remodeling and repairing, any longer. For families must be housed, and buildings must be kept in good shape or the money loss by depreciation will exceed any saving made by waiting for lower prices.

If it is a new house to be built the first consideration is the location. The site for the home must be dry. It would be interesting to know how much of the illness of the world may be traced back to damp buildings. Probably, with the exception of bad food, no other one thing is at the bottom of so much ill health as dampness in the building where most of one's time is spent. Catarrh, anaemia, rheumatism, tuberculosis, may be the result of living in a damp house. And if a robust constitution, coupled with outdoor work, prevents the occurrence of any actual illness such as these, at least the body is robbed of much needed vitality. Besides the injury to health, dampness in a building hastens its deterioration.

In choosing a site, then, look for a location which promises a dry foundation. Bed rock, of course, is ideal, but this is not always to be found where the home must stand. Sand and gravel is next best, with clay the poorest foundation soil of all. If there is no other choice, the excavating should be carried well below the frost line. If you do not know by previous digging the exact nature of the soil, find out what it is before deciding definitely on the site of the house.

family and the looks of the place.

Of course, the direction the house faces must be decided by the location of the farm. A south or an east face are considered the best, but if north or west must be our choice, the rooms may be planned so as to place those where we spend the most time on the sunny side of the house. Put your own sleeping-rooms on the south or east. The spare room, which is seldom used, can have the bleak north corner. For a farm home in Michigan I should choose the south side of the house for the kitchen. Our prevailing winds are from the south, and excessive sun may be shut out by trees, or by awnings until the trees have a chance to grow. A southeast corner will give you the breeze, and you will have the sun in the morning, before you are tired out. The next question is material. Shall we have brick, cement, concrete blocks, stucco, field stone, frame, or a combination of one or two? Some material which will not need to be painted is desirable, unless the first cost actually prevents using it. Frame houses do not cost so much—or have not in the past—but when the cost of painting every few years is considered, it is a question if the frame house does not cost more in the end.

Field stone is an enduring material, and if you have it yourself, is inexpensive although the cost of laying is somewhat greater than the expense of putting up brick. Brick is the ideal building material according to many. It absorbs less moisture than stone, dries quicker, and is a poor conductor of heat.

Whatever the material for the house



An Artistic Effect was Produced by the Careful Arrangement of Field Stones, in the Construction of this Country Home.

chosen for the foundation it should be at least a foot thick, though an eight-inch wall of brick will do for a small house.

In building your basement, plan for plenty of windows to come in the proper location for your purpose. The basement should be aired as religiously as the house, especially if a part of it is used to store vegetables. Many cases of epidemics in neighborhoods have

are going to have acetylene or gasolene for lighting, plan on electricity for power. Some day the power companies are going to realize the possibilities of furnishing cheap power to farmers. Be ready for that day by having your wiring done when you build the house. It will cost very little then, and if you should sell the farm, the knowledge that the house is wired will not hurt the sale.



*Genuine*



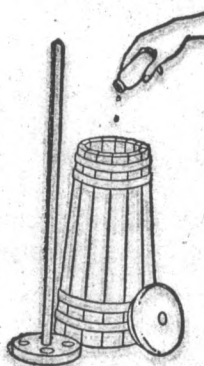
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## Home Demonstration Agent Activities

Gogebic County.—The agent gave a food demonstration in Bessemer and at Anvil, a demonstration on how to test materials. This group also have been taught the right way to make plackets and buttonholes. Three other centers are studying millinery, learning to choose a becoming hat, make a frame, cover it, make flowers and ribbon trimming and remodel old hats.

Houghton County.—The agent spent a good deal of time advising as to diet. During the month of January ninety-four dress forms were made. Interior decoration was also considered in one instance.

Manistee County.—The agent gave a talk at Bear Lake on "The Market Basket, and Foods to Put in it." Miss Arms, the clothing specialist, also visited Bear Lake and gave a demonstration on testing materials, in which men as well as women, showed great interest. At Marilla the club have made dress forms and studied the "set-in" placket. The sewing club at Cope-mish learned to draft apron patterns.

Wayne County.—The Bellevue group have discussed meat substitutes and fish. In this county the Red Cross dietitian, the home demonstration agent and the county nurse are carrying on a weighing and measuring campaign and a milk campaign. The county school commissioner is also cooperating. Dress forms have been made in many districts. The agent is also assisting the Boys' and Girls' Club leader in starting garment-making clubs.

Dickinson County.—One Italian group made tight-fitted linings to cover their dress forms. These same women have also made waists and one-piece dresses, fitted over their forms. In Norway the women are studying clothing.

The services of these agents is for any group of women in their county who need help on any home-making problem. If you do not know where to address them, ask your supervisor, or write Mrs. Louise Campbell, East Lansing, Michigan, who is in charge of the work of home agents in Michigan.

### HELPS FOR HOME-BUILDERS.

The following bulletins contain many helpful suggestions for prospective home-builders:

"Farm Architecture," by E. T. Wilson, U. S. Department of Agriculture, Washington, D. C.

"Planning the Home Kitchen," by Helen Binkerd Young, New York State College of Agriculture, Cornell University, Ithaca, N. Y.

"The Farm House," by Helen Binkerd Young, same address.

"The Farm Kitchen as a Workshop," by Anna Barrows, U. S. Department of Agriculture.

"Farm Home Conveniences," by Madge J. Reese, U. S. Department of Agriculture.

"Selection of Household Equipment," by Helen W. Atwater, U. S. Department of Agriculture.

In writing for any of the above, ask if there is a charge. Five or ten cents is sometimes asked for certain bulletins.

The following books are good reference reading. If you do not wish to buy them, ask for them at the nearest library. Write the state library at Lansing, Michigan, for reference books on home building.

"Ventilation for Dwellings, Rural Schools and Stables." Address F. H. King, Madison, Wis.

"Home Waterworks," by Carleton Lynde, Sturgis & Walton Co., Publishers, New York City.

"Electric Light for the Farm," by N. H. Schneider, Spon & Chamberlain, 123 Liberty St., New York City.

"Successful Houses and How to Build Them," by Charles E. White, Jr., The Macmillan Co., New York City.

"How to Build It," Keith's Architectural Service, Minneapolis, Minn.

Discarded pillow shams make excellent curtains for a closet or pantry window.—L. M. T.



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References: Any bank or business firm in Toledo.

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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.

### OFFER No. 304.

Michigan Farmer, one year.....\$1.00  
Christian Herald, one year..... 2.00

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## Our Boys' and Girls' Page

### Getting Ready for the Flock

By R. G. Kirby

#### Lesson VI.—Feeding the Chicks.

**L**ITTLE chicks need nothing to eat until the last hatched chick in the brood is about thirty-six hours old. Of course, they do not hatch at the same time and the first hatched chicks should have something to eat by the time they are about forty-eight hours old. This gives the egg yolk a chance to be absorbed. It feeds the chick all that is needed for the first few hours and the brood should be allowed to remain as quietly as possible under the hen until ready to be taken to the brood coop and fed.

Some of the chicks may become hungry and fall out of the nest box and become chilled. This can be prevented by bending a small piece of fine mesh wire around the nest box. During the first week fine grit, rolled oats and wheat bran are all that is necessary to keep the chicks growing. Give them plenty of fresh clean water and also sour milk or buttermilk, as it helps to keep down white diarrhea and other digestive troubles.

Feed the grit, rolled oats and bran on bits of board or shingles five times

them at all times and if possible furnish all of the sour milk they will eat. Watch for head lice and grease the heads of the chicks with a bit of lard if any lice appear. Otherwise they will be devitalized and the best of feeding methods do little good.

#### Lesson VII.—Brooding Successfully with Hens.

**B**ROOD coops should have strong wooden floors. This keeps the rats and weasels from digging under and stealing the chicks. Then if the entrance to the coop is closed each night by a strip of board braced with a small stone there will be few losses of chicks due to pests. A large toll of chicks is taken each year because of unprotected brood coops and it saves much discouragement if such losses can be avoided.

Often during storms the brood coops are blown over and the chicks scattered and chilled or drowned. This can usually be prevented by weighting down shed-roof brood coops with stones or driving stakes into the ground and fastening them to the coops. The A-shaped brood coops can be staked



Interest in Live Stock Keeps Young People on the Farm.

a day during the first week. Feed only the amount that the chicks will clean up in a short time. The point is to keep them active and hungry but not let them become too hungry. Do not slight the chicks and then try and make up by giving them a very heavy feeding. This will spoil their appetites and retard growth and it may cause some of the weaker chicks to sicken and die.

Here is a simple ration we have used with success for the succeeding weeks. Second week, rolled oats, two parts, and cracked wheat, one part. Third week, rolled oats one part, and cracked wheat one part. Fourth week, rolled oats one part, and cracked wheat two parts. Fifth week, cracked wheat two parts, and cracked corn one part. Bran can be used all the time by placing it in small hoppers near the brood coops. We have better success when we have used the commercial growing mash for chicks in place of the bran. A one-hundred-pound sack will do a flock of little chicks a lot of good and these mixtures are so well balanced that the chicks do seem to produce feathers and frame very rapidly when growing mash is always before them. Some of the commercial mashes contain dried buttermilk and this helps to keep down digestive troubles.

The chicks should have a grassy range as this helps to furnish them with exercise and green food. As they develop the range should be increased. Chicks that are six weeks old can be given mixtures of all the small grains. Keep bran or growing mash before

down easily by driving a stake at an angle at each end of the coop. Locate the brood coops on land that will not be flooded in heavy rain storms or many chicks may be lost in the water that will settle around the mother hen and soak and chill them.

If possible place the brood coops in the shade as they have low roofs which become very hot in the sun and this intense heat is not good for the mother hen or the chicks. It pays to place the coops in the shade of an orchard or near a raspberry patch. Chicks can hide among the dense raspberry canes and easily escape from hawks. Corn or sunflowers will also make a nice protection for the brood coops.

To keep the chicks healthy the brood coop floor must be clean and dry. It pays to clean the floor about once a week and spread on a fresh layer of sand. This absorbs moisture and gives the old hen fresh dirt in which to dust. Setting hens must be closely confined so they should be given green food and plenty of water as well as grain so they will keep in health and return to laying condition as soon as the chicks are weaned, or a few weeks sooner. If the mother hen has to eat fine scratch feed with the chicks she will scarcely ever be able to obtain a full crop. Better give the hen a handful of whole corn once a day when the chicks are eating their scratch grain. With that addition she will pick up enough scratch feed away from the chicks to keep in good condition.

Water and sour milk dishes for the chicks must be placed far enough out-

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side the coop so the mother hen cannot scratch in them. Many hens are very nervous when brooding chicks and will constantly pace before the wire front and scratch every dish in the brood coop full of dirt. Always protect the old hen from lice by treating her with blue ointment or dusting with louse powder. Spray the brood coops when they are cleaned, with one of the coal-tar commercial disinfectants to keep down mites. An extra brood coop is handy for holding the mother hen while her coop is being cleaned.

#### THE PROBLEM AND ITS SOLUTION.

DOWN at Columbus, Ohio, where the Farmers' National Congress held forth recently, an open conference was held to get to the bottom of the question of why the boys leave the farms and flock to the cities. The following lines were hailed by the gathering as the underlying cause for the emigration:

Good-Bye, Dad.

I left my dad, his farm, his plow,  
Because my calf became his cow;  
I left my dad—'twas 'wrong, of course—

Because my calf became his horse.  
I left my dad to sow and reap  
Because my lamb became his sheep;  
I dropped my hoe and stuck my fork  
Because my pig became his pork.  
The garden truck I made to grow  
Was his to sell and mine to hoe.

And now that the problem is recognized, "Dad" has begun to change his policy, as the times demand that he do. Before long the exodus will cease, and the refrain will go something like this:

Dad & Son, Inc.

With dad and me it's half and half—  
The cow I own was once his calf;  
No town for mine; I will not bolt,  
Because my horse was once his colt;  
I'm going to stick right where I am  
Because my sheep was once his lamb;  
I'll stay with dad—he gets my vote  
Because my hog was once his shote;  
It's "fifty-fifty" with dad and me—  
Profit-sharing company.

#### WITH BOYS' AND GIRLS' CLUB MEMBERS.

ACCORDING to Miss Osborn a more lively interest is being taken in live stock work among the members of the Branch county clubs. One of the Spotted Poland China breeders has offered a gilt to the club member raising the best pig this summer. The Polled Shorthorn breeders are discussing the idea of each breeder placing a calf with a boy at a reasonable price and then assisting the boy in feeding. In another section of the county the Guernsey breed appears to be in favor.

The Macomb county boys and girls are becoming enthusiastic over their club work. There is more interest taken this year than has previously been shown. Summer work has a stronger appeal to the club members of this county than winter work and for this reason the coming of spring is putting the boys and girls on tiptoe.

The following club members have been awarded scholarships at the Michigan Agricultural College as a result of their winning state club championships in 1920: Archie Newbarg, Grand Marais, Alger county; Pearl LaCrosse, Perkins, Delta county; Bernice Miller, Coldwater, Branch county.

#### A CRAFTY RAFT.

HOW would you like to go to England on a raft? A ship that is almost a raft has just been built. She will carry lumber to England, and she is made entirely of her own cargo. The raft-ship is driven by oil engines on the main deck. When she reaches England she will just unload herself. All her timbers will be unbolted, and in place of the ship there will be so much fire wood and house wood for our English cousins.—Everyland.

## The chief cause of engine trouble

—sediment in inferior oil

STALLED at night—it may happen to you! Are you treating your engine fairly? Has the power begun to go bad, bearings to pound, pistons to knock? If so, trouble is in store for you.

Ninety per cent. of modern engine troubles are due to poor lubrication. Under the intense heat of the engine—200° to 1000° F.—ordinary oil forms great quantities of black sediment. Sediment causes premature wear which will cut the life of your engine in two. This is the hidden toll taken by sediment in inferior oil.

You can eliminate engine trouble from this source. Sediment is reduced 86%

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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.



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**200-Progressive** pedigreed everbearing strawberry plants \$1.50 postpaid. 1000 \$5.00 not prepaid. Mason Nursery Co., Piedmont, Mo.

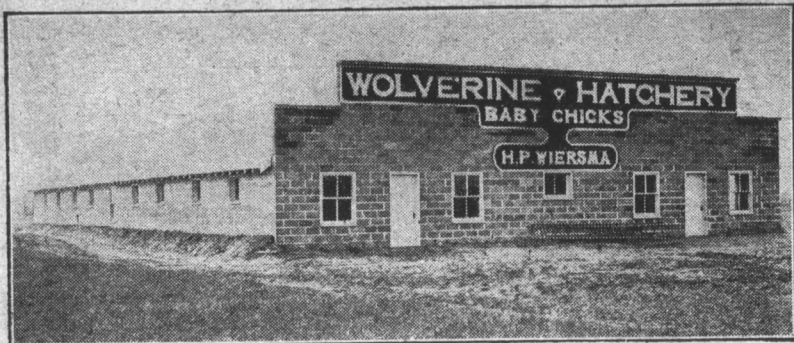
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White Rocks }  
S. C. & R. C. Reds } 15c each  
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Barron S. C. White Leghorn heavy weight and heavy layers American S. C. White Leghorns heavy laying strains S. C. Brown Leghorn the most beautiful Leghorn and a good layer.

S. C. Anconas great layers.

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

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



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	25	50	100	500	1000
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Purebred S. O. 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.

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and 8 weeks old pullets  
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Additional Poultry Ads. on Page 519

# Farm Poultry

## Setting a Hen

By G. O. Stewart

AT first thought, setting a hen seems to be a very simple subject, but when I hear of so many failures and poor hatches I find upon inquiring that very few people know just how to set a hen, or if they do, they seldom follow the best methods.

The first essential in starting in the business is to purchase eggs of some good, reliable breeder who mates nothing but strong, vigorous birds. Place your order for the eggs, but do not have them shipped until you are certain you will have a broody hen when they arrive. When they arrive do not place them under the hen, but place them in a cool, dry place, and do not disturb them for twenty-four hours.

A day or two before you expect the eggs to arrive, arrange a place to set the hen. Whenever a hen is allowed to steal her nest away, she usually selects a cool, damp place, away from the flock, so that she will not be disturbed. These conditions should be duplicated as nearly as possible when a place is being selected for the hen.

### Nests for Sitting Hens.

When only a few hens are to be set it is not always convenient to provide separate quarters for the sitting hens. Of the various styles of nests for sitting hens the following is recommended: The nests should be fifteen inches square, fifteen inches high in back and sides, and with a board six inches high in front to prevent the nesting material from falling out. Before placing the nesting material in the nest proper it is well to put three to four inches of damp earth or a piece of grass sod in the bottom of the nest to provide moisture. The nesting material which may consist of hay, chaff, or straw, is then put in. Pack the nesting material down firmly and shape a circular nest slightly deeper in the center than at the edges. Some folks call it "saucer-shaped." A nest so shaped will prevent the eggs from rolling out from under the hen and becoming chilled. They must be kept warm to start incubation.

### How to Set a Hen.

The number of eggs to place under the hen will depend upon her size and the season of the year. Usually fifteen eggs are considered enough. However, if the hens are set early, it is better to place only thirteen eggs under them.

Before the hen is set, she should be dusted with a good lice powder or sodium fluorid. Then she is ready for the eggs: It is well to repeat the dusting on the tenth and nineteenth days. Then hens should be released and fed each day. Feed them close to their nest, so they will have to hunt for the food. Feed whole grains and water. Avoid damp mash as they will make the nests dirty and require more time in cleaning. As a rule hens will return to their nests before there is any danger of the eggs chilling, but if they do not go back in half an hour they should be put back. Do not remove the hen after the nineteenth day.

The period of incubation for hens' eggs is twenty-one days. Usually some of the eggs hatch in the evening of the twentieth day; it sometimes happens, however, that the hatch will run over the twenty-first day, especially during cool weather.

Examine the nest and eggs and remove when necessary any broken eggs and washing those that are soiled. If the nesting material is soiled replace with clean chaff, hay or straw. Nests in which eggs have become broken soon become infested with mites and

lice, which will cause the hen to become uneasy and leave the nest. This is likely to cause the loss of a valuable sitting of eggs. When a nest is infested with mites the hen, if fastened in, will often be found standing over, rather than sitting on, the eggs.

Frequently eggs that are laid in winter or early spring are infertile, and for that reason it is advisable to sit several hens at one time if possible. After the eggs have been incubated for from five to seven days, depending somewhat on the color and thickness of the shells, they should be tested, the infertile and dead-germ eggs removed, and the fertile eggs returned to the hens. Thus in many cases all the eggs remaining under several hens may be placed under one or two, and the hens from which the eggs were taken may be reset. For instance, thirty eggs are set under three hens at the same time; that is, ten under each hen. At the end of seven days, at which time the eggs should be tested, it may be found that ten are infertile or have dead germs, leaving only twenty fertile eggs. These twenty eggs can then be put under two hens, and a new sitting placed under the third hen.

### REGARDING BLACKHEAD IN TURKEYS.

NOTICE in issue of March 26, an article, "No Cure for Blackhead" in turkeys.

I wish I could help R. R., of Tuscola county, for I have cured some very sick turkeys of that same trouble. I may be too late to help this case, but for the benefit of turkey raisers I will give my simple home remedy.

This is how I cured turkeys that were so sick they did not eat for days: First look out for chicken lice. If turkeys are found lousy, dust with good louse powder. You are apt to find a few lice on turkeys if not doing well, and it pre-disposes them to disease. You cannot be too watchful. For sick turkeys with yellow dysentery or bowel trouble I take one-half teaspoonful of pure sour buttermilk, and a large tablespoonful of charcoal, pounded up fine, (good hardwood coals are best), then I add about one-fourth teaspoonful of cayenne pepper. I mix in a little wheat bran, rolled oats, and a teaspoonful of oil meal.

This is mixed so it is soft and easy for the turkey to swallow. Bread crumbs are good to put into it, too. But have it all soft and feed it gently and slowly to your sick turkey. Put it down the throat a little at a time. This is one dose for large turkeys. Feed it morning and evening. When bird gets well enough to eat of its own accord give this dose but once a day.

It took about a week to cure mine, but it paid. They were very nice large turkeys but got very thin in flesh while sick. But they are well and thrifty today. Be gentle and careful of sick birds. Give water about as in health, but don't allow them to drink unreasonably. Sometimes there is extreme thirst. Put some pepper in water, too. Keep birds that are sick in a yard by themselves.

Buttermilk is fine for this trouble. I tried all sure-cures I could get, but nothing gave results like this. I think a good mash feed mixed up with sour buttermilk would also be a good preventive of trouble if given to them once or twice a week when well.

F. H.



## CONSULT VETERINARIAN.

Please tell me what ails my hens. I have a fine flock of Barred Rocks, but some disease has got them. We have always given them the best of care, give them grain, corn, oyster shell, and they have free range of an acre of yard. They get lame in one leg, then waste away until they die, or until they are killed. They appear to eat well until about a week before they die. What causes this, and what is the cure?

Tuscola Co.

M. W.

When a hen becomes lame and shows signs of rapid emaciation it indicates tuberculosis. If a postmortem finds that the liver is covered with grayish nodules that is another sign of the disease. Such birds must be destroyed as tuberculosis is contagious and no cure has been found. If you have a valuable flock it will certainly pay to call a veterinarian and have him inspect the birds and make recommendations. When one hen is sick it may look expensive to employ a veterinarian but when a good flock is at stake the poultryman must find out the trouble at once and take measures to improve conditions.

The flock may have to be marketed and new stock obtained after the house and yards have been thoroughly disinfected.—R. G. K.

## POULTRY FARM QUESTIONS.

I have some land which I wish to develop into a poultry farm, and I would appreciate some information. Of all poultry houses I have seen and read about, I like the Missouri poultry house best. What do you think of it? Would it be suitable for Allegan county? I have an old building I can remodel into a poultry house ten by twenty-five feet. I want to make an open-front house, making it twenty-five feet deep. Because of it being so narrow, would that cause it to be drafty? Would a ten-by-twelve portable brooder house be large enough to raise three hundred chicks to maturity? I expect to keep White Rocks. Is a brown egg lower in price in the Detroit market than a white egg?

G. S. C.

I have recently been reading an article on the Missouri poultry house by H. L. Kempster. Professor Kempster states that it is a type of poultry house which can be used in any climate. He formerly taught at the Michigan Agricultural College and is very familiar with Michigan poultry conditions. I feel that the Missouri type of house will be very satisfactory for our state and may build one myself before long.

A building ten feet deep is not quite deep enough to keep the wind away from the roosting platform. Sixteen feet is the least depth that we would wish to use. Houses that are twenty feet deep prove very satisfactory.

A ten-by-twelve portable brooder house and a stove brooder will protect three hundred chicks very nicely until weaning time when the brooder is removed and roosts installed. It would be rather small to house three hundred birds until maturity. Probably you would wish to sell some as broilers at an early age and this would cut down the flock. Then it is best to separate the cockerels and the pullets soon after the broilers are culled out, or possibly before that time. That size of brooder house would then be fine to hold all of the pullets until they were ready to remove to laying quarters in the fall.

Poultrymen in our section ship fine grade white eggs to New York City in order to obtain a premium on them. As near as I can find, the graded brown eggs bring about the same as white eggs on the Detroit market. I think that white eggs have no superiority over brown eggs of the same size, quality and freshness, and find that most Michigan consumers seem to feel the same about it.—R. G. K.

Good care means good breeding, good feeding, constant watchfulness of small details, and finally marketing at the right time to get the most dollars.

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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.

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Additional Poultry Ads. on Pages 523 and 525



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Get our low price in quantities to GRANGES and FARMERS' ASSOCIATIONS. Agents wanted. Samples free.  
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## Would Reduce Cost of Government—By L. A. Sedgwick

IN these trying days of high taxes (which threaten for some time to come), and the re-adjustment of conditions that will again start the wheels of industry, and bring contentment and prosperity to our country, there are a few factors that ought to be considered that would mean much if proper action were taken.

Let us consider the salaries of public officials. A great many of them tell us at election time, or soon after, that they want to be considered as the servants of the people and that is just what they are supposed to be.

In fairness to the people these servants represent it would seem justifiable and right that they share a portion of these losses by reduction of salaries, thereby lowering taxes to the whole. A great many perhaps are underpaid and to those due consideration should be given.

It would seem that a reduction of twenty-five per cent in all salaries over \$1,800 per year, providing said reduction did not reduce the salary below \$1,800, would be a fair basis to work upon.

Some would doubtless object strenuously and threaten to resign, but there are plenty to take their place and perhaps a great many could and would render the public far better service than some now serving merely as "political loafers."

Millions of dollars have been sacrificed as loss to agriculture and industry in the past few months and while industry has been greatly paralyzed, agriculture is going to keep right on "doing business." Some may quit but others will take their place. Therefore, as servants of the people some immediate action should be taken, whereby this class would stand a just portion of loss and thus reduce our present high taxes.

And further, let us consider the taxation of automobiles and motor vehicles. The state of Michigan is expecting to save several thousand dollars by having the license plates made at the Jackson state prison. Why not make a set of plates good for three years and save a good many more thousand dollars for taxpayers?

Other states are doing it at a far less cost than Michigan. Some states are issuing license plates for two years and with those whom I have talked, it is very satisfactory. Minnesota issues a three-year license, or did a short time ago, and at a far less figure for the three years than Michigan is charging per year. Be that as it may: if Minnesota can issue a three-year license, Michigan ought to be able to do the same thing, thereby saving thousands of dollars in manufacturing and handling to the taxpayers.

Then there is our post office department. Millions of dollars would have been available had the government left the postage rates as they were when it cost three cents to send a letter that now goes for two. No one would have felt any hardship under the three cent rates and our government would have had a large revenue to help pay off the debts.

Of course, the volume of business done under the three cent rates may have been somewhat less, but it hardly seems probable, as very few persons would hesitate over one cent extra.

Taxation being the means to carry on our government is a necessity, but taxation at the present time has become a heavy burden, and while many are tottering under the load and many falling by its weight, it is high time some action is taken to reduce high taxes. At the present time bills are being introduced before legislative bod-

ies that mean the imposing of extra burdens on our already overloaded taxpayers.

Place a tax on sales and production and it simply means that the salesman and producer will have to add that extra to his selling price and the consumer pays the tax, plus a profit and cost of production, throwing the bulk of this proposed tax on the consumer. While there are quite a few positions and officers that could be done away with, thus reducing high taxes, it would not be advisable to abandon any office that was rendering a paying service to the health or prosperity of our state and its people.

If our state and national legislative bodies would devote some of the time to simple and effective legislation that is now being taken up by complicated and ineffective methods, there would be less extravagant expenditures and far less ineffective laws. Let a person study law and after being admitted to practice a large amount of them drift into politics, perhaps because it requires so much knowledge about law in order to create laws. No wonder we have so many lawyers making more laws for more lawyers.

Simplify our laws in such a way so that the various branches of farming and industry can be represented pro-rata by active workers and we will have a truer democratic form of government with unnecessary laws done away with and taxation reduced to a minimum.

### REGISTER THE GOOD PURE-BREDS.

SINCE the value of an animal depends upon its ancestry it is important that the pure-bred animal of quality be registered, for then it will be possible to go back and learn the qualities and values of its ancestors. Not all pure-bred animals are registered; in fact, there are more pure-bred animals not registered than registered.

Every breeder knows that when he desires to continue with one type of animal he must choose breeding stock whose ancestors have been of that particular type. The more generations of ancestors a sire or dam may have which conform to the type the breeder wishes, the more certain will the breeder be that the offspring will be what he wants. Records are the only means available for knowing just what there is back of an animal and consequently the good breeder is obliged to depend almost entirely upon a study of the pedigree after he has settled whether the particular individual is worthy of consideration of a place in his herd. It is therefore a matter worthy of repetition that all good pure-bred animals should be registered.—R. H.

### LAW ON LICENSING STALLIONS.

BREEDING of horses in Michigan has been placed on a much higher plane by the passage through both branches of the legislature of a bill to provide that only pure-bred and sound stallions may be granted licenses by the state veterinary board. The cost of making an individual inspection of the soundness of each stallion is covered by an annual fee of \$5.00 for each stallion, with a \$3.00 renewal fee.

Among the diseases and unsoundnesses which debar a stallion from being granted a license, are: Cataract, moon blindness, roaring or whistling, heaves, broken wind, bone spavin, ring-bone, side-bone, bog spavin and glanders.



## Buying Cows at Auction

G. K. RIGBY.

WHEN a farmer sells a cow from his herd at a private sale he seldom wishes to sell one of the best cows in his herd. At an auction sale he often closes out his herd and the buyer has a chance to obtain the best cows in the herd. Then it pays to go to the farm at least a couple of hours before the sale and look over the cows that are of special interest. Sometimes the inexperienced buyer can obtain help from some dairy farmer who knows good cows. But be careful in obtaining such information not to try and get it from other bidders on the same animals. It is not to their advantage to encourage rival bids on cows they wish to buy.

Before attending a pure-bred sale it helps to obtain a catalog and give the pedigrees careful study to see how they will match up with cows in the home herd. Then their value can be estimated. This may save errors at the sale when the mind is sometimes confused by the crowd and the rapid change of animals in the ring and the talk of the auctioneer. Many a buyer has been influenced too much by the auctioneer and gone home feeling rather depressed at the price paid for certain stock. It is better to know your own purse and buy judiciously.

Do not pay too much attention to the records of distant relatives in a cow's pedigree. Most any cow of any breeding at all can have the name of some good one in her pedigree if you go far enough back. This does not mean that such a cow may not be fine. But it pays to know something about her close relatives and her vigor. I believe a cow is no good if she lacks vigor and breeding powers regardless of how many fine cows are in her pedigree. The farmer buying pure-bred cows at auction is buying more than the animal on which he bids. He is buying seed stock. The purchase is not only the one cow but the chance of producing many more like that cow from her and her daughter, and on down the line. So the vigor of the cow is of great importance.

When buying cows at neighborhood sales it is often possible to learn considerable about the best cows in the herd by visiting the barn at milking time several days before the sale. Then it is possible to see the cows before milking time and note the amount of milk produced and see how they look after being milked. This information will be valuable when the bids are rolling in and a man is in doubt as to the cash value of a certain cow.

It is also useful to see those cows before they are fitted for the ring. A certain amount of trimming often makes cows look better than they are. It takes a little study to find out the accurate value of the cow which has been carefully fitted for inspection in the auction ring.

Buying of a reliable farmer is one of the surest ways of obtaining good cows. When such a man holds an auction he describes his cows accurately. He not only tells the good points of the cow but he tells the bad ones if there are any. He does not necessarily run down his own herd but he does not misrepresent the cows by leaving unsaid anything that a buyer should know. The best of cow buyers sometimes buy cows that do not prove as good as expected. But by careful study and sane bidding the farmer can build up a good herd by attending sales and buying the type of cows that he needs.

More than 750,000 hogs have been recorded by the American Poland-China Record Association since its organization forty-three years ago. This includes nearly 550,000 sows and over 220,000 boars. More than one-half of these animals have been recorded in the last eight years.

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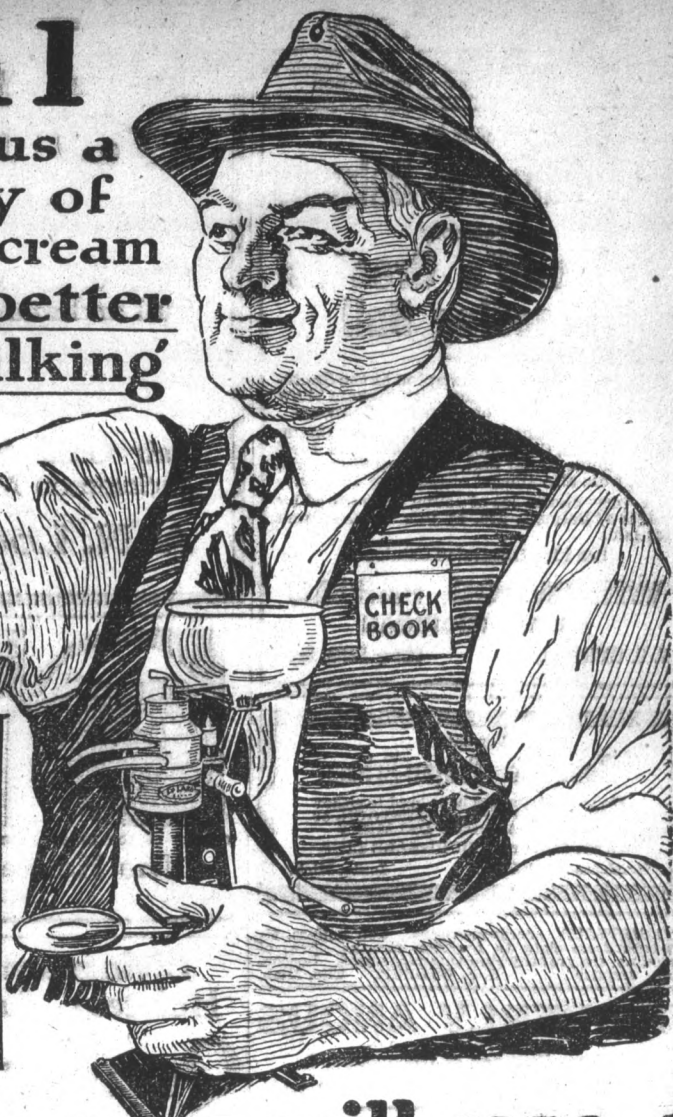


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Kalamazoo Tank & Silo Co. Dept. 2225 Kalamazoo, Mich.  
Investigate the Kalamazoo Ensilage Cutter.  
None Better Anywhere.



For CUTS INFLAMMATION CHAPS SORE TEATS CAKED BAG BUNCHES BAG BALM  
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The real O. K. of any product is the extent of its use. Last year 50% more Bag Balm was used by dairymen than the year preceding.

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**FISH BRAND**

Reflex Slicker?

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ESTABLISHED 1836  
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The World's Greatest  
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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.

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ORION, MICHIGAN

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For Sale

## Woodcote Trojan-Ericas

We are offering ten cows bred to either IMP. ELCHO OF HARVESTOWN, or IMP. EDGAR OF DALMENY.

Write for our 1921 BULL SALE LIST

Woodcote Stock Farm,

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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, Olio, Mich.

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Cows and Heifers Bred to

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Reg. Aberdeen Angus bulls and heifers from 6 to 18 mos. old of the very best of breeding, also Berkshire Swine, boars ready for service and pigs both sex singles, pairs or trios, will accept Liberty Bonds.

RUSSELL BROTHERS, Merrill, Mich.

## Registered Bull

ready for immediate service \$100.  
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GUERNSEYS—REGISTERED BULL CALVES  
Containing blood of world champions.  
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Guernsey Bulls of May Rose Breeding their dams have records 420 to 650 lbs. fat also a few cows and heifers are offered.  
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FEDERAL Inspected Guernsey Bulls. Priced 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 Six registered Guernsey bulls May Rose breeding ready for service. Cheap if taken soon.  
John Ebels, R. 2, Holland, Mich.

Reg. Guernsey bulls for sale cheap. State T.B. tested and from good producing and A. R. cows. Age 1 to 12 mo.  
C. E. Lambert & Sons, Linwood, Mich.

FOR SALE Guernsey bulls, old enough for light service.  
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For Sale Two young Reg. Guernsey Cows also bull calves.  
Geo. N. Crawford, R. 2, Holton, 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 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.

\$175 buys reg. Holstein heifer 2 yr. old. Fresh soon. Sire by "Prince Kornelke Johann" A 31 lb. bull. Bred to 28 lb. bull. B. B. Reavey, Akron, Mich.

Reg. Holstein Bull Calf \$60 Reg and Del. Born in Dec.  
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## NOTICE

## The Winwood Herd

on Nov. 1st will move their Herd of Pure Blood Holsteins to their new home, 1½ miles south of Rochester, Mich. and for the next 30 days we will sell what bull calves we have cheap as we will be unable to get our buildings complete before winter. So get busy if you want a son of Flint Maplecrest Boy at your own price.

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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.

Several New Milch Cows with calves at side. Holstein and Jersey. Appy Gotfredson Land Company, Ypsilanti, Michigan Mr. L. H. Leonard, Manager. Telephone 749F13

Holstein or Guernsey calves, practically pure, 7 weeks old, \$25.00 each, crated for shipment anywhere. Satisfaction guaranteed. Bonds Accepted. Edgewood Farms, Whitewater, Wis.

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## T. B. Tested 60 Day Guarantee

Second Eaton County Consignment Sale. A 30 lb. cow and a 30 lb. yearling bull and many others with good records will be sold.

THURS., APR. 21st, 1921

SALE AT 12 M.

Fair Grounds, Charlotte, Mich. 18 mi. from Lansing on G.T.R.R. 35 mi. from Jackson on M. C. R. R. For information and catalog write,

A. N. Loucks, Sec'y.,

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"I believe the purebred Holstein-Friesian to be the most economical producer. I believe the Holstein cow is the most rugged and healthy of our dairy breeds. Our neighborhood specializes almost entirely in this breed. The Holstein-Friesian Association of America is the best organized and most progressive of all breeding associations. Its work in maintaining the production standard and of advertising the Holstein everywhere is a great benefit to all owners of the breed. Send for Free Booklets."

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At  
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May 18, 1921  
90 HEAD

Jay B. Tooley, President  
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For Sale. Three reg. Holstein bulls, ready for service, well bred and good color. Prices in reach.  
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## 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.

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Estimates furnished by the Dairy Division of the United States Department of Agriculture show that the dairy cows of the country average only 4,500 lbs. of milk per year.

A good Holstein bull will increase the production of the ordinary herd 0 per cent in the first generation.

Let us help you find a good one to use on your herd. You cannot make a better investment.

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33.60 lbs. butter average of 8 mo. old bull. Can have him for present cost of service. Liberty Bond or note.  
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FOR SALE 15 head selected high grade Holstein young cows. 9 fresh, balance soon due. Heavy milkers \$1100. A great bargain. Selling to make room for registered stock.  
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Reg. Holstein Friesian cows will sell one or more. Regis and Pontiac breeding bred right and priced right from two to six yrs. old come and see them or write. HENRY S. ROHLFS, R. 1, Akron, Mich.

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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 4th 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 7 Days 100.1 lbs.  
Butter 7 Days 69.3 lbs.  
Butter 7 Days 26.31 lbs.

His name is KING VALE CORNUCOPIA WAYNE, No. 312569

Born February 6, 1920

His 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.

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Offers

Cluny Konigen Colantha Silver 326205  
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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

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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 milk-over 145,000 lbs. in 14 milking periods producing 15 calves.

Pedigree on application.

Price \$250.00. Federal Accredited Herd.

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Jersey Cattle, Majesty strain. Herd on State accredited list. R. of M. testing constantly done. Bulls for sale. ALVIN BALDEN, Phone 143-5, Capac, Mich.

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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. B.

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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.

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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.

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Kirklevington Lad, by Imp. Hartford Welfare, in service. Stock for sale.

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One Yearling Shorthorn Bull calf registered, for \$125. M. G. MOSHER & SONS, Osseo, Mich.

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Breeders of

## Polled Shorthorn Cattle

Young Bulls For Sale

Several well bred herd bull prospects.  
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We now have that we will sell cheap if taken at once. Inquire about them or better come and see them.  
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Choice young Shorthorn cows and heifers for sale at all times, bred or open, or a carload, also a few young bulls strong in Sultan Blood. Write S. H. FANGBORN & SON, Bad Axe, Mich.

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Buy Pigs Now Registered Duroc pigs crated 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. Michigana Farm Ltd., Pavilion, Mich.

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Write Me at once I have just what you want heavy bone registered Duroc Jersey boars ready for service.  
W. H. MAYES, L. B. 506, 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.



**Save \$100 Now**

**New Plan Makes Silo Owning Easy**

Knowing and understanding farmers' financial difficulties, knowing the importance of the silo as a means of future farm profits, we have developed a plan by which a limited number of farmers can own a silo on our new **Co-operative Finance Plan For Silo Buying**

the best—the newest—most original plan of silo buying ever offered. No need to stretch your credit or strain your bank account to own a Champion.

It's the right silo, at the right price and if you use it right, it will prove to be the real mortgage lifter, the debt payer, the profit producer of the future, because with the silo you can market your crops through hogs, cows, calf raising and Baby Beef and drive your crops off the farm at the highest price instead of hauling them off at ruinous prices.

**The Champion Silo**

Different from all others—the cheapest, most satisfactory permanent silo on the market. Made of best silo material known. Can't rot, will not crumble, not affected by the weather.

Special construction features not found on any other—such as new foundation construction, special interlocking anchoring system fastened into silo foundation, heavy steel door frame and many other improvements that put Champion Silos ahead of all. The one absolutely permanent, absolutely practical, inexpensive silo.

**Get These FREE**

Upon request we'll send you free, without any obligation, Champion Silo Catalog, Blue Prints of new construction and feeding reports telling how prominent feeders make money, also particulars of terms etc.

**THE E. W. ROSS CO.**  
Dept. 214 Springfield, Ohio

**AGENTS WANTED**

If you have spare time and your territory is open, we have a good proposition to offer, selling Champion Silos, the easiest and best selling silo on the market. Write today.

**After 30 Days Free Trial**

**\$7.50**

**The Belgian Melotte Separator**—with the wonderful Belgian Melotte Self-Balancing Bowl. No other like it.

30 days' free trial—then, if satisfied, only \$7.50 and a few easy payments. AND—the wonderful Belgian Melotte Separator is YOURS.

**No Money Down!**

Catalog tells all—write. **Caution!** U. S. Bul. letin-201 shows that vibration of the bowl causes cream swirls! The Melotte bowl is self-balancing. Positively cannot get out of balance therefore cannot vibrate. Can't remix cream with milk. The Melotte has won 56 Grand and International Prizes.

**Catalog FREE**

Write for new Melotte catalog containing full description of this wonderful cream separator and the story of Mr. Jules Melotte, its inventor. Don't buy any separator until you have found out all you can about the Melotte and details of our 15-year guarantee which is infinitely stronger than any separator guarantee. Write TODAY.

**The Melotte Separator, H. B. Babson, U.S. Mgr.**  
Dept. 3104, 2843 W. 19th Street, Chicago, Ill.

**Runs so easily, bowl spins 22 minutes after you stop cranking unless you apply brake. No other separator needs a brake. Bowl chamber is porcelain lined.**

## Saginaw Silos at Rock Bottom Prices

The most complete line of silos ever offered to the American farmer at astonishingly low prices. Our new list shows a slash on Steel-Built Stave Silos, Standard Stave Silos, Hollow-wall Wood Silos and Vitrified Tile Silos. Get your order in early. Write today.

Address Dept. 10

**McCLURE COMPANY**  
SAGINAW, MICH. CAIRO, ILL.

### STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF AUGUST 24, 1912,

of The Michigan Farmer, published Weekly at Detroit, Michigan, for April, 1921.

State of Michigan,  
County of Wayne.

Before me a Notary Public in and for the state and county aforesaid personally appeared I. R. Waterbury, who, having been duly sworn according to law, deposes and says that he is the Business Manager of the Michigan Farmer, and that the following is to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are:

Publisher, The Lawrence Publishing Co., Detroit, Michigan.

Editor, Burt Wermuth, Detroit, Mich.

Managing Editor, I. R. Waterbury, Detroit, Mich.

Business Manager, I. R. Waterbury, Detroit, Mich.

2. That the owners are: (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders, owning or holding one per cent or more of the total amount of stock.)

M. J. Lawrence, 2131 Wyoming Ave., Washington, D. C.

Carrie J. Lawrence, 2131 Wyoming Ave., Washington, D. C.

Paul Lawrence, 2759 Hampshire Rd., Euclid Heights, Ohio.

Olive M. Lawrence, 1677 Magnolia Drive, Cleveland, Ohio.

Citizens' Savings & Trust Co., Trustee for Mary and Mortimer Lawrence, Cleveland, Ohio.

Nellie B. Christopher, Guardian of Gaius J. Lawrence, 2903 Washington Blvd., Cleveland Heights, Ohio.

Mrs. G. B. Rogers, 13519 Lake Shore Blvd., Cleveland, Ohio.

Lillian Cotton, 9400 Euclid Ave., Cleveland, Ohio.

E. D. Pope, 11255 Belleflower Ave., Cleveland, Ohio.

R. M. McConville, 1539 East 82nd St., Cleveland, Ohio.

Kate E. Munsell, 180 East Grand Blvd., Detroit, Mich.

F. H. Nance, 16727 Clifton Blvd., Lakewood, Ohio.

Neff Laing, 261 South Third Street, Philadelphia, Pa.

J. F. Cunningham, 1224 Belle Ave., Lakewood, Ohio.

I. R. Waterbury, 1632 Lafayette Blvd., Detroit, Mich.

3. That the known bondholders, mortgagees, and other security holders owning or holding one per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state).

Maria E. Dunk, Detroit, Mich.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above it. (This information is required from daily publications only).

(Signed) I. R. WATERBURY,  
Business Manager.

Sworn to and subscribed before me this First Day of April, 1921.

CLARENCE E. HAMLIN,

Notary Public.

My commission expires October 12, 1921.

## 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.

## AUCTION

at our farm 5 1/2 miles S. E. of Belmont.  
1:00 o'clock

**Tuesday, April 19, 1921**

15 choice Reg. O. I. C. bred gilts sired by Wm. A. Wildwood 3rd and bred to Petroleum Dough Boy (a son of Petroleum Giant, six times grand champion.) 1 extra nice Sept. boar. Will meet those coming on trains at Belmont. Sealed mailed bids will be taken care of by Clerk.

**A. J. BARKER & SON,**  
Belmont, Mich.



Spring pigs by Walt's Orion, First Sr. Yearling

Detroit, Jackson, Gd. Rapids and Saginaw 1919

**Phillips Bros, Riga, Mich.**

## Brookwater Duroc Jerseys

**BOARS—Ready for Service**  
**Bred Sows and Gilts**

Write us for Prices and Pedigrees  
Mail orders a Specialty. Satisfaction guaranteed.

**BROOKWATER FARM,** Ann Arbor, Mich.  
H. W. Mumford, Owner J. B. Andrews, Mgr.

**DUROC SOWS** and gilts bred to Orion King No. 169239 Son of the \$10,000 boar owned by Longview Farm, Le Sueur, Mo. also young boars ready for service out of good sows. Apply **THE JENNINGS FARM,** Bailey, Mich.

**Duroc Jersey** Sows and Gilts bred for last of April, and May farrow. A few gilts bred for last of April, and May farrow. 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.

**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, Marlette, Mich.

**O. I. C. Gilts** bred for April and May farrow. Shipped C. O. D. H. W. MANN, Dansville, 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.

**We are Offering** at special low prices some of our choice O. I. C. fall pigs sired by State Fair winners. **WEBER BROS.,** Phone 408, Royal Oak, Mich.

**O. I. C's** 8 last spring gilts due to farrow in March and Apr. some tried sows service boars and last fall pigs not akin, big growthy stock. Registered free. Citiz. Phone 124, Otto B. Schulze, Nashville, Mich.

**O. I. C's** 2 sows for May farrow. Orders booked for March pigs. C. J. 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.

**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 4 months old. Write for my plan—More Money from Hogs.  
**G. S. BENJAMIN, R. F. D. 10, Portland, Michigan**

**Saginaw Valley Herd** Prize winning O. I. C's. Jan. and Feb. pigs, priced reasonable. J. Gibson, Posters, Mich.

**O. I. C's** choice boars and spring pigs at farmers prices. **CLOVER LEAF STOCK FARM,** Monroe, Mich.

**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 HILL,** Ionia, Mich.

## L. T. P. C.

Spring boar pigs \$15 to \$25. Fall gilts sired by Harts Black Price. \$30 to \$50. Also have two gilts which are granddaughters of the Yankee and were bred to Harts Black Price March 24th. They will go quick at \$50. **HART, FULCHER & OLIVE,** address F. T. HART, St. Louis, Mich.

**Big Type** Polands. Bred sows all sold, but have some good herd, boar prospects, fall boars weighing 175 lbs. Sired by the Arctic. Call or write **THORUS HOVER,** Akron, Mich.

**P. C. Bred sows.** Fall pigs singly or in pairs. Also S. O. Minorca cockerels all big type of the best of breeding. Satisfaction guar. **R. W. Mills,** Saline, Mich.

## Francisco Farm Poland Chinas

Offering a dozen choice gilts and a few tried sows bred to such boars as Michigan Mastodon and Michigan Clansman. **P. P. POPE,** Mt. Pleasant, Mich.

**L. S. P. C.** a few choice boars at farmers prices, bred gilts all sold. Also a grandson of The Clansman and Harrison Big Bob. **H. O. SWARTZ,** Schoolcraft, 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.

**Bg. Type Poland Chinas** 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. FELDKAMP,** 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.

**POLAND China, Bred Sows and Gilts** at bargain prices, also spring boars and fall pigs, either sex. **CLYDE FISHER,** R. 3, St. Louis, Michigan

**Leonard's** Big Type P. C. Sows bred to Orange Clansman, Fall boar pigs weigh 175 lbs. Real herd boar prospects. Call or write. **E. R. Leonard,** 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.

## 900 GOOD BREEDING EWES FOR SALE

Only in carload lots. One to four years old mostly threes. Commence lambing June 1st May 1st delivery. All wintered. Registered Hampshire Rams, used. **A big bargain. Come and see them.** Location, five (5) miles from Durand on Bingham Farm. Cars Loaded Free.

**S. C. Bingham, Corunna, Mich.**

Telegrams, Vernon. Letters, Corunna. This advertisement will not appear again. Act now.

**Wool-Mutton Shropshire Rams.** Good strong individuals, royally bred, priced right. **A. H. FOSTER,** Allegan, Mich.

**400 Breeding Ewes** For Sale, with lambs by sides, mostly black-faced. **ALMOND B. CHAPMAN,** South Rockwood, Mich.

## HORSES

**Stallion For Sale** Imported Belgian stallion, **FARO de LIMELETTE,** Belgian Society No. 61090, American Society No. 5989, weighs over 2100 lbs. Beautiful bay, buyer could realize twice the price in fees this spring. **Sandiac Stock Farm,** Berkshire, 3 mi. direct east of Sandusky, Detroit Office 1422 Broadway.

**Percheron** Stallions and mares at reasonable prices; inspection invited. **F. L. KING & SON,** Charlotte, Mich.

## POULTRY

## 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.

**S. C. Black** Inbred cockerels exhibition and utility. Start up Strain. Exclusively hatching eggs single settings or quantity. **C. J. Deedrick,** Vassar, Mich.

**S. C. W. Leghorn** Eggs. Barron Strain stock from Lady Victory 304 egg hen \$2.00 per 15 \$3.00 for 30. **V. O. YORK,** Box 403, East Lansing, Mich.

**Whittaker's R. I. Red** Chicks and Combs. Michigan's Color and Egg strains. Prepared and safe delivery guaranteed. Send for free catalog. **INTERLAKEN FARM,** Box 39, Lawrence, Mich.

**White Wyandottes** 27 egg average. Hatching eggs, \$2.00 per 15. Baby chicks 28 cents each. Cockerels, hens and pullets. **FRANK DELONG,** R. 3, Three Rivers, Mich.

**Chicks S. C. W. English Leghorns,** \$12 a 100. price on 1000 lots by parcel post delivered. **HENRY WATERWAY,** R. 4, Holland, Mich.

**W. F. B. Spanish** Hatching eggs. Heavy layers. Prize winners \$3 per 15 eggs.

**S. C. M. Anconas** Lawrence Lahaie, Cheboygan, Mich.

**60 BREEDS** chickens, ducks, geese, turkeys, guinea fow, hares, dogs, fine illus. and desc. log only 10c. **Edwin A. Souder,** Sellersville, Pa.

**White Wyandottes** BARRED ROCKS bred to-day Eggs \$2.50 per 15; \$4.50, 30; Baby Chicks. **HOWARD GRANT,** Marshall, Mich.

**Mammoth** Bronze Turkeys, Toulouse Geese and Pekin ducks. Either sex and eggs! **CHASE STOCK FARM,** Marlette, Mich.



# LATEST MARKET REPORTS

## GRAIN QUOTATIONS

Tuesday, April 12.

### Wheat.

Detroit.—Cash No. 2 red \$1.40; May 1.35; No. 2 white and No. 2 mixed \$1.38.

Chicago.—No. 2 hard \$1.36½; No. 3 red \$1.27½@1.30.

### Corn.

Detroit.—Cash No. 3 yellow 61c; No. 4 yellow 58c.

Chicago.—No. 3 mixed 52½@53¼c.

### Oats.

Detroit.—Cash No. 2 white 41½c; No. 3 white 40c; No. 4 white 37c.

Chicago.—No. 2 white 37¼@37¾c.

### Beans.

Detroit.—Immediate and prompt are lower at \$3.25 per cwt.

Chicago.—Market is easy and lower. Hand-picked beans choice to fancy at \$3.80@4.25; red kidney beans \$8.50@9 per cwt.

New York.—Market is dull. Choice pea \$4.50; do medium at \$5.50; red kidney \$9.50.

### Rye.

Detroit.—Cash No. 2 rye \$1.39.

### Seeds.

Detroit.—Prime red clover, cash at \$12.75; April \$10.25; alsike \$14.25; timothy at \$3.00 per bushel.

### Hay.

No. 1 timothy \$20@21; standard and light mixed \$19@20; No. 2 timothy \$18@19; No. 1 clover mixed \$17@18; No. 1 clover \$15@16; rye straw \$13@14; wheat and oat straw \$12@13 per ton in carlots at Detroit.

## WHEAT

Export wheat buying has continued throughout the past week. Europeans, especially Germany, have been buying for July and August shipment. The price of new grain based on the July future is around \$1.50 per bushel, c. i. f., European ports, or 40@50c less than the prevailing price of old grain. Reports from Kansas show farm reserves in that section are still large but in Nebraska the bulk of the surplus grain has been sold. In the Pacific northwest rather large amounts are still held. In spite of the excellent promise for the new crop, the supply of wheat in central markets is so small, export sales have been so liberal and the world's wheat supply and demand situation is so closely adjusted that prices would go considerably higher were it not for the fact that economic conditions in this country are decidedly against an upturn. Under the circumstances there is a possibility of very radical behavior in the wheat market but it seems inadvisable to expect a great deal in the way of higher prices.

## CORN

Sales of corn by the producers have been unusually small with receipts at terminals the smallest for this crop. No material increase is expected until spring planting is out of the way and prices have advanced to a point which will net a little more to the producer. Demand from consuming sections remains slow, corn industries are grinding less than capacity and exports are too small to have much effect.

## OATS

The visible supply of oats is the largest on record for this season, with the exception of 1917, when the amount was only a trifle more than at present. A decrease of nearly one million bushels occurred during the last week in March which may indicate that oats stocks have begun to shrink. The visible supply of corn is the largest on record for this season with the exception of 1898.

## FEEDS

Mill feeds declined \$1 to \$2 further during the past week as a result of light demand, especially from the dairy districts. Weakness in markets for coarse grains was another factor. The wholesale price for feeds on the pound basis are lower on midwestern markets than prices for corn and oats. Detroit.—Bran \$30@32; standard middlings \$27@29; coarse corn meal \$30@31; cracked corn \$31@34; chop at \$26@27.

## SEEDS

Urgent spring demand for clover and timothy seed is passed as the season

interest is turning to the new crop upon has been unusually early. Market in which early indications have been especially favorable. Prices are as follows: Toledo.—Prime red clover \$12.75 per bushel; prime alsike \$14.15; 1919 prime timothy \$2.60; 1920 prime timothy \$2.70. Chicago.—Clover, per 100 lbs \$12@16; timothy \$4@5.50.

## HAY

While middlewestern markets have been lightly supplied with hay, buyers are few and many eastern markets have had excessive receipts. Large supplies on farms, low prices for corn and oats and the advent of the pasture season make up an unfavorable hay market situation.

## POTATOES

Potato markets are reported firm at northern shipping stations, the price range being 85c@\$1 per 100-lb. sack. The volume of new stock is constantly increasing and now amounts to about ten per cent of the total supply. Consuming markets are quoted mostly at \$1@1.50 per 100 pounds.

## WOOL

Wool markets are still inactive as the manufacturers are disposed to buy only from hand to mouth in spite of rather large sales of cloth for fall requirements. The memory of numerous cancellations a year ago make them unwilling to commit themselves as far ahead as usual. The tariff un-

certainly still overhangs the market. Boston quotations, partly nominal, are as follows: Michigan and New York fleeces, delaine unwashed 36@38c; fine unwashed 30@31c; one-half blood unwashed 31@32c; three-eighths blood unwashed 28@29c.

## BUTTER

The butter markets continued to advance until the middle of the past week when consumptive trade changed to storage butter, which was quoted at lower prices. The general situation shows but little change. After April 15 the market trend is expected to be downward as it will be close to the flush season. Some grass color is already showing and California grass butter sold on the New York market at a price one to two cents under extras. Supplies in distributing markets are short at the present time and the storage holdings are slightly smaller than a year ago. Prices for 92-score fresh butter on April 9 were as follows: Chicago 46½c; New York 49c; Philadelphia 50c; Boston 50c.

## EGGS AND POULTRY

The egg receipts still increase from week to week and are running far in excess of the same period last year. Cold storage holdings at Chicago, New York, Boston and Philadelphia on April 7 aggregated 1,046,998 cases, compared with 52,268 cases a year ago. Prices have attained more stability and show but little change compared with last week. Detroit.—Eggs, fresh

current receipts 23½@25c. Live poultry, spring chickens 32c; heavy hens at 31@32c; roosters 20c; geese 20c; ducks 40c; turkeys 40c.

## APPLES

The apple markets declined again during the past week in spite of the reduced shipments, especially of barreled stock. Cold storage Baldwin apples are quoted at \$4.75@5.75 per barrel in middle western consuming markets and extra fancy boxed stock at \$3@4.

## FARM BUREAU MARKET REPORT.

Grain market at lowest point in a year. Michigan farmers hauling both wheat and rye in considerable volume. Bean market dull and lower, wholesale price is \$3.20 for Michigan beans. The general proposition looks like still lower prices before the new crop. June clover supply suddenly became limited. Demand very heavy for this time of year; advanced sharply during last week; Toledo market holding firm at \$12.75. Alsike and timothy are rather weak, apparently feeling the depression which normally comes during the end of the seeding season.

## NEWS OF THE WEEK.

(Continued from page 496).

Friday, April 8.

HERBERT HOOVER, secretary of commerce, finds that the Germans are selling goods under the cost of domestic manufacture; he declares this is made possible by German subsidiaries to industry.—Five railway labor unions, with 500,000 members, submit to President Harding's plan to end industrial dispute between the roads and their workers.—Michigan Secretary of State Deland makes \$480,000 cut in his bi-yearly budget, and has been congratulated by prominent bankers in setting an example in this respect.

Saturday, April 9.

PRESIDENT HARDING confirms appointment of Myron T. Herrick, of Ohio, as ambassador to France.—By proclamation the President has designated the week of May 22-28 as Forest Protection Week.—Detroit auto chiefs have conference with President Harding, to impress upon him the importance of the industry.—The federal government will investigate building conditions in all sections of the country, with a view of eliminating the crooks.

Sunday, April 10.

THE Swiss federal council has decided to expel ex-emperor Charles of Hungary, who may go to Spain.—The striking coal miners and mine owners of Great Britain arrange for a conference to settle strike of triple alliance.—United States Steel Corporation reports over six million tons of unfilled orders.—Sixty thousand gallons of liquor was poured into the sewer at Gary, Indiana.—A plant to manufacture jelly from seaweeds is started near Los Angeles.—The state plans to exterminate timber wolves by hiring experienced trappers.

Monday, April 11.

THE extra session of the sixty-seventh United States Congress opens today; the republican majority shows a big increase.—Serious damage to the fruit trees in central and southern Illinois and southern Michigan by the freeze of Saturday and Sunday is reported.—The general belief is that the mine owners and miners in England will reach some agreement to prevent the triple alliance strike.—Due to a lid on Sunday liquor selling, New York has the driest Sunday since 1896, when the late President Roosevelt was police commissioner.

## COMING LIVE STOCK SALES.

O. I. C's.—April 19, A. J. Barker, Belmont, Mich.  
Holsteins, Durhams and Guernseys.—April 19, August Bewernitz, Inkster, Mich.  
Holsteins.—April 21, Eaton County Consignment Sale, A. N. Loucks, Secretary, Charlotte, Mich.  
Guernseys.—May 10, F. E. Fox, Sales Manager, Eau Claire, Mich.  
Holsteins.—May 18, F. J. Fishbeck, Howell, Mich.

# Live Stock Market Service

Wednesday, April 13.

## DETROIT

### Cattle.

Heavy cattle dull; canners steady; others 25c higher.

Best heavy steers	8.85@	9.00
Best handy wt bu steers	8.00@	8.75
Mixed steers and heifers	7.00@	8.00
Butchers	6.00@	7.00
Best cows	6.50@	7.00
Butcher cows	4.75@	5.75
Common cows	3.00@	3.75
Canners	2.50@	3.00
Best light weight bulls	6.00@	6.75
Bologna bulls	4.75@	5.75
Stock bulls	4.25@	4.75
Feeders	7.00@	7.50
Stockers	6.00@	6.75
Milkers and springers	4.50@	95

### Veal Calves.

Market steady.  
Best \$10.00@11.00  
Culls and common 6.00@ 9.00

### Hogs.

Mixed	9.00
Pigs	10.00@10.25
Heavy	7.75@ 8.25

### Sheep and Lambs.

Market steady.	
Best lambs	8.50@ 9.00
Fair lambs	7.50@ 8.00
Light to common	4.00@ 7.00
Fair to good sheep	4.50@ 5.50
Culls and common	1.50@ 3.00

## BUFFALO

Hogs were stronger on the market today and prices were 25c higher. The lamb market is steady and calves sold up to \$10.50.

## CHICAGO

### Hogs.

Estimated receipts today are 16,000; holdover 7,657. Market fairly active, mostly 10@15c higher. Bulk of sales

\$7.90@9; tops \$9.35; heavy 250 lbs up medium, good and choice \$7.90@8.40; medium 200 to 250 lbs up medium, good and choice \$8.25@8.90; light 150 to 200 lbs common, medium, good and choice \$8.25@9.35; light lights 130 to 150 lbs common, medium, good and choice \$8.85@9.35; heavy packing sows 250 lbs up smooth \$6.85@7.65; packing sows 200 lbs up rough \$6.65@6.85; pigs 130 lbs down medium, good and choice \$8.65@9.35.

### Cattle.

Estimated receipts today are 9,000. Market generally steady, strong in spots. Beef steers medium and heavy weight 1100 lbs up, choice and prime \$8.75@9.50; do medium and good \$7.75@8.75; do common \$7.25@7.75; light weight 1100 lbs down good and choice \$8.25@9.25; do common and medium \$6.75@8.25; butcher cattle heifers, common, medium, good and choice at \$5.25@9; cows common, medium, good and choice \$4.50@7.75; bulls bologna and beef \$4.25@6.75; canners and cutters cows and heifers \$2.25@4.50; do canner steers \$3@4.50; veal calves, light and handyweight medium, good and choice \$6.50@9; feeder steers; common, medium, good and choice at \$7@8.50; stocker steers common, medium, good and choice at \$5.75@8; stocker cows and heifers common, medium, good and choice \$3.75@6.

### Sheep and Lambs.

Estimated receipts today are 19,000. Market about steady. Lambs 84 lbs down, medium, good, choice and prime \$8.75@10; do 85 lbs up medium, good, choice and prime \$7.50@9.50; do culls and common \$7.25@8.50; spring lambs medium, good, choice and prime \$7.25@9; ewes medium, good and choice at \$5@6.75; ewes cull and common \$2@4.50; yearling wethers medium, good and choice \$7@8.

## Little Journeys to the Market

### Bologna Bulls.

Bologna bulls, as the name implies, are used primarily for the production of bologna and sausage. They include the lean, muscular bulls which have attained some age and possess heavily crested necks. Lean meat can be made to absorb more water than fat meat, an important consideration to the sausage maker. A heavily muscled, mature Holstein bull is considered the most desirable sort for the bologna trade. Fat bulls, mand a higher price than bulls, or butcher bulls, usually which are known as beef bolognas, although they would not be suitable for bologna production. If they have light necks fat bull carcasses often can be substituted for steers.



## Farms and Farm Lands Northeastern Michigan Lands and Farms

No. 82 B.—1200 A. Ranch, good water and feed. School house on property. 3 miles woven wire fence. Stock loading pens on M. C. R. R. adjacent to property. \$12.00 per acre for quick sale.

No. 83 B.—Large two story Hotel, good location. No. 84 D.—880 acres of Sugar Beet Land. Can be subdivided into 40 or 80 acre farms. Situated near Twining, Arenac Co. \$25.00 per acre.

No. 85 E.—130 acres, 50 cleared. Rolling clay loam soil, 4 1/2 miles from Station on proposed stone road. 6 room house, barn, 30x70, large silo, granary, garage, wood, shed, orchard, \$38.00 per acre. Terms.

No. 86 C.—130 acre farm, stock, tools, machinery and Spring work started. 4 good work horses, 8 milk cows, 2 brood sows with 10 pigs each. All new buildings cement foundations and floors, silo. Very best of land, fenced and cross fenced with woven wire, and drainage is perfect. 5 acres wheat, 15 acres hay. 80 acres cleared, balance pasture, flowing well. Beautiful farm four miles from county seat. Owner has other business, will sell this Spring for \$12,000.00 part down, balance easy terms.

No. 87 A.—58 A. 20 A. improved, balance brush; running stream, flowing well, house, barn, clay loam, near school and church, telephone, mail route. Price \$1200.00, terms to suit purchaser.

No. 88 A.—200 A. clay loam, level, running stream. Will make good stock farm. Near school and brick line highway. Mail route, telephone. In flowing well district. \$20.00 per acre, terms to suit.

No. 89 A.—65 acres improved, 15 hardwood timber, clay loam, barn 50x50 and other buildings, good water. On meridian trunk line highway, school at corner of land. Telephone and daily mail route. Orchard. Price \$30.00 per acre. 4 miles from railroad shipping point. This land will bear inspection.

No. 90 S.—Bargain to close an estate, 2380 Acres Farm and Ranch Land on State Trunk Line Gravel Highway. 300 acres cleared, with houses, barns, silo, farm machinery. Bearing orchard.

**N. E. Mich. Bureau**  
Bay City, Michigan

### "Up-to-the-Minute" Farm with 4 Horses, 15 Cows

Touring car, bulls, poultry, modern machinery, vehicles, gas engine, potato planter, digger, household furniture, crops included. 300 acres, prosperous community, mile to RR town; 100 acres machine-worked; 40-cow pasture; abundance wood, timber, 50 apples, plums; 300 sugar maples, outfit; good 2-story house, big basement barn, spring water, etc. To settle, affairs, \$5000 takes all, \$2000 down, easy terms. See page 54 Spring Catalogue Bargains. FREE. STROUT AGENCY, 5430 Ford Bldg., Detroit, Mich.

**Look** On account of sickness, I offer my beautiful dairy farm for sale, located near Grand Rapids, Mich., 108 acres, new barn with corn crib, stables, running water, holds 40 head, also horse and young stock barn with granary, milk house, 3 large tile silos, grist mill, electric light plant, chicken and hog house, large tool shed, corn crib, and large 8-room house, clay loam soil. Price \$20,000. Easy terms. Make offer—and on May 20th will sell at Auction \$9 Reg. Jersey Cows.  
GEO. E. WALKER, Grand Rapids, Mich.

### 240 ACRES

better than 100 acres cleared, good clay and gravel loam soil, good seven room painted frame house with basement and good barn 36x50, on good road, five miles to town, 40 rods to school, good well and orchard, good fences. Price \$7000 with \$2000 down. Sale must be made in thirty days. Write  
W. F. UMPHREY, Ewart, Mich.

**GEORGIA FARMS** 40 acres there equals 160 in Michigan, stock need no cover, two crops yearly, any size farm with buildings, all cleared for cultivation. Price \$35.00 to \$75.00 per acre immediate possession. Bennie 323 1/2 Genesee, Saginaw, Mich. Bell 3531 P. Residence 3312 F. Valley 530 B.

**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. 25, Sanborn Bldg., Eagle River, Wisconsin.

**Homeseekers** Chance 40 acres rich farm land, Central Michigan, \$900 with \$100 or more down. Balance 10 years. Roads, railroads and cities established. See us before buying. Staffeld Brothers, 15 Merrill Bldg., W. Saginaw, Mich.

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

**Wanted to Hear** from owner of land  
O. K. HAWLEY, Baldwin, Wisconsin.

### U. S. Officers' Silk Poplin

**OLIVE Drab SHIRTS 2 for \$3.75**  
Regular U. S. Officers' Silk Poplin Olive Drab Shirts, 2 for \$3.75. Only two to a customer. They cannot be duplicated at \$8.00 a piece or money back, and are warranted to be fast color. Two large pockets with buttons and flaps.

#### Pay the Postman

Send no money. Just send your name, address and size. Your shirts will be sent by return mail. Pay postman \$3.75 and postage on arrival. Sizes 14 to 18.

U. S. Blanket Co., Dept. 74, 45 W. 34th St., New York

**the one best spray**  
for fruits and vegetables  
**Pyrox**  
TRADE MARK REGISTERED

Write for the new Pyrox book—Bowker Insecticide Co.—Boston—Baltimore—Chicago.

**HAY** Apples, Potatoes Wanted Highest prices paid. The E. L. RICHMOND CO., Detroit, Mich.

**HAY** Ship to The Old Reliable House Daniel McCaffrey's Sons, 623-625 Wabash Bldg., Pittsburg, Pa.

**BARGAIN:** One second hand Bates Steel Mule Model D. One Clark Tractor Disc Harrow. One three bottom fourteen inch Vulcan tractor plow all implements in first class condition, nearly new. For price and information write Michigan Joliet Oil Tractor Company, 210 1/2 S. Washington Ave., Lansing, 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.

**Warbles (Grubs).—**I would like to know how to kill the grubs in back of cows. I counted sixty-four in one cow's back. G. A. S., Nirvana, Mich.—Pressure properly applied to the swellings will cause the grubs to "pop out," especially if they have reached a late stage of development. Sometimes they can be pulled out with slender forceps, but a certain method is to make opening larger with sharp penknife. Kill every grub you take out. Cattle may be treated during the summer with fly repellants. If so, you will have much less grub trouble during winter and spring.

**Bruised Leg.—**Will you tell me what to do for my four-year-old horse that has dry hard scab on lower part of leg? C. M. M., Arenac county, Mich.—Apply one part oxide of zinc and six parts of wool-fat (Lanolin) to the sore twice daily. An occasional application of tincture of iodine is good practice.

**Brood Mare Perspires in Stable.—**Our four-year-old mare is due to foal next June. She seems to be healthy, but is the only horse I own which perspires in stable. Is this a bad symptom and does she need treatment? P. N., East Jordan, Mich.—Ventilate your stable, admit fresh air, without draft, change her feed, keep bowels open by feeding roots. Give her a teaspoonful of acetate of potash and a tablespoonful of powdered gentian in feed twice a day. A sluggish action of the kidneys, constipation of the bowels, lack of exercise, stabling in warm, badly ventilated barns are a few of the causes which cause weakness and cold perspiration. Don't forget to give her daily exercise.

**Bruised Udder.—**One of our cows gives bloody milk from one hind teat and this quarter of bag is sore. M. H., Mason, Mich.—Dissolve one ounce of acetate of lead in one quart of water and apply to udder three times daily. Rough milking is a common cause of cows giving bloody milk.

**Forage Poison.—**Have recently lost two eight-months old calves. They kept on growing weaker and weaker, but seemed to eat plenty of food up to within a few hours of their death. I opened them, found no indication of disease. M. T., Aloha, Mich.—Doubtless the food they ate acted as a slow poison.

**Depraved Appetite.—**Have cow that freshened February 1; thrived well for a month. Since then she has gradually lost flesh. I sold her calf four weeks ago. She is most fond of horse manure. G. O., Mendon, Mich.—Feed her some clover, alfalfa or roots. Give her two tablespoonfuls of powdered gentian and four of powdered wood charcoal in ground feed three times a day. Grass is the best remedy.

**Stifle Injury.—**About two weeks ago one of my cows injured hind leg. Perhaps she slipped when getting up. Our local veterinary says she ruptured the ligaments of stifle joint, allowing some of the joint oil to escape. W. G., Howell, Mich.—Apply equal parts tincture of iodine and spirits of camphor to stifle joint twice a day. Her recovery will be slow.

### WHEAT AND RYE PROMISE WELL.

**THE** Crop Reporting Board of the Bureau of Crop Estimates, United States Department of Agriculture, makes the following estimates from reports of its correspondents and agents:

The average condition of winter wheat on April 1 was 91.0 per cent. of a normal, against 75.6 on April 1, 1920, 99.8 on April 1, 1919, and 83.6, the average condition for the past ten years on April 1. There was an increase in condition from December 1, 1920, to April 1, 1921, of 3.1 points, as compared with an average decline in the past ten years of 4.8 points between these dates. Upon the assumption of average abandonment of acreage and average influences on the crop to harvest, condition April 1 forecasts a production of about 621,000,000 bushels, which compares with 577,763,000 bushels, the estimated production in 1920, and 729,503,000 in 1919.

The average condition of rye on April 1 was 90.3 per cent. of a normal, against 86.8 on April 1, 1920, 90.6 on April 1, 1919, and 88.4, the average condition for the past ten years on April 1.

# OHIO RAKE

**FARM IMPLEMENTS**  
Corn Planters, Spring Tooth Harrows



## A BIGGER AND BETTER YIELD

The Ohio Rake Sure-Drop Corn Planter positively insures your seed getting into the ground right. It yields a profit the first year in giving a better and larger stand of corn.

**Absolutely accurate:** It plants just the number of grains you want in row or hill at exactly the spacing you want, and will not scatter nor break the corn. You never have to thin out after planting with a Sure-Drop. It is light, yet strong and durable, and carries the Ohio Rake guarantee of reliability. Some of its many advantages are: Large hinged hoppers, making seed plate changes possible without removing seed—combined foot and hand lever for raising runners—equipped with automatic reel and marker—is adjustable to width of rows from 28 to 42 inches, will plant any variety of corn or beans.

**All Steel Spring Tooth Harrow**  
Constructed entirely of the best steel—not a

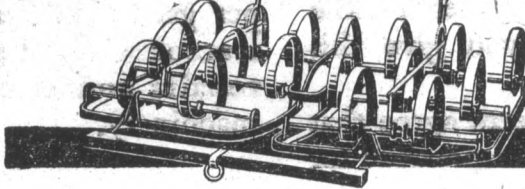
single casting. The strongest and best harrow on the market. Can be horse or tractor drawn.

Both the Planter and Harrow were formerly made by the Gale Manufacturing Co. of Albion, Mich. Prices on all Ohio Rake Farm Implements have been substantially reduced since last fall.

### There's a Dealer Near You

There are 210 Ohio Rake dealers in Michigan who carry Ohio Rake Implements in stock. Send us your name and we will send you descriptive circulars of any of our implements and the name of our dealer nearest to you.

**THE OHIO RAKE CO.**  
DAYTON, OHIO  
ESTABLISHED 1884



**WE MAKE**  
Transplanters  
Potato Planters  
Spike Harrows  
Spring Tooth Harrows  
Disc Harrows  
Corn Planters  
Corn Shellers  
Hay Rakes  
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### U. S. Army Munson Shoe

Guaranteed 6 months. Made of pliable Chrome of 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 entirely satisfied or we will refund your money.

Pay Postman  
Send no money. Just send your name, address and size. Your shoes will be sent by return mail. Pay Postman \$4.45 and postage on arrival.

Civilian Army & Navy Shoe Company  
Dept. 74, 45 W. 34th St., New York

### Bone Spavin

Even established cases yield to Fleming's Spavin and Ringbone Paste, or money back \$2.00 a bottle postpaid. Send for FREE Vest-Pocket Veterinary Adviser. Describes Spavins and 200 other horse and cattle ailments. **FLEMING BROTHERS, 252 Union Stock Yards, Chicago**

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

**PEDIGREE SEED OATS**  
Wolverine and College Success seed oats for prices. Apply **THE JENNINGS FARMS, Bailey, Mich.**

**Choice Dahlia Tubers** and Gladiolus bulbs for sale. **LUCY O. HARROW, Clarksville, Mich.**

**DOGS**  
For Sale Write Dr. W. Austin Ewalt, Mt. Clemens, Mich. For those beautifully marked Sable and White Scotch Collie Puppies; natural heelers from trained stock; pedigrees furnished. Will also buy thoroughbred Collie and Akita puppies for training.

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

**POULTRY**  
**C-H-I-C-K-S** 11 varieties, 13c up. Pure bred stock. Send postal for prices. Save money. **O. K. CHICK CO., Box 11, Nappanee, Ind.**

**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.**

**April Chicks** Buy 'em Near Home  
April 18, 19, 25 and 27. Brown Leghorns \$15 per hundred. Rocks and Reds \$16. Wyandottes \$18. Add 50c for half and quarter hundreds. Write for other varieties. Prepaid and guaranteed live delivery.  
**Washtenaw Hatchery, Ann Arbor, Mich.**

**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.**

**S. C. Brown Leghorns** Hatched S. C. White Leghorns 252-278 strain. Eggs 15-15.50, \$3.00; 50-54; 100-\$7, prepaid. Miss V. Fulton, Gallipolis, O.

**Auction Sale**  
Tuesday, April 19th  
at 10:00 A. M. (Hot Lunch at Noon)  
**70 Head of Cattle**  
Holsteins, Durhams and Guernseys.

45 new milkers with calves by side. Others to freshen soon. Farm located one mile west and one mile north of Inkster three miles east and one mile north of Wayne. Conveyance will meet all local cars up to noon at the Jim Ruff Road on the J. & C. Electric Line.

**August Bewernitz, Prop.**  
Inkster, Mich.





In hundreds of tests we have shown that scientific lubrication means fuel savings from 17% to 25% and oil savings at times as high as 80%.

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