

MICHIGAN FARMER

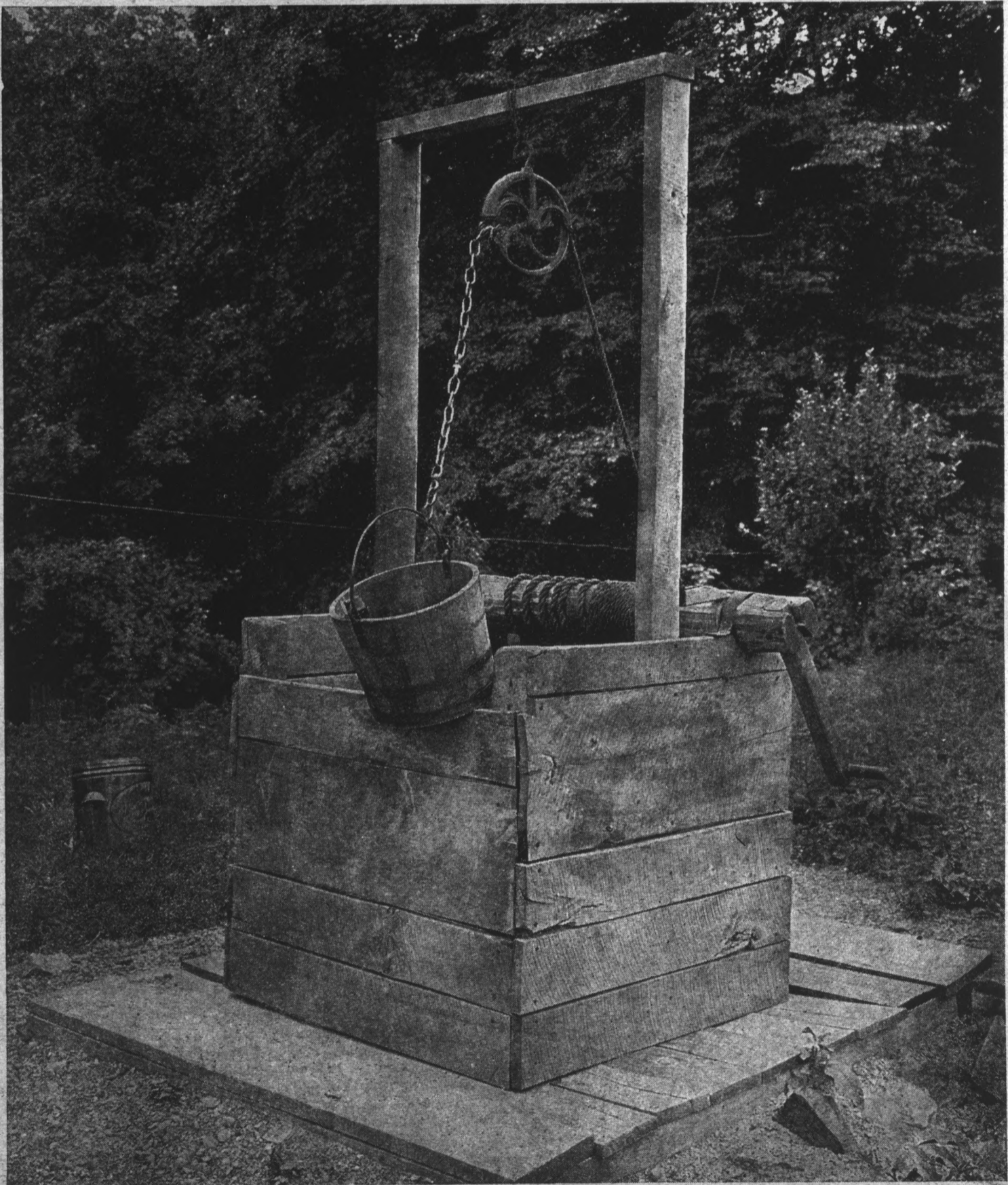
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DETROIT, JUNE 14, 1919



CURRENT COMMENT

Work for a Grand Jury

A SPECIAL committee was appointed at the regular session of the legislature to make a thorough investigation of the Jackson State Prison and report to the next legislature, with recommendations as to future policies for that institution. In pursuance of their investigation the committee employed the Detroit Trust Company to make an audit of the books of the institution. This audit revealed startling conditions, as indicated by a voluminous report of the auditors to the special committee, which was filed with them last week.

According to published extracts of this report the prison records are lamentably incomplete, and show evidences of juggling of funds to bear out the claim made by its management that the institution was self-supporting. They also show, according to the published version of the auditors' report, an apparent shortage covering a period of four and one-half years of more than three-quarters of a million dollars, and an actual shortage of some \$300,000, as near as could be determined by the auditors after allowance had been made for inaccuracies in accounting.

The report shows most of this shortage to be in the sisal binder twine department of the prison's operations, it being charged that large quantities of material were shipped from this department for which no items of receipts are shown on the prison records. A chapter of the auditors' report is devoted to Ex-Warden Nathan Simpson, under whom the prison's affairs were administered during the greater portion of the period covered by the report, and his connection with the Gleaner Clearing House Association, of Detroit, since his resignation as warden. In the published version of the report it is charged that while Simpson insisted on direct sales of twine to farmers while he was warden, that when he became associated with the Gleaner Clearing House Association, intensive pressure was brought to bear to change this system, and the

statement has been made on the authority of this report that this association was paid a commission on every pound of prison twine sold to the farmers of Michigan, whether it was sold through the Clearing House Association or direct by the prison. Published versions of the report further charge that it has not been the policy of the association to remit collections on twine as soon as they are received, but to make deposits in the banks until several thousand dollars have accumulated before transferring to the prison, giving them access to working capital belonging to the state.

Further charges are made in the report involving a shortage in other accounts, notably live stock, in which the prison dealt extensively at times.

Fortunately, this report has been submitted at a time when the legislature is in special session, so there can be no excuse for failure to take action which will result in a thorough legal inquiry into the conduct of the prison's business. A grand jury should be called for this purpose at the earliest possible date, to the end that the scandal may be quickly sifted and exact justice rendered, both to the state and those involved by the report, until which time public judgment should be held in abeyance. And in the meantime the legislature should at once provide for a check on the accounts of the institution by the state's accounting department.

Collecting Production Cost Data

AT the conference held at Washington, D. C., June 2, between Dr. H. C. Taylor, Chief of Farm Management Department, of the United States Department of Agriculture, and secretaries of the several State Farm Bureaus, it was resolved that the State Farm Bureaus urge upon the United States Department of Agriculture, the State Experiment Stations, the County Farm Bureaus, and especially upon individual farmers the necessity of the heartiest cooperation of at once putting forward all speed consistent with accuracy, the collecting of data upon costs of producing farm products. These figures are of such imperative need in order to solve certain agricultural problems that it was further resolved that the farmers should give their most hearty cooperation in this work.

There is a great and increasing need for information along the lines of production costs and we believe that our readers can best serve their own interests by cooperating with their county farm bureaus in collecting such figures to the end that agriculture may be placed on a more substantial merchandising basis. The time is past when farmers can go ahead and plan any comprehensive program of production without some knowledge of production costs and probable prices for the commodities they have to sell.

Few well-posted economists believe that we in America have seen the end of governmental regulation of prices of certain staple food products, but whether that is true or not does not matter. We do know the high cost of food products is causing industrial unrest among the laboring classes and that every effort possible is being made to reduce the cost of living to the end that the big industries may avoid raising wages to the level commensurate with the cost of living. In this great triangle of interests the farmer must be organized and prepared with accurate cost of production figures if he is to receive due recognition from the other big interests. A chain is no stronger than its weakest link, and if our great industries must face an era of high prices it is imperative that they all share proportionately in the returns, or there is sure to be a crash and a resulting panic.

On principle and in normal times price-fixing is obnoxious, and it should

last no longer than necessary. But that does not prevent recognition of the fact that, practically speaking, price-fixing during the war not yet over has justified itself by its results, even though there have been incidents connected with it not altogether pleasing to all parties concerned. Even in the fixing of the price of wheat it has been more in the interest of the public than it has in the interest of the wheat grower, and yet there are few farmers who would wish the Grain Corporation the fate of the Industrial Board.

According to Dr. Taylor, especial emphasis is to be given to studies of the cost of producing farm products and it is proposed to use about \$245,000 in developing this important line of work. The results of these investigations will make it possible to analyze the elements of cost and to point out to farmers the best methods to follow. This, it is believed, will lead to the better organization of farms with a view to reducing costs and increasing profits, which in turn will be of benefit both to producer and consumer.

Work on a number of lines is now actively under way and plans have been made for taking up new lines of work as rapidly as possible. The object of the investigations relating to farm organization is to develop the economic principles which underlie the management of a farm with the view of securing a maximum profit through a long term of years. The main things to be considered are types of farming, size of business, layout of buildings and fields, effective use of labor and equipment, intensity of production, and general business management. Special emphasis will be given to land values, credit, insurance, and taxation from the standpoint of their general influence upon the activities of the farmer. Along with the studies in connection with utilizing farm labor special studies will be made of such problems as the trend of population, supply and movement of farm labor, as well as living and housing problems connected with hired hands. The subjects of standards of supervision and compensation of farm labor also will be studied. Demonstration activities in cooperation with the different state farm bureaus and the national farm bureau are planned to carry to the farmer on his own farm the facts developed in the farm management and farm economics investigations for better farming, better business and better living.

Fluctuating Value of the Dollar

SO long as people must work for a living the amount of work they must do to live should bear a fixed ratio to the cost of living. Calculations as to how much money should be paid for his work in order to support his family properly have proven a rather vague quantity since the purchasing power of the dollar has fluctuated so greatly from month to month. The proper adjustment of wages would be a comparatively easy matter, provided money had a fixed and constant value.

At the present time a great economic truth is slowly taking root in the minds of American people; the fact that before wages can be adjusted to meet the requirements of laborers some means must be devised to find out and establish a unit of work for the family's living. Our big industries have come to regard the eight-hour day as the proper economic unit of labor, while our farmers are finding that a man who spends ten hours at physical toil has, if reasonably efficient, done enough to provide comfortably for an average family. But the question of paying him adequate wages to support his family is not a simple one.

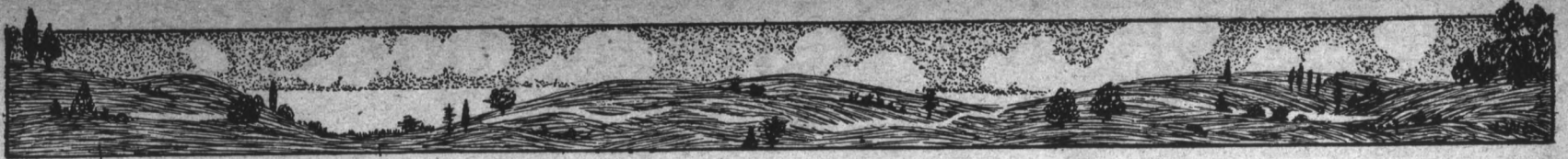
It is easy enough for nutrition experts and social workers to state in fairly accurate terms the quantities of food, clothing, recreational and educa-

tional expenditures necessary for the ordinary comforts of life, but the money value of these things fluctuates so much that the problem of adequate compensation for labor is very perplexing. If the measure of the value of the day's work gives due consideration to maintaining the worker in good physical condition and provides adequately for the preservation of the race the question of wages must bear a fixed ratio to the number of pounds of food, the quantity of clothing, the kind of housing and recreational and educational advantages which such wages will purchase.

In industrial circles the only formula is the dollar. It is the only unit that may be used to the satisfaction of both employers and employes in measuring the value of labor and its products. Wages may be revised from month to month on the basis of prices for food, clothing, rent and other necessary expenditures, but this merely launches our whole industrial structure into a deep sea of socialism without really fixing a definite unit of work for a family's living in a manner satisfactory to both parties.

The farmer who employs labor by the year has a decided advantage over the big industries, inasmuch, as the cost of living on the farm fluctuates less than is the case in industrial centers where people are affected more directly by the fluctuating charges of transportation and distribution. Rent, fuel, meat, vegetables, milk, butter, eggs and other farm products always bear a fixed ratio to labor, that is, when the business is figured on a term of years cost of production basis. These things could be furnished by the employer at a certain fixed ratio per hour's work so that the increasing cost of living would entail less real hardship on the laborer who had hired out under such an arrangement. At the same time the farmer would be partially insured against paying a high price for labor and being compelled to market that portion of his products below the fixed ratio of hours of labor to the value of the products. Such an arrangement might also be extended to all staple foods, the farmer assuming more of the risks of fluctuating values and the laborer being protected against rising prices. This may sound idealistic to some of our practical farmers, but this question of farm labor and its compensation will never be settled until such compensation is expressed in terms of pounds of bread, meat, and other foods, clothing, kind of housing and other conditions of life such compensation can be exchanged for. Men who have done much thinking on the problem have reached the conclusion that we must do something to stabilize the purchasing power of a unit of labor.

The advancing cost of living and the fluctuating value of the dollar is driving another valuable lesson home to the minds of many farmers and farm laborers; and that is the importance of maintaining a better balanced system of agriculture and putting our farms on a more nearly self-supporting basis. In our efforts to make our farms pay larger profits in dollars and cents we have, in many instances, grasped at the shadow and lost the substance of life. We know a number of pretty good farmers in Michigan who rather go through a deeply complicated process to make fifty dollars than to produce one two-hundred-and-fifty-pound pig or feed a small flock of hens. Others prefer to buy canned fruit, vegetables and oleomargarine instead of putting out a good garden and milking a family cow. One mighty good way for people in the country to dodge the high cost of living and the fluctuating value of the dollar is to begin collecting some of their living from Mother Earth. If our object in life is to make a good living, why not shoot directly at the mark?



Two Dangerous Wheat Diseases

Farmers Should be on the Alert for Take-all and Flag Smut

By G. H. Coons, M. A. C.

PRESS dispatches a short time ago carried the news important to every wheat grower in the United States that "Take-all" and "Flag Smut" had been found injuring the wheat crop around Granite City, Illinois, in the wheat area which had developed in the last few years in the bottom land along the Missouri River near St. Louis.

This news has caused farmers in general to look over their wheat fields to note conditions and this survey has brought to light many wheat problems.

It is the purpose of this article to describe the wheat diseases found around St. Louis, and then to discuss some conditions now to be seen in Michigan fields with the object of making farmers on the alert for the new diseases, if they exist in the state, and secondly to allay any alarm that may arise from mistaking other troubles for Take-all and Flag Smut.

Take-all is a fungous root rot of wheat, rye, barley and other grasses. Until its discovery in the United States scarcely more than three weeks ago, it was known only from certain parts of Europe and from Australia. The bulletins and articles from those countries differ in the scientific opinions as to the cause and details of the disease, but they all agree upon the extremely serious nature of the trouble. The name "Take-all" was given it by the Australian farmers, and well signifies the dread results which follow in the wake of the disease.

Attention of American plant pathologists was first called to the disease last November by Professor Charles C. Brittlebank, of Victoria, Australia, when in a letter to the War Emergency Board of Plant Pathologists he warned of the danger to America through this disease and advised a strict quarantine of Australian wheat to prevent entry of the trouble. Acting on the recommendation of the American Phytopathological Society, the Federal Horticultural Board issued a quarantine against Australian wheat, effective February, 1919.

Then came the discovery that the disease was already in America and that the door had been locked too late. The federal pathologists with the discovery of the disease in southern Illinois acted with great promptness. Pathologists from the various states were called to a conference to examine the diseased fields and secure first-hand acquaintance with the new malady. The writer attended this conference and came back with a clear picture in his mind of what Take-all is and how serious it may become. In one field in Illinois, eighty acres of what was evidently a perfect stand of wheat has been completely ruined. Furthermore it is questionable if the land will be suitable for grain crops for a long time to come. Other fields in which the disease was not so well established showed large patches in which the wheat had failed. The damage seems similar to that reported for Australia.

Speaking of Australian Take-all, Professor Brittlebank writes in the *Journal of Agriculture for Victoria*, March 10, 1919:

"Of all the fungus diseases affecting wheat, Take-all is the most destructive, and the actual loss done by it is far greater than by any other single disease, rust included, or perhaps by a combination of all known fungus diseases affecting wheat in Victoria. Rust

when present in epidemic form, causes more widespread loss for one season, but fortunately it appears only once in a series of years, while Take-all is always with us, destroying a few plants here, thousands there, and nearly the entire crop in other places."

Again, G. L. Sutton, in the *Agricultural Gazette of New South Wales*, discussing the advance of the disease into that country in the last ten years:

"The spread of Take-all can only be regarded as a national disaster and growers who have it in their paddocks are deserving of sympathy. The farmer in New South Wales has hardly realized how serious Take-all is. It is well that he should do so in order that he may be on the alert to control it. A farmer instanced a case in which two hundred and twenty-five out of two hundred and fifty acres were ruined by this dreaded pest. In South Australia its ravages were much more extensive. At one railway station alone the wheat delivered was thirty thousand bags less than the previous harvest, the deficiency being due solely to Take-all."

The disease as seen in southern Illinois causes marked stunting of the wheat plants. It occurs in spots or patches in the fields unless the whole field is a big diseased area. Commonly it is found occurring here and there in a row, the diseased plants remaining

low and taking on deep blue-green color. The diseased plants greatly resemble quack-grass as it looks in the spring. The affected plants seldom send up any heads at all, the few that do come up are weak spindling growths which bear blasted kernels. The Australians call the blasted heads which appear as a result of this growth, "White Heads." With the failure to produce a head the plant either dies, due to the complete rotting off of the roots or else it sends up a series of wiry, spindling growths which come to nothing.

The diseased roots and the stems take on a characteristic rotted appearance. Most decisive for diagnosis probably is the rich mahogany or chocolate color which the diseased parts assume. This is very evident and the color extends completely through the affected stalks. The small, rolled-up inner leaves which have not yet pushed out are also attacked and become flaccid and shriveled. The head is nipped in the bud, so to speak.

Not much is known about Take-all. For a long time a definite fungus parasite, *Ophiobolus graminis* has been assigned as the cause of the trouble. The story of the parasite is something like this:

Following the death of the diseased

plants, the fungous parasite which has completely taken possession of dead shoots, produces on the stubble spores which are capable of reproducing the disease.

This spore production occurs either in the fall or spring. It is therefore evident that failure to rotate crops is the surest way to increase the disease. The worst fields seen in Illinois were those in which field had followed wheat for three years. The disease is carried on the seed, on the straw and trash from a diseased crop. The soil, blown or otherwise, carried from one place to another, may carry the parasite. Once introduced, it seems to persist in the soil. It is therefore seen that this disease merits its name and is a thing we don't want to have wide-spread in the United States.

Flag Smut is a traveling partner of Take-all. It also is an Australian disease and never before seen in America. It is a leaf and stem smut, rather than a head or kernel smut like our other smut diseases. This smut produces long black streaks on the leaves and these leaves eventually rift and discharge the brown-black smut powder. The general effect on the plant is to stunt it and make it fail to head.

Flag Smut would be readily controlled by seed treatment, aside from the fact that it can live over in the soil for several years. Wheat growers will admit that in loose smut and stinking smut we have all the trouble we want at present.

There is only one thing to be done about Take-all and Flag Smut, and that is to find out how prevalent the diseases really are. Already since the finding of the disease in Illinois, three cases of disease have been found in Indiana, and one case in La Porte county which borders on Michigan. It seems extremely likely that the disease occurs here and there in other states. No control measures nor domestic quarantine action can be taken until we know very definitely how extensively these troubles have already crept in. This is a matter of Plant Disease Survey, and the federal government can do this if sufficient funds for this particular survey work are appropriated by the next congress. Congress in general is slow to spend money on survey work, but this is of such vital importance that money must be used to find out where we stand and to devise proper control measures.

It is exceedingly important that the Michigan growers report anything suspicious in their fields; every standing of wheat should be carefully noted and the attention of the county agent called to it.

It might be well also to point out that stunting of wheat and other grains may arise from a great variety of causes. There is, for example, the well-known stunting which comes from water-soaked soil. This usually shows up in the lowest parts of the field but may be fairly common in poorly drained fields. Such plants are stunted and occasionally root rot follows. Various soil conditions may lead to stunted plants, and the varied composition of some of our hilly soils is not realized until you see such soils turned up by the plow, then its streakings of sand, clay, gravel and what not, become very evident.

The most striking condition found this year is the wholesale effect of frost. The severe freezing which the

(Continued on page 896).



Take-all as it Shows in a Small Diseased Spot.



Close View of Dwarfed Take-all Plants.

News of the Agricultural World

FOOD FOR GERMANY.

THE war trade board announces the associated governments have all agreed that, for the time being and until further notice, foodstuffs within the limits provided by the Brussels agreement may be exported or re-exported to Germany from the contiguous neutral countries without, as heretofore, obtaining the formal consent of the interallied trade committees in said neutral countries.

The attention of exporters is called to the fact that the procedure outlined in this ruling permits the shipment of foodstuffs from the United States to Germany via the border neutral countries.

52,000 U. S. ARMY MEN WANT FARMS.

SOLDIER experience in France has awakened a keen desire for farm life and this sentiment should be encouraged, Secretary of the Interior Lane told the house public lands committee, in urging favorable action on the Mondell soldiers' settlement bill.

"I have received 52,000 requests from American boys in the army that they be given an opportunity to get a farm from the government and we have not been able to make any kind of a census," he said.

Representative Snell, of New York, suggested that there now existed a shortage of farm labor, and enactment of the pending legislation might accentuate that shortage.

"I think we ought to give each of these boys a chance for himself," replied Mr. Lane. "He should not be kept a farm laborer for hire when he could own a farm and till it for himself."

GOVERNMENT MEAT STOCKS.

THE army director of sales has under consideration the question of whether to sell at home or for export the large surplus stocks of packed meats on hand. These stocks consist of canned roast beef, corned beef, corned beef hash and bacon.

Of the roast beef there are 12,000,000 six-pound cans; 17,300,000 two-pound cans; 9,000,000 one-pound cans and 378,000 twelve-ounce cans. There are 5,600,000 six-pound cans, 18,000,000 twenty-four-ounce cans; 9,000,000 one-pound cans, and 4,250,000 twelve-ounce cans of corned beef and 20,820,000 in one and two-pound cans of corned beef hash. There are 47,219,620 pounds of bacon; 8,686,000 of which is crated and located in Chicago, Baltimore and Columbus.

These quantities represent the combined output of the packing houses for five months during the war when the plants were kept in operation continuously to meet the demand for army subsistence. The representatives of the packers urge that all of this stock be disposed of for export to relieve the food situation in many of the countries now on short rations.

MOVING THE GRAIN CROP.

THE railroad administration is making comprehensive arrangements to take care of the heavy traffic that is expected to come with the movement of grain to the seaboard for foreign export after harvest.

Early last winter the program of purchases of equipment began with the letting of contracts for locomotives and cars under a schedule of deliveries extended well into the summer. Some deliveries were made at once out of rolling stock manufactured for shipment abroad for war purposes. The armistice having been signed, the need

for locomotives and cars in Europe slackened, and the accumulations here were at once taken over by the railroad administration.

EIGHT YEARS FOR DORSEY.

JAMES DORSEY and his friends lost their fight to save him from prison. Accompanied by a United States Marshal, Dorsey, the "cattle king," left for the federal prison at Leavenworth Kansas, where he will serve an eight-year term.

He was convicted and sentenced for selling tubercular cattle. It developed at the trial that Dorsey had fake certificates for the cattle which he shipped from his model place at Gilberts, Ill., to other states.

It took a long time to catch him, but the government finally got him on a charge of using the mails to defraud. Cattlemen in the surrounding states complained that he sold them sick cattle, which he represented to be healthy.

RENAMING AMERICAN SEEDS.

FOR many years before the war Hamburg was the world's most important distributing point for seeds. European seeds coming to America and American seeds going to Europe passed through German hands, so that Belgium, for example, knows American seeds not by the names they go by in the United States but by the names given them by German seedsmen in Hamburg. Now a readjustment is taking place in the distribution of the smallest and perhaps the most important article in international trade.

In future America will deal directly with Belgium, France and other countries, but the task will involve considerable ingenuity in renaming American seeds so that Belgian or French buyers can purchase without confusion.

DEMAND FOR SEED BEANS.

THERE is an exceptionally heavy demand for seed beans in western New York, which indicates a good acreage this year despite the fact that growers have been disgusted with returns here for various reasons the last three or four years. Reasons for the prospect of increased acreage are not far to seek. Continuous rains have reduced the sowing of spring grain, with the result that in seeking a substitute crop, beans are one of the favorites.

The State Department of Agriculture, cooperating with the New York State College of Agriculture, is working steadily on the development of beans that will resist anthracnose, mosaic and the mysterious root disease. The state has made one appropriation of \$10,000 and experts from the agricultural college, including W. H. Burkhalter and J. M. Hawley have been doing original pathological work and also attempting to breed some resistant type. It is now reported that by careful selection of seed and by the hybridization of several varieties that a pea bean free from mosaic has been developed. This has been named the "Robust." Further, a white bean has been evolved that is said to be free from anthracnose. In breeding this, a strain of Red Kidneys was used, but the white type was finally fixed. Actual tests of these claims in growers' fields are awaited with interest.

However, development of a bean that will resist the root disease has failed thus far, and no remedy has been found which will control it. The disease is comparatively new, but in the five or six years that it has been prevalent here its ravages have probably

been more destructive than all other bean diseases combined. The experiments described are carried on at Perry, in the heart of the bean country.

Trade in beans is light but there is a good tone to the market, and buyers readily pick up anything offered at full prices. Peas and mediums are quoted at \$7.75 per cwt; yellow eyes \$7.50 and Red Kidneys \$11.50@11.75, all basis, hand-picked, sound, dry stock, f. o. b. loading point.

CURB ON CATTLE PEST.

AS a further means of preventing the spread of tuberculosis among live stock, inter-state shipments of cattle failing to pass the tuberculosis test will be prohibited, beginning July 1, under a regulation issued by the Department of Agriculture.

A recent announcement by the department said it was believed this restriction would make more effective the work of eradication which is now being systematically carried on in forty states.

PRICES TO REMAIN HIGH.

INDUSTRY must be reorganized to meet high prices, is the opinion of J. Ogden Armour, as expressed in a letter to Secretary of Labor Wilson and recently made public. The letter was written in a reply to a request sent by Mr. Wilson asking his views of the present and future economics and industrial outlook in America.

Mr. Armour's views, as stated in his letter, follow:

"The greatest danger to our economic structure today arises from the failure of many to recognize a new and higher level of prices, based on the permanently increased cost of labor and high taxation. Those who postpone building or buying in the hope of materially lower prices are speculating in the future misfortune of the nation, for falling prices, when reaching the point where profit is eliminated, mean panic, depression, unemployment and other troubles.

Labor Seventy-five Per Cent of Cost. "In the final analysis seventy-five per cent or more of the cost of most commodities consist of labor and reductions in the market price of commodities are, therefore, inevitably reflected in the compensation of labor.

"Nothing in the labor situation warrants any one in expecting materially lower cost of commodities in general and building in particular. Wages will not be less, for several fundamental reasons, viz.:

"1. The practical stoppage of immigration since 1914, depriving America of the several million of workers who normally would have come to our shores.

"2. The retention by the nation's military and naval establishments of nearly two million workers, which may continue for an indefinite period.

"3. The creation of new industries, such as shipbuilding and manufacture of chemicals and dyes, requiring hundreds of thousands of workers.

"4. The urgent demand for building and construction of every class, due to their having been forcibly held back for several years.

"5. The shortage of the world's food supply.

"6. The proportionately higher levels of commodity prices existing practically all over Europe.

"The manufacturer who now quotes the lowest possible price consistent with the high cost of labor and guarantees this to be so, doing his buying freely on the same basis, ranks as our highest type of patriotic citizen. A new level of prices has been established from which there can be no mate-

rial recession until inventive genius succeeds in correspondingly increasing labor's productive capacity by mechanical means."

NEW MARKET FOR CHICAGO.

LEADERS in Chicago's South Water street produce trade, whose \$500,000,000 annual turnover is exceeded there only by the \$2,000,000,000 year gross business of the meat slaughtering, packing and kindred industries, have perfected their plans for the creation of a new great central market place, as soon as the railroads are returned to their owners.

Options had been procured before the war on a suitable location, the millions of dollars necessary to finance the project had been promised and the architectural plans had been drawn. These options, however, were permitted to lapse and the project was postponed indefinitely when America was drawn into the conflict. Now the produce commission men are ready to begin anew.

PROTECT THE SHEEP INDUSTRY.

CONSERVATION is all right and it is wise to salvage all refuse and find a use for it, but the imposition of any refuse on the public as a genuine article wrongs both the producer and the consumer.

If oleo was not restricted there would be a wholesale slaughter of cows. If the refuse of feeds was mixed equal parts with the flour of the whole people there would be no wheat grown except for the farmer's bread.

The public would then be compelled to use substitutes for bread and butter, the same as it now uses substitutes in the manufacture of clothing, and the "cow shortage" and the "wheat shortage" would put the price of counterfeits out of sight, just as the "wool shortage" has done with the disreputable so-called "woolens."

If a man would sell these butter or wheat substitutes now for genuine, he would be arrested; but the sale of wool substitutes has gulled and cheated every man, woman and child in the United States for years. Can you see why there is a shortage of sheep? Does any sane man believe we are so devoid of business sense as to push the sheep industry like our other endeavors? If we were sausage producers, how long would we continue if the strong packers mixed their fertilizer materials with theirs—and got away with it?

We are carrying a few sheep from habit and because we like them, hoping for the time that people will come to their right minds, and we stand ready to double and quadruple them when it pays. If the population of the United States can stand to pay outrageous prices and wear substitutes, we can put up with a few sheep and utilize our feed for products that pay. All this propaganda by the Department of Agriculture or anybody is bunk unless it pays to grow wool, and the people of the country can wear and rewear their old clothes to their heart's content.

There is one way, and only one, to increase wool and clothe the people with respectable garments, bought at a fair price, and that is to have the word "shoddy" on every garment or piece of cloth that carries it. Do you think the manufacturers will put it there while they can work and rework substitutes, and sell double the number of unserviceable suits? Until then there will be a wool shortage in spite of unlimited discussions. We can flood the country with wool the same as other productions which are never substituted nor counterfeited.



Prices in General Will Not Fall

By James N. McBride

THE farmers and their sons who remember the falling of agricultural prices after the close of the Civil War and the grinding poverty that came therewith, have left in the minds of succeeding generations a strong impression that prices, particularly of farm products, must always fall after a war. This vague feeling is the field that metropolitan papers are cultivating to accomplish the fall of what they call the high cost of living—in other words, if the present schedule of wages and commodity costs could be maintained and food stuffs be lowered, it would be at the expense of the farm and to the benefit of the consuming class.

There is no particular time when the manufacturing of iron and steel, for example, may not begin, but the crop growing season is the only time that the real prosperity must be initiated, and the danger point of the world right now is that the enormous wheat crop in prospect is held up to view as maintained and supported by government guarantee and that other farm products without guarantee will slump in price below the cost of production if at all bounteous. There was a report given currency of enormous amounts of wheat in Australia which, when tonnage was available, would break the European market price for wheat. The tonnage is now available and Europe is ordered to ration wheat, to allow bread, until the coming harvest. The fiction of great food stores to break prices is and will be as lacking in foundation as the creed of the Bolshevik. In fact, there is little choice between the logic of the Red in Russia, who denounces the Bourgeoisie because the latter has food and the means of its reproduction and the lowering of food prices in the United States below the cost of producing. The result in either case is sure to be famine.

The best consensus of economic opinion is that there will be no general

fall in the price level. That is, while special conditions may fall, that others will rise, so no general decline will follow. This means that a man may buy a farm and have reasonable assurance of the maintenance of the present general price of products. It means that a tenant may secure credit for seed, implements and live stock and that a decline in prices will not impair his investment. The ordinary risks of seasons is not a matter of economics but one of those inherent risks that all must assume.

The prevailing prices for 1914 in pre-war times apparently are gone and their return is very remote. The average wholesale price of twenty-five food products arranged to represent the food budget of a family in the tables maintained by the New York Analyst shows that it would require in March, 1919, \$2.98 to purchase what would have cost in March, 1914, only \$1.46. The yearly average for 1918 on the

same basis was \$2.87 while that of 1917 was \$2.61.

The forgotten analogy of the years succeeding the Civil War is that the United States has not departed from a metal money basis during the world's war, and we now have three billion of gold, or one-third of the world's supply. The total money in circulation in the United States is considerably over five billion and an increase per capita from \$48.37 a year ago to \$57.76 at the present time. The financial power of the people is shown in their ability to absorb over twenty-one billion of war loans and savings stamps, and while this is not money in a legal sense it is a basis of bank credit under the federal reserve system that is available to protect prices. There is loaned to foreign governments nine billion dollars by the United States, and private loans to foreigners aggregate over four billions. At the close of the Civil War the United States was indebted

both public and privately abroad, so conditions are reversed at the present time. That the credit conditions of our banking system are adjusted to a metallic money is seen when there is three times as much gold reserve supporting the note issues of the reserve banks as there was the national bank notes in 1914.

The widespread ownership of Liberty Bonds in the first instance was creditable patriotism, but as a credit measure it will prove a duplicate blessing in increasing deposit banking. The whole financial resources of the nation were made available by what often was a paradox of a heavy bond purchase and increased bank deposits. Deposit banking has increased all over the world and this is the same as a new gold supply. No man with any knowledge of world affairs can expect a return of the prices prevailing in 1914. Pressure has been exerted since the close of the war to reduce prices, but under existing circumstances it is impossible.

The actual money condition is only one side of the case. The physical fact is that reconstruction is not productive of goods for consumption but of the machinery and appliances to produce goods. A homely example in explanation would be a farmer building both a house and barn in one season and diverting his labor and resources to that end away from farm crops. While this problem is acute in Europe it is a factor in the United States where the power of a nation was turned to war work and there is a shortage of houses and supplies of a general nature. There is still the enormous shortage of manpower occasioned by the war and this is a factor in reconstruction and in production of goods. And finally there are no cheap products in the world, nor low wages anywhere. The best opinion of the world is today that adjustments will have to be made to the present price level, rather than price reduction.



A Clean Field of Beans Greatly Simplifies the Harvesting Problem.

Land Available for Settlement

THE war-time demand for food has led many persons with nation-wide reputations for business keenness to jump to the conclusion that farming will always be as profitable and desirable an occupation as it has been recently. The same set of circumstances has brought many more to the belief that all our returning soldiers should go to producing food, and to propose means for providing a farm for every fighter. To get a basis to work from in considering these proposals scientists of the Department of Agriculture have got together some figures that may disillusion not a few hopeful ones.

Land Not Fit for Cultivation.

To begin with, more than half the land in the United States fit for cultivation was in crops ten years ago. This proportion has steadily increased. Then there must be eliminated the "corn belt," where none but a rich man may own a farm. This is a wedge-shaped region east of the one hundredth meridian and bounded by a line from southwestern Pennsylvania, across Kentucky and Missouri to Ok-

lahoma, thence north to North Dakota and back across Minnesota, Wisconsin and Michigan to Pennsylvania—in all about one-fifth of the United States. It produces four-fifths of the corn, three-fourths of the wheat and oats, and three-fifths of the hay crops of the nation.

This belt, most of which can be plowed easily and has a fertile soil is the most productive area in the world devoted to corn, which is the most productive per acre of the food crops.

Acres Available for Crop Production. The United States has approximately 850,000,000 acres of land—forty-five per cent of the country's land area—in crops or available for crop production.

Of this amount approximately 480,000,000 acres were improved land in 1910; the remainder consisting of 200,000,000 acres of potentially arable forest and cut-over land, 60,000,000 acres of swamps and other wet lands needing drainage, 30,000,000 acres of potentially irrigable land, and about 80,000,000 acres of unimproved land other than woodland.

Over 1,000,000,000 acres of land in

the United States are not adapted to cultivation, of which at least 360,000,000 acres may be used for forests and about 600,000,000 acres for grazing. Most of the grazing land is located in the western states. In addition there are about 40,000,000 acres of desert land, and 40,000,000 acres of land in cities, rural highways and railroad rights of way, an amount which will gradually increase with increasing population.

Use for Unimproved Lands.

Much of the non-arable land within the domain of Uncle Sam consists of land once farmed and now abandoned, as well as areas which no one thought it worth while trying to make into farms. Topographic and climatic conditions are of primary importance in explaining why the United States is too hilly or rough for the successful production of crops. This mountainous or stony land, where rainfall is sufficient, is adapted to forests, and where the rainfall is light is grazed by roving flocks of sheep or by cattle. Lack of sufficient rainfall is responsible for the absence of crops in nearly one-

third of the United States. During occasional years of heavier rainfall, large profits may be made in growing crops in these semi-arid regions, but in the long run it pays better in most localities to use such land for grazing, and grow in swales and seepage basins only a few acres of crops for supplementary feed.

Another factor restricting the cultivated area is the length of the growing season. Over a large extent of elevated land in the west, and also in the Adirondacks and a part of Maine, the average growing season is less than ninety days, while frosts may occur during the summer. There is also much land where the soil is too sandy or infertile for the profitable production of crops. Such soils are better adapted to forests, and when cleared for agricultural use are generally soon allowed to grow up again in brush and trees.

Cut-over Land.

About one-fifth of a billion acres of the cut-over land and woodland in the United States might be cleared up and the stumps removed so that the land

would be available for productive farming. However, this work would involve heavy expenditures and on this account clearing is slow, as farmers usually prefer to locate on land which does not involve so much pioneering. If all this agriculturally suitable forest and cut-over land could be made into farms averaging one hundred and sixty acres, it would provide 1,250,000 farms, an increase of about twenty per cent over the present number. It is believed unlikely that more than 50,000,000 acres, or enough for perhaps 300,000 farms, will be cleared by the present generation unless the government assumes responsibility.

Swamps and Overflow Land.

Another undeveloped agricultural resource consists of swamps and over-

flow lands that may be drained. It is estimated that there are some 60,000,000 acres of such land suitable for the production of crops after reclamation, or enough to make 1,000,000 farms of sixty acres. Most of this land, located largely in the Mississippi river bottoms and other river bottoms of the southern coastal plain and in the peat bogs and muck lands of the lake states and northeastern states is potentially fertile, but as drainage is expensive, it will probably be at least another half century before all or even much of this area is reclaimed.

Western Irrigated Districts.

The irrigated sections of the western states have approximately 30,000,000 acres of land still available for farming purposes if complete utiliza-

tion is made of the potential water supply. This is double the present area of the irrigated land and would provide 340,000 farms averaging eighty-seven acres, which is the average farm acreage of irrigated land shown by the 1910 census. However, construction of irrigation dams and canals is so expensive that it will be many years before much of this land is put in crops.

Fast Decreasing Homestead Tracts.

In the eastern states and in the great plains region much waste land is classified in the census reports as "unimproved land other than woodland." It consists of stony upland pastures in hilly regions and other parcels of waste land in eastern farms and of grazing land in western ranch-

es, aggregating in all about 50,000,000 acres. Some of this land in the east at one time was cropped and now constitutes in part the so-called abandoned farms. If prices of farm products continue high and farm labor again becomes comparatively cheap, a portion of this land will undoubtedly be reclaimed for crop production. The further development of dry farming may also make room for a few more farmers in the west. Under the six hundred and forty-acre grazing homestead act passed in 1916, more than 45,000 applications have been made and approved. In the opinion of department specialists, however, most of the grazing homesteads offering promise of supporting a family have been applied for.

Controlling Potato Diseases

MICHIGAN potato growers suffer heavy annual losses, which are due primarily to causes quite readily controlled through proper seed selection, field culture and spraying. The weather conditions, of course, are beyond our control, but to some extent proper methods of cultivation may help conserve moisture. The most injurious insects may be quite easily controlled, but our methods may be improved. Diseases caused by fungi and bacteria are difficult to control and are frequent causes of serious damage. A careful study of the following diseases and methods of control should prove of value to every grower who is interested in producing maximum crops of fine quality potatoes.

Rots.

Seed potatoes are very often affected with soft rots, which may be due to any one of several causes. The most important to the potato growers of most sections, is due to bacteria which cause a rapid rotting of the tubers. The soft, slimy pulp, containing millions of bacteria, is smeared over the surface of the sound potatoes in the handling, and some of it reaches the freshly cut surfaces by contact with the potatoes or from the cutting knife. If the cut potatoes stand for a short time before planting, black sunken spots due to the action of the bacteria, appear on the cut surfaces. If the weather is warm the potato sprouts, and no great loss results from this rot. But if the weather is cold and wet, many of the seed pieces rot, the result being a poor stand or weak plants. This rot was especially destructive in 1913.

Control.—Although the weather is the most important factor in the control of this trouble, the loss can be reduced by treatment of the seed with formaldehyde or corrosive sublimate, and by dipping the cutting knives in a twenty-five per cent solution of formaldehyde. This may be easily accomplished by having two knives for each cutter and letting one stand in the solution while the other is being used. This precaution has been adopted by many of the northern growers. It is also advisable to treat the cut seed with sulphur.

Southern Bacteria Wilt.

This disease, also known as the "sleeping sickness," is caused by *Bacillus solanacearum*, E. F. Smith. It attacks potatoes, tomatoes, eggplants, peppers and tobacco (on which it is known as the Granville tobacco wilt), and is one of the most destructive diseases of the southern states. It was reported in 1903 as attacking tomatoes in this state. It is especially severe in dry seasons and on dry soils. It was very severe on the potatoes in the southern part of the state in 1913, and aside from weather conditions caused greater injury to the early Cobblers than any other one factor. The dis-

ease was decidedly more severe on potatoes grown from eastern seed than on those from New Jersey grown seed, and there was a slight amount of evidence tending to show that it was less severe on seed which had been treated with formaldehyde than on seed which had not been treated.

The disease first appears as a wilting, followed by a revival at night and a wilting on the second day. Plants very seldom survive the second day's wilting unless there should be intervening rains, but become yellow and blacken, and the tubers rot readily. The disease is carried by insects and in the seed, and in the southern states in the soil. It is probable that the cold weather of the north checks it to some extent, but this point has not been conclusively demonstrated.

die before the tubers have reached a market size.

Control.—Throw out all seed tubers that show evidence of the disease. Treat the seed with formaldehyde or corrosive sublimate.

Common Scab.

This is one of the most common and best known of the potato diseases, and yet one which is very generally neglected by the growers. It varies from a very slight russetting to pronounced roughness. In extreme cases the tubers are small and the roughness takes the form of holes, which are frequently one-sixteenth to one-fourth of an inch deep.

The organism causing this disease can be carried on the seed, in the dust on healthy tubers, and in manure from animals fed on diseased tubers; it will

spots and the reddish powder or spores within the cankers. It is said to be a very serious disease in Europe. It is now known to exist in Canada, parts of Maine and New York.

Dry Rot and Wilt.

This is a very common and widely distributed fungus disease of the potato, and is frequently referred to as "Fusarium wilt" and "stem blight." It can be recognized in the tuber by the black discoloration starting at the stem and just below the peel. This disease causes a dry rot in the late summer and fall and in winter storage. In the field the diseased plants wilt and die prematurely, the stems blacken and rot at the surface of the ground, and are frequently covered with a delicate white or pink fungus growth. When the diseased stems are cut across, the fibro-vascular bundles are found to be black and dead.

Control.—Throw out all seed that shows black discoloration when cut. Use a five-year crop rotation for infected fields.

Early Blight.

This is a very common and widely distributed fungus which attacks both potatoes and tomatoes and is frequently the cause of heavy losses. It appears as dark, grayish spots on the leaves, within which delicate, black, concentric circles are very frequently formed. These spots increase in size, and unite, forming irregular blotches and frequently destroying the entire leaf. The older spots become dry and brittle. Flea beetles and other insects carry the disease from plant to plant. This disease is not apt to be serious on early planted fields but is usually more severe on the late crop than on the early. It is more severe on plants that have been injured by Paris green than on normal plants. It attacks the plants that have been injured by tip burn, and it is frequently difficult to estimate the losses due to these two causes. It is also more severe on tomatoes than on potatoes.

Control.—Spray with Bordeaux mixture or other good fungicide.

Late Blight.

This, one of the most destructive diseases of the potato, is caused by a fungus. It is common in northern potato-growing districts and in the mountainous districts of the southern states. The new spots on the leaves are large, appear water-soaked from above and show a whitish, sometimes pinkish, mildew growth on the lower side. When mature they become dark brown, dry and brittle. It is especially severe in cool, moist weather, frequently causing the foliage to wilt and blacken in a very few hours. It also causes a soft tuber rot in the fields and a dry brown rot in storage.

The cut surface of diseased tubers shows a rot causing a brownish, yellowish, or marbled discoloration which may originate at any point. Diseased



Disease and Insect Pests Demand Heavy Toll from the Potato Fields.

Control.—The tubers from diseased vines should not be used for seed, and rotation of crops should be practiced. Other crops which are attacked by the disease should not be used in the rotation.

Black Leg.

This is one of the severe diseases of the potato which comes to us in seed, and is the cause of heavy losses throughout the state every year.

It is a bacterial disease and probably came to us from Europe. The affected plants are under-sized and very erect; the leaves are pale in color and tend to curl upward. The stems die from the seed piece upward, turn black and become dry. The disease is always much more severe on crops grown from northern seed than on crops grown from second crop seed.

The disease also causes a rotting of the tubers, beginning at the point of union with the plant and gradually working inward. Tubers in which the rot is well advanced may be mashed and smeared over the sound tubers and thus spread the disease. Very slightly infected tubers are frequently overlooked by the cutters. Usually plants from diseased seed pieces will

also persist in the soil. It is most severe in alkaline soils, and growers should therefore avoid the use of lime, wood ashes, soda and stable manure on potato lands unless applied with other crops in rotation. The disease also occurs on beets, turnips and some other plants.

Control.—(a) Select smooth seed; (b) disinfect with formaldehyde or corrosive sublimate; (c) plant in clean soil following a green crop; (d) avoid alkaline fertilizer; (e) do not plant on infected soil for three to five years; (f) do not use beets or turnips in the crop rotation; (g) in severe cases treat the soil with sulphur.

Powdery Scab.

This disease is quite different from the common scab, but resembles it somewhat. It is caused by a slime mold and was probably introduced from Europe. The spots are covered into brownish, powdery masses. It is difficult for the inexperienced person to distinguish this disease from the common scab. The most pronounced characters are a more or less regular arrangement of the spots in rows, a peeling back of the skin around the

(Continued on page 888).

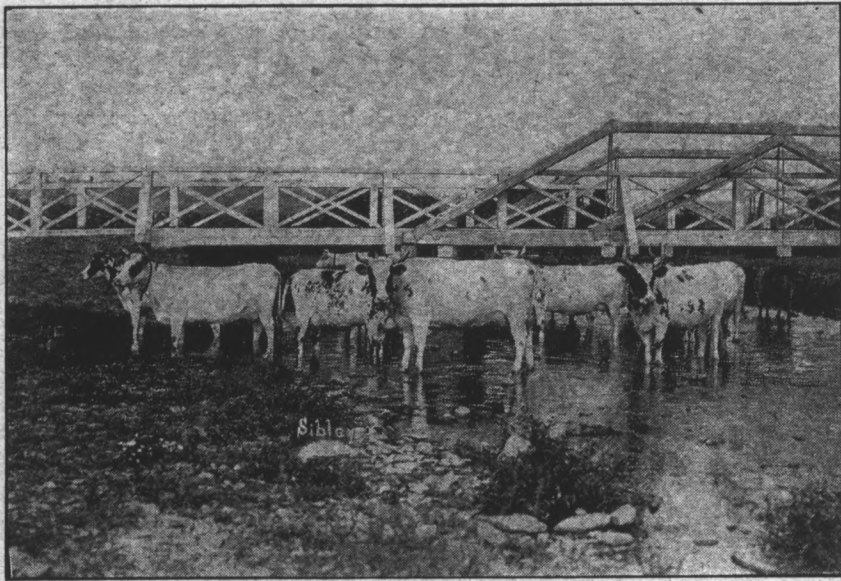
Breeding Better Dairy Cattle

IN this connection we wish the word farmer to stand for the average man out on the land. A large class of progressive farmers appreciate already the value of pure-bred live stock. They have settled the question for themselves in the affirmative. They would not think of returning to the old days in which they kept cattle of no especial breeding. But the question is, should the average man on the farm get rid of his scrub cattle and put pure-bred animals in their places?

Were we to consult him about it and tell him of the success of the breeder of pure-bred live stock he would respond that this man has plenty of money. He is able to purchase cattle for the foundation of his pure-bred herd. He has money with which to supply the necessary equipment and to provide the proper care and purchase the necessary labor involved in the management of a pure-bred herd of a high order. But, says the average farmer, "we have no money with which to purchase pure-bred cattle, few of us have silos, our barns are poor and inadequate for the needs of such a herd, and so, we must just scrub along from year to year as we have been doing. We have gotten a living up to now and

ordinary mother and may develop into a better cow herself, or on the other hand, she may be even poorer than the mother that gave her birth. There is absolutely no way to tell anything about it. Hereditary tendencies are so crossed and twisted in the average scrub as to destroy each other to an extent that makes improvement along these lines even under the best methods of handling, a very discouraging task.

If the pure-bred sire of splendid breeding be introduced into a herd of scrubs great improvement will result, in fact this is where the improvement in most cases should logically begin, because pure-bred cattle of merit are scarce and expensive and the average farmer with a little money must begin the work of improvement with the smallest possible outlay of cash. But every dairyman, every man who wishes to develop a herd of beef cattle or to keep live stock for any purpose should construct a breeders' ideal at the beginning. He may have to begin with simply the pure-bred sire, but if possible he should own one or two registered females, and he should be very careful indeed about these pure-bred heifers or cows that he purchases in



Ayrshire Cattle Are Popular in Many Dairying Localities.

I guess we shall continue to do so if the prices of farm products continue where they are."

Pure-bred Cattle Best.

But is this man right? Can the average farmer afford to retain his ordinary cows when the added advantage of a pure-bred herd is considered? Do the facts of scarcity of money and poor and limited equipment justify him in such a course, and once again, is the average farmer fitted to breed and manage a pure-bred herd? If not, may he be taught to do so successfully?

There is no longer any question of the superiority of pure-bred cattle over those of no especial breeding. Ample data has been secured to prove this fact beyond any possible doubt and an ever-increasing number of people out on the farms are becoming conscious of it. The time was when we had to argue this question, the objector would say, "there are many pure-bred cattle that are not worth keeping." He was right, and such a statement would be true even today. But there always has been, and there always will be a much larger number of scrub cattle that do not pay for their feed and care. The scrub cow has neither pride in ancestry nor hope in posterity. We have no right when we consider a scrub heifer to form any opinion about her performance when she reaches maturity. She may be the daughter of an excellent cow and yet when she comes into milk she may not pay for half she eats. She may come from only an or-

inary mother. The danger is that the man of small means will look for pure-bred animals purchasable at a price that he feels he can pay. And the anxiety to find something cheap will obscure his vision of what a pure-bred animal really should be if it is to be made the foundation of a future herd.

Breed Them Alike.

The importance of standardizing our live stock is rapidly growing in the public mind. It can be accomplished most easily and in the least possible time through the farm bureau movement and what we have to say about it in the remainder of this article will be said in connection with that agency. The county agent will appoint a leader in matters of live stock improvement in every community in the county where the interest will justify such action. The next move will be to establish a uniformity of breeds. It is not necessary that a whole county should unite upon one breed of cattle, but it is desirable to do so always if the people can be made to see alike. On the other hand, it is entirely impossible to accomplish large things in breeding where too many breeds are kept. If all pure-bred animals were of equal merit it would not matter, but this is far from being true. The very next move after we have established our breed is to begin the weeding out of the poor animals and to discover the individuals of real merit. These two lines of effort must continue just as long as we are in the business if we are going to succeed. If but one man

The Standard Oil Company (Indiana) and the Farmer

THERE is no general class of men who understand so thoroughly, and appreciate so well, the service rendered by the Standard Oil Company (Indiana) as do the farmers of the Middle West

Wherever he may live the farmer is as familiar with the dark green tank wagon as he is with the conveyance which brings the mail carrier. He knows that his requirements of petroleum products will be provided.

He depends upon the service rendered by the Standard Oil Company (Indiana), confident that the company will deliver to him whatever products he needs, when he needs them, and at a price which is fair.

During the past two or three strenuous years the farmer of America has carried the responsibility for feeding the world. Every hour of every day he was busy, and every minute was precious.

To multiply the effectiveness of his own and his employes' labor, he installed modern equipment—tractors, trucks, cultivating and harvesting machinery.

To run these machines gasoline, kerosene, lubricating oils, and greases were absolutely necessary. To get them the farmer would have been forced to take hours of time going to town were it not for the distributing facilities of the Standard Oil Company (Indiana). The Company brought the products he needed to the farm, even to the tractor in the field.

It is this kind of service which has brought the farmer and the Company into such close and such friendly relations. It is this kind of service which emphasizes the usefulness of the Standard Oil Company (Indiana) as a public servant.

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in a community breeds a certain breed of cattle he may continue for years without the discovery of a single animal of unusual merit, but if ten men have united upon a single breed someone is bound sooner or later to discover animals of great value. What is of still more importance, characteristics will have been discovered that will assist in classifying families of merit in the breed and the blood of these good cattle will in a short time diffuse itself throughout the entire community. This is a most telling, and indeed, an unanswerable argument for standardization and for community breeding.

The County Agent Can Help.

The county agent through his live stock man can begin this work in practically every progressive community. Such action lies at the beginning of all true progress in live stock improvement. With the community organized to breed a particular breed let us turn our attention now to these men of small means and poor equipment. They have read farm papers for years, they have attended dairy meetings and farmers' institutes, and from these sources they have gotten

much good, but up to now they have lacked the human touch that the farm bureau movement brings to them. But some afternoon during the winter the county agent meets the live stock man and his neighbors and heart to heart they talk matters over. These men with no siloes find out how they can obtain them at least cost and resolve to do so. A breeders' association is formed and splendid sires are purchased under the advice of the county agent and almost before they know it these people are on the way with rapid strides toward live stock improvement. Some good pure-bred heifers are located and purchased by the more prosperous farmer of the community and one or two men of small means borrow the money and invest it in pure-bred heifers and thus the community gets a start.

Problems of equipment and food are discussed from time to time and the community ideal grows always under the watchful care of this new superintendent of agriculture, the county agent. By and by a cow-testing association is formed, it is then that the weeding process begins in earnest. No

one interested in live stock improvement can read the history of these associations without ever-increasing enthusiasm. I have never known an instance where a cow-testing association ran for three consecutive years and butter-fat production did not increase by leaps and bounds. Such increase is simply the logical result of this movement. The gathering of definite facts on a particular dairy is certain to bring about more economical production.

Working Up in the Game.

Every farmer who keeps live stock at all should look forward to the day in which he shall be the owner of a pure-bred herd. In brief, this is the program—first the county agent, next the organization of the community to this end, then the introduction of the pure-bred sire of the one breed agreed upon, followed by the purchase of as many pure-bred heifers as can be purchased under the circumstances. Frequent community meetings in which to consider local problems unite the individuals in a common vision and a common purpose, then by and by the cow-testing association accomplishes

the weeding out of undesirable animals and retention of those of real merit.

Such a course will make practically every farmer in the community who keeps cows a breeder of pure-bred animals in time. Who can estimate the value of such a program to a rural community?

What may it not mean in the progress of soil improvement, in added home comforts and conveniences in rural homes? In better educational privileges for country boys and girls, in adequate rural social centers for young and old, in the reviving of the rural church, and in sort, in all lines of desirable improvement out in the open country. Again we ask, who can measure the advantages of such a program? These are possible because improved live stock means largely increased profits on one hand, and on the other that marvelous intellectual and ethical growth which always comes to individuals singularly or collectively when they catch a new and splendid vision, form a great purpose and then devote their muscle, their minds, and their hearts to its accomplishment.

Holstein Breeders at Philadelphia

WE have put the Holstein cow on the top shelf in dairy production. It is now time to reach down and help lift the milk can up to her level." This was the key note of the thirty-fourth annual meeting of the Holstein-Friesian Association of America, held at Philadelphia, June 2-6. There will be no abatement of effort to further increase the individual milk and butter-fat production of the Holsteins, but the breeders appreciate that the future of dairying depends as well on the greatest profitable consumption of milk and its products, and the next great effort of the association must be in promoting greater production through measures which will educate the public to the food value of dairy products.

There were about one thousand enthusiastic breeders in attendance from all parts of the country. The routine business was well systematized, and association reports were adopted and new business transacted in the sessions of a single day. The rest of the time was fully occupied by the various entertainment features provided by the Pennsylvania Holstein Breeders' Association, and by the International sale of Holstein cattle.

Reports of Officers.

President D. D. Aikens, of Michigan, in his annual address, made an interesting review of the history of the Holstein breed in this country. Pennsylvania was one of the first states to take up the breeding of pure-bred Holsteins. The first importation into the state was in 1868, by the Doylestown Agricultural & Mechanics' Institute, in Bucks county. Among the first pure-bred herds in the state were those developed by M. Gibney and William Steckel, of Bucks county; D. D. Tracey, of Erie county; Edward Huidekoper, of Crawford county, and Wm. M. Singerly, of Philadelphia county. Coming down to the present condition of the association, the president reported that the number of life members has been increased by three thousand this past year; that returns from admission of new members for the year amounted to \$79,950; that the net surplus for the year amounts to \$116,800.09. He showed the increasing cost of operation as a society and advocated an increase in the transfer fee of twenty-five cents for members and fifty cents for non-members. He advocated

a greater support and development of the Extension Service of the Association; advocated a complete census of Holstein cattle of the country; advertising of the food value of dairy products and careful safeguards for the

validity of all the Holstein pedigrees. The secretary, F. L. Houghton, reported total registrations for the year at 90,887 as compared with 88,279 for the preceding year. Total certificates issued for the fiscal year ending 1919

amounted to 189,350, as compared with 180,744, for 1918, and 150,456 for 1917. The total cash receipts for the year amounted to \$320,237.36. The total cash disbursements for the year were \$189,916.34, leaving an excess for the year of \$130,321.02.

By-Laws Amended.

The by-laws of the association were amended to establish reciprocal relations with the Holstein-Friesian Association of Canada. A reciprocal agreement between the two bodies was adopted making it possible to import cattle from one country to the other on the registration certificate of the exporting country. Another amendment makes the transfer fees for members fifty cents when bred within six months of date of sale, and \$1 after the six-months period. For non-members the fees are to be \$1 and \$2 before and after the six months' period. A third amendment adopted increased the number of directors of the association to sixteen. Still another amendment adopted provides that no cow shall be eligible to compete for prize money in the 305-day class unless she shall produce a calf within fourteen months after the previous calving.

Food Value of Dairy Products.

Considerable time was given to the discussion of the food value of dairy products, and methods of advertising milk and its products. The leading contribution to the subject was the address by Dr. E. V. McCollum, of Johns' Hopkins University, on the "Newer Knowledge of Nutrition."

Election of Officers.

In the election of officers, Hon. D. D. Aitken, of Michigan, was re-elected as president. Other officers chosen were Senator J. M. Hackney, of St. Paul, vice-president; F. L. Houghton, secretary and editor; Wing R. Smith, of Syracuse, New York, treasurer. The following new directors were elected: Four-year term, Colonel G. Watson French, of Iowa; James A. Reynolds, of Ohio, and R. J. Schaefer, of Wisconsin; three-year term, Fred F. Field, of Massachusetts; John A. Bell, Pennsylvania; F. L. Morris, California; Dr. B. B. Davis, Nebraska, and H. F. Dupont, Delaware. H. W. Norton, of Michigan, and C. C. Schrobe, of Minnesota, were elected for two-year terms. St. Paul was unanimously chosen as the place for next year's meeting.

Getting Rid of the Quack

MANY methods have been proposed for getting rid of quack grass. Some farmers are very sure that the only way to get rid of it is to sell the farm. That is at least a way to pass it on. Others who are not willing to leave the farm believe that the only thing to do is to dig up every root and burn it. To do this they will go to a very heavy expense for labor. I have heard a college professor advocate covering the ground with tar paper during the growing season. One season would be sufficient to smother the stuff! Yes, we would certainly hope so.

Many farmers have demonstrated the feasibility of summer fallowing. This is all right, provided one can spare the ground, has time to do the necessary work and the season is dry. The objections to this system are that, as stated, the use of the ground is lost, it requires a lot of work and the weather must be rather dry. In addition to these objections it has been found by soil experts that summer fallowing is hard on land. This is due to a condition which is not yet well understood by most farmers. Soil bacteria which convert plant foods into available form multiply most rapidly and do most work in a well cultivated soil. To make plant food available for the tiny rootlets to absorb it must be soluble in water.

Hence it is that if the ground is kept bare and well cultivated that every rain carries off in surface drainage or in leachage quantities of plant food. Some insist that summer fallowing is

as hard on land as a crop of grain.

Smother Method.

A friend of mine told me once that he would rather have a piece of heavy quack grass sod for potatoes than to have a piece of clean ground. I laughed at him. But I have since learned to respect his statement. The method of handling the ground is simple and has all the points which are against summer fallowing in its favor. Here it is: Before the ground is plowed go onto it with a sharp disk. Disk it in five different directions. This will cut the quack roots into short pieces. Then with a good jointer on the plow turn the soil as much as eight inches deep. You will observe that the quack grass roots will be placed in the bottom of the furrow and covered with three to six inches of soil. Harrow lightly and plant to corn, potatoes or other hoed crop and cultivate in the usual manner. If desired a crop of buckwheat and seeding of sweet clover will do the trick about as well as a cultivated crop.

This system will positively put the quack under control and if done well will eradicate it completely, at the same time permitting one to grow a profitable crop on the ground while the killing is going on.

One of the advantages of this system of eradication is that the very large quantity of heavy roots is kept in the ground and turned into humus. This alone is worth a good many dollars per acre to the farmer.

I. B. McMURTRY.



Lillie Farmstead Notes

THE extremely hot weather of the last few days of May and the first of June is pushing vegetation forward at a very rapid rate. I never remember seeing corn germinate so quickly and grow so rapidly as it has in the last few days. With proper tillage to conserve moisture this ought to be a good corn year because corn will certainly get a good start. This weather, however, is not particularly beneficial to some crops. It is forcing clover meadows along too rapidly; that is, the clover is maturing and it is not going to get the growth that it would have with less heat and a little more moisture these last few days. Clover fields are beginning to show blossoms where only two weeks ago they seemingly had just nicely started, and the hay must be cut at the proper stage of maturity in order to have it contain the highest food value. Clover hay ought to be cut earlier than a great many people cut it. They wait until it is all blossomed out and many of the heads brown before they begin haying, but this is too late to get hay of the highest quality. Besides that, if the meadow is not cut until that time the second crop usually is light, and at the present price of red clover seed it will pay to take a little extra pains this year to cut the crop early so that we can get a good second crop to be saved for seed.

Many people argue against too early cutting of clover hay because it takes too long to cure it. It is a fact that it does require longer to cure the hay but if the proper system is used it can be handled very nicely. This early-cut clover hay should be partially, even largely, cured in the cock. I don't believe it is policy to attempt to cure it in the windrow and haul it directly into the barn. Unless we should have extremely dry, hot weather during that time it would be almost impossible to reduce the moisture content so that it would not heat in the mow.

If, however, just as soon as the crop is in the best condition to cut it is all mowed down, raked up as soon as nicely wilted, and put in cocks to cure, it can be successfully cured and I believe that the labor and expense of haying will be less than it would if one attempted to cure it in the windrow. In the first place, when the hay is ready to be cut it ought to be cut as quickly as possible. I have noted before now where a man had quite a large acreage of clover hay to cut that where he began the haying the second

growth was very fine, he had got a good stand for seed, but it took so long to do this haying that by the time the clover was all cut it was so late there was scarcely any growth at all on that portion cut last. Now, if it had all been cut at once and cocked up the second crop would all come on together and the man would have got out of this land more than he would by practicing the other method.

Then, too, one can make more of a business of haying if he will cut it all down and put it in cocks than where you only cut a small amount and try to cure it in the windrow. There is so much time lost in changing the men from one job to another. If the weather is wet you cannot hay it at all; they must work forenoons at something else and then cut hay just a little while in the afternoons, but if it is all cut at the proper time and put into the cock when it is ready to go into the barn a business can be made of hauling hay just as you can of hauling wheat out of the shock and men can make better time at this work. You will have secured a better quality of hay at less expense and you will stand a much better chance of getting a good crop.

Combination Ensilage.

This year we are going the combination one better. We are not only mixing soy beans with the corn but also mixing sunflower seeds with the corn. Something must be done to secure a larger bulk of ensilage because we didn't have enough last year to carry us through. Of course, we raise sweet corn for the canning factory so the ears are picked off and hauled to the factory and this makes quite a little difference in the amount of ensilage. The soy beans help out some and now if we can grow sunflowers along with the corn this should increase the amount of feed secured. I have never tried this before but I have read of experiments made by practical farmers and I shall note the results with very much interest. C. C. L.

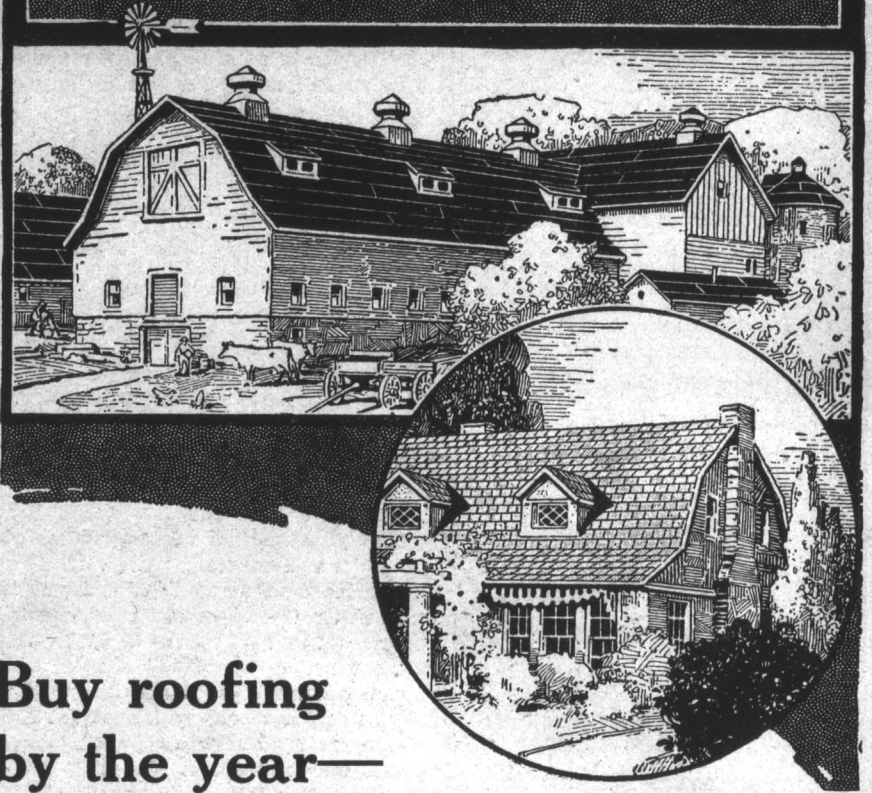
BIG OHIO WOOL POOL.

The Ohio Sheep and Wool Growers' Association, which was recently organized, has just opened its new warehouse in Columbus. It is already promised a large percentage of Ohio's wool crop, for members have pledged two and a half million pounds. The association handles the wool for a nominal charge under a somewhat similar arrangement as has been perfected by growers in Illinois and Iowa.



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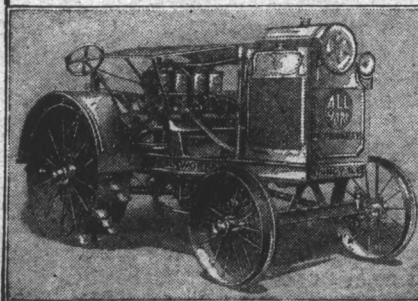
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SEPARATOR MILK FOR PIGS.

Is separated milk better for pigs when fed sweet or when allowed to sour?—Subscriber.

There is no difference in the feeding value. However, if the milk was allowed to become sour, it might cause bad results in feeding it to the young pigs, as it might have a tendency to cause indigestion and scours.

I would suggest, however, that the milk be fed the same all of the time, as a change from one to the other is likely to cause digestive disorders and not give as good results as if fed the same all of the time. If the milk can be fed sweet from the separator, I would by all means advise it be that way.

W. M. K.

GLUE METHOD OF INOCULATION.

Kindly advise me how to use the glue method of inoculating. Is it meeting with success?

Branch Co. C. D. S.

The glue method of inoculating alfalfa seed is meeting with considerable success in many localities. It is well worth trying, even though one inoculates the soil in the field at the same time.

The common practice in inoculating alfalfa soil is to dig up inoculated soil where thrifty alfalfa or sweet clover plants with nodules on the roots have been growing. Powder this soil and dry it out in the basement or some other shady place. Two or three quarts of the finely powdered dirt to each bushel of seed is about right.

Make a thin glue solution by dissolving one handful of furniture glue in a gallon of boiling water. After the solution is cold, sprinkle enough of it over the seed to moisten it slightly, but not enough to wet it. Then sprinkle the inoculated dust over the moist seed and stir thoroughly, and spread the seed out to dry. The glue method of inoculation has proved quite effective.

Commercial culture for inoculating alfalfa and other legumes can be purchased at almost any seed store. They are very effective and quite convenient. However, the cost generally is several dollars per acre. The most effective method of all, but the most bothersome, is to spread four or five hundred pounds of inoculated dirt over each acre of land to be put to alfalfa.

W. M. K.

of seed per acre which would seem an unusual amount, and yet when we understand that what we are after in a permanent pasture is to get a permanent sod as soon as possible, we want to get a thick sod. These seeds can be mixed in a great many different proportions and it would make but little difference. The lighter seeds, like orchard grass, red-top, can be sown separately as they would not mix well with the heavier seeds.

It is not advisable to pasture a new sod for permanent pasture the first season. Much of the young grass is trampled to death before it gets well established; some of it is actually pulled up when the stock attempts to bite it off and the pasture is injured quite severely. It would be better to simply clip this once or perhaps if it developed sufficiently to take off a crop and use it for hay and not pasture it to amount to anything until next spring. Of course, calves or some other light stock may be turned on the latter portion of the season but you will have a pasture that will be more profitable if you defer pasturing it the first season.

C. C. L.

MATING BREEDING PENS.

How soon should I pen my cocks with pullets to have the eggs fertile? How long would you advise me to wait to save eggs for hatching after you have them penned?

Branch Co. J. B.

About fifteen days after the birds are mated the dealer will be very safe in saving eggs for hatching purposes. Some experiments have proven that the first egg laid after a mating is usually infertile and then, with no more matings, the eggs will continue fertile for eight or ten days. If the males have been mixed in the breeding pens, it is safest to wait two or three weeks before saving eggs for hatching or the eggs may show the effect of the previous matings. Therefore if the hens have not been with other males, the eggs will be all right for use within a few days after the pens are mated. If they have been with other males and breeding with a certain male is desired, it will pay to wait the two or three weeks to be sure that the eggs will be of guaranteed purity.

R. G. K.

BEAN GROWING.

Would like a little information on bean growing, from the preparation of the soil to the harvesting of the crop. Also, answers to the following questions: 1. What quantity of seed to the acre? 2. Distance apart in rows and hills? 3. Is hill or drill planting preferable? 4. If in hills, how many to the hill? 5. What would be a fair yield to expect per acre? 6. Will the beans do fairly well on lean ground, being a sort of sandy loam that failed to catch with clover, having been sown last spring? 7. What would be the best substitute for hay on spring-plowed sod of sandy loam nature? Would oats and peas sown together answer the purpose? 8. Is the navy bean considered a good yielder? Also, what is your advice about sowing buckwheat on loam ground?

Memominee Co. H. L.

It is a mistaken idea to think that you can grow a good crop of beans on poor land. I am aware that there is an old saying that when one wants to designate how poor land is, to say "it won't grow white beans," but this is misleading. Neither beans nor any other crop will grow well and produce a good yield unless the land is fertile. That is the basis of all prosperous farming—fertile land. Plants must have plenty of food and, besides, the

land must be in good physical condition.

Some of the best bean growers in this state prepare for the bean crop by covering a clover sod during the winter with stable manure and plowing this down in the spring. Here you see good, fertile land which is indicated by having a good clover sod. Now, this is covered with good stable manure and plowed down. That is one of the best preparations that one can have for beans or most any crop. Of course, we don't always have the clover sod. We don't always have the stable manure and then we must do the best we can under our conditions. Fairly good fertile land under favorable conditions will produce a good crop of beans but not a big one. Any good land, if it is properly prepared, especially if it has a good application of commercial fertilizers, ought to produce a crop of beans that would be worth while. Beans are not usually planted until after corn planting time. They are very easily injured by frosts the last of May or the first of June up to the tenth and even later. We should plant them, if possible, so as to avoid late frosts in the spring and get them in early enough so they mature before the early frosts of fall.

The land can be fall-plowed or spring-plowed. If it is to be plowed in the spring the safest way is to plow it early and then cultivate the land occasionally, destroying the weeds, conserving the moisture, until planting time; but we cannot always do this, sometimes it is close to planting time before we get time to plow for beans. There is more risk in this because if the weather should turn dry there is apt not to be moisture enough to get the beans to start.

Beans are almost invariably grown in drills. They can be planted with a common grain drill, sowing three rows at a time. One bushel of good seed per acre is about the right amount. Beans should not be covered too deeply. There are attachments to be used on the three teeth of the drill for planting beans that will govern the depth fairly well so that the beans are not planted too deep. After the beans are planted they should be cultivated and cared for much like corn. The thing to do is not to allow any weeds to grow and not to allow any crusts to form which will cause the evaporation of moisture. Beans grow in midsummer and if the weather is exceedingly dry many crops are cut short from this fact, so that anything we can do to conserve the moisture usually pays well. Of course, in a wet season the moisture problem does not bother.

The navy field bean is considered the best bean to grow. The yield of beans varies with the season and with the soil. The extremes are great—from five to seven bushels per acre up to thirty-five bushels per acre. A sandy loam soil is considered about the best soil for this crop.

A Substitute for Hay.

I know of no better substitute for clover hay than peas and oats sown together early in the spring and harvested before they get ripe. The proper time to cut is when the oats are in the milk and the pods of the peas are just nicely formed, before the peas develop. Cure them the same as you would clover hay.

Buckwheat can be grown upon most any kind of soil in the state of Michigan. Like other crops, it does better on good soil that is rich, but it will grow almost anywhere.

C. C. L.

Supplies of hogs in Germany are less than half of what they were before the war. A census taken in December, 1918, showed a total of 10,081,000 hogs, comparing with 25,592,000 in 1913. Supplies of cattle were 17,227,000, comparing with 3,700,000 more in 1913. Sheep numbered 299,000 head, comparing with 5,504,000 in 1913.

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SEEDING A MARSH TO PERMANENT PASTURE.

What is the best method of seeding for a permanent pasture, a well-drained marsh of five or six acres. It has had three crops to corn and one to barley and is clean, smooth and no sod. Which, if any, nurse crop is needed, as millet, rye, oats or barley, and if to be sown at same time with seeding. The entire marsh will be covered with barnyard manure and ground-rolled as soon as seed is sown. I want marsh for pasture the coming season and to remain for pasture for cows as long as it will be profitable.

Hillsdale Co. M. J. D.

It is proper to fit this land as soon as possible. Make a firm, fine seed-bed and seed heavily with a mixture of grasses. Really, the more grasses you mix together the better permanent pasture you will have, and another very important point is to seed very thickly so as to get a heavy sod as soon as possible. The seeds recommended for moist land and timothy, white clover, alsike, common red clover, sweet clover, June grass, meadow fescue, red-top and orchard grass. Most people recommend twenty pounds

CULTIVATING CORN RIGHT.

AS with everything else, there is a right way and a wrong way to cultivate corn. Those who take the wrong way do not, I am sure, stop to think what is the real purpose of doing this work. Two things are in view when cultivating. First, to stir the soil, and, second, to destroy any weeds that may grow in the rows. Neither of these things can be fully accomplished unless the corn is planted in checks, so that we can cultivate it both ways.

The makers of all up-to-date cultivators very wisely make them adjustable, so that the teeth can be widened or brought together as the nature of the case demands. But a great many men, especially those who do not give the matter the attention they should, rarely move the lever adjusting the width of the teeth. They set the machine in one place, usually much too narrow, and there they leave it. The result is that while they make a few scratches down through the middle of the rows, they do not loosen up the soil near the hills of corn, neither do they remove the weeds and grass that grow close up to the hills and so the work is by no means well done.

Now, the crop we get depends in a great measure upon the way the cultivating is done. A poorly cultivated field will not, it cannot, produce as much corn as one that is taken care of properly. So this is the thing for us to do. Every time we go through the corn, work to get the outside teeth of the cultivator as close up to the rows as can be and not root out the plants. If we do stir up some of the small fibrous roots farthest from the stalk, this will not do any particular damage. The good done will offset any injury thus done. And if we go both ways, throwing the cultivator over as described, and especially if we go back in the same row in the same way, we will find but little grass or weeds left and we will have stirred the earth thoroughly near the corn plants.

E. L. V.

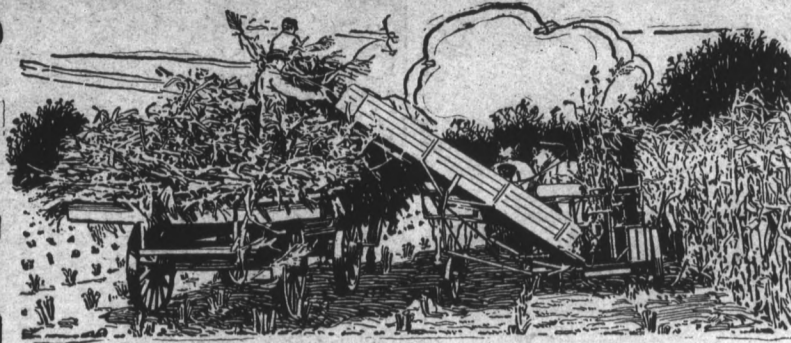
KEEPING CROWS OUT OF CORN FIELDS.

A GREAT deal of the loss suffered annually because of destruction of newly planted corn by crows and burrowing animals can be avoided if proper methods are used, according to Prof. J. F. Cox, of the farm crops department at M. A. C. While Professor Cox believes that the crow comes in for more than his share of blame for corn "pulling," he recommends treatment of the seed as a protection.

That some crows are worse corn destroyers than others has been proved. Certain of the birds seem to pull out corn for the love of the work, long after their appetite has been satisfied, while the majority do really very little damage. For these occasional marauders Professor Cox recommends the use of a reliable shot gun.

Scarecrows and other devices to frighten the birds away are all-effective in a measure. Hanging dead crows around the field is one of the best methods. Treatment of the seed to make it unpalatable is the most effective measure known, however, the following being recommended as a good practice:

Put the seed corn in a tight vessel, moisten it with warm water, and stir in about two tablespoonsful of coal tar to each bushel of seed. After draining the tarred corn thoroughly to remove any water remaining free, add ashes, land plaster, road dust, or any similar material to absorb surplus tar and prevent the seed from being sticky; or better, after draining, spread the corn on a barn floor or similar surface and let it remain two or three days, when little or no dust will be required. The thinner the tar, the better. Crows very rarely pull more than a few kernels of the tarred corn.



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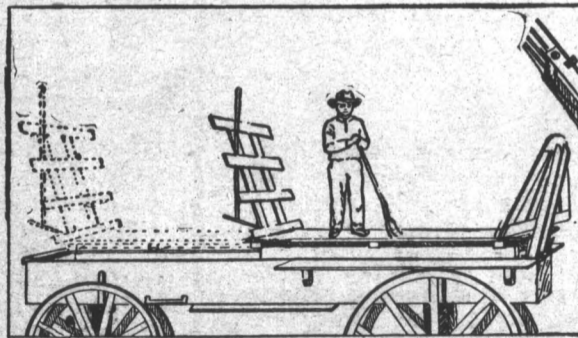
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CORN HARVESTER One man, one horse, one row. Self-Gathering. Equal to a Corn Binder. Sold direct to Farmers for 22 yrs. Only \$35 with fodder binder. Free Catalog showing pictures of Harvester. PROCESS CORN HARVESTER CO., Salina, Kans.

Binder Twine Get our low 1919 prices. Farmer agents wanted. Sample free. THEO. BURT & SONS, Melrose, Ohio

Please Mention The Michigan Farmer When Writing to Advertisers



Cut YOUR OWN Silage

Don't be Held Up this Year Waiting for the Silo-Filling Crew. Have Your Own Machine and do the Job When the Corn is "Just Right".

BE SURE TO GET A ROSS

The ROSS Ensilage Cutter is the only machine on which the cutting apparatus is equipped with ball-bearing end-thrust and auxiliary knife adjustment. ROSS knives work with a shear motion—they hug the cutting bar and stay close from the first turn of the wheel until the last pound of good nutritious feed is packed into your silo. ROSS knives cannot be forced away from the cutting bar. They run against ball-bearings which can be adjusted and held tight even while the machine is running. The ROSS slices the corn so that each small piece keeps all of its natural juices. As a result, ROSS-cut silage is uniform in good value from top to bottom. The cattle relish every morsel and clean up the feeding trough thoroughly. Ordinary silage is often unpalatable—dried out at the top of the silo and soggy at the bottom.

We Match Your Power

ROSS machines are made in both cylinder and knife-on-flywheel types, and in a large range of sizes for both styles. There is a small ROSS machine for use with four to six horse-power engine and there are large, extra-heavy ROSS Cutters of 25-tons per hour capacity that are intended for use with steam engines or large tractors.

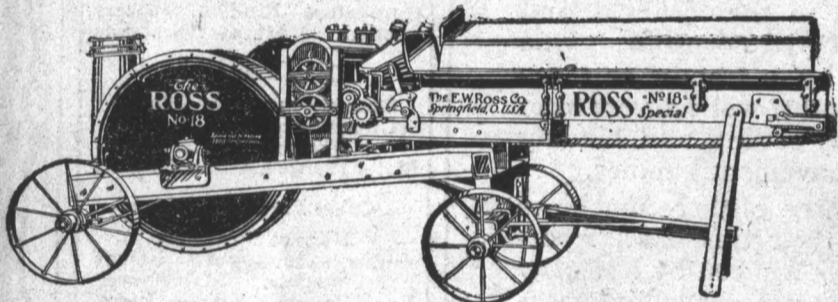
Send for Free Books

ALL of the ROSS points of superiority and many vital secrets of ensilage are described in a series of booklets which we have prepared. These are yours without cost or obligation. Please write for them today.

THE E. W. ROSS COMPANY,

206 Warder St.,

Springfield, Ohio



World's Record Skimming on twelve billion gallons of milk



If all of America's twelve-billion-gallon 1918 milk crop had been run through the world's-record skimmer—the *United States Cream Separator*—the saving to the dairymen of the Country would have gone far toward supplying this year's butter-fat shortage in Europe.

Not merely a high-sounding claim, but based on the world's record won by the *United States* in open competition with the pick of the world's cream separators.

The same world's record skimming results are available to you right now. Ask the local dealer about the *United States Disc Separator*; see how it works.

Vermont Farm Machine Company

BELLOWS FALLS, VT.
Chicago Portland, Ore. Salt Lake City

U. S. Farm Lighting Plants and Engines

Watch your newspaper for this advertisement telling where you can see the *United States Separator*. Agents and dealers wanted in some localities.



Write Dr. E. W. Ewalt, Mt. Clemens, Mich. for those beautiful sable and white Shepherd puppies, natural heelers from farm trained stock. Also a few thoroughbred Scotch collies sired by Ewalt's Sir Hector, Mich. champion. Mention the Michigan Farmer when writing Advertisers

MEN WANTED with Ford Cars to sell gasoline saver, guaranteed to save from 25 to 50% and practically eliminates all carbon; should easily earn from \$10 to \$20 per day. Write for territory, \$500 required for necessary equipment. Re Hawk Gas Saver Co., 232 Owens Bldg., Detroit, Mich

Loyalty Unquestioned

By J. H. Brown

ONE of the most notable historical events connected with Camp Custer at the close of the great war is depicted in the accompanying picture.

And it is because there are so many farmer boys therein from various sections of Michigan, that we wish to call attention to this scene in the Red Cross building at the base hospital of the camp.

Holding up their hands are seventy-three young soldiers and one woman who are in the act of taking allegiance to the United States. They were all foreigners who had just returned from fighting the Huns in France and some of them were terribly injured. A few of them who were able to be moved and could walk with assistance are shown seated in the front row, with the circuit judge and county clerk.

These boys, some from farms in Michigan, several of them hired men when called for service, had taken out their first papers before going into the service. After they came back to Custer, among the first of the over-seas soldiers returned last winter, it was arranged that the first ceremony of

making full-fledged citizens of them should be photographed for an illustrated history of Camp Custer and the great war.

The picture shows seventy-three of these noble boys, of fourteen nationalities, holding up their hands with the full realization of what it means in taking the oath of allegiance to the greatest and most glorious country on the face of the earth. Just a glance into their faces while we were posing them proved they were more than delighted to become "Yanks" in all that the term implies, and for keeps.

The boy at the left in the big Morris chair has a plaster cast around his body and his right arm rigidly supported in a cast, with a brace underneath to support his hand and entire arm in the position shown. For weeks he had been done up like this, and it would be weeks more before he would be able to leave his prison. Both he and the boy on the other end of the front row had to hold up their left hands in taking the oath.

These boys will make fine Yanks all the rest of their days.



Controlling Potato Diseases

(Continued from page 882).

tubers are more or less common in northern seed. These diseased tubers fail to germinate, or produce weak plants which give a very poor yield or die very early.

Control.—Throw out all the infected seed, i. e., tubers showing brown discolorations when cut. Spray with Bordeaux mixture or other fungicide, in the same manner as for early blight.

Potato Wart.

This is one of the most important European diseases. It is caused by a fungus and is extremely difficult to control. It has been introduced into Newfoundland. On the severely affected tubers it causes coral-like, scaly nodules, which may be so slightly affected that it is very difficult to detect the disease. These slightly infected tubers are most dangerous for seed purposes. The danger of the introduction of this disease has been greatly reduced by the quarantine which the United States Department of Agriculture has placed on all foreign countries in which it is known to exist, and it was supposed that we had prevented its introduction into this country. Unfortunately it was introduced on table stock previous to this quarantine, and it has been recently found in the vicinity of Freeland, Lucerne county, Pennsylvania, where it is proving very destructive. Fortunately this infected district does not produce potatoes for market purposes and the disease is confined to gardens and small plant-

ings for local consumption. The entire district has been quarantined, and it is probable that the disease will be eradicated. Be careful as to the source of your seed potatoes.

Scurf or Rhizoctonia.

This widely distributed disease occurs in several different forms and is known under correspondingly different names as "scurf," "brown stem," "Rhizoctonia," "little potato," "aerial potatoes," "rosette" and "stem rot." The disease is caused by the fungus "Rhizoctonia." This disease is more or less abundant every year, but was especially severe in 1915. It is most severe on sandy soil. It is probably the cause of greater losses than are attributed to it. Some of the symptoms are common to other diseases and this, no doubt, frequently leads to some confusion. The diseased tubers show small black spots which do not wash off, but which can be readily scraped off with the finger-nail. These small black spots are the resting stage of the fungus. It is by means of these sclerotia that the disease is carried over from year to year on the seed tubers.

The organism may also exist in the soil, but its presence in the soil or on the potatoes does not necessarily indicate that it will prove a serious disease in the coming crop. It is undoubtedly influenced by soil, temperature, moisture or some other factors not well understood.

PERMANENT PASTURE FOR HEAVY GROUND.

I have an eight-acre field consisting of heavy ground and muck, which is very fertile. Would like to seed it to make good pasture for dairy cows. What seed would you advise and how much to the acre? If I sow the field to rye and seed it in the spring would the seeding thrive with cows pasturing on it? Please advise me.

Shiawassee Co. C. L. G.

One ought to have a combination of grasses for a good pasture. Some grasses produce their best during the early part of the season, some during the middle, and some do not fully develop until the latter part, so if we have a combination of grasses we will have a better pasture and more continuous. The best varieties recommended for this kind of land are timothy, white clover, alsike, medium red clover, mammoth clover, sweet clover, Kentucky bluegrass, English rye grass, meda fescue, sheep fescue, red top, orchards grass, and tall meadow oat grass, also bromus inermis. It is not absolutely necessary that you get all of these grasses but the more of them you get the better pasture you will have. Some of the grasses are light and chaffy and will not mix well with the heavier seeds, so two applications should be made in sowing.

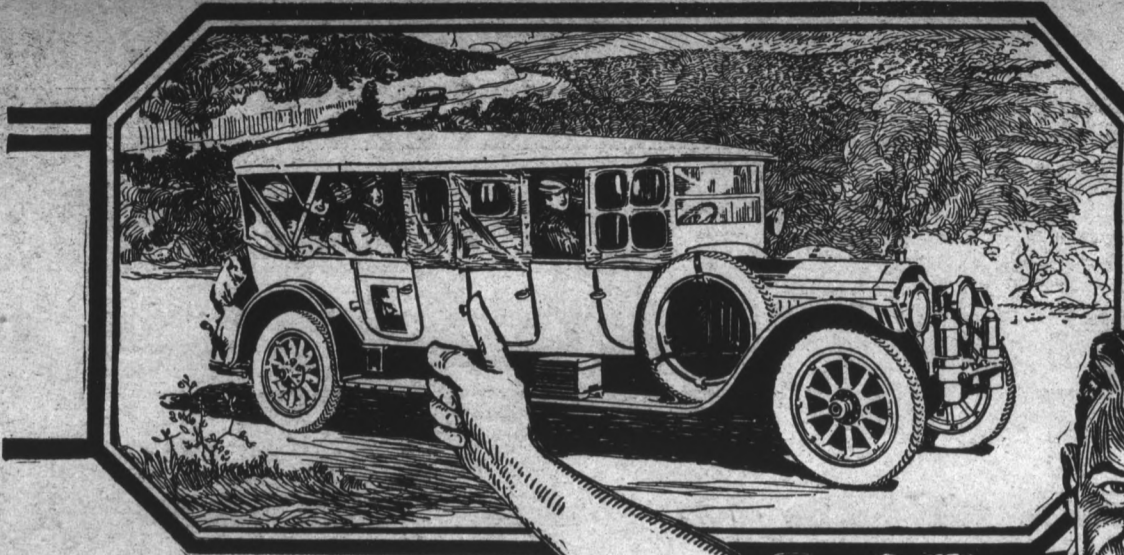
Most people make a mistake in seeding down to permanent pasture in not using seed enough per acre. The idea is to get a heavy sod as quickly as possible. The best authorities recommend as high as twenty pounds of this mixture of seeds per acre. To many this would seem unnecessary and yet practical experience shows that extra money invested in grass seed pays in pasture later on.

I believe it would be better to sow these grass seeds alone without the rye. If you are only seeding to clover you can get a crop of rye and probably a good stand of clover but where you are going to use so many grass seeds the land will soon be all occupied without any rye. The land should be nicely prepared, firmed down with a fine surface soil and the seed sowed as soon as possible. If any weeds come up they should be clipped off so as not to interfere with the growth of the grasses. It is not advisable to pasture at all the first season because the tramping of the animals will destroy many of these plants before they are established. If you get growth enough you can cut it and make it into hay. Then next spring you will have a pretty well developed sod that will better stand the tramping of animals. Of course, later in the season you can pasture calves or light animals on it without doing very much harm.

If you want pasture for your cows this summer a combination of grains would give you better results than a combination of grasses because it takes the grasses so long to get established. If you would mix spring rye and oats and peas and dwarf essex rape together and sow them it is about as good a combination as you can get for a temporary pasture. C. C. L.

CATTLE ARE WANTED FOR GRAZING.

THERE is a growing demand in the Chicago and other markets for grazing purposes, but the smash-up in prices for beef cattle has stopped most purchases of high-priced feeders, leaving most of the demand for the lower-priced light weight stockers, lots of these averaging from 500 to 800 pounds selling in Chicago for \$10 to \$13.75. Stock calves are rather scarce at \$10 to \$12, while there is a very good demand for thin cows for grazing at \$8.50 to \$10. As a general rule, the stockmen who buy choice feeders at high prices fail to make as good profits as the men who purchase a cheaper class. W. F.



How Miller Tires Outran 21 Prominent Makes

NO more convincing proof of a tire's supremacy has ever been submitted than this heroic contest on 17 Packard 'Buses, going 78,000 miles a month. It was held by the Eldorado Stage Co., Los Angeles, Cal.—one of the largest users of tires in the world. To them it meant a huge sum to establish which tire carries a heavy load lightly, and runs the farthest.

Twenty-two leading makes were tested on the Eldorado's seventeen 12-Passenger Packards. They travel an average of 153 miles daily—a combined distance of 936,000 miles a year. That's 37 times around the world.

Parlor Car Comfort

This is the "Service de Luxe" for which the Miller Tires competed and won. Their victory was based—not on exceptional mileage of a single casing—but on long distance uniformity, tire after tire.

Once the burro was the only transportation where today this grand fleet carries thousands of passengers between Los Angeles, Bakersfield and Taft—an enchanting trip made in parlor car comfort in an Eldorado stage on buoyant Miller Cord Tires.

Proof of Uniform Mileage

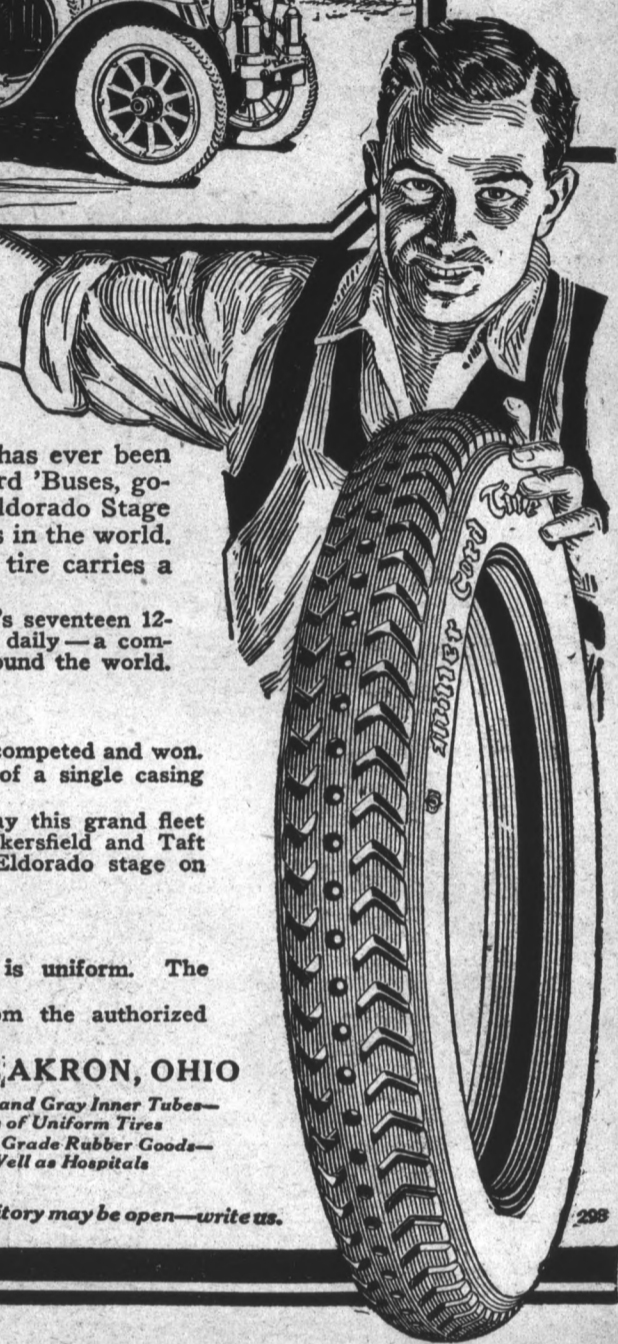
All Millers are uniform because their workmanship is uniform. The Eldorado tests have reaffirmed it.

You can get these championship tires—but only from the authorized dealer. If you don't know his name, please write us.

THE MILLER RUBBER COMPANY, Dept. F-92, AKRON, OHIO

Makers of Miller Red and Gray Inner Tubes—the Team-Mates of Uniform Tires
Also Miller Surgeons Grade Rubber Goods—for Homes as Well as Hospitals

To Dealers: Your territory may be open—write us.



How will you pump 10,000 gals. this summer?

Just stop and estimate for a moment—water for stock, water for drinking and cooking, water for bathing and washing—gallons upon gallons pumped every day. Why not let

The *Leader*

do the work? Your efforts will pay you more profit in doing farm work than in pumping water. The Leader operates silently, automatically and provides you with a constant supply of fresh running water.

Ask for Descriptions

Kerr Machinery Corporation, Kerr Bldg., Detroit, Mich.

My Fence Prices Lowest

BROWN'S BARGAIN FENCE BOOK

Just write and get my New Bargain Fence Book—see the big money you can save this year by buying BROWN FENCE at my low factory—freight prepaid prices. Competition can't touch them—25,000,000 rods so! proves BROWN FENCE satisfies. 150 styles. Heavily Galvanized—rust-resisting. Sample to test and book FREE, postpaid.

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BARN PAINT \$1 PER GALLON

Get factory prices on all paints. We guarantee quality. We pay the freight. **Franklin Color Works, Franklin, Ind.**

Bee Supplies

Bee Hives, Sections, Comb Foundation, Smokers, etc. Send for catalog. Can supply beginner's outfit either with or without bees. Circular on request. Beeswax wanted.

Berry Baskets

Standard quart, wood berry baskets, and wax-lined paper baskets. 16 quart crates in flat. 200 wax lined paper baskets, postpaid for \$1.70 to points within 150 miles of Lansing. Send for price sheet.

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Box 525 - - Lansing, Michigan

Royal Fence

Made of big, strong wire. Continuous stay wires. Heavy galvanizing. Great strength and resiliency. Write for special book, sent free. Dealers everywhere.

AMERICAN STEEL & WIRE COMPANY CHICAGO

Unusual Opportunities for Veterinary Surgeons

MICHIGAN AGRICULTURAL COLLEGE offers complete veterinary course, open to high school graduates in preparation for this work. For particulars write **R. P. LYMAN, Dean, East Lansing, Michigan.**

CULL BEANS FOR FEED

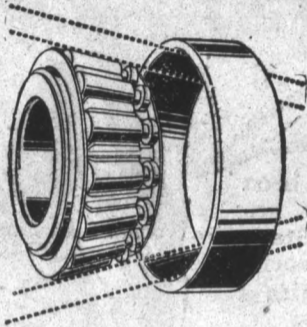
Car lots or less. Ask for prices. **YOUNG-RANDOLPH SEED CO., OWOSSO, MICH.**

Wanted position as farm manager. Agricultural college graduate. Experience practical farming, county agricultural agent, superintendent public institution including farm. Box 354, Marinette, Wis.

When writing to advertisers please mention **The Michigan Farmer.**

TIMKEN TAPER

Two Ways Out



Dotted lines show how the inside of the "cup" of a Timken Bearing is tapered to fit over the tapered rollers.

When heavy trucking churns up the mud and cuts ruts deeper and deeper—

When mile after mile of sand holds back the wheels—

When rain-cut hilly roads and washed-out culverts call for careful driving—

For such ills as these, there is only one cure.

That's the remedy that begins with plow and scraper and ends with a hard-surface, well drained highway. Therefore, get back of the Good Roads movement and push it for all you are worth.

But there's a preventive against bad road DELAY that is written in the specifications of the trucks, and reads: "Reliability," one of the essentials of which is the selection of bearings that are capable of out-lasting the truck on which they serve.

Many builders have found the remedy in Timken Tapered Bearings, to

which there is practically no "wear-out" except by abuse or accident. After a Timken Bearing has been slightly loosened by thousands of miles of wear, a part turn of the adjusting nut or removal of a shim puts all parts back just as when new.

As for Timken Taper—it always stays the same, ready to take end thrust and downward load—to keep gears up to their work—to stand guard over transmission and differential gears—ready to resist the constant heavy push of worm or pinion—ready to add at every point to truck life as well as efficiency.

There's more about these bearings in the booklet, "How Can I Tell." A copy will be sent to you on request.



THE TIMKEN ROLLER BEARING COMPANY
Canton, Ohio



WORLD EVENTS IN PICTURES



Armas H. Sasstamoinen, the first minister to the United States from Finland recently arrived in Washington.



Mrs. Edward House, wife of Jol. Edward House, who represents the U.S. in Supreme War Council.



Miss Maud Kahn, New York society girl, who went to Europe at outbreak of war, to assist in hospitals.



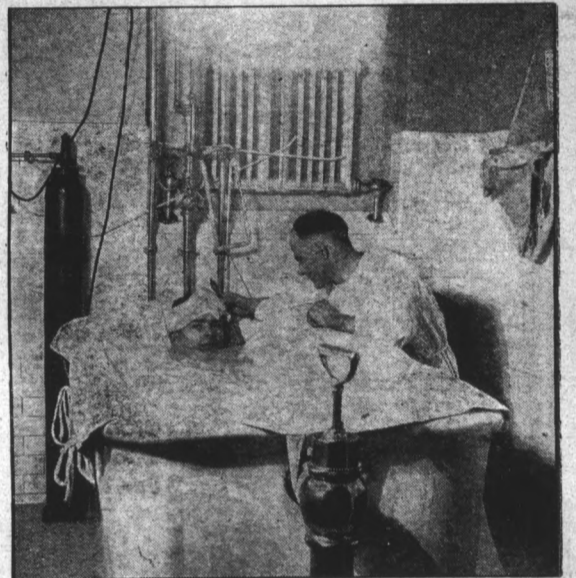
Madam Jacquenaire, daughter of Premier Clemenceau, wearing the Croix de Guerre, received for war work.



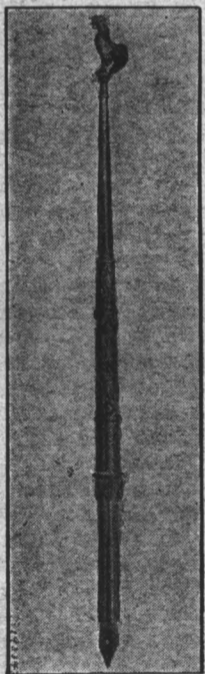
Sergeant Alvin C. York, who is acclaimed as the war's greatest hero.



Admiral Kolchak, head of the All-Russian Provisional Government at Onsk, and Commander in Chief of the Russian Army and Navy.



Shell-shocked patient taking the water cure. Warm water surrounds him with an even temperature and gives freedom from shocks.



Pen offered Premier Clemenceau to sign the Peace Pact.



The new and the retiring speaker of the House. At the left Ex-Speaker Champ Clark and at the right Speaker Frederick H. Gillett.



Carrying lunch to Father and the Boys who are working in the hay field just down around the bend of the river.



Ready for the Race, at the Water Carnival at Boston Harbor.



General John J. Pershing attends Le Mons Musket and Pistol Shoot.



KEEP COOL
AND
COMFORTABLE
IN
HOT WEATHER



Wear a
Finck's Union Combination Suit

You'll be surprised at the ease, freedom and genuine comfort you will have through the hot summer days.

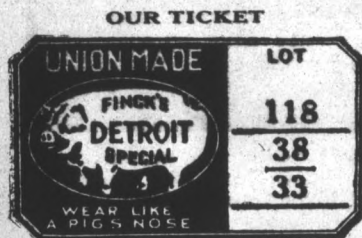
When you wear a Finck's Union Combination Suit, you are guaranteed best quality, material, workmanship and fit. This garment is practical for your work—regardless of what it may be.

If your dealer cannot supply you, send your chest and leg inseam measurement, together with your dealer's name, and a suit will be sent to them for you, returnable if not satisfactory. We will also mail you a catalog.

W. M. FINCK & COMPANY
DETROIT, MICHIGAN

Makers of the Famous Finck's "Detroit Special" Overalls
—Combination Suits Which Wear Like a Pig's Nose

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OUR TICKET

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Regular price, one year.....\$2.00
OUR PRICE ONLY \$1.55
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Gentlewoman20
Home Life35
People's Popular Monthly..... .25
Regular Price, one year.....\$1.80
OUR PRICE ONLY \$1.55
- No. 7.**
Michigan Farmer, 1 yr., wk.....\$1.00
Woman's World, mo..... .50
Boys' World or Girls' Comp., mo.. .50
Regular price, one year.....\$2.00
OUR PRICE ONLY \$1.60
- No. 8.**
Michigan Farmer, 1 yr., wk.....\$1.00
Breder's Gazette, wk..... 1.50
Woman's World, mo..... .50
American Boy, mo..... 2.00
Regular price\$5.00
OUR PRICE ONLY \$3.90
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American Bee Journal, mo..... 1.00
Regular price, one year.....\$3.50
OUR PRICE ONLY \$2.50
- No. 10.**
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Youth's Companion, wk..... 2.00
McCall's Magazine, mo..... 1.00
Poultry Success, mo..... .50
Regular price, one year.....\$1.80
OUR PRICE ONLY \$3.70

Automobile Insurance
A Necessity

The Citizens' Mutual Automobile Company, Howell, Michigan, settled in the month of May, 31 claims for collision, 32 liability claims; 30 theft claims, and three fire claims, making a total of 96 claims, and paid out \$14,309.34, adding \$5,713.17 to the surplus. The company also wrote 2,792 new policies, the largest number ever written in a single month by the company.

The company also recovered a Buick touring car in Hammond, Indiana, two Buick cars and a Ford in Toledo, Ohio; located one Buick in Rochester, New York.

The company is known by the police departments of large cities as the Big Mutual Automobile Insurance Company of Michigan. The quantity production has enabled the company to settle a large number of claims at a very small cost to each member.

It will pay every owner to see a representative and insure his car as the cost is but little.

CITIZENS MUTUAL AUTO. INS. CO.,
Howell, Mich.



The Story of Our Flag

By Earle W. Gage

ONE of the most conspicuous features of the historical exhibits in the United States National Museum is the flag-collection, which includes some twenty examples of the American flag and shows its development in the various historical periods. Thousands visit this exhibit in our capital city each month.

While there are no early colonial flags, such as were used by the several colonies before the flag of the United States was established by congress on June 14, 1777, a fine example of the first true United States ensign is shown. Representative of the Stars and Stripes type, is a flag said to have flown on the Bohomme Richard, under command of Admiral John Paul Jones. The flag measures ten and a half feet by six and a half feet. December 13, 1784, it was presented to Lieut. James Bayard Stafford, U. S. N., by the Marine Committee of the Continental Congress, as a reward for meritorious services during the war of the revolution. It came into the possession of the Smithsonian Institute as a gift from Mrs. Harriet R. Perry Stafford.

Another flag of the very highest historic value is the original Star Spangled Banner of Key's anthem, which waved over Fort McHenry during the bombardment of September 13-14, 1814, and which was presented to the institution by Eben Appleton. The Fort McHenry flag is of the type having fifteen stars and stripes, adopted in 1784, upon the addition of the states of Vermont and Kentucky into the Union. This type went into effect in 1785, and continued to be the standard until 1818, when congress returned to the original thirteen stripes and made provision for the addition of a star for every new state. The original Star Spangled Banner, which is very large, measuring twenty-eight by thirty-two feet, has recently been remounted on linen for preservation and exhibitional purposes.

Several flags vividly recall the Mexican war of 1846-47. Among them is the flag of thirteen stripes, with an eagle in the field, carried throughout the war by the battalion of volunteers which enlisted from Baltimore and Washington, and hoisted in Victoria City, Mexico; also the flag of Mexico hauled down at that time. The flag of Company I, Fourth Regiment of Indiana Volunteers, which was presented by the commanding officer, Captain Robert Fravel, and carried in the Mexican war, is also to be seen in the unique flag collection.

An incident relating to our flag in Mexico was recently brought out on the occasion of the presentation of a replica of the Star Spangled Banner to the National Society of the Sons of the American Revolution. General Simon Bolivar Buckner stated that shortly after the Mexican war it had been his privilege to lead a party of American officers to the summit of Mount Popocatepetl, where he planted his country's flag, in imitation of the early Spaniards.

Researches on the history of our flag indicate that the Stars and Stripes was not carried by troops in battle until the period of the Mexican war of 1846-47. Up to that time, although it was used by the army as a garrison flag, and flown on all war ships, only the national standard, bearing the coat of arms of the United States and the regimental colors were carried by land forces.

made of a few inches of silk, a yard of cotton bunting, or printed on a slip of paper—so long as it is the emblem of one's country it appeals to every loyal-hearted individual. In itself it may be valueless—soiled, torn, faded—yet to the true-hearted beholder it is priceless, for it represents the noble sentiments of patriotism, the love of country. Strangely enough, America, or more properly, the United States of America, one of the youngest of nations, possesses the oldest of flags. The designs of the others have been changed since its adoption in 1777, yet it is essentially the same old flag.

The word flag—of Teutonic origin—means to fly, and the insignia has assumed various forms and designs in its evolution from the pennon, formerly used to designate the Knight Bachelors in the days of chivalry. Its changes have come very naturally through its use as the standard of various orders of knighthood. The long pennon with a shallow-tail fly-end, cut to the depth of one-third its entire length, had to be changed when the Knight of Bachelor became a Knight Banneret; the swallow-tail end was cut. The highest form was the square banner which was the standard used to designate royalty.

The United States flag is nearly the form of the banneret, the army flag being in the proportion of thirty-six feet "fly" to nineteen feet "hoist," and the naval flag being twenty-four feet "fly" to fourteen feet "hoist." The union in each is always one-third the entire length, extending to the depth of seven stripes, and, of course, is always in the upper staff corner.

When the American colony decided to assert its individuality, one of its first desires was to hoist a flag of its own, so in 1775 a committee was appointed to consider the matter and suggest a suitable design. It was an important committee, consisting of Messrs. Franklin, Lynch and Harrison, appointed by congress to confer with General Washington at Cambridge, Massachusetts, and it was a memorable act; yet there is no authentic record of the proceedings of this committee, or of the adoption of the design, which is believed to have been submitted by a nameless professor who was an inhabitant of the house in which the meeting was held, and who was invited by General Washington and the committee to be present with them.

It was a most unusual but very fortunate proceeding to place on this committee a woman, presumably the hostess, who served as secretary and from whose notes have been gleaned a few meager items known regarding this committee and its proceedings. She, too, is nameless.

The professor—if it were he—did not require great genius to offer the design that was finally accepted, since it was quite similar to the flag of the English East India Company. It had thirteen stripes of alternate red and white, with a union field of blue in the upper corner next to the staff, on which were the crosses of St. Andrew and St. George—the same as the original Union Flag of Great Britain under which the Pilgrim Fathers sailed for America, in 1620. The union field of the new flag was deeper than the other, extending to the depth of seven stripes, four red and three white, instead of five stripes, three red and two white, as in the East India flag; and this new colonial flag is supposed to be the first flag bearing the stripes of red and white that was unfurled to

Please Mention this Paper When Writing to Our Advertisers

It matters little whether a flag be

the breeze of America. No record is extant of this flag committee's report to congress. Indeed, all that is known regarding it is the fact that General Washington presented the flag December 13, 1775, at Cambridge, Massachusetts, as the standard of the American army and navy.

Soon after the Declaration of Independence, a new flag was demanded—one that should be like all others and typical of the new life of the nation. This standard was urged and procured, but no one knows who designed it; whether the nameless professor, Mrs. Betsy Ross, of Arch street, Philadelphia, or General Washington. The design was accepted by congress on June 14, 1777. It showed the thirteen stripes, in recognition of the Thirteen Colonies, but instead of the Union of Great Britain, it had a field of blue containing thirteen white stars. This was an original design as no other flag possessed a constellation of stars. Others have adopted the design since, but none show so large a cluster as that on the flag of the United States. For a time the stars were arranged in various ways on the field of blue; sometimes as a star of stars, again in a circle, and then again as a square.

It was March 25, 1818, that congress passed a bill to establish the flag of the United States, and from the following Fourth of July the flag has had seven red and six white stripes alternating, with a staff field of blue on which is placed a star for each state of the Union.

The honor of unfurling the first American flag belongs to the garrison of Fort Stanwix, the site of the present city of Rome, N. Y. The garrison had no flag and material was needed to make one. Someone suggested making a flag of such material as could be procured at hand. So the wife of one of the soldiers contributed a red petticoat, out of which the red stripes were made; several of the men contributed shirts for the white stripes and stars, and Captain Abraham Swartwant, of Poughkeepsie, an officer of the garrison gave his blue cloak to be used for making the field. This remarkable flag was completed and raised August 5, 1777.

Thus the first flag was made and unfurled to the breeze amid the cheers of the pioneers, and the first flag of the present design was made a century ago. It was the new country's emblem of Liberty and Justice, spelled in its three colors: The Red is the color denoting defiance, war and determination; White is the color betokening peace and good; Blue is emblematic of Justice.

The first actual engagement in which the new flag was displayed is believed to have been the battle of Brandywine, September 11, 1777. Ten years later, 1787, the American flag started on a voyage around the world on the ship Columbia, under Captain John Kendrick. It had already established itself as one of the naval flags of the world, receiving its first salute from a foreign power, a French vessel, in answer to a salute from Lieut. John Paul Jones, on February 14, 1778—one hundred and forty-one years ago.



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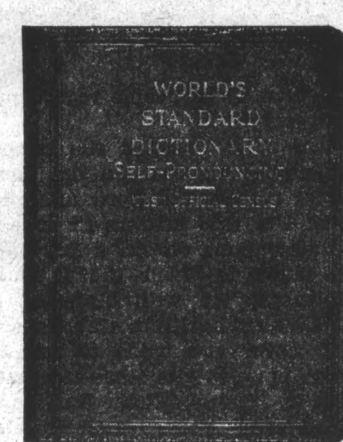
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AND, of course, what I buy is my own," continued Burleson, patiently. "No man here will question that, I suppose?"

For a moment there was silence in the cross-roads store; then a lank, mud-splashed native arose from behind the stove, shoving his scarred hands deep into the ragged pockets of his trousers.

"Young man," he said harshly, "there's a few things you can't buy; you may think you can buy 'em—you may pay for 'em, too—but they can't be bought an' sold. You thought you bought Grier's tract; you thought you bought a lot o' deer an' birds an' fish, several thousand acres in timber, and a dozen lakes, An' you paid for 'em, too. But, sonny, you was took in; you paid for 'em, but you didn't buy 'em, because Grier couldn't sell God's free critters. He fooled ye that time."

"Is that the way you regard it, Santry?" asked Burleson. "Is that the

it, turned towards old man Santry once more.

"If what has been common rumor is true," he said, "Mr. Grier, from whom I bought the Spirit Lake tract, was rough in defending what he believed to be his own. I want to be decent; I desire to preserve the game and the timber, but not at the expense of human suffering. You know better than I do what has been the history of Fox Cross-roads. Twenty-five years ago your village was a large one; you had tanneries, lumber-mills (paper-mills, even a newspaper. Today the timber is gone and so has the town except for your homes—twenty houses, perhaps. Your soil is sand and slate, fit only for a new forest; the entire country is useless for farming, and it is the natural home of pine and oak, of the deer and partridge."

He took one step nearer the silent circle around the stove. "I have offered to buy your rights; Grier hemmed

He tucked his riding-crop under one arm and stood watching them, buttoning his tan gloves. Then with the butt of his crop he rubbed a dry spot of mud from his leather puttees, freed the incrustated spurs, and turned towards the door, pausing there to look back.

"I hate to leave it this way," he said, impulsively. "I want to live in peace with my neighbors. I mean to make no threats—but neither can I be moved by threats * * * Perhaps time will aid us to come to a fair understanding; perhaps a better knowledge of one another. Although the shooting and fishing are restricted, my house is always open to my neighbors. You will be welcome when you come—"

The silence was profound as he hesitated, standing there before them in the sunshine of the doorway—a lean, well-built, faultless figure, an unconscious challenge to poverty, a terrible offence to their every instinct—the living embodiment of all that they hated most in all the world.

And so he went away with a brief "Good-morning," swung astride his horse, and cantered off, gathering the bridle as he rode, sweeping at a gallop across the wooden bridge into the forest world beyond.

The September woods were dry—dry enough to catch fire. His troubled eyes swept the second growth as he drew bridle at a gate set in a fence eight feet high and entirely constructed of wire net interwoven with barbed wire, and heavily hedged with locust and buckthorn.

He dismounted, unlocked the iron gate, led his horse through, refastened the gate, and walked on, his horse following as a trained dog follows at heel.

Through the still September sunshine ripened leaves drifted down through interlaced branches, and the whispering rustle of their fall filled the forest silence. The wood road, carpeted with brilliant leaves, wound through second growth, following the edge of a dark, swift stream, then swept westward among the pines, where the cushion of brown needles deadened every step, and where there was no sound save the rustle of a flock of rose-tinted birds half buried in the feathery fronds of a white pine. Again the road curved eastward, skirting a cleft of slate-rocks, through which the stream rushed with the sound of a wind-stirred woodland; and by this stream a man stood, loading a rusty fowling-piece.

Young Burleson had retained Grier's keepers, for obvious reasons; and already he knew them all by name. But this man was no keeper of his; and he walked straight up to him, bidding him a rather sharp good-morning, which was sullenly returned.

Then Burleson told him as pleasantly as he could that the land was preserved, that he could not tolerate any armed trespassing; and that the keepers were charged to enforce the laws.

"It is better," he said, "to have a clear understanding at once. I think the law governing private property is clearly set forth on the signs along my boundary. This preserve is posted and patrolled; I have done all I could to guarantee public rights; I have not made any application to have the public road closed, and I am perfectly willing to keep it open for public convenience. But it is not right for anybody to carry a gun in these preserves; and if it continues I shall surely apply for permission to close the road."

"I guess you think you'll do a lot o' things," observed the man, stolidly.

"I think I will," returned Burleson, refusing to take offence at the insolence of the man.

The man tossed his gun to his shoul-



Away they Went, Knee-deep in the Silvery Grasses.

way in which these people regard private property?"

"I guess it is," replied the ragged man, resuming his seat on the flour-barrel. "I cal'late the Lord A'mighty fashioned His wild critters f'r to peramble round about, offerin' a fair mark an' no favor to them that's smart enough to git 'em with bird-shot, or bullet. Live wild critters ain't for sale an' they never was made to buy an' sell. The spryest gits 'em—an' that's all about it, I guess, Mister Burleson."

A hard-faced young man leaning against the counter, added significantly: "We talked some to Grier, an' he sold out. He come here, too, just like you."

The covert menace set two spots of color deepening in young Burleson's cheeks; but he answered calmly:

"What a man believes to be his own he seldom abandons from any fear of threats."

"That's kinder like our case," observed old man Santry, chewing vigorously.

Another man leaned over and whispered to a neighbor, who turned a grim eye on Burleson without replying.

As for Burleson and his argument, a vicious circle was completed and there was little chance of an understanding; he saw that plainly, but, loath to admit

you in on every side to force you out. I do not want to force you; I offer to buy your land at a fair appraisal. And your answer is to put a prohibitive price on the land."

"Because," observed old man Santry "we've got you ketched. That's business, I guess."

Burleson flushed up. "Not business; blackmail, Santry."

Another silence, then a man laughed: "Is that what they call it down to York, Mr. Burleson?"

"I think so."

"When a man wants to put up a skyscraper an' gits all but the key-lot, an' if the owner of the key-lot holds out for his price, do they call it blackmail?"

"No" said Burleson; "I think I spoke hastily."

Not a sound broke the stillness in the store. After a moment old man Santry opened his clasp-knife leaned forward and shaved off a thin slice from the cheese on the counter. This he ate faded eyes fixed on space. Men all around him relaxed in their chairs, spat, recrossed their muddy boots, stretching and yawning. Plainly the conference had ended.

"I am sorry," said young Burleson; "I had hoped for a fair understanding." Nobody answered.

der and slouched towards the boundary. Burlison watched him in silence until the fellow reached the netted wire fence, then he called out.

"There is a turnstile to the left." But the native deliberately drew a hatchet from his belt, opened the wire netting with one heavy slash, and crawled through. Then wheeling in his tracks outside, he cursed Burlison and shook his gun at him, and finally slouched off towards Fox Cross-roads, leaving the master of the forest a trifle white and quivering under the cutting curb of self-control.

Presently his spasmodic grip on the riding-crop relaxed; he looked about him with a long-drawn, quiet breath, flicked a burr from his riding-breeches, and walked on, head lowered and jaw set. His horse followed at his heels.

A mile beyond he met a keeper demolishing a deadfall along the creek, and he summoned him with a good-humored greeting.

"Rolfe, we're headed for trouble, but it must not come—do you hear? I won't have it if it can be avoided—and it must be avoided. These poor devils that Grier hemmed in and warned off with his shot-gun patrol are looking for that same sort of thing from me. Petty annoyance shall not drive me into violence; I've made it plain to every keeper, every forester, every man who takes wages from me, if I can stand insolence from people I am sorry for, my employes can and must. Who was that man I met below here?"

"Abe Storm, sir." "What was he doing—building dead-falls?"

"Seven, sir. He had three muskrats, a mink, and a string of steel traps when I caught him—"

"Rolfe, you go to Abe Storm and tell him I give him leave to take muskrat and mink along Spirit Creek, and that I'll allow him a quarter bounty on every unmarked pelt, and he may keep the pelts, too."

The keeper looked blankly at the master: "Why—why, Mr. Burlison he's the dirtiest, meanest market hunter in the lot!"

"You do as I say, Rolfe," said the master amiably.

"Yes, sir—but—" "Did you deliver my note to the fire-warden?"

"Yes, sir. The old man's abed with miseries. He said he'd send his deputy at noon."

Burlison laid his gloved hand on his horse's saddle, looking sharply at the keeper.

"They tell me that Mr. Elliott has seen better fortune, Rolfe."

"Yes, sir. When the Cross-roads went to pot, he went too. He owned a piece o' land that was no good only for the timber. He's like the rest o' them, I guess—only he had more to lose—an' he lost it the same as all o' them."

Burlison drew out his watch, glanced at it, and then mounted.

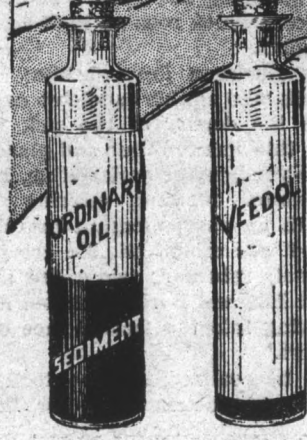
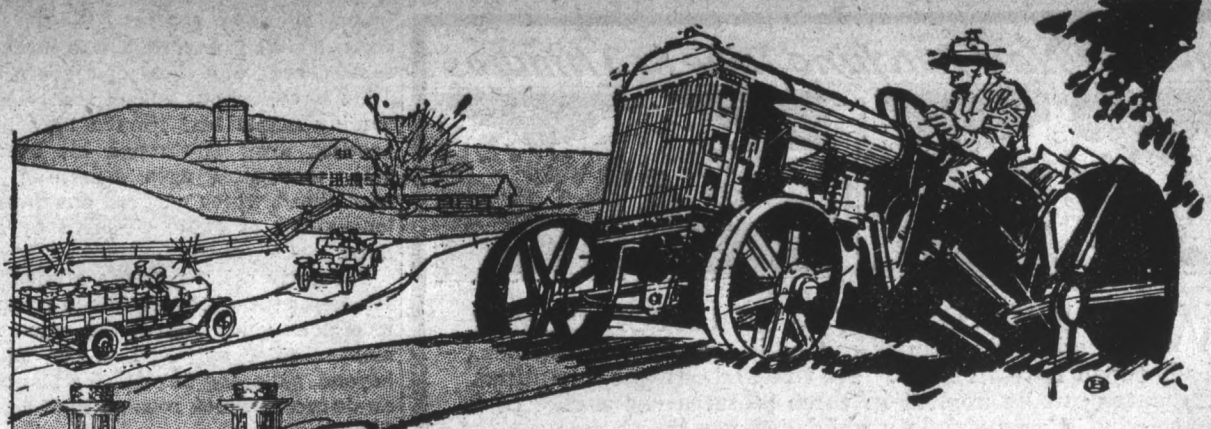
"Try to make a friend of Abe Storm if you can," he said; "that is my policy, and you all know it. Help me to keep the peace, Rolfe. If I keep it, I don't see how they can break it."

"Very well, sir. But it riles me—" "Nonsense! Now tell me where I'm to meet the fire-warden's deputy. Oh-then I'll jump him somewhere before long. And remember, Rolfe, that it's no more pleasure for me to keep my temper than it is for anybody. But I've got to do it, and so have you. And, after all, its' more fun to keep it than to let it loose."

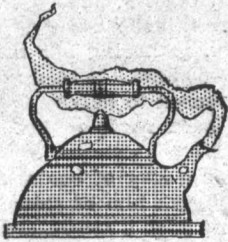
"Yes, sir," said Rolfe, grinning like a dusty fox in July.

So Burlison rode on at a canter, presently slacking to a walk arguing with himself in a low calm voice:

"Poor devils—poor half-starved devils! If I could afford to pay their prices I'd do it. I'll wink at anything short of destruction; I can't let them cut the pine; I can't let them clean out the



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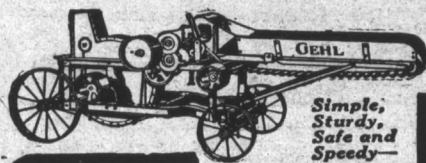
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grouse and deer and fish. As for law suits, I simply won't. There must be some decent way short of a shot-gun."

He stretched out a hand and broke a flaming maple leaf from a branch in passing, drew it through his button-hole, thoughtful eyes searching the road ahead, which now ran out through long strips of swale bordered by saplings.

Presently a little breeze stirred the foliage of the white birches to a sea of tremulous gold; and at the same moment a rider appeared in the marsh beyond, galloping through the blanched swale-grass, which rose as high as the horse's girth.

Young Burluson drew bridle; the slim youth who sat his saddle so easily must be the deputy of the sick fire-warden; this was the time and place.

As the young rider galloped up, Burluson leaned forward, offering his hand with an easy, pleasant greeting. The hand was unnoticed, the greeting breathlessly returned; two grave, gray eyes met his, and Burluson found himself looking into the flushed face of a young girl.

When he realized this, he took off his cap, and she inclined her head, barely acknowledging his salute.

"I am Mr. Elliott's daughter," she said, "you are Mr. Burluson?"

Burluson had the honor of presenting himself, cap in hand.

"I am my father's deputy," said the girl, quietly, gathering her bridle and wheeling her horse. "I read your note. Have you reason to believe that an attempt has been made to fire the Owl Vlaie?"

There was a ring of business in her voice that struck him as amusingly delightful—and such a sweet, clear voice, too, untinged with the slightest taint of native accent.

"Yes," said Burluson, gravely, "I'm afraid that somebody tried to burn the vlaie. I think that a change in the wind alone saved us from a bad fire."

"Shall we ride over?" inquired the girl, moving forward with unconscious grace.

Burluson ranged his horse alongside the girl; she set her mount at a gallop, and away they went, wheeling into the swale, knee-deep in dry, silvery grass, until the deputy fire-warden drew bridle with a side-fung caution: "Musk-rats! Look out for a cropper!"

Now, at a walk, the horses moved forward side by side through the pale, glistening sea of grass stretching out on every side.

Over a hidden pond a huge heron stood guard, stiff and shapeless as a weather-beaten stake. Blackbirds with crimson-slashed shoulders rose in clouds from the reeds, only to settle again as they passed amid a ceaseless chorus of harsh protest. Once a pair of summer duck came speeding overhead, and Burluson, looking up, exclaimed:

"There's a bird I never shoot at. It's too beautiful."

The girl turned her head, serious gray eyes questioning his.

"Have you ever seen a wood-duck—a drake, in full plumage?" he asked.

"Often—before Mr. Grier came."

Burluson fell silent, restless in his saddle, then said:

"I hope you will see many wood-duck now. My boats on Spirit Water are always at Mr. Elliott's disposal—and at yours."

She made the slightest sign of acknowledgement, but said nothing. Once or twice she rose upright, standing straight in her stirrups to scan the distance under a small, inverted hand. East and north the pine forest girdled the vlaie; west and south hardwood timber laced the sky-line with branches partly naked, and the pine's outposts of white birch and willow glimmered like mounds of crumpled gold along the edges of the sea of grass.

"There is the stream!" said Burluson, suddenly.

She saw it at the same moment,

touched her mare with spurred heels, and lifted her clean over with a grace that set Burluson's nerves thrilling.

He followed, taking the water-jump without effort; and after a second's hesitation ventured to praise her horse.

"Yes," she said, indifferently, "The Witch is a good mare." After a silence, "My father desires to sell her."

"I know a dozen men who would jump at the chance," said the young fellow. "But"—he hesitated—"it is a shame to sell such a mare—"

The girl colored. "My father will never ride again," she said, quietly. "We should be very glad to sell her."

"But—the mare suits you so perfectly—"

She turned her head and looked at him gravely. "You must be aware, Mr. Burluson, that it is not choice with us," she said. There was nothing of bitterness in her voice; she leaned forward, patting the mare's chestnut neck for a moment, then swung back, sitting up as straight as a cavalryman in her saddle. "Of course," she said, smiling for the first time, "it will break my heart to sell The Witch, but"—she patted the mare again—"the mare won't grieve; it takes a dog to do that; but horses—well, I know horses enough to know that even The Witch won't grieve."

"That is a radical theory, Miss Elliott," said Burluson, amused. "What about the Arab and his loving steed?"

"That is not a legend for people who know horses," she replied, still smiling. "The love is all on our side. You know horses, Mr. Burluson. Is it not the truth—the naked truth, stripped of poetry and freed from tradition?"

"Why strip poetry from anything?" he asked, laughing.

She rode on in silence for a while, the bright smile fading from her lips and eyes. (Continued next week).

TWO DANGEROUS WHEAT DISEASES.

(Continued from page 879).

young wheat experienced during April severely injured the leaves that were present at that time. Such leaves have become variously yellowed and mottled. This condition has been confusing to farmers because the mottling did not take place until some time, two or three weeks after the cold weather. Undoubtedly the cold growing season following the severe freezing has had something to do with the yellowing of the leaves. As one examines fields, he finds that this yellow leaf condition is common everywhere, yellowed spots showing up in the fields due to the fact that more new growth has been produced in some parts of the field than in others. This is largely a matter of fertility and vigor of the plants. The farmer should eliminate such types of injury to wheat which are general in occurrence and quite aside from the Take-all troubles, but anything which is at all suspicious should be called to the attention of the county agent, who in turn can bring it to the attention of the federal or state plant pathologists. The state is so large that a field to field canvass is out of the question. In protecting the wheat in Michigan we must depend on the general field observations of our farmers, as well as the close touch with the agricultural conditions which is maintained by our county agents.

The accompanying illustrations, one showing the disease in southern Illinois and the other in Indiana, will give an idea of the seriousness of this disease. When it is understood that these areas which were photographed represented only the smallest patches affected, for convenience in taking the picture, and that this condition may prevail over areas from one-half to eighty acres in extent, then it will be seen that there is excellent reason for everyone giving fullest cooperation in our attempt to locate the distribution of this disease.

News of the Week

Wednesday, June 4.

THE United States Senate adopts the Susan B. Anthony amendment to the federal constitution extending the right of suffrage to women—the amendment to go into effect when three-fourths of the states have ratified it.—The senate gives the state department forty-eight hours to make the peace treaty public following the discovery that private financial concerns have already obtained copies.—Modification of terms of the peace treaty relating to the control of the Saar Valley and of Silesia are forecasted.—The German minister of finance announces a system of financing the government's debt by exacting a law obliging every worker to labor an extra hour each day for the government.

Thursday, June 5.

THE Michigan legislature considers a bill providing for the election of a state road commissioner.—Canadian war veterans are opposed to the general strike in Winnipeg.—German plotters who have been working to bring about a revolution in Switzerland are now on trial at Zurich.—Governor Smith, of New York, announces he will use the federal plan for action against the Red terrorists in that state.—Austria is considering peace treaty submitted to her by the allies.—The "big four" nations are standing firm against allowing Germany to join the League of Nations.—Farmers of Leelanau county are considering the purchase of the old Traverse City, Leelanau & Manistique Railway, providing the legislature will remit unpaid taxes against the road.

Friday, June 6.

AN order has been issued by Postmaster-General Burleson returning the telephone and telegraph systems of the country to private ownership.—Accountants discover a discrepancy in the Michigan state prison funds of \$301,600.—President Castro, of Portugal, tenders his resignation to the Portuguese congress.—Coal movements for the first five months of the year show an increase of over ten per cent over the corresponding period of 1918.

Saturday, June 7.

THE United States Senate adopts a resolution asking the American peace delegates at Paris to secure a hearing before the peace conference for the Irish delegates.—Plans are being favorably considered for the calling of a grand jury to sift disclosures recently made regarding affairs at the state prison at Jackson.—A portion of the Bulgarian army has been mobilized and is marching toward the Serbian frontier.—Great Britain is reported to be laying plans for fighting American meat packers by contracting for New Zealand's surplus meat products at a stipulated price.—Soldiers and cavalry are patrolling Winnipeg to protect life and property during the general strike which is still on at that place.—Forest fires are raging near Kalkaska, Mich.

Sunday, June 8.

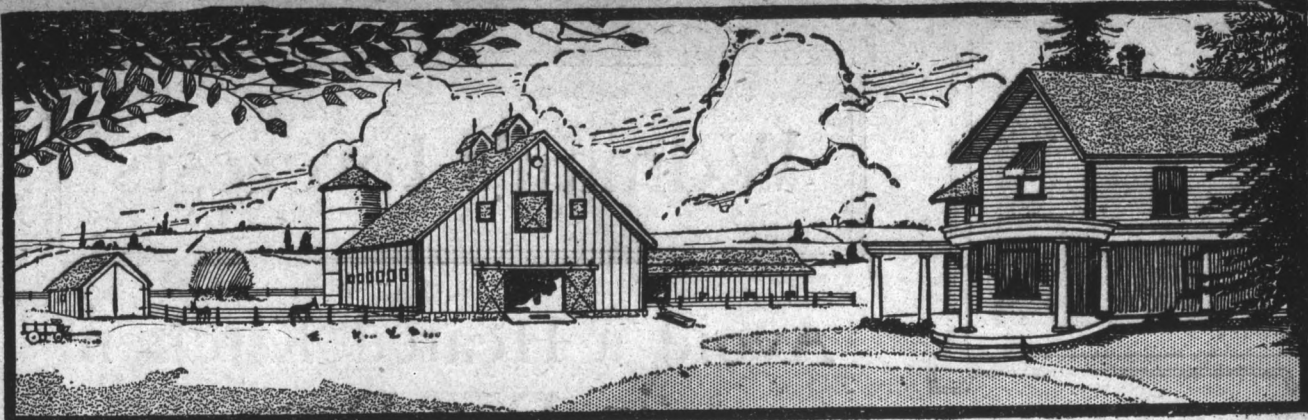
PRESIDENT SEITZ of the Austrian national assembly declares that the peace terms presented to Austria are impossible and mean the death of the country by starvation.—Large quantities of shells and small arms are destroyed by explosions at Coblenz and Mulheim, Germany, within the jurisdiction of American troops.—Grocerymen in session at Cincinnati demand that the packers' special privilege in swallowing up the small provision business and fixing and maintaining prices should be eliminated.

Monday, June 9.

NICARAGUA asks United States to land forces there to cope with a threatened invasion from Costa Rica.—The annihilation of an entire village in western Hungary by the Red army is reported as a consequence of an uprising of peasants in that district.—The United States Shipping Board asks congress for \$600,000,000 to complete the government's ship building operations.—A new world's record was established when Lieutenant Casale, a French aviator, ascended 31,168 feet.—President Wilson will probably leave France within ten days.

Tuesday, June 10.

AFTER a five-hour fight, the United States Senate orders a copy of the peace treaty printed in the public record.—Former Food Commissioner Hoover declares that the United States as a government should not extend any further credit to Europe.—U. S. Marines have prepared to give protection to Nicaragua.—The court orders the Detroit United Railway to operate cars on the old Pingree lines, and to put the company in the hands of a receiver, should it fail to resume service.



Paint All Your Buildings in Harmony

THE appearance of a farm may be improved wonderfully by painting all the buildings alike or, at least, using the same colors. It does not increase the cost of painting a dollar. You can start now on any building that needs painting and paint the others to correspond from year to year as they need it.

Most farm buildings are so plain that they look much better if a different color is used for the trim than for the body. A good combination for every building on a farm is a cream colored body paint trimmed with pure white. A beautiful cream tint may be produced by adding French Ochre ground in oil to Carter White Lead. The more Ochre the deeper the tint.

Slate Gray is a very durable color and you can make it as light or dark as you wish simply by varying the

amount of lamp black ground in oil that is used to produce the slate tint. With gray also the best trim is pure white. If the farm house is plain, then reverse the colors and paint the body white with light gray trim. This will make a small house look larger.

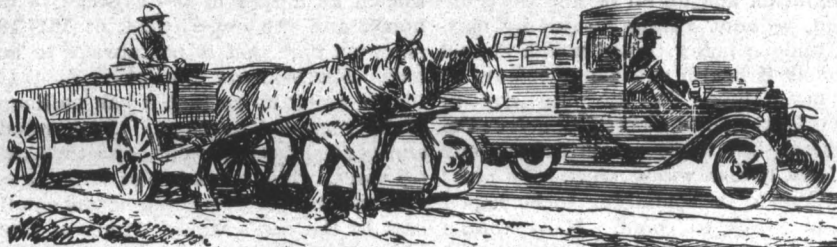
There is no limit to the colors that can be produced with Carter White Lead. And with pure linseed oil and the necessary tinting colors, you have the very best paint that money can buy.

If you would like to have some further suggestions regarding colors or any information about the use of pure white lead and linseed oil, write to our Paint Information Bureau. It is very much at your service.



CARTER WHITE LEAD CO.

12038 South Peoria Street CHICAGO, ILL.



Four Miles or Twenty

Are you working your farm at a twenty mile pace or at four miles?

Detroit Universal Truck Attachments

Convert any passenger car or light commercial chassis into a dependable

1 1/4, 2 or 3 Ton Truck



Internal Gear Rear Axle

Shaft Drive No Chains No Sprockets

MR. FARMER:

Write us tonight for our special offer to farmers and market gardeners. From factory direct to you. We will send catalog and full information promptly. This will cost you nothing and may save you hundreds of dollars. Investigate now.

CARRIER MOTOR TRUCK CO. 1685 Gratiot Ave. Detroit, Michigan

Farms and Farm Lands For Sale

We Have For Sale the following lands and stock. 220 acres of fine unimproved lands, well located, easy terms. 150 acres situated 5 miles from Gladwin, on daily mail route, close to school, all fenced with woven wire, 20 acres under fine state of cultivation, 8 acres in fruit, 70 acres more of same tract brushed logged and burned. Sheep ranch of 310 acres, all fenced, living water, 70 acres of this ranch cleared, 30 acres of which is under fine state of cultivation with fruit orchard, House 28 x 28. Sheep sheds and Barn 64x80. Tool house 16x32. 170 Sheep, 110 this seasons Lambs. We have 3 fine Stock Ranches, well grassed, well fenced, living water. McClure Stevens Land Co., Gladwin, Michigan.

\$950 Down Secures

183-Acre Farm, 5 Cows and Pleasant 7-room house, modern dairy barn, etc., convenient to town stores, churches, creamery and advantages. 150 acres level tillage, high cultivation, good corn, potato, grain land; spring-watered pasture; estimated 1000 cords wood; bearing apple orchard. Owner buy on larger farm puts price down to only \$2900, easy terms. Details page 41, Catalog BARGAINS IN STATES, copy free STROUT FARM AGENCY 814-80 Ford Bldg., Detroit

Will Exchange for good farm worth \$12,000. Brick two story building on Main Street Kalamazoo. 4 stores, 22 room hotel well furnished on second floor, steam heat, running water and Electric lights in each room, baths and showers. Buyer should operate hotel. SANFORD WILTSEY, Kalamazoo, Michigan.

Best Improved Farm For Sale! POSSESSION NOW! 35 Acres Hay FREE! FORD, GOVERNMENT BONDS OR \$300. balance easy, buys 60-acre farm, 60 plowing, best soil, Central Michigan, fair buildings, main road, near railroad town. Owner 203 N. OEDAR ST., LANSING, MICH.

WANTED 5 to 40 acres of high, well drained, gravel loam, sloping to south or west, close to shipping point, not more than 50 miles from Detroit. Will deal with owners only. N. Grant Currie, 153 Harrison Ave., Detroit, Mich.

Rainy Lake Settlement. Farm & Ranch Land. 160 Acres up. \$10 to \$15 per acre, \$1 an acre down—balance long time, 6%. Time payments can be made with clover seed. John G. Krauth, Millersburg, Mich.

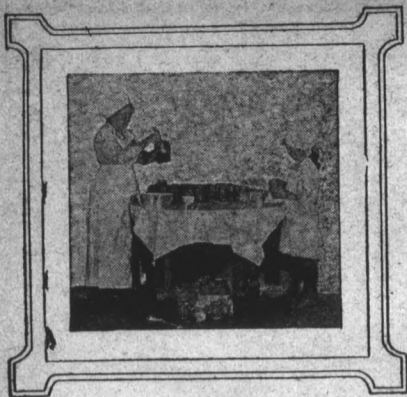
Rich Michigan Farms. Low prices. Easy terms. STAFFELD BROTHERS, 15 Merrill Building, Saginaw, Michigan

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

When Writing to Advertisers, Please say "I Saw Your Ad. in The Michigan Farmer".

Flemish Giant Rabbits, dark steel black. Grays-2 months old, \$3.00 & \$2.00 each. Pedigreed stock. DAVID RAY, 709 Norris St., Ypsilanti, Mich. 50 Belgian Hares, all ages, good, utility stock. Some selected breeders, cheap. W. E. LECKY, Holmesville, Ohio.

WANTED to hear from owner of good farm for sale. State cash price, full particulars. D. F. Bush, Minneapolis, Minn. Pedigreed Belgian Hares and Flemish Giant Rabbits for sale. Satisfaction Guaranteed. Claude Greenwood, R. F. D. 10, St. Johns, Mich.



Woman's Interests

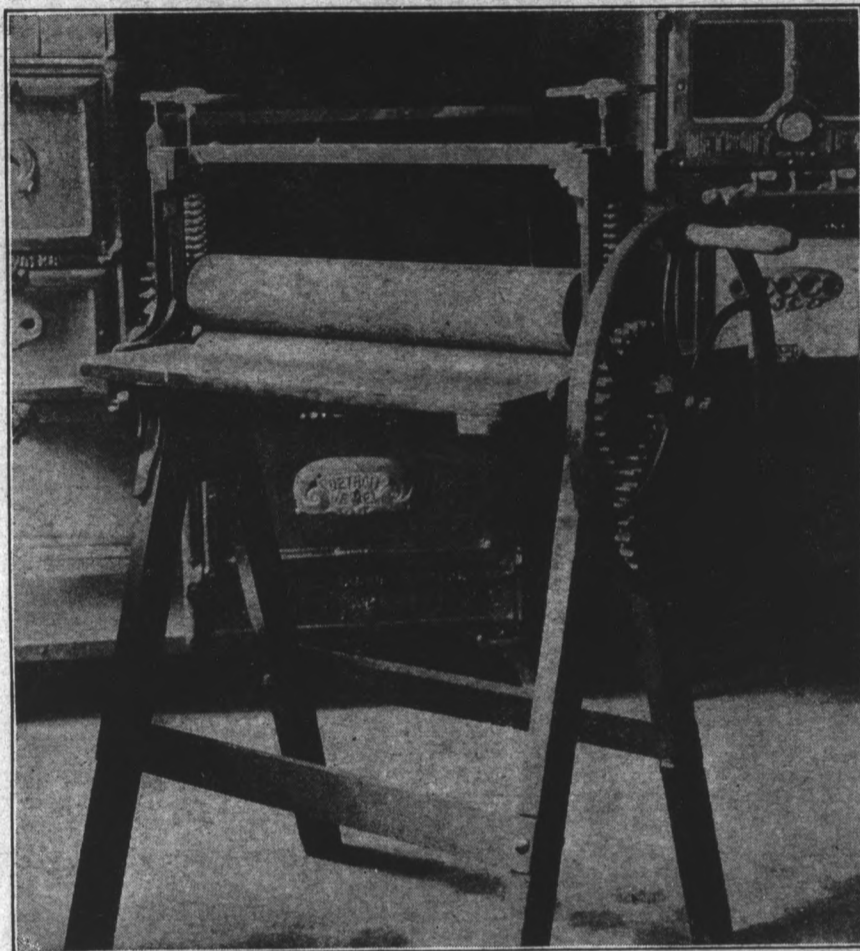


Avoid a Heated Kitchen in Dog Days

If signs of the time as displayed in store windows count for anything, American women are about to plunge into an orgy of household machinery buying. Certainly the signs are plentiful and portentous in that direction, for department store windows which once were filled with smart hats and gowns, or with period furniture and near-oriental rugs, are now showing a "full and complete" line of washing machines, mangles, ironing machines, gas, electric and oil stoves, electric irons, gas irons, charcoal irons, bread-mixers, cake-mixers, in short, everything so far put on the market to make woman's work lighter.

And best of all signs, the women are pausing to study these same windows. Even greater crowds surround the window where foamy suds splashes about in an electric washer, than before the window where Parisian models of robes no woman could wear are displayed. Women are beginning to see that it is more extravagant to spend \$50 for a sleazy silk gown than it is to spend \$100 for a washing machine and mangle. And when they once begin to think it is only a step to putting the thought into deeds. Many are already buying, and when the knitting club meets now the relative merits of vacuum cleaners or the superiority of cylinder washing machines over those of the dolly type come up for discussion before hobble skirts and capes.

Certainly something must be done to make woman's labor lighter if families are to be raised, for no woman



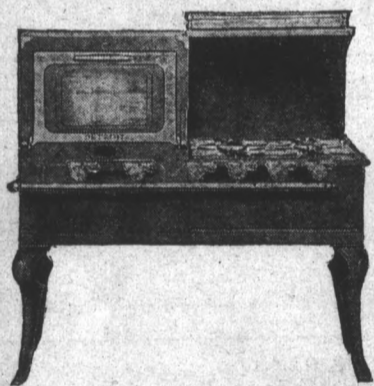
Sheets, Towels, Unstarched Kitchen Aprons, and Even Men's Work Shirts Can be Done-up Quite Satisfactorily with a Good Mangle.

ing for several days with one filling. Then how easy to simply turn a burner and apply a match when you want a fire. No splitting kindling or sending the children scurrying for chips when you suddenly discover you are out of bread and have biscuits to make. No cooling of the oven with a delicate cake baking, because you forgot to fill the stove and the wood has all burned out.

Best of all, think of the comfort in summer. The hours of standing over a scorching stove are eliminated. The meals may be gotten and fruit canned in a cool room. And on ironing day you can have the stove moved outside onto a sheltered porch and do the ironing in comparative comfort, if you have not yet attained the luxury of a charcoal or gasoline iron.

Get the iron, however. They may be gotten for a small sum and the steps they save you in traveling back and forth for a hot iron more than pay back the money you spend. Along with the iron get a mangle. You probably will not want to pay \$150 for an ironing machine, but the mangle will do sheets, towels, unstarched kitchen aprons, and even men's work shirts quite satisfactorily.

With your stove and laundry appliances eliminating unnecessary heat, you will get through the summer in much better shape than ever before.

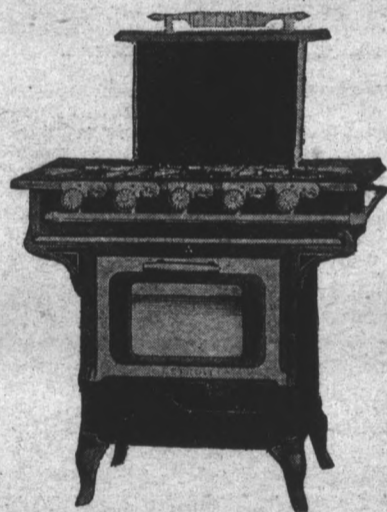


The Oil Stove with a High Oven is Gaining in Popularity.

can take care of a home and a family of children and do all of her work unaided, without killing herself or leaving undone many things which should be done if health and happiness are to be maintained. In the city and in some farm homes electricity solves the problem, but there are still hundreds of farm homes where electricity must continue to be something to be hoped for in years to come. Many things may be done, however, to lighten the burdens of the women in these homes, and it is up to the woman herself to see that they are done.

Take the matter of a stove for one

thing. Wood is becoming almost unknown as a fuel in the average farm home, and the experiences of 1917-18 show us that coal is not always to be had. Furthermore the price of that fuel is going up so that it can no longer be regarded as cheap. Both wood and coal make extra dirt, and thus extra work, while the labor of building a fire and keeping it going is no small part of the day's work. Much of this unnecessary work could be cut out by buying a good oil or gasolene stove. Once filled it is good for at least a day, and in homes where it is not so much used a stove often does the cook-



This Type has Advantages where Space is Limited.

Helping Daughter Dress Correctly

By M. A. Bartlett

WHEN a new dress is to be made for daughter it is so much easier to go ahead and buy the cloth and select the pattern one's self than to cooperate with daughter regarding it, that more often than not the dress is made regardless of the wearer's wishes in the matter. Many farm girls become so used to wearing whatever mother makes or buys, relying so absolutely on mother's taste to be correct, that when they leave home and are thrown on their own responsibility, they find that they know nothing about cost of materials, suitability of colors or correctness of style. Too many times they spend their money on cheap, gaudy things, or else wear dowdy, unbecoming clothes.

Part of every girl's training should consist in learning the lesson of

clothes, and the first steps along that line should be taken as soon in the little girl's life as she can understand the most simple of instructions.

If you are making school dresses, get samples of different materials and ask daughter to choose that which she would like. Doubtless she will make a wrong choice, selecting the most unsuitable. But don't laugh at her; don't make her ashamed. Endeavor to show her her error in a way she can understand. Get her to tell you what qualities, in her opinion, a school dress should have. Of course, you know it should wear well, wash well and not show soil too easily, and not be readily torn; but she may never have thought of those things. Let each sam-

ple, then, be analyzed to meet those requirements.

When the suitable material has been selected, attention should be turned to the cloth's suitability to the child in question. The color must be one in which she looks well and the pattern appropriate for her age. By suggestion display and study familiarize her with these requirements, and you will develop in her a taste for simple, well-made clothes she would be far less apt to have were she continually wearing dresses with no thought as to why they were of such a color or material or cut in such a way.

Though the desirability of simple cut be impressed upon her, do not conceal found simpleness with plainness. A

simply cut dress finished at neck and sleeves with a bit of lace, or brightened by contrasting material in banding or piping, is attractive, but a plain dress, absolutely devoid of all "finishing touches" is actually homely, and in all but the poorest of families, wholly unnecessary. Teach the value of these simple means of finishing a dress. Contrast the severely plain dress with the slightly trimmed one. Also, when opportunity presents itself, point out the mistake of overtrimming. A dress half covered with lace and ribbons and ornamental buttons is not only in bad taste, but is generally mere cheap display.

If daughter lends a hand at the washing and ironing she will learn even more about the materials her dresses are made of, and will quickly see

why the dainty little party dress would never do for school-wear, and why, also, mother desires her to wear soft crepe underwear in summer in preference to that which requires starching and ironing.

It takes time, of course, to teach these things, and there are but few farm mothers whose time is not limited; yet other things can better be slighted than the opportunity of teaching your daughter all you know and can learn about the why and wherefore of the clothes she wears. When she grows up and finds work away from home, you will forget the dust that showed on your chairs, the stove that needed blacking, and the many other duties neglected, to seek her opinion and work with her on her clothes, in the satisfaction you have of seeing her on her home-visits, wisely, becomingly, yet economically dressed.

DO NOT PERMIT FAULTFINDING AT THE TABLE.

BY JULIA R. DAVIS.

To have a comment made on dishes at the table, as too much or too little seasoning, etc., is a habit into which many families unconsciously fall. It is very trying to the housewife, and besides has a tendency to make the food appear less inviting, and gives a depressing effect, as all fault-finding does.

One mother noticed that this habit was growing on her children, and determined that some way must be found to stop it. She called a family meeting and told them that she did her best to have the food and table just as nice as she could, and that they should do their part and be kind and polite, keep still about any dish they did not especially like. She emphasized the fact that criticism at the table was not good manners.

She told them that if they had anything special to criticize they could come to her alone after the meal and she would be glad to listen to the complaint. But strange to say, being forbidden to criticize at the table, the children made very few private comments.

From that time on the mother was careful not to criticize any dish herself, and did not allow it done by the others. She was watchful, however, that everything was well cooked, and the habit of fault-finding at the table in that family has entirely ceased.

OIL LAMPS.

BY HARRIET HENDERSON.

Our house is lighted by oil lamps and the work I hate most is cleaning the lamps. I have made it as easy as possible in the following way:

Turn the wick low before blowing out the light so it won't smoke so much.

Trim wicks and wipe burners every day, so they won't smoke and black the burners.

Set all the lamps in a row, open, before beginning to fill. Use a light can with a well-placed spout to pour oil from.

Wipe lamps with paper.

Wet a sheet of newspaper and rapidly wash all the chimneys, setting them on the stove. Take off before too hot and wipe with newspaper.

Everything can be done rapidly in this way and lamps and chimneys will shine.

HOME QUERIES.

Household Editor:—Please tell me how to remove ink stains from white linen.—Mrs. G. J. I.

Soak the spot in milk, either sweet or sour. It may be necessary to leave it in a day or two, changing the milk if it becomes discolored. Some of the inks now made for school use will come out in clear water.

You Probably Never Thought of This

Every flour is not all flour.

A kernel of wheat is composed of various substances, several of which are not flour, and it requires very careful milling to separate all of the inferior material from the real flour.

To begin with we clean the wheat three times, scour it three times and actually wash it once before it goes onto the Rolls for the first break, so that no dirt may get into the flour.

Of course after crushing the kernel the various substances are all mixed up together; in other words, the bran, middlings, lowgrade, clear and straight are mixed up with the high grade flour and a separation must be made.

All inferior materials are eliminated from

Lily White

"The flour the best cooks use"

It is all clean, pure, wholesome, healthful flour, every bit of it.

We could sell flour at lower prices if we were to leave the inferior portions of the wheat berry in the good flour, but the good flour would be damaged.

And we desire LILY WHITE to continue to be the best flour it is possible to produce; we want it to continue to give the same splendid satisfaction it always has given.

To give such satisfaction it must all be pure, choice flour, consequently we take out all of the undesirable materials.

YOU are the one who really gains by this, for when you buy LILY WHITE FLOUR you obtain all flour, of the very choicest possible quality.

Every flour is not all flour and will not give you as good satisfaction as LILY WHITE, so when buying flour insist on having the best and the purest, LILY WHITE, "The flour the best cooks use."

VALLEY CITY MILLING COMPANY
GRAND RAPIDS, MICHIGAN



Get Our Wholesale Price

Save $\frac{1}{3}$ on a beautiful Kalamazoo Oil Range. Cook with kerosene fuel. Save work and oceans of time. Get hot meals in a jiffy—in a cool kitchen. Wick or wickless styles. Big, powerful burners. Hot blue flame. With or without baking ovens. Oven thermometer. Glass fuel tank. Direct from our factory. Save $\frac{1}{3}$ in price.

Write Today for Catalog. Cash or easy payments—unconditional guarantee. Ask for Catalog No. 113. **A Kalamazoo** Kalamazoo Stove Co., Mfrs. Direct to You Kalamazoo, Mich.

MICHIGAN FARMER PATTERNS.

Any of the patterns illustrated may be secured by sending order to Pattern Department, Michigan Farmer, Detroit, enclosing the amount set opposite the patterns wanted.

No. 2816—A Pretty Frock. Cut in four sizes, 14, 16, 18 and 20 years. Size 18 will require $6\frac{1}{4}$ yards of 27-inch material. The skirt measures about two yards at the foot, with plaits drawn out. Price 10 cents.



No. 2809—Ladies' Dress. Cut in seven sizes, 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 will require six yards of 44-inch material. Width of skirt at lower edge is about two yards, with plaits extended. Price 10 cents.

No. 2813—Girls' Dress. Cut in five sizes, 2, 4, 6, 8 and 10 years. Size six will require $2\frac{3}{4}$ yards of 36-inch material. Price 10 cents.

No. 2808—Girls' Dress. Cut in four sizes, 6, 8, 10 and 12 years. Size eight requires $3\frac{1}{2}$ yards of 27-inch material for the dress, and three-quarters of a yard for the bolero. Price 10 cents.



No. 2819—Child's Dress. Cut in three sizes, 2, 4 and 6 years. Size four requires $2\frac{3}{4}$ yards of 36-inch material. Price 10 cents.



No. 2807—Boys' Suit. Cut in five sizes, 3, 4, 5, 6 and 8 years. Size four will require $2\frac{1}{2}$ yards of 40-inch material. Price 10 cents.

Our Boys' and Girls' Department

The Future Football "L" Man

By Joseph H. Benner

RUN and get some willow boughs; reach them to me to help me out," cried Jerry McNichols to a score of boys crowding to the side of the rustic bridge, gaping horrifiedly at the place where a little girl comrade, having tumbled overboard, had disappeared under the surface of the stream. "I'll jump in and keep Maggie afloat till you come."

With these words scarcely uttered, the boy dove into the wide, deep pool which the creek formed at this point where it cut through the roadway leading to the cluster of half a hundred houses and a large hotel, comprising the residential factors of a delightful mountain resort.

The boys addressed, grasping the implications of Jerry's instructions, all but two, rushed for the clump of willows a few hundred feet down stream, compliantly bent upon doing his bidding. One of those who did not head for that spot, raced at top speed in the direction of a golfing party visible several hundred yards away. The other boy not accompanying the party speeding for the willow branches, stood stock still among the score or so of girls, waiting and wringing hands, or standing in statue-like motionlessness and with faces colorless to the lips.

"That rail," cried one girl. "It has been broken and loose a long time. I knew it would give way some day with people leaning against it; and that something dreadful like this would happen."

"And just now a dozen or so of us were leaning against it," wailingly charged another girl.

And a third sobbed: "Oh! and dear little Maggie had to be the one to go over into the water!"

And then, adding a new horror to the situation, a voice, expressing a belief that had just flashed upon the owner of the voice: "Jerry can't swim; he can't help Maggie. They will both drown."

A lamentation greeted this; but immediately, as both Maggie and Jerry appeared above the surface, the boy close to the girl, and evidently supporting her with one of his arms, the lamentation changed to a shout of hope, a frenzied scream of encouragement.

But this shouting and screaming was hushed as every eye caught sight of a glancing figure of a little girl rushing upon Francis Snyder, the one boy who had remained among the girls.

"Francis Snyder, there's a chance for Maggie and Jerry," cried the girl in a high falsetto, pointing at the boy's breast a finger both accusative and imperative. "You jump right in that water and help."

"Yes, that's so," shrieked another girl, pushing through the crowd to Francis Snyder. "You're the best boy swimmer in the state. And you're always bragging about it. Get in and save them."

A third, crying out incoherently but manifestly meaning the thing these others expressed, forced a passage furiously through the crowd plainly minded to push the swimmer into the water to do his duty.

But Francis was too quick for her; with a yelp of terror he dodged her and like the wind he flew towards the open country.

At the moment, this renegade scurrying from one end of the bridge, fled away, at the other end there dashed upon the structure and into the distracted group, a newcomer. And he came upon the scene just as the ex-

clamations of dismay and terror from the group of girls changed to cries of astonishment and hope.

The reason for this change of feeling was the fact that Jerry McNichols was not only handling himself expertly in the water, but that he was holding above the surface, the flower-like face of Maggie Spurgeon.

As the wild floundering was succeeded by the steady movement of the bodies in the water, consequent upon Jerry's mastery of the situation, one little girl cried, "Why, Jerry can swim, he's helping Maggie."

The ability to swim which to the others, was a newly discovered ability in Jerry was, to the new arrival not an hitherto unknown ability; and he at

"They're going down! Jerry is sinking! His clothes are water-soaked! Oh!"

Out of the general cry of distress rose one voice, that of Charlie Meinert. "If only Francis Snyder was here," he exclaimed. "Where is Francis Snyder? He could help." And saying this, Charlie, his face drawn with sudden anxiety, searching for the champion swimmer, scanned the group of boys, bearing willow branches, and coming on the run in their return from the willow trees.

"He was here, but he ran away."

"Ran away," exclaimed Charlie. And then, "Oh, well," he declared, "Snyder always was a miserable coward. He's best at making sport of other people, and knocking things."

The dozen golfers, attracted by the hullabaloo, and by the calling of the boy running to summon their aid, and by whom they had been informed of the identity of the boy and the girl in the water, had come in full cry. And now there dashed onto the bridge, in the lead of the party, two men, Maggie's father and Jerry's father. Without slackening speed and not stopping to divest themselves of any clothing, they dove headlong into the stream.

But then again something happened which was contrary to what was expected. There sounded upon the scene a command for an action at variance with what appeared so necessary to be done. And it happened at the instant the two men were going to lay rescuing hands, each upon his own child; and the command, given in a voice which a gulping and strangling note seemed trying to smother, was still a shrilly imperious voice. Moreover it was Jerry's.

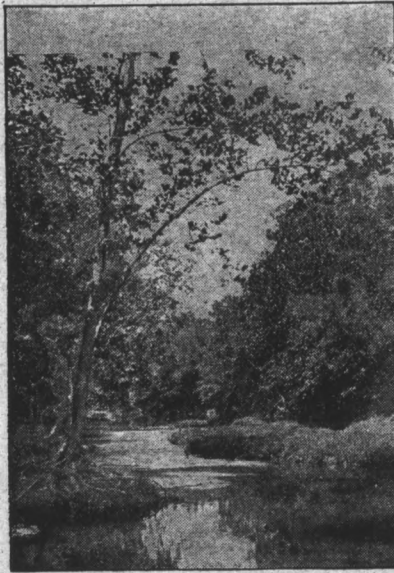
"Hands off," Jerry cried. "Who's doing this anyway? I'm all right. I've got her."

The men, giving each other quick inquiring glances, decided to hold off, to hover about, awaiting developments. However, Maggie's father never let his eyes flit for an instant from his little girl's face where, within reach of his arm, it floated like a lily above the surface of the water.

It was but a period of time required to take a half dozen kicks, vigorously given, and then the uncertain up and down, under water, above water, bobbings of Jerry's head ceased. His feet were firmly planted upon the bottom.

That evening, sitting together and talking about the near-tragedy of the afternoon, Maggie's father declared to Jerry's father:

"Well, I'm quite certain that, life and health remaining to your splendid boy, Jerry, he cannot be denied having his wish that some day he will be an 'L' man on the Lehigh University football team."



once offered assurance and explanations.

"Sure, Jerry can swim," he exclaimed, the while watching the heroic and successful efforts of his friend in the water, as slowly he kicked himself and his charge towards land.

"Oh, hello, Charlie Meinert," greeted someone speaking to the newcomer.

"When did Jerry learn swimming?" inquired another of the company.

"Francis Snyder made sport of him for just caring about running and jumping and football," said Charlie. "So Jerry went to work to learn to swim, saying he would shortly beat Snyder at his own sport. Jerry learned last winter, in the Lehigh University swimming pool. Jerry's father, you know, is a professor in that university. The physical director gives Jerry some privileges round the gymnasium."

At this moment the sounds of rejoicing and encouragement changed to horrified exclamations.

Our Prize Contest

FIRST PRIZE.

Why I Joined Our Girls' Club.

The club to which I belong was formed during the most strenuous days of the world war. Reports came in every day of the horrible struggle in France, and of the part which our American boys were taking in turning the tide of battle. As we read of the heroism and unceasing devotion of our soldiers, it seemed that the burden of this war was unequally divided. Many of our men were sacrificing their lives

on the altar of Liberty, while we were staying at home, looking on and doing nothing to make the burden lighter.

Finally nine of us freshman girls organized a club to knit, do Belgian relief work, and various other kinds of labor. We met once a week, during the seven days we worked an hour a day on our sewing. As the Red Cross would not allow children to work on their yarn we earned money, bought wool, and knitted it ourselves; then we turned it over to the Red Cross for distribution.



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At Christmas we filled fourteen boxes for the Red Cross, and gave six complete comfort kits to soldiers destined to go overseas.

I have taken great comfort in our little club, and have had a small, warm feeling around my heart when I think that we have done a little, perhaps, to help in the overthrow of autocracy.—Harriet Garrison, Hartford, Michigan. Age fourteen years.

HONORABLE MENTION.

Why I Joined Our Girls' Club.

Last year the girls in our district started a club for girls. I didn't know about it at first, so I didn't join until last month. I heard one of the girls talking about it, and saying, "My, but my mother is glad I joined that club, because the leader is Miss Smith, and she teaches us how to sew, how to cook, and at the same time to be honest, and mind the instant she speaks to us."

Then I asked her the particulars, and she told me. Then I asked mother if I might join, too, and mother said, "of course you may."

The next time they had a meeting I went, and had a very nice time. And mother lets me help her bake and sew now, and it is a great deal of fun, and mother was telling my aunt that she was very glad I joined, because I can help her now, and it is a pleasure. Because I mind when she speaks to me, and tell but few lies. Then my aunt asked me if I was glad I joined, and I said, "you can bet I am, for it teaches me how to make work easy, and that you gain many more friends, by telling the truth, and doing what you are asked to do, when you are asked to do it."—Cora Elizabeth Wilson, Kalamazoo, Michigan. Age fourteen years.

HONORABLE MENTION.

Why I Joined Our Boys' and Girls' Club.

The reason I joined is because I like the work. It is interesting and is good outdoor exercise. I tried poultry raising, and have just sent for bulletins on chicken raising. Neither my mother nor father are telling me how to start in to raise them, or have told me what they wanted me to try. I used my own judgment, and took Plymouth Rocks. The reason I took them was that they are easy to raise, and are quite good to eat. They develop quickly, and are soon feathered out. In the fall they sell for a good price at hotels for broilers.

Last year I joined the club and raised beans because of the large profit I expected. The weather was not good and so they were spoiled. After I failed at that I thought I would try poultry.—Margaret Lynn.

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Poultry Queries Answered

PROBABLY TUBERCULOSIS.

Can you tell me what to do for my hens? They get lame and then they have a greenish diarrhea, the cords of their legs seem to be stiff, and it seems to affect the hens more than the roosters, as I have lost about fifteen hens the last two months.

Mrs. J. E. T.

I would like to know what to do with hens that are healthy and become lame and in a week's time die. E. K.

Lameness results when the joints become swollen from the disease. If the birds have rapidly emaciated or gone light, it is very apt to be tuberculosis. Additional proof is found by a post-mortem examination. The liver may be covered with greyish-white nodules. Birds that show this condition of lameness and emaciation should be killed immediately and burned, as it is contagious. Then use the best possible sanitary measures with the remainder of the flock and feed them with balanced rations to keep up their vitality. This trouble seems to be more prevalent in the poultry flocks every year and precautions should be taken to breed from vigorous mature stock and cull out all birds that are lacking in vigor. Poultry houses should be constructed so that plenty of sunlight can strike the floor and the droppings boards. The bacillus is soon killed by the direct rays of the sun even though disinfectants may destroy it very slowly. Sunlight, fresh air and good food are probably the poultryman's best friends in fighting tuberculosis and other diseases that attack the flock.

R. G. K.

FEEDING THE FLOCK.

How much grain should be fed in litter in morning for a flock of one hundred hens? How much meat scrap should be fed every day and in what way? I can get only dried pork lard scraps. Is this the right kind of meat? I soak this and grind it. For green feed I have only cut alfalfa hay. Is this sufficient? At noon I feed cooked small potatoes mixed with bran as a hot mash. Does this take the place of a dry mash? I also feed corn at night. They also get table scraps.

Otsego Co. A. J. T.

The appetites of different birds will vary but about a handful of scratch grain per bird will be about right. We try to give the birds enough to keep them scratching busily in the litter for several hours. The amount of grain necessary will also depend upon the other feeds that are used and the weather. If the birds can use the range on pleasant days they will not need quite as much scratch grain as on a cold wintry day.

The Michigan Agricultural College is recommending the following mash containing beef scrap: Three hundred pounds of fine ground oats; 100 pounds of wheat bran; 100 pounds of gluten meal; 100 pounds of beef scrap. Formerly most poultrymen did not exceed ten per cent of beef scrap in the dry mash but there seems to be a tendency to increase the per cent of beef scrap and it is meeting with success. The best way to feed the beef scrap is in the dry mash. We have used dry pork lard scraps in the mash much the same as the beef scrap, but like beef scrap the best.

Cut alfalfa hay will undoubtedly be sufficient green food. A hot mash fed at noon is often used to take the place

of the dry mash in hoppers but the dry mash is a labor saver and the birds seem to do very well when fed in that manner. When feeding corn at night, give the birds all they will clean up so they will go to roost with full crops. If the birds receive a large amount of table scraps they obtain a ration that is very nearly balanced without further trouble. The scraps from the table will contain some meat and green food and help very much in keeping the birds in healthful condition. If there are many bones in the table scraps it will pay to buy a small bone grinder as ground bone is fine for egg production. We should say that your flock should be well fed with the ingredients you mention but possibly the results will be a little better and some labor will be saved by using a dry mash in hoppers.

POSSIBLY BRONCHITIS.

My ducks are dying with a strange disease. First they stand with their heads stretched up and breathe hard as if they had something in the wind-pipe. This gradually grows into a whistling, rasping sound which can be heard for some distance. They neither eat nor drink, just stand around in that condition for maybe two or three weeks, and when they die they just seem to drop over. Will you tell me what ails them, and also the cure? These are three-year-old ducks.

Mrs. H. W. G.

Fowls may contract bronchitis in damp cold windy weather or because of draughts in the roosting house. They will extend the head and gasp because mucus gathers in the air passages and hinders breathing. The bird will lose its appetite and soon become emaciated and the condition may last several weeks and then improve or result in death. Ten drops of turpentine added to a tablespoonful of castor oil will often help to clear up the condition of the throat. Place afflicted birds in a clean sunny house where they are protected from rain and wind but have

purpose. We believe that poultry farms are not generally as much in demand as dairy farms. For example, a farmer might spend \$1,500 for a new dairy barn and the improvement in his farm might possibly add enough to its sale value so that he could get his money out of the enterprise at any time. On the other hand, he might spend the same amount of money on a long laying house and it would not add so much to the sale value of the place as it would be more difficult to find a buyer who was specializing in poultry. A dairy farmer or general live stock farmer would not be able to use the poultry equipment to the best advantage. If the farm only contained a large number of poultry houses and an insignificant barn it is obvious that it would not sell at the right price except to a poultryman.

For this reason it is evident that beginners in the poultry business must go slow. The best way is to begin on a small scale and then develop the enterprise as the earnings from the business warrant the expenditures. If everything goes along right there will occasionally be available capital for expansion and then new buildings can be constructed. When the number of quality birds on hand becomes large and the experience has increased beyond the amateur stage it is possible to build large houses, feed rooms and incubator cellars with a large margin of safety. Throughout the country are many large poultry plants which have been closed down after a wonderful start with houses and general poultry equipment. Some of the owners have been well able to afford any losses that have occurred and others have been financially crippled by their venture. At the same time it is possible to visit thriving poultry farms which have been built up slowly from the profits of the business. The owners have depended somewhat upon other sources of income until their business developed but at all times they have tried to be conservative and business-like. They have neither become discouraged with the poultry business because others failed, nor foolishly elated when other breeders seemed to make much money. Their own account book has told them little stories about the business which have been true.

When feed comes down, if it ever does, there will be many farmers who will wish to develop their poultry business on a larger scale. This will be especially true if eggs keep to a fairly high level and breeding stock is scarce. Amateur farmers will find that the



Small Houses Are Preferable Unless One Specializes on Poultry.

plenty of fresh air. One-grain doses of quinine sulphate given three times per day is also recommended for birds with bronchitis.

BUILDING A POULTRY BUSINESS.

BEGINNERS with poultry often wonder how much they can safely invest in equipment. It is necessary to go into the business on a large scale if there is no other source of income and this requires quite an investment in buildings which cannot be used to the best advantage for any other

poultry business appeals to them and some will wish to spend more money in poultry equipment than will be advisable considering their capital and experience.

It is certainly good advice to go slow and build carefully as poultry production is a specialized industry. A general farmer can buy a low-priced farm and improve it by his own labor and frequently make good money for his work. A poultryman can build up a large poultry plant and he may not be able to get his money out. Here is the big point. Be sure that you want to go

into the poultry business before tying up too much cash. It is all right as a business but the beginner who goes slow learns much by experience and the experience is bought as cheap as possible.

Ingham Co. R. G. KIRBY.

THE SPUR OF THE BETTER THING.

WE have been going along in a steady, every-day sort of a way, with very commonplace hens. By feeding them well we make them earn us some money. The good wife kept the accounts, and she was a good book-keeper; but neither of us paid the slightest attention to the cost of production. We fed out of the farm grain and bought a few things we did not raise. We did not think it amounted to much to figure up the cost of a dozen eggs.

The day came when a new light broke in on us. We determined to know more about cost; and when we found out, we said: "Now we must have some better hens. This working for nothing and boarding ourselves is done with." And wife and I hitched up one night after supper and drove three miles to get a few sittings of Brown Leghorn eggs. We got them of a man that was making a success of his business, and who had choice, well-bred stock. The looks of his flock of itself was enough to spur us to better things. The man whose heart is not stirred by the appearance of a big flock of hens, all of uniform color, shape and general characteristics, had better not go into the poultry business; he will not make a success of it.

That was the incentive with us to get better hens. The chicks we got from the eggs we set did well. Some of those hens stayed on the farm till they were old and they did well till the last. I have no idea how old they were; but I presume they really were too old. We loved them so we could not bear to see them go. It is not a good thing to have favorites like that among hens. Keep them until they have done their best, then let them go, is a better rule.

But since then we have wanted better and better hens. I wonder if we ever get to a place where that is not true with the ambitious man? Always better and better poultry, and that is what makes the poultry world more successful. E. L. V.

FINISHING THE LATE-HATCHED

LATE hatched chicks may need some forcing to bring them into fair condition before the coldest days of winter. Possibly the pullets cannot be expected to lay before January 1 and yet the laying will commence sooner if these birds are given heavy rations to develop them as large as possible before they have to be housed for the winter. Pullets that are late-hatched and underfed in the fall are nearly always a loss as they frequently become stunted and do not lay any eggs until late in the next spring.

Boiled oats will be consumed in large quantities by the late-hatched birds. Place a pail of the oats on the range where they can have access to them at all times. A large capacity crop can be developed in that way. Boiled pumpkin mixed with bran is an appetizer of which the birds will eat a great deal and it also expands the crop and gives the bird the large capacity which stimulates rapid growth.

Send the late-hatched stock to bed with a full crop. It pays to examine the crops of the birds after they go to roost and note the condition of the crop. If the birds have plenty of food before them and some individuals go to bed with half-full crops it means that those birds are not good feeders and they should be culled out as soon as they are large enough to bring at least their cost of production on the market.

The problem of late-hatched chicks is serious on the farm as too many of the young birds come in that class. Frequently they are underfed, especially if the corn crop happens to be less than usual. It pays to feed them well or they cannot pay for the little that they do get. R. G. K.

WHY ROOSTING PAYS.

IT has been commonly supposed that chicks should not roost until they are about half-grown or they will have crooked breasts. We believe that when a chick is well feathered out that its wings are strong enough to lift its body up on the roost and that nature made those wings strong so that the chick could get up off the ground at night and thus avoid as much danger as possible.

When the chicks have learned to roost it is much easier to protect them from mites. If the perches are painted with kerosene oil the mites will be killed and if the birds use protected roosts they will not be injured by the mites. Lice are also easier to control if the birds are on roosts which contain no crevices in which the lice can hide and the birds do not crowd on the roosts and become overheated as they do on the floor and this helps in keeping down colds.

Some breeders do not like to have the chicks roost at an early age and they protect them by providing boards raised a few inches from the floor on which the birds can spend the night. We believe that vigorous birds from mature breeders can roost at an early age without the danger of deformed breasts. G. K. R.

PREVENTING SOFT-SHELLED EGGS.

WHEN a hen lays a soft-shelled egg, one marketable egg is lost for the poultryman. The egg may be eaten by other hens or the hen that lays it and this often develops the egg-eating habit. If the egg is dropped among other eggs in the nest they are all soiled and have to be washed. And washing eggs is injurious to their keeping qualities.

An over-fat hen is apt to lay soft-shelled eggs as the fat hinders the proper operation of the shell-forming glands. Such a hen should be isolated from the flock and fed a ration of bran, and water and oats can replace most of the corn in the ration. If the hen continues to lay soft-shelled eggs she should be marketed for table use. In many cases time is saved by marketing fat hens as soon as they are found instead of taking the trouble to reduce their weight. Sometimes the accumulation of fat seems to result when a hen has a lazy disposition and refuses to scratch and such a bird is not a profitable producer and should never be used as a breeder.

Grain and clover contain a certain amount of lime which is sometimes sufficient for a hen to make strong shells on the eggs produced. However, some hens will not seem to obtain enough shell-making material from their regular ration and for this reason oyster shells must be provided in hoppers at all times. We have never found many soft-shelled eggs in houses where the oyster shell hopper is always filled. A soft-shelled egg is a rare find in such a house. Even if the hens make fair quality shells without oyster shells, it is better to supply them and obtain the stronger and thicker shells which are better able to stand jostling during transportation.

The feeding problem is greatly simplified if females of about the same age are kept together. What is an ideal ration for old hens may be entirely wrong for pullets. Separate them so as to obtain approximate results while feeding.

The Good Sense Work Suit

JUST look at this picture—you can see comfort and ease in every line of these LEE UNION-ALLS. So practical! So convenient! So economical! Don't wait! You need LEE UNION-ALLS now. Ask your dealer. Write for descriptive booklet.

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Simple, convenient and easy to use. Complete illustrated instructions with every set, show how to easily caponize your young cockerels, giving you **Double Weight and Double Price** per pound, at lower feed cost and with less care. Turn your cockerels into profit making capons, better payers than the females in your flock.

Complete set of reliable, practical Pilling "Easy to Use" Capon Tools, parcel post prepaid **\$2.50**

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CAPON 10 lbs
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The Same Amount of Feed Will Raise Each

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By Special Delivery Parcel Post, postage paid 20 different thoroughbred breeds. Utility & Exhibition grades. Live delivery guaranteed. Capacity 100,000 weekly. Catalog free. Nabob Hatcheries, Gambier, Ohio.

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Rose and Single Comb R. I. Reds. Barred Plymouth Rocks. Pure bred stock. Farm raised and of superior quality. Write for catalog. INTERLAKES FARM, Box 32, Lawrence, Mich.

Chicks, We ship thousands, orders booked now for spring delivery, booklet. FREEPORT HATCHERY, Box 12, Freeport, Mich.

Blue CUSTOM HATCHING Hens

Fifteen dozen eggs incubated and chicks boxed and shipped prepaid \$6.75. Send eggs fresh well packed prepaid. Order July & August chicks now. Many varieties send for circulars. Crescent Egg Company, Allegan, Mich.

Laybilt S. C. W. Leghorns

Large, great layers, pure white. "Our hobby." Strong Day-Old Chicks. Hatch every week, but please order in advance. 15c each in lots of 25 or over. Guaranteed delivery full count alive and lively—parcel post paid. Choice cocks, cockerels, hens & pullets after July 1st. V. A. MORSE, Ionia, Mich.

English Barron S. C. White Leghorn

chicks at \$14.00 per 100; \$65 per 500 immediate special delivery. 5,000 chicks each week. Guarantee safe delivery full count of lively sturdy quality chicks that will mature into most profitable and persistent layers. Hatching eggs \$6 per 100. Write us your wants and send for valuable catalogue gives rearing & feeding methods. DEVRIES LEGHORN FARM, Zeeland, Mich.

Fowler's Buff Rocks Cockerels \$4 up. Utility eggs for hatching \$2.00 for 15. B. B. FOWLER, Hartford, Mich.

For Sale, Year Old Barred Rock Hens, Thompson Strain, \$3 each. Cocks \$5. Ferris Strain S. C. White Leghorn Year Old Hens \$2 each. Cocks \$3. Order at once. July delivery. RUSSEL POULTRY RANCH, Petersburg, Mich.

Chix 15c up 75,000 selected utility, exhibition, trap-nested chicks, always 3000 on hand. Some 10 days old, several varieties. Hatching eggs, Catalogue Bookman Hatchery, 28 E. Lyon, Grand Rapids, Mich.

BABY CHICKS—Prices Reduced Send for free circular. Bred-to-lay S. C. W. Leghorns. Our stock produced the winners in the state demonstration farm work last year. Sunnybrook Farm, Hillsdale, Mich.

For sale "Buy the Best" eggs for hatching from 200 Egg strain Barred Plymouth Rock. \$2.00 per 15, \$5.00 for 45 eggs. H. B. PROCTOR, Grand Haven, Mich.

Hatching eggs Plymouth Rocks, all varieties, and Anconas. Illustrated catalog 3c. Sheridan Poultry Yards, R. 4, Sheridan, Mich.

Okah Poultry Farm. White Wyandotte's exclusively eight years breeding free range. 15 eggs \$2.00 prepaid. E. W. Banks, R. 3, Box 178, Lansing, Mich.

PULLETS Standard Bred S. C. Brown Leghorns, 3 months old, can ship at once. Price \$1.50. WOLVERINE HATCHERY, R. 2, Zeeland, Mich.

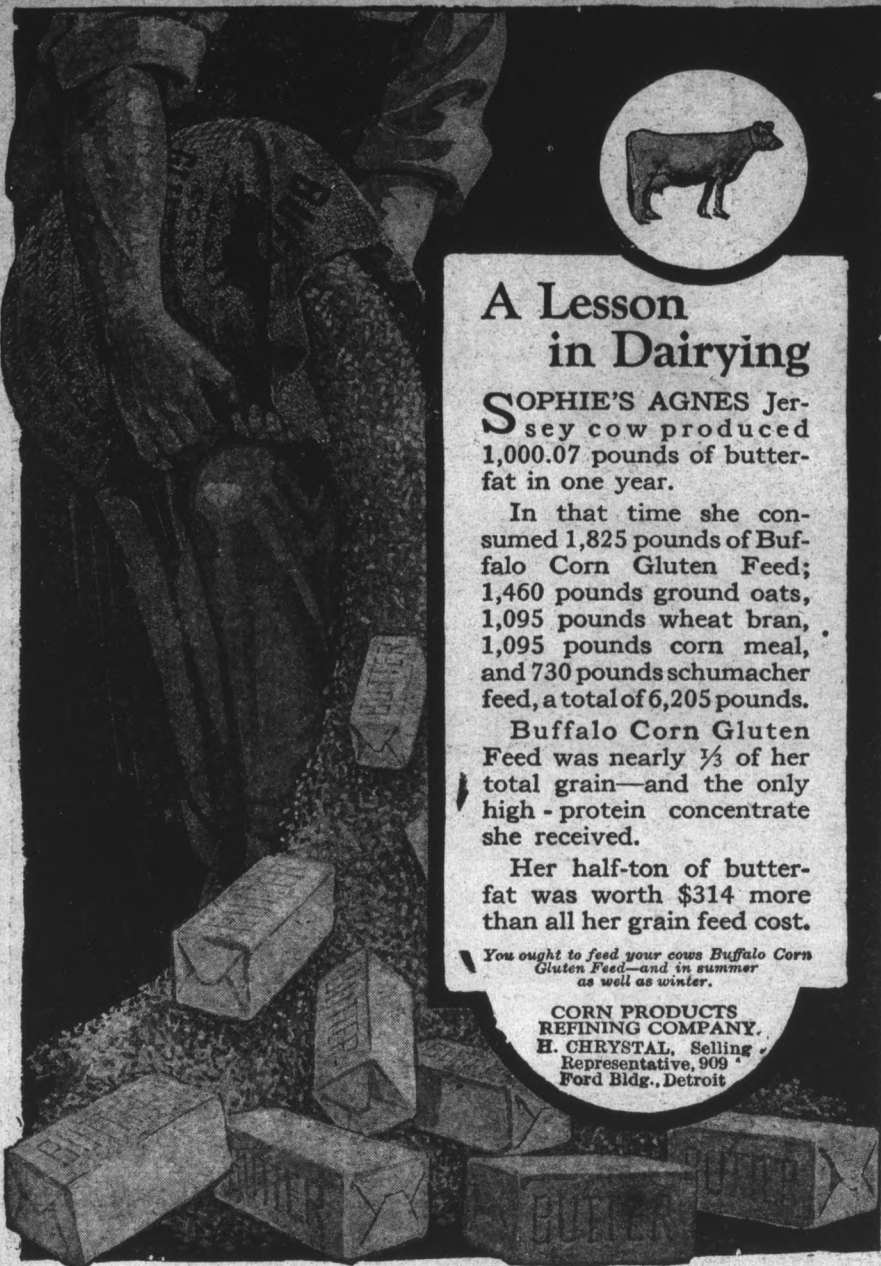
R. C. duck, \$1.50 for 3. W. Chinese goose eggs 40 cents each. Mrs. CLAUDIA BETTS, Hillsdale, Mich.


Rhode Island Whites for eggs and meat; 15 eggs \$2.50, 30 eggs \$4.00. Chicks for sale. H. H. JUMP, Jackson, Mich.

S. C. Brown Leghorns. Heavy laying strain. Farm range. Eggs 15 \$1.25; 30 \$2.25; 45 \$3; 100 \$6. Postpaid. Floyd Robertson, R. 1, Lexington, Ind.

Snowy White Rocks Fishel Strain, dandy layers. Eggs \$1.50-15; \$4.50; \$7-100 All prepaid. Mrs. Earl Dehnhoff, Vanburen, Ohio

Additional Poultry Ads. on Page 907





A Lesson in Dairying

SOPHIE'S AGNES Jersey cow produced 1,000.07 pounds of butter-fat in one year.

In that time she consumed 1,825 pounds of Buffalo Corn Gluten Feed; 1,460 pounds ground oats, 1,095 pounds wheat bran, 1,095 pounds corn meal, and 730 pounds schumacher feed, a total of 6,205 pounds.

Buffalo Corn Gluten Feed was nearly 1/3 of her total grain—and the only high-protein concentrate she received.

Her half-ton of butter-fat was worth \$314 more than all her grain feed cost.

You ought to feed your cows Buffalo Corn Gluten Feed—and in summer as well as winter.

CORN PRODUCTS REFINING COMPANY.
H. CRYSTAL, Selling Representative, 909 Ford Bldg., Detroit

Bad Odors and Flavors in Milk

CREAMERY owners and dairy inspectors frequently experience considerable difficulty in tracing the source of an unnatural flavor or odor in the milk delivered by a patron. In such cases it is first necessary to determine whether or not the abnormal flavor or odor is present when the milk leaves the udder of the cow or develops later. If any particular cow is giving milk which is tainted it is not due to bacteria, but to other causes.

If the milk from any number of cows shows the taint the feed or something which the cattle have eaten in the pasture is to blame. Carrots, turnips, wild onions, ragweeds, cabbages, off-flavored grain feeds and other strongly flavored substances will cause tainted milk. Certain food stuffs for cows not ordinarily considered likely to produce bad-tasting milk will at times do so. Where the bad flavor seems due to feed and there is nothing in the ration subject to suspicion, a change in feed is yet desirable, as the bad flavor may disappear as a result.

Some Objectionable Features.

Cows that are kept in the pasture will keep reasonably clean, however, if the pasture is so situated that the cows have access to muddy pools or stagnant ponds they will often stand in the water up to their knees, fighting flies and plastering themselves with mud. This mud dries quickly and readily falls into the milk pail. It is one of the most objectionable forms of dirt because it very quickly finds its way through strainers and settles at the bottom of the cans and bottles. It is also loaded with dangerous bacterial life which have a deleterious effect upon the milk and its products. Cows that are plastered with this kind of mud should be thoroughly cleaned before they are milked.

One of the most prolific causes of trouble during the summer months is that of old, sour strainer cloths which are rinsed in luke-warm water and hung up to dry. These cloths should be put in boiling water and thoroughly cleansed before being used for another milking. Ordinary wire strainers are worse than none at all. They are very difficult to keep clean and are almost worthless for removing fine dirt and dust.

Cleaning Dairy Utensils.

There are certain fundamental principles in cleaning dairy utensils that cannot be ignored. Milk should never be allowed to dry and become sour. It is impossible to clean the utensils properly after they have been allowed to become dry and sour. If it is impossible to clean them at once, fill them with water, and they may be easily cleaned later. Rinse with luke-warm water before scalding. Then wash with hot water with the aid of some cleaning material, then rinse to remove all cleaning material, if possible expose them to steam a few minutes and place them in a place where they are exposed to the light and sunshine until the next milking. The best preparations to use in cleaning dairy utensils are the alkalis and carbonates, like soda, sal soda and lye, because they have the power to dissolve the coagulated albumen. Sal soda is one of the cheapest and most effective materials, as it is neither poisonous or corrosive.

Impure water used in washing dairy utensils frequently introduces dangerous bacteria that cause ropiness in the milk. In some instances impure water used in washing the pails and cans has been traced as the source of disease epidemics. As great care should be taken in obtaining pure water for washing the pails and cans as in providing a supply of pure water for the cows to drink.



CARPENTER'S SPECIFIC

World's Best Horse Tonic and Blood Purifier

Cures scratches, water farcy, stocked legs, inflamed and swollen patches on the skin, rough coats, etc. For Gargety and Bloody Milk in the cow. At your dealer or mailed post paid to any address 75c per package.

Manufactured by **KEWLEY BROS.,** Battle Creek, Mich.

ABSORBINE STOPS LAMENESS

from a Bone Spavin, Ring Bone, Splint, Curb, Side Bone, or similar troubles and gets horse going sound. It acts mildly but quickly and good results are lasting. Does not blister or remove the hair and horse can be worked. Page 17 in pamphlet with each bottle tells how. \$2.50 a bottle delivered. Horse Book 9 R free.

ABSORBINE, JR., the antiseptic liniment for mankinds, reduces Painful Swellings, Enlarged Glands, Wens, Bruises, Varicose Veins; heals Sores. Allays Pain. Will tell you more if you write. \$1.25 a bottle at dealers or delivered. Liberal trial bottle for 10c stamps. **W. F. YOUNG, Inc.**, 268 Temple St., Springfield, Mass.

HEAVES Money Back If It Falls

A horse with heaves can't do its full share of work. Cure the heaves and you have a horse worth its full value in work or in money. Send today for **FLEMING'S TONIC HEAVE POWDERS** \$1.04—was tax paid—per pkg. Satisfaction or money back. Fleming's Vest-Pocket Veterinary Adviser. Helps you distinguish heaves from other ailments. Write for the Adviser. It is FREE. **FLEMING BROS., Chemists,** 1252 Union Stock Yards, Chicago, Ill.

"Top-Notch" HOLSTEINS

The young bulls we have for sale are backed up by many generations of large producers. Buy one of these bulls, and give your herd a "push". Full descriptions, prices, etc. on request. **McPherson Farms Co., Howell, Mich.**

The Traverse Herd

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

TRAVERSE CITY STATE HOSPITAL Traverse City, Mich.

THE HOLSTEINS

At Maple Avenue Stock Farm are under Government supervision. The entire herd have just been tuberculin tested and not one reactor. A good place to buy that bull you are looking for, and I have two very fine, richly bred, and splendid individuals ready for any amount of service. I want to answer any question you may ask about them.

L. E. CONNELL, Fayette, Ohio

CLUNY STOCK FARM

100--REGISTERED HOLSTEINS--100 When you need a herd sire remember that we have one of the best herds in Michigan, kept under strict sanitary conditions. Every individual over 6 mos. old regularly tuberculin tested. We have size, quality, and production records backed by the best strains of breeding.

Write us your wants. **R. BRUCE McPHERSON,** Howell, Mich.

615 lb. milk 26.97 lb. butter 7 days aver. for 2 nearest dams of 4 mo. 1/2 white bull calf. Giddan 331 lb. butter 19021 lb. milk 10 mos. Also heifers bred to 25 lb. score Atkin's Maplecrest. M. L. McLaulin, Redford, Mich.

Offer more bull calves to offer until next fall. Place your order for one from next fall's crop. My herd is on the state and federal accredited herd list. **A. F. LOOMIS,** Owosso, Mich.

Holstein Bull dropped May 25-19, a beauty, 1/2 white, dam 21.44. Price \$100 del. & reg. Write for photo and breeding. **J. Robt. Hicks,** St. Johns, Mich.

BREEDERS' DIRECTORY

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

A bull calf, sired by our imported "EDGAR of DALMENY"

recently sold in Scotland at the Perth Bull Sale for the record price of 2,100 guineas, or \$10,584.00 in our money. This goes to show the quality of the

ABERDEEN ANGUS

that Mr. Scripps is breeding. He enjoys seeing good stock on "Wildwood" and believes that **THE BEST IS NONE TOO GOOD.**

"Edgar of Dalmeny" won the Michigan Grand Championship last September at the Michigan State Fair and was a winner in his class at the Chicago International last December.

We have a few females with calves at foot and re-bred to "Edgar of Dalmeny" that Mr. Scripps has consented to sell to reduce the fast growing herd. Write To

WILDWOOD FARMS

ORION, MICHIGAN

W. E. SCRIPPS, Prop., Sidney Smith, Supt.

Cloverly Angus Bred cows, heifers and bull calves of good breeding. **GEO. HATHAWAY & SON,** Ovid, Mich.

WOODCOTE ANGUS

Established in 1900.

TROJAN-ERICAS and BLACKBIRDS (Blackcaps).

Breeders and feeders of many International winners.

Write For 1919 Bull Sale Catalogue

WOODCOTE STOCK FARM, Ionia, Mich.

Breeders of Registered Aberdeen Angus cattle. Several choice bulls for sale. **LANG BROS.,** Davison, Mich.

REGISTERED

GUERNSEYS

Just two young yearling bulls left, ready for service. Come and look them over quick, or write. They are the good ones. Priced to sell.

AVONDALE STOCK FARM, WAYNE, MICH.

30 Grade Guernseys For Sale

On account of sickness must dispose of splendid herd of 30 grade Guernseys. Average Test for April at Creamery 5%. Will sell in lots to suit.

L. L. Barney, Windermere Farm, Watervliet, Michigan.

SOMETHING EXTRA IN GUERNSEYS—May Rose Bull Calf, Sired by St. Austell Dreadnought 34671, by Don Diavolo of Linda Vista, 23565, and from Miss Bess of Yellowdale, A. R. 553 lbs. B. F., and average record for three years of 510 lb. B. F. and a calf. Price \$200. Also several fine A. R. bulls of serviceable age. **BALLARD BROS.,** E. 4, Niles, Mich.

Guernsey Pure Bred Bull Calves from one to two months old \$50 each "registered." **WALTER PHIPPS FARM,** 80 Alfred St. Detroit, Mich.

Registered Guernseys

Yearling bull—\$150. Bull calf, 3 months—\$100; both nice May Rose bulls. **J. M. WILLIAMS,** North Adams, Mich.

GUERNSEYS—REGISTERED BULL CALVES Containing blood of world champions. **HICKS' GUERNSEY FARM,** Saginaw, W. S. Mich

GUERNSEYS must reduce herd, so offer Glenwood breeding also bulls, all stock of A. R. breeding, herd tuberculin tested. **T. V. HICKS,** Battle Creek, Mich.

Guernseys—Registered Females For Sale **GEO. N. CRAWFORD,** R. 2, Holton, Michigan.



Holsteins Yield Most Milk Solids

One of the greatest investigations among dairy breeders was made by experts of the Wisconsin Experiment Station. Prof. F. W. Wolf states that the "Holstein cows produced considerably more milk solids and fat than the cows of other breeds (19.5 per cent more butter-fat than the Jerseys, and 38 per cent more than the Jerseys), and they also give larger net returns for feed consumed." In all dairy breed competition where Holsteins entered have been representative, they have produced a greater net profit for butter than any other breed entered. If interested in

HOLSTEIN CATTLE

Send for our booklets—they contain much valuable information. **HOLSTEIN FRIESIAN ASSOCIATION OF AMERICA,** Box 164, Brattleboro, Vt.

HOGS STILL SELL HIGH.

PRICES for hogs have had some severe declines from the high time of the year, when the top quotation stood at \$21.55 per 100 pounds, but they are still far higher than in former years and are returning extremely liberal profits to owners, despite the high price of corn. Recently eastern shippers have made much larger purchases in the Chicago market than for a long period, and this has been an element of strength in making prices for the better class of light and heavy butcher weights. Patrick Cudahy, the Milwaukee packer, says that, in his opinion, hog supplies will be large and demand for provisions heavy for shipment to foreign countries. If estimated requirements from Germany are correct there will be big demand for provisions to ship there, as hog supplies are small. England is buying freely, and the domestic demand in the north is good, but the southern demand is poor. One pound of bacon to one pound of cotton fails to work out now as it did years ago, as the south is raising its own pork. W. W. F.

INTERVIEW WITH PACKER WILSON.

THOMAS E. WILSON, a Chicago packer, is back from a visit of six weeks in Holland, Belgium, France and England, and reports that Europe is on the verge of starvation. The only relief in sight, he says, is arranging a credit system adequate to enable the starving nations to obtain supplies of food and thereby avert disasters exceeding those of the war. He is confident that one hundred million pounds of foodstuffs will be needed to feed famishing Europe. He adds: "As for the prices of meat products in the United States, they are sure to keep up so far as pork is concerned, due to the great needs abroad. If the slack is taken up in the market by next autumn, the prices when the hogs begin coming to market again will be very high. Beef, however, is certain to become cheaper soon. We are not exporting much beef now, and the chances are that we will not, as fats are the greatest need in Europe." W. W. F.

HIGH PRICES FOR PROVISIONS.

WITHIN a short time pork has sold on the Chicago Board of Trade as high as \$51.20 a barrel, being more than \$10 higher than a year ago. Such sales were for July delivery. Similar advances have taken place in lard and short ribs. Of course, the prime bullish factor in the market is the very large foreign outlet, which continues to far exceed anything ever known in years before the war. Exports from the Atlantic seaboard during a recent week included 26,928,000 pounds of lard, and 64,742,000 pounds of hog meats, comparing with 14,870,000 pounds of lard and 31,593,000 pounds of hog meats for the corresponding week last year. W. F.

MARKETING SPRING LAMBS.

THE crop of southern spring lambs is a fine large one, and it is estimated on good authority that it is the largest in ten years. Shipments to market thus far have been on a rather contracted scale, however, as most of the southern sheepmen realize the profits derived from making their flocks good and fat before selling. These lambs are largely born in Tennessee and Kentucky, and recent Chicago supplies have been coming from Tennessee. Grazing conditions are reported as good, and there is no good reason for marketing the youngsters prematurely. Recent supplies on the Chicago market have consisted largely of clipped lambs, the season for marketing Colorado woolled lambs having ended. W. W. F.

"Winwood Herd"

REGISTERED Holstein - Friesian Cattle Sire in Service FLINT MAPLECREST BOY His sire is Maplecrest Korndyke Hengervold. His three nearest dams each over 30 lbs. of butter in 7 days. His dam and granddam both made over 123 lbs. of butter in one year. It is the yearly cow we are looking for to deliver the goods. Flint Maplecrest Boy's Dam is Glick Vassar Bell, 30.57 lbs. of butter in 7 days and 121 lbs. in 30 days. Her butter fat test is 5.27. This looks about right to the man who goes to the creamery. We have bull calves from 2 weeks to 12 months old. From A. R. O. dams and sired by Flint Maplecrest Boy, which we will sell at a dairy farmers price breeding considered. Just think 40 more cows to freshen which means more bull calves. Let us know your wants. We will make terms on approved notes. JOHN H. WINN, Inc. Lock Box 249, Roscommon Mich. Reference Roscommon State Bank.

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

REGISTERED heifer and bull calves, of the best breeding in Holsteins for sale. Special price on 2 heifers and bull. O. H. GIDDINGS, Gobleville, Mich.

TO MAKE ROOM for our registered stock, will sell 14 head good grade Holstein milk cows, some lately fresh and some due to freshen very soon. Prices from \$75.00 to \$125.00. SCOTT'S HOLSTEIN FARM, Sylvania, Ohio.

For Sale: Nine pure bred Holstein females-Seven milking. Sell all or part. Price Right. Come and see them. J. L. ROCHE & SON, Pinckney, Livingston County, Michigan.

High grade unregistered 2 yr. old heifer, fresh. 1/2 white. Sired by a grandson of a brother to the 50 lb. cow. Price \$150. B. B. REAVEY, Akron, Mich.

JERSEY BULLS Ready for service FOR SALE WATERMAN & WATERMAN, Ann Arbor, Mich.

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

Maple Lane R. of M. Jersey herd. Bull and heifer calves sired by a nephew the new World's Champion. Sophie's Agnes. Also R. O. Red eggs and chicks. IRVIN FOX, Allegan, Mich.

LILLIE Farmstead Jerseys. Young bulls ready for L service from R. of M. cows. A few bred heifers and cows. COLON G. LILLIE, Coopersville, Mich.

For Sale Jersey Bull, Goldie Foxhall Lad No. 170446, Sire Pogis Foxhall No. 129549 Dam Goldie Sophia No. 327283, this bull is solid color, black tongue and switch, dropped Mar. 10th, 1918, an extra fine individual, good enough that I will ship him to C. O. D. Also a few bull calves. Address: NEWMAN'S STOCK FARM, R. 1, Marlette, Mich.

The Wildwood Jersey Farm. Bulls for sale by Majesty's Oxford Fox 134214 and Eminent Lady's Majesty 150984, and out of R. of M. Majesty dams. ALVIN BALDWIN, Capac, Mich.

For Sale Registered Jersey bulls ready for service and bull calves. SMITH & PARKER, R. 4, Howell, Mich.

HEREFORDS

8 bulls from 7 to 10 months old, Prince Donald and Farmer breeding for sale. ALLEN BROS., Paw Paw, Mich.

Harwood's White Faces

KEEP ON 508019 A Ton Bull Heads the Herd The beef cattle of the day. Only 2 yearling bulls left. My 1918 crop of bulls ready for sale. Will spare a few females. You can not make a better investment. I wish to thank my customers for past favors. JAY HARWOOD, -: Ionia, Mich.

Herefords Polled and Horned blood lines embrace Fairfax. Polled Perfection and Prime Lad 9th breeding. Prices reasonable. COLE & GARDNER, Hudson, Mich.

Herefords Bob Fairfax 494027 at head of herd. Stock for sale, either sex, polled or horned, any age. Priced right. EARL O. CARTY, Sec'y. H. B. Ass'n. Bad Axe, Mich.

BIDWELL SHORTHORNS

Registered bulls, cows and heifers. Good Scotch and Scotch-Topped for sale. In prime condition. Modern sanitary equipment. Herd under state and federal supervision. Farm 10 minutes from N. Y. C. depot. 1 hour from Toledo, Ohio. Automobile meets all trains. Write BIDWELL STOCK FARM, Box B, Tecumseh, Mich.

Shorthorn Cattle of both Sex for Sale W. W. KNAPP, Howell, Michigan.

Richland Stock Farm

SHORTHORNS HOME OF THE MICH. CHAMPIONS We offer for sale a few good dual purpose cows with calves at foot. Also two three year old bulls suitable for range purposes. We invite inspection. C. H. PRESCOTT & SONS, Office at Tawas City, Mich. Herds at Prescott, Mich.

Shorthorns Scotch and Scotch Topped cows and heifers. Priced right. Come and see them or write W. B. McQUILLAN, R. 7, Howell, Mich.

Milking Shorthorns Clay bred young bulls 3 to 10 months old. DAVIDSON & HALL, Tecumseh, Mich.

Rosemary Farms, Williamston, Mich. young bulls ready for service, Shorthorns bred for milk & beef. Herd estab. by Prof. C. H. Burgess, Mich. Agri. College.

For Sale Shorthorns of Quality Scotch and Scotch Topped descendants of Archers Hope, Avondale, Maxwellton Sulton and White Hall Sulton by the Escoto Co. Shorthorn Breeders Ass. JOHN SCHMIDT, Sec. Reed City, Mich.

WANTED Two young White Shorthorn bulls, rugged and beefy; to produce commercial cattle from native cows. Must be priced reasonably. SIPPY FARMS, Sibley, Mich.

Shorthorns New list, 27 bulls; 23 females. Feb. list all sold. Central Mich Shorthorn Breeders' Ass'n., Oscar Skinner, Secy., Gowen, Mich.

Shorthorn Breeder No stock for sale at present. CHAS. WARNER, Jr. Imlay City, Mich.

The Kent Co Shorthorn Breeders have both males and females for sale. Ask about them. L. H. LEONARD Sec., Caledonia, Mich.

Milking Shorthorns of best Bates breeding and O. I. C. swine. Bulls for sale 1 mo. to 1 year old. E. H. KURTZ, Mason, Mich.

For Sale: Registered Shorthorn bull calf 6 months old, well grown & thrifty. Sire, Sultan; Dam Sanspareil families. John T. Sheridan, R. 1, Jenison, Mich.

For Sale Two Shorthorn Bulls, one red and one roan. Ready for service. LUD. HASTINGS, Napoleon, Michigan.

Scotch and Scotch-topped Shorthorn bull calves 5 to 8 months old. Dch's of Glosters and Crimson Flower. Chas. Bowditch & Son, Osseo, Mich.

HOGS

Registered Berkshire Boars: ready for service. A few gilts and sows bred for May and June farrow. Also spring pigs. CHASE STOCK FARM, Marlette, Mich.

Registered Berkshire boars from 8 mo. to 12 mo. old at market price. No sows for sale. B. B. REAVEY, AKRON, MICHIGAN.

Duroc Opportunity

What would the earning capacity of a Brookwater Boar be in your herd? A mid-west breeder states that the Brookwater boar he used added from \$75 to \$100 to every gilt bred to him. It payed this man to use one of our boars it will pay you. We have several that we are offering at prices which appeal to the small breeder who must of necessity be a conservative buyer. We have a few that are good enough to be used in high class herds at prices in keeping with their individuality and breeding. Money invested in a good herd boar very speedily increases the value not only of what you sell but what you keep. Send for price list or better, visit the farm.

BROOKWATER FARM, Ann Arbor, Mich. HERBERT W. MUMFORD, owner. J. BRUCE HENDERSON, Manager.

OAKWOOD FARM

Nothing for sale at present booking orders for spring pigs (Durocs). Tax Payer and Gold Medal breeding. RUSH BROS., Romeo, Mich.

Duroc Jersey Spring Pigs for sale I also have a carload of Grade Draft Colts to offer. Chas. Bray, Okemos, Mich.

DUROC JERSEYS

Full pigs either sex also spring pigs pairs not akin. Sired by the Grand Champion and Junior Champion boars. F. J. DROTT, R. 1, Monroe, Mich.

REGISTERED DUROC BOARS - We have a choice lot of spring boars, sired by Michigan Cherry Col. No. 118479, Top Cherry King J. No. 102829, and Col. Defender 26th, No. 125705. Make your selection at weaning time and raise according to your own ideas. Write for pedigrees. The Jennings Farms, R. 1, Bailey, Mich.

SEVERAL GOOD

Duroc sows bred to Orion's Fancy King. Boar pigs ready for service. NEWTON BARNHART, St. Johns, Mich.

DUROC-JERSEYS

E. D. HEYDENBERK, Wayland, Mich.

DUROC JERSEYS

Nothing but spring boar pigs for sale. GAREY U. EDMUNDS, Hastings, Michigan.

DUROC gilts bred for August and September farrow, sired by Orion Cherry King Col. 2nd. Write for description and prices. W. C. TAYLOR, Milan, Mich.

8734 Hampshires recorded from Jan. 1 to Apr. 1, '19. Did you get one? Boar pigs only for sale now. JOHN W. SNYDER, R. 4, St. Johns, Mich.

Breed The Best THE WORLD NEEDS LARGE FAT HOGS Why lose money breeding and feeding scrub hogs? Two of our O. I. C. Hogs Weighed 2805 Pounds. We are the most extensive breeders and shippers of pure bred hogs in the world. Write today for the true story of the real O. I. C. Hogs. All foreign shipments U. S. Government Inspected We have bred the O. I. C. Hogs since 1863 and have never lost a hog with cholera or any other contagious disease. WRITE - TODAY - FOR FREE BOOK "The Hog from Birth to Sale" THE L. B. SILVER CO. 196 Heights Temple Bldg. CLEVELAND, OHIO

THE WORLD'S CHAMPION

big type O.I.C.'S. Stock of all ages for sale. Herd headed by Galloway Edd, the World's Champion O. I. C. boar assisted by O. O. Schoolmaster. Grand Champion boar of Michigan, New York and Tennessee state fairs. Also, C. O. Giant Buster, undefeated Senior boar pig wherever shown and Grand Champion of Oklahoma state fair. Get our catalogue of Grandell's prize hogs, Cass City, Michigan.

Shadowland Farm

O. I. C.'s

Bred Gilts 200 to 300 lbs. from prize winning stock. A few fall yearlings and 2 yr. old sows, big type, growthy boars of all ages, guaranteed as breeders. Everything shipped C. O. D. Express paid and registered in buyer's name. J. CARL JEWETT, Mason, Mich.

O. I. C.'s. Big type serviceable boars and gilts bred for July and August farrow. G. P. Andrews, Dansville, Mich.

O. I. C. For Sale - Spring Pig's H. W. MANN, DANSVILLE, MICHIGAN.

O. I. C. gilts bred for summer farrow and spring pigs any of them good enough to ship. O. O. D. F. C. BURGESS, R. 3, Mason, Mich.

O. I. C.'s 2 Choice Yearlings Boars and Spring pigs. Clover Leaf Stock Farm, R. 1, Monroe, Mich.

O. I. C.'s One very good yearling boar, and this spring pigs to offer, registered free. 1/2 mile west of Depot. Citizens Phone 124. OTTO B. SCHULZE, Nashville, Mich.

Raise Chester Whites Like This the original big producers I HAVE started thousands of breeders on the road to success. I can help you. I want to place one hog from my great herd in every community where I am not already represented by these fine early developers - ready for market at six months old. Write for my plan - More Money from Hogs. G. S. BENJAMIN, R. F. D. 10, Portland, Michigan

For 25 Years We have been breeding Big Type Poland Chinas. Type Poland China hogs of the most approved blood lines. Our new herd boar "Michigan Buster" is a mighty good son of the great "Giant Buster" dam "Mow's Miss Queen 2." Some breeding Litter of 14. We are offering some sows bred for fall farrow. J. C. BUTLER, Portland, Mich.

Big Type Poland Chinas. A litter by Gerstdale Jones (Carter); one by Gerstdale King (Gerst). A Big Bob sow booked for service to The Clansman. Pigs by Mammoth Ben, herd boar, unexcelled. Mammoth Ben at 12 mos, weighed 450 lbs. Nothing for sale. Visitors welcome. WESLEY HILE, B. S. Ionia, Mich.

LARGEST Type P. C. in Mich. Nothing at present. L Spring pigs too young to ship. Have 50 the best I ever raised which I will offer later. Come and see two greatest boars in state; L's Big Orange 291847 and Lord Clansman 330297. W. E. LIVINGSTON, Parma, Mich.

THE OLD FASHIONED SPOTTED CHINA HOGS Gilts due to farrow JUNE OR JULY - \$100 up. Spring pigs \$25 weaning time. J. W. WILLIAMS, North Adams, Mich.

L. S. P. C. Bred sows all sold, 2 boars ready for service. L also 1 fall boar, and fall gilts to breed for fall farrow. H. O. SWARTZ, R. 1, Schoolcraft, Mich.

Big Type Poland Chinas sows sold. Get in line for pigs. Ask any questions about my breeders. G. A. BAUMGARDNER, R. 2, Middleville, Michigan.

Big Type Poland-Chinas pigs, sired by C. A. King Joe 290831, by King Joe 251257, Monster Big Bob 272623, by Luken's Big Bob 287777, Buster Half Ton 298225, by Great Big Half Ton 261243. Out of sows, whose pedigree, individuality and quality are of equal merit as my herd boars. Can furnish pairs and trios, not akin. C. A. BOONE, Blanchard, Mich.

MICH. Champion herd of Big Type P. C. Nothing for sale but fall pigs; orders booked for spring pigs. E. R. LEONARD, St. Louis, Mich.

Big Type P. C. boars all sold. Nothing now until fall. B I thank my customers for their patronage. Spring pigs coming fine. C. E. GARNANT, Eaton Rapids, Mich.

L arge Type P. C. Nothing for sale now. Will be in market with better than ever this fall. If herd stuff counts. W. J. HAGELSHAW, Augusta, Mich.

Big Type P. C. gilts, bred for August and September farrow. A. A. WOOD & SON, Saline, Mich.

Big Type P. C. Choice bred sows from Iowas greatest herds, the big bone prolific kind with size and quality. E. J. MATHEWSON, Burr Oak, Mich.

Big Type Poland's all sold out, nothing for sale at present. Booking orders for spring pigs. Thanking my customers. L. L. Chamberlain, Marcellus, Mich.

Mammoth Poland Chinas all sold. General Jones No. 31729, son of Gerstdale Jones heads our herd. Clyde Weaver, Ceresco, Mich.

Big Type P. C. Will have better males than ever for fall trade, gilts in season. JOHN D. WILEY, Schoolcraft, Mich.

HORSES

Pure Bred Belgian Draft Horses

We have some extra good Belgian Stallions for sale, coming three and four years old. They are heavy, of good conformation and sound. You can see their sires and dams. They are raised in Michigan and acclimated. We have no agents on the road for which you or we would have to pay. You cannot buy them any better nor cheaper in the world. Our studs and mares carry the best blood Belgium has produced. We prove this by their pedigrees. We invite you to see our stock before buying. You can see them any day of the week except Sunday. Write for particulars and catalog to the OWOSSO SUGAR COMPANY, Prairie Farm, Alicia, Mich.

Percherons, Holsteins, Angus, Shropshires, Durocs DORR D. BUELL, Elmira, Michigan.

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

FOR SALE One pair of 3-year old BLACK MULES. Will weigh 2500 lbs. weight. Also one pair colts, 3 and 4 years old, trotting bred. Full brother and sister, good size and full made. Here is a fine pair, price is right, over stocked, must sell. Starkweather Stock Farm, Northville, Mich.

SHEEP

TO THE KIDS

Over 300 have written me about the sheep I am giving away. I would like to send one to each of you but two is my limit. Three disinterested judges are picking the winners. If you are not one of the lucky kids, why not save your money and buy one next December. I will contract to buy the produce back at a splendid price. KOPE-KON FARMS, S. L. Wing, Proprietor Coldwater, Michigan

BUY A SHEEP

Wait a minute, buy Hampshires. The American Hampshire Sheep Association wants to send you a dandy little booklet with list of breeders. Some near you. Write COMFORT A. TYLER, Secretary, 22 Woodland Ave., Detroit, Mich.

For Shropshire Yearling Rams write or call on ARMSTRONG BROS., R. 3, Fowlerville, Mich.

Shropshires Am offering 16 yearling rams and 8 yearling ewes of Senator Bibby breed. O. J. THOMPSON, Rockford, Mich.

LATEST MARKET REPORTS

SECOND EDITION.

The markets in this edition were revised and corrected on Thursday afternoon, June 12.

WHEAT.

While the wheat outlook is fully up to expectations, the situation is not without its drawbacks. Rust has appeared in several places, particularly in the heavy producing states, while the Hessian fly, chinch bug and army worm are doing damage in the central and southern winter wheat sections. Trading has not been quite so active, as the flour trade rules slow at this time. Some of the mills have shut down and will not renew operations until the new crop is available. During the past week the United States visible supply shows a decrease of 7,876,000 bushels. One year ago No. 2 red wheat was quoted on this market at \$2.17 per bushel. Local prices have declined as follows:

No. 2 red	\$2.45
No. 2 mixed	2.43
No. 2 white	2.43

CORN.

Although corn in Michigan is progressing under very favorable conditions, the crop is not doing so well in the Mississippi states. The army worm is widening its sphere of activities, and promises to cut down the yield. Some sections failed to receive benefit from the recent rains. Manufacturing industries continue to purchase the grain to meet needs until the new crop is ready. One year ago No. 3 corn was quoted on the local market at \$1.45 a bushel. The U. S. visible supply increases 234,000 bushels during the past week. Present Detroit quotations are:

No. 3 corn	\$1.80
No. 3 yellow	1.82
No. 4 yellow	1.80
No. 5 yellow	1.77
No. 3 white	1.83

At Chicago the trade is in a somewhat unsettled state, with quotations as follows: Cash nominal; July at \$1.68½; September \$1.60½.

OATS.

The northern border states report an excellent start for the new oat crop. Indiana, Iowa and Illinois, however, show a poorer promise with many fields exhibiting yellow spots. The acreage has also been decreased in these latter states. The visible supply increased 1,095,000 bushels the past week. One year ago standard oats were quoted at 79½c. Present Detroit prices are:

Standard	72
No. 3 white	71½
No. 4 white	70½

RYE.

This crop is in a very satisfactory condition, which is partly responsible at least for the marking down of prices since a week ago. At Detroit cash No. 2 is now quoted at \$1.48 a bushel.

BARLEY.

Fields look promising. The acreage probably will be somewhat less than that sown a year ago. At Detroit the prices remain unchanged at \$2.30@2.40 per cwt. for cash No. 3.

BEANS.

While the trade lacks the support of export business, prices are being held on a steady basis. In New York the trade in Michigan pea beans remains unchanged, with the general market steady at \$8. Dealers in red kidney grades are strong in their views, but the demand from domestic sources is somewhat limited. Sales have been made up to \$13. At Detroit the prices have declined 10c to \$7.65 for Michigan pea beans, with the business of a very meagre volume. A steady market obtains at Chicago with offerings sufficient to meet the fair demand. Pea beans, hand-picked, choice to fancy, are quoted there at \$8@8.25.

SEEDS.

Very little trading is reported in the seed division, with prices unchanged as follows: Prime red clover at \$27; October \$21.50; timothy \$5.50.

FEEDS.

Mill feeds are lower, while some of the corn grades are up. Quotations at

Detroit are: Bran \$42; standard middlings \$48.50; fine middlings \$53@55; coarse corn meal \$66.50@67.50; cracked corn \$73; corn and oat chop \$55@57 per ton.

HAY.

Prices are holding firm at advanced quotations reported last week. Supplies are inadequate. Quotations are: No. 1 timothy \$38.50@39; standard timothy and light mixed \$37.50@38; No. 2 timothy \$36.50@37; No. 1 mixed \$35@36; No. 1 clover \$32@33.

Pittsburgh.—Many dealers are completely out of hay and supplies are far too short to meet the demand. Prices have made further advances as follows: No. 1 timothy \$41.50@42; No. 1 light mixed \$39.50@40.50; No. 1 clover mixed \$37.50@38; No. 1 light clover \$35.50@36.

BUTTER.

The butter trade rules from easy to lower. A decline of one cent is reported at Detroit with quotations for fresh creamery at 48½@50c a pound. Chicago prices are steady at 46@50½c. At New York the trade is unsettled, with values ranging from 50@52½c. In Philadelphia the trade is paying 54c for western extra creameries.

EGGS.

A revival of buying by packers has kept the prices firm since last week. Fresh firsts are now quoted in Detroit at 38c; extra firsts in new cases 39½c; storage stock packed, at 42c. At Chicago firsts bring 38½@39½c; ordinary

firsts 37@37½c; packing stock 40½@42c. The range at New York is from 43@49c for nearby western stock. The trade in Philadelphia is paying \$13.20@13.80 per case for western offerings.

POTATOES.

Dorr D. Buell, president of the Michigan Potato Growers' Exchange estimates that Michigan has probably 500 cars of old potatoes left to market. About 100 cars of these are in the Cadillac district. Prices for old stock are declining. At Detroit the trade paid \$3 per 150-pound sack for the U. S. whites No. 1; in Cleveland \$3@3.40; in Pittsburgh \$3.25@3.50; in Buffalo the same grade is quoted at \$2.00 2.35 per cwt; in New York \$2@2.50; in Cincinnati \$2@2.25; in Chicago at \$1.70@1.90.

WOOL.

With the government auctions of wools approaching their end and the quality of the wools remaining mostly of inferior grades, the attention of the dealers and manufacturers is being absorbed in the new clip. Prices are running high, in fact a very little below those paid during the war. Fine Ohio wools have sold to country buyers as high as 70c, while the best Michigan fleeces have gone up to 65c, medium clips bring from 55@60c. The strong demand for finer goods is likely to hold prices firm for some time. This position is further supported by the unprecedented conditions reported from Bradford and London, England,

where sensational prices are being paid for nearly all grades of wool offered.

GRAND RAPIDS

Too many potatoes were brought to the city market the past week to hold the price at \$1.25 per bushel and it sagged to 90c. The closing for the week was \$1. At outside points the price range was \$1.30@1.50. Sprouting is affecting the quality.

Hay is much lower, closing at the city market on Saturday at \$33@35 a ton. The cause of the drop from \$33@40 was due to supply greatly exceeding the demand. A few farmers refused to sell at drop prices and drew their hay home.

Dealers in beans now offer growers \$6.50 per cwt. for white and \$9.50 for red kidneys, 50c higher than a week ago.

Director C. F. Schneider of the local weather bureau in his weekly crop bulletin issued on Friday, says: Corn and sugar beet planting is about done and in some sections they are out of the ground and growing very nicely. Bean planting has begun and will be general in all sections the latter part of this week. Early potatoes and garden truck are coming up nicely. Fruit is setting well; the pollination conditions have been the best in years. All crops are in excellent condition but in some sections show need of rain.

THE NEW YORK PRODUCE MARKET.

Butter.—The past week has been one of depression for most butter receivers. For several days up until Thursday of this week, there has been no active demand for butter. While there was some local consumption, out-of-town buyers were absent and there was no speculative or export demand. On the other hand receipts were extremely large and advance notices indicated that production was still on the increase. From Monday until Thursday the market was practically demoralized but on the latter day speculators and exporters began purchasing and local buyers sensing an advance in price, also began to lay in stocks. While there had been a constant decline in the price of butter for about a week, the increased demand caused an advance of two cents in the price of practically all grades of butter. During the past ten days stocks have accumulated in abundance, but with the increased activity, accumulations have been greatly reduced and the market is at present firm, with a tendency toward a higher price. At the close on Friday established quotations were as follows: Extras 54c; higher score than extras 54½@55c; firsts 52@53½c; seconds 50@51½c.

Cheese.—Receipts and advanced notices indicate that the make is increasing rapidly. There is practically no export demand at present and the sharp declines in prices of butter and eggs have made buyers cautious. There was some speculative demand in Wisconsin early in the week, which caused an advance of about 1½c at that time. However, the market is closing weak and there is a price tendency downward. Stocks are accumulating very rapidly in the New York market. At the close on Friday established quotations were as follows: Average run 31@31½c; specials 31¼@32½c.

Eggs.—Egg receipts during the week have been very high which, together with the large accumulations that were already on hand and the scarcity of storage space is making the egg situation somewhat serious. To add to the bad situation, many of the shipments have arrived in bad order and have been affected by the prevailing heat during the week. The situation has fluctuated from bad to somewhat better, but on the whole the price tendency has been markedly downward. At the close on Friday the quotations were as follows: Firsts 40@41c; extra firsts 42@43c; extras 45½@46c.

Poultry.—Receipts have been heavy during the week, but stock has sold readily. While there has been a slight tendency for the price of all classes to fall the quotation is very little different from that of last week. Following are the average quotations: Spring broilers 50@55c; fowls 38c; old roosters 20c; ducks 30c; geese 20c.

Live Stock Market Service

Reports for Thursday, June 12th

BUFFALO.

At the yards here today pigs brought \$19.75@20, and the best hogs \$21.10@21.25; lambs were steady and calves brought \$18.75.

DETROIT

Cattle.

Receipts 1,418. Market strong at last week's closing prices.
 Best heavy steers \$13.00@13.50
 Best handy wt bu steers... 11.50@12.00
 Mixed steers and heifers 11.00@11.50
 Handy light butchers.... 10.00@11.00
 Light butchers 9.00@ 9.50
 Best cows 9.50@11.00
 Butcher cows 8.00@ 9.00
 Cutters 7.00
 Canners \$6.00@ 6.50
 Best heavy bulls 9.00@ 9.50
 Bologna bulls 8.00@ 8.50
 Stock bulls 7.50@ 8.00
 Feeders 10.00@11.00
 Stockers 8.00@ 9.00
 Milkers and springers ..\$ 65@ 150

Veal Calves.

Receipts 1,951. Market steady.
 Best \$17.50@18.50
 Culls 9.00@14.00

Sheep and Lambs.

Receipts 833. Market dull.
 Best dry-fed lambs \$14.50@15.00
 Fair lambs 12.00@13.00
 Light to common 10.00@11.00
 Spring lambs 17.00@17.75
 Fair to good sheep 7.00@ 8.00
 Culls 5.00@ 6.00

Hogs.

Receipts 6,056. Market is 20@25c higher.
 Pigs \$ 19.00
 Mixed 20.60@20.75

CHICAGO.

Hogs.

Estimated receipts today are 35,000; holdover 4,443. Market active from 25@30c higher. Bulk of sales \$20.50@20.75; tops \$20.85; heavy 250 lbs up, medium, good and choice at \$20.50@20.75; medium 200 to 250 lbs, medium, good and choice \$20.45@20.80; light 150 to 200 lbs, common, medium, good and choice \$20.10@20.35; light lights 130 to 150 lbs, common, medium, good and choice \$18.50@20.25; heavy packing sows 250 lbs up, smooth at \$20@20.40; packing sows 200 lbs up, rough \$19.50@20; pigs 130 lbs down, medium, good and choice \$17.50@18.50.

Cattle.

Estimated receipts today are 13,000. Few sales of yearlings and medium grade steers steady; others and she stock slow to 25c lower; calves and bulls strong. Beef steers, medium and

heavy weight 1100 lbs up, choice and prime \$15@16.35; do medium and good \$12.25@15.10; do common \$7@12.25; light weight 1100 lbs down, good and choice \$12@14.75; do common and medium \$10@12.75; butcher cattle, heifers, common, medium, good and choice \$7.75@13; cows, common, medium, good and choice \$11.50@12.75; canners and cutters, cows and heifers at \$6@7.50; do canner steers \$7.75@10; veal calves, light and handyweight, medium, good and choice \$15.50@17; feeder steers, common, medium, good and choice \$9.75@13; stocker steers, common, medium, good and choice \$8.25@12.25; stocker cows and heifers, common, medium, good and choice \$7.55@9.75; stocker calves, common, medium, good and choice \$8.25@12.

Sheep and Lambs.

Estimated receipts today are 21,000. Market steady on early sales of lambs, late trade mostly lower; sheep full steady. Lambs 84 lbs down, medium, good, choice and prime \$12.50@15.75; do 85 lbs up, medium, good, choice and prime \$12.25@15.75; do culls and common \$9@12; spring lambs, medium, good, choice and prime \$16@18.75; yearling wethers, medium, good and choice \$10.25@13; ewes, medium, good and choice \$7.50@9; ewes, dull and common \$3.25@7.25.

BUFFALO.

Wednesday, June 11, 1919.

Cattle.

Receipts 75 head. Market rules steady. Prime heavy steers \$14@15; best shipping steers \$13@14; medium shipping steers \$12@13; best yearlings 950 to 1000 lbs \$13@13.50; light yearlings, good quality \$12.50@12.75; best handy steers \$12@13; fair to good kinds, \$11.50@11.75; handy steers and heifers \$11.50@12.25; western heifers \$11.50@12; best fat cows \$11@11.50; butcher cows \$8.50@9.25; cutters \$7@8; canners \$4.75@5.50; fancy bulls at \$9.50@10.25; butchering bulls \$7.50@8.25; common \$7.50@8; best feeding steers \$10.50@11.25; medium \$9@10; stockers \$9@10; light, common \$7.50@8; milkers and springers \$7.50@15.

Hogs.

Receipts 2,400; market 20@50c higher. Heavy and yorkers \$20.85; pigs at \$19@19.50; stags \$12@15.

Sheep and Lambs.

Receipts 200 head. Market is steady. Top lambs \$15.50@15.75; yearlings at \$12@12.50; wethers \$10.50@11; ewes \$9@9.50.

Calves.

Receipts 3,000. Market about steady. Tops \$17; grassers \$5@8.

MICHIGAN CROP REPORT.

Wheat.—The average condition of wheat is 97 in the state and northern counties, 98 in the southern and central counties and 95 in the upper peninsula. The condition on May 1 was 98 in the state, 100 in the southern counties, 96 in the central counties and upper peninsula and 94 in the northern counties. The condition one year ago was 56 in the state, 52 in the southern counties, 46 in the central counties, 65 in the northern counties and 96 in the upper peninsula. The total number of bushels of wheat marketed by farmers in May was 78,628 bushels. The estimated total number of bushels of wheat marketed and consumed by the growers in the ten months August-May is 8,500,000.

Rye.—The condition of rye in the state, southern and central counties is 96, in the northern counties 100 and in the upper peninsula 95. One year ago the condition in the state was 72, in the southern counties 70, central counties 66, northern counties 77 and the upper peninsula 92.

Corn.—The acreage of corn planted or to be planted as compared with last year is 98 in the state and northern counties, 97 in the southern counties, 101 in the central counties and 96 in the upper peninsula. The condition of corn as compared with an average is 88 in the state, 83 in the southern counties, 92 in the central counties, 96 in the northern counties and 94 in the upper peninsula.

Oats.—The condition of oats as compared with an average is 87 in the state, 81 in the southern counties, 90 in the central counties, 99 in the northern counties and 95 in the upper peninsula. The condition one year ago was 98 in the state, 100 in the southern counties, 99 in the central counties and 94 in the upper peninsula.

Barley.—The acreage of barley sown or that will be sown as compared with last year is 93 in the state, central counties and upper peninsula, 92 in the southern counties and 96 in the northern counties.

Meadows.—The condition of meadows as compared with an average is 87 in the state, 83 in the southern counties, 84 in the central counties, 99 in the northern counties and 93 in the upper peninsula. The condition one year ago was 91 in the state, southern and northern counties, 89 in the central counties and 99 in the upper peninsula.

Potatoes.—The acreage of potatoes planted or to be planted as compared with last year is 91 in the state and southern counties, 88 in the central counties, 96 in the northern counties and 92 in the upper peninsula. The condition as compared with an average is 88 in the state, 84 in the southern counties, 95 in the central counties, 93 in the northern counties and 94 in the upper peninsula.

Cabbage and Celery.—The number of acres of cabbage planted or to be planted so far as reported is 5,046 in the state and the number of acres of celery 2,800.

Sugar Beets.—The acreage of sugar beets planted or to be planted as compared with last year is 97 in the state, 93 in the southern counties and upper peninsula, 106 in the central counties and 96 in the northern counties.

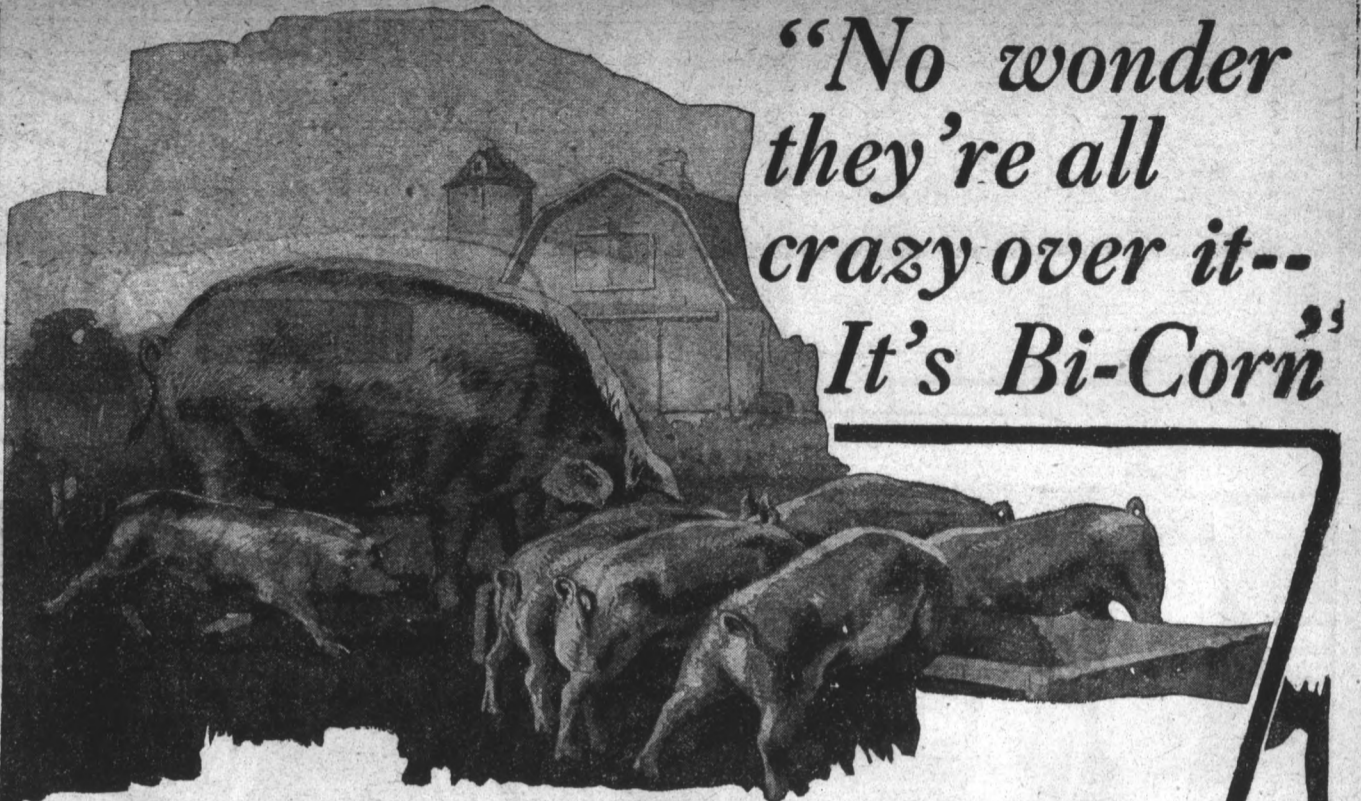
Colts and Calves.—The number of colts as compared with last year is 77 in the state and upper peninsula, 78 in the southern counties, 73 in the central counties and 79 in the northern counties. The number of calves as compared with last year is 95 in the state, 93 in the southern counties and 96 in the central and northern counties and upper peninsula.

Fruit.—The following table will show the prospect, at the present time, for a crop of the various kinds of fruit in the state and the different sections:

	Sou. Cen.	Co's	Co's	Co's	Pen.
Apples	68	64	68	82	89
Pears	69	66	68	86	84
Peaches	51	48	60	70	..
Plums	72	68	74	84	97
Cherries	76	70	79	94	103
Strawbr's	88	86	86	95	88

Many stockmen throughout the country hung on to their cattle holdings too long, and big losses are the unpleasant result. It is getting a problem with many owners of cattle what course to pursue, but the wise course seems to be to let the matured heaves go to market and hold thin stock for summer grazing. Paying too high prices for feeders is the cause of many losses in the cattle industry.

Handy weight lambs are best sellers as they dress out a desirable market carcass which is more easily handled by the butchers than the heavier carcasses.



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From weaning time to marketing time, Bi-Corn is the logical and most profitable feed for hogs.

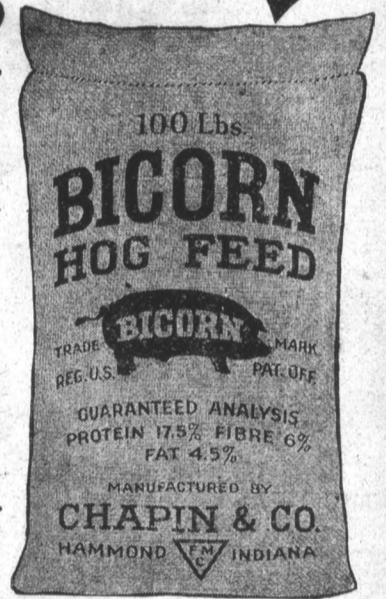
Little pigs love it and will thrive upon it, attaining growth and weight in remarkably short time.

Hogs fed from weaning upon Bi-Corn will, when marketed at 8 to 10 months of age, show more pounds over the scales than it is possible to get by feeding any other feeds, grains or combination of feeds.

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Bi-Corn is made by the Manufacturers of the famous Unicorn Dairy Ration.

Chapin & Co., Dept. M, Chicago, Ill.



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MICHIGAN GROWN SEEDS

for Michigan growers. Ask for catalog. Harry E. Saier, Seedsman, 115-119 E. Ottawa St., Lansing, Michigan.

POULTRY

S. C. B. Minorcas. Eggs from pen 1, \$3.00 per 15. S. C. from pen 2, \$2.00 per 15. Incubator eggs \$7.00 per hundred. R. W. MILLS, Saline, Mich.

Pine Crest White Orpingtons. Egg that will hatch good, strong chicks 3 and 5 dollars per 15. (No baby chicks or eggs by 100). Mrs. WILLIS HOUGH, Pine Crest, Royal Oak, Mich.

White Wyandottes Free range flock 80 Duston's Strain hens mated to 7 Martin's Regal Strain Cockerels, 15 eggs by Parcel Post \$2.00 by ex. \$3 per 100. VERN MOORE, Hartford, Mich.

Silver, Golden & White Wyandottes from fine quality stock. Eggs by P. post prepaid \$3.00 per 15, \$5.00 per 30, \$8.00 per 50. O. W. Browning, R. 2, Portland, Mich.

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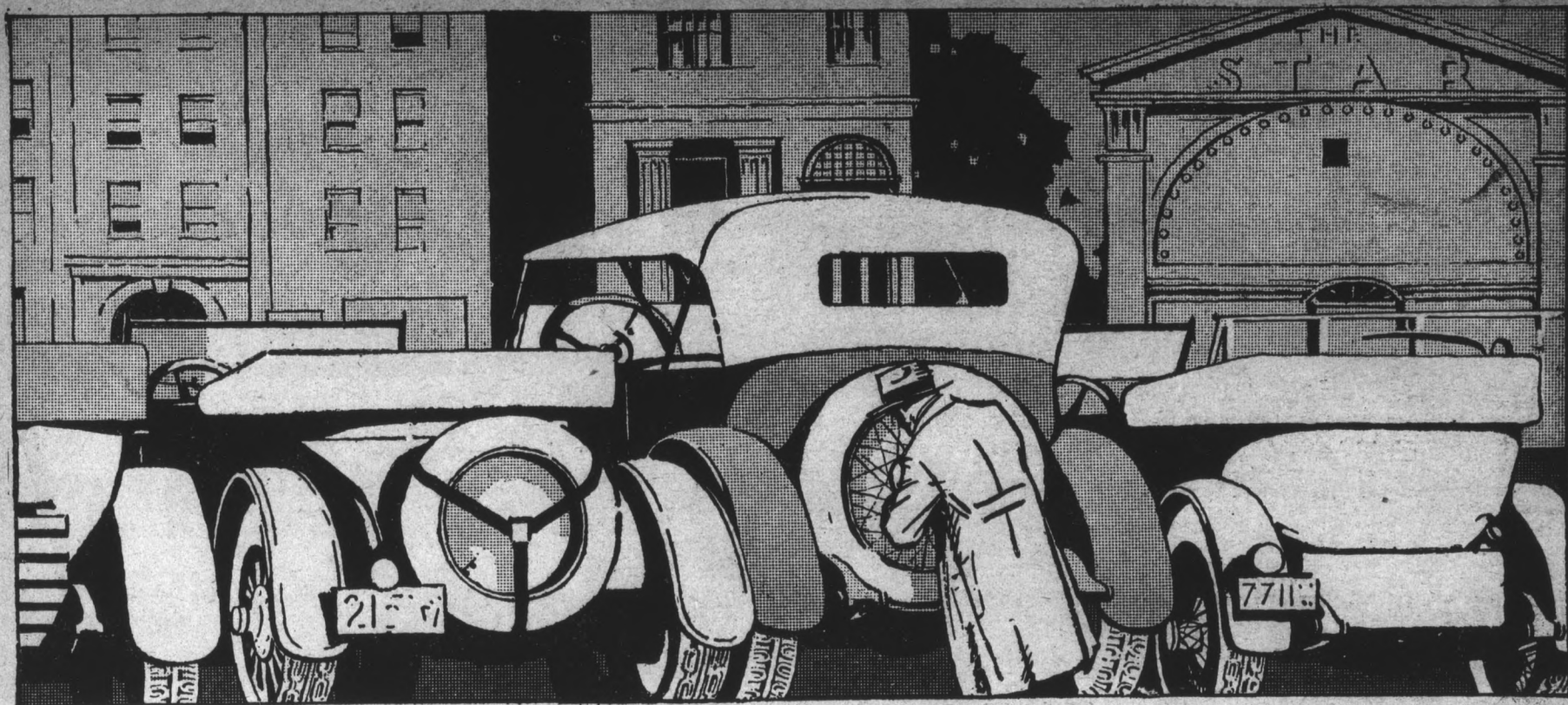
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It is sheer merit—*built-in-goodness*—that has created the tremendous and growing popularity of United States Tires.

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