

MICHIGAN FARMER

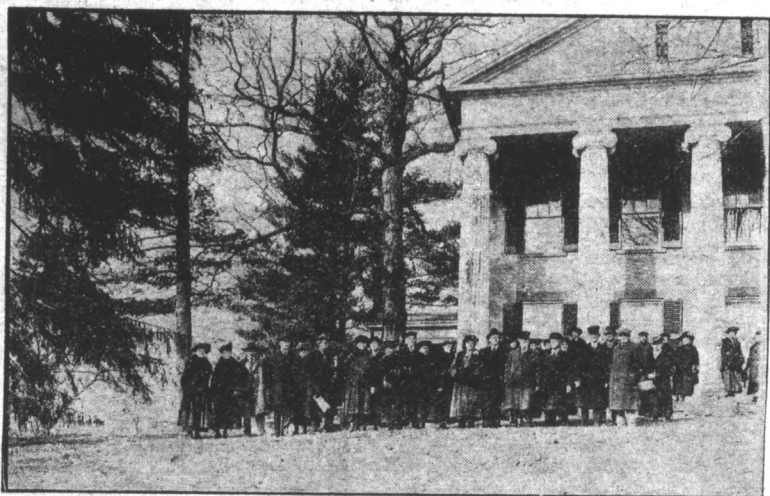
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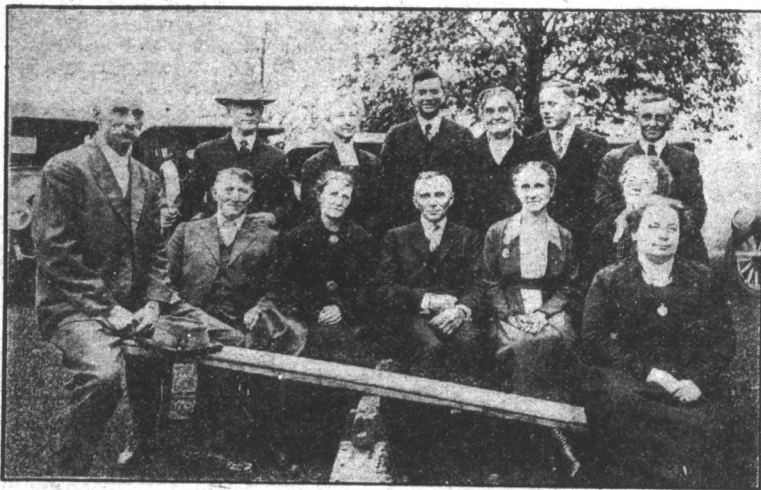
Why Wide Awake Folks Like the Farm



Under this White Oak Tree Michigan's Educational System was Planned by Rev. Pierce, a Pioneer Preacher and Farmer.



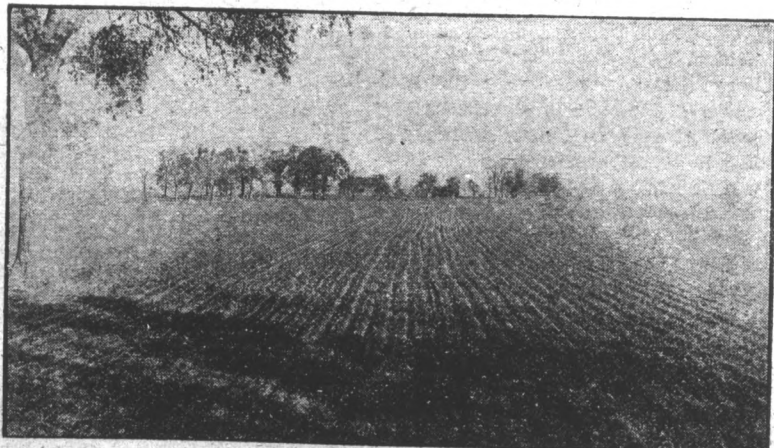
Spaulding District Boys' and Girls' Club Made a Good Showing at the School House Fair.



A Group of Calhoun and Jackson Farm Bureau Folks who will Join in the Farmers' Auto Tour Next August.



City and County Cooperate to Repair a Stone-paved Hill Outside of Battle Creek.



A Fine Field of Wheat which Does Not Appear to Have Been Injured by the "Open" Winter.



Many a City Boy Envis the Country Lads for the Great Variety of Sports which the Latter Enjoy.



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DETROIT, MARCH 5, 1921

CURRENT COMMENT

Current Business Events

READING is a fixed habit with American people in general and American farmers in particular. Farm folks are vitally interested in current events, in which line they are, as a class, admittedly better informed than any other single class of our people. This is true for the simple reason that they devote more of their spare time to reading than any other class, and facts or fancies gleaned from the printed page by our own hearthstone are more conducive to reflection and thought than they would be if conveyed to us through any other channel, save actual, practical demonstration.

With this thought in mind a progressive young farmer who had been called into county agricultural work, made up a questionnaire covering the points which he had in mind and sent it out to a representative list of substantial farmers in two typical agricultural states. Among other questions he asked these farmers how many hours they read per week in winter and in summer; how many farm papers they took; if they read the advertisements in them, etc. The replies were most interesting and illuminating. One farmer who takes five farm papers reads thirty hours per week, winter and summer alike. He reasoned that things are happening rapidly these days and that the man who wants to keep up with the times must read and read all the time. He reads the advertisements, too, and says this is just like reading current events, except that the advertisements record current events in practical, material business lines, while other current events but record changes which hold no real economic interest for the reader.

Another farmer of foreign birth who had been in this country but fifteen years, had not only learned to read English fluently, but had become an inveterate reader. Needless to say he is also a successful and progressive farmer. He, too, deems it necessary to read both text and advertisements in order to keep up-to-date, and his comments on the latter would be profitable reading for the most expert copy writer. These cases are typical of the results of this investigation. Some fifty farmers who replied to the questionnaire read an average of twenty-five hours per week throughout the year, and read just as much in summer as in winter.

This is concrete proof that farmers

as a class have the reading habit firmly fixed, and that they read for economic benefit as well as for general information and entertainment, all of which they get from well written and suitably illustrated advertisements, as well as from the text in their farm papers and periodicals.

It is a tribute to the advancement of advertising as an art that the farm readers find advertising copy both interesting and profitable reading, while manufacturers and merchants find it the best and cheapest available method of promoting sales, where reliable merchandise is properly displayed to prospective users through the advertising columns of quality publications which carefully censor all advertisements offered them in the reader's interest. To the reader of such a publication, its advertising columns are a record of current business events of great economic value. To the manufacturer or merchant they are the cheapest and most effective show window and the best sales argument, short of actual demonstration. And they bring about practical demonstrations of the advertised goods in thousands of communities which could not be easily or economically reached in any other way.

Commodity Price Figures

ACCORDING to statistics recently published by the U. S. Bureau of Labor Statistics, the wholesale index price for all commodities has declined twenty-nine per cent as compared with January, 1920. The same statistics show that retail prices have declined but fourteen per cent in the same period. The new retail price index above indicated is based entirely on records from large cities. There are indications that in smaller trading centers, where the turnover of merchants' stocks is slower, the reaction in retail prices as compared with wholesale commodity prices has been even less pronounced.

This is a situation which calls for correction. It is gradually being corrected in the larger centers by competition resulting from the action of the more progressive merchants in writing off their losses in order to turn over their stocks and replace them with fresh goods at the lower values now prevailing in many lines. Official investigations are also resulting in a lowering of the retail price of necessities.

Country merchants who are awake to the present situation will follow this lead as rapidly as possible lest they suffer an undesirable loss of business from discriminating cash buyers. In too many cases country merchants are handicapped by serving their patrons in the double roll of banker as well as of merchant. This practice inevitably operates to hold up retail prices to the disadvantage of both customers and merchant.

Test all Farm Seeds

THERE is no single factor of so great importance to the production of profitable crops as good seed. The soil may be ever so fertile and the seedbed ever so well prepared, but if good seed of productive strains is not planted the product will not be what it might be, either in quantity or quality. This fact is so patent, that there seems small excuse for carelessness in the selection or testing of farm seeds, yet every year crop yields are seriously cut on many farms because sufficient care has not been exercised in this regard.

First among the farm seeds to be planted each spring are clover and grass seeds. The determination of quality in these seeds is more difficult than in any other planted on the farm. The seeds are so small and many of

them are so nearly alike in appearance that it is difficult to judge even the purity as to kind. The noxious weed seeds which may be present in them are also difficult to identify in many cases, while the percentage of live seeds can only be guessed at by the average layman. For this reason, it would be the wisest course for every farmer who has purchased small seeds from any but the most reliable sources or which were not accompanied by a guarantee of purity, to send a sample to the state seed analyst, at the Michigan Agricultural College, East Lansing, Michigan, for analysis, for which service only a nominal fee is charged.

Pure seed will obviate the danger of introducing troublesome weeds, but will not insure a good stand or a good crop. To insure a good stand under normal conditions the seed must be of high germination. Its germinating qualities can be easily ascertained by a simple germination test. Its producing power will depend not a little on the hardness of the strain, and the latitude in which the seed was produced, which is a strong argument for purchasing from the most reliable sources.

Care in selection and testing of the seed used in growing the grain and cash crops is even more important from the standpoint of immediately profitable results. This is an easier proposition and one usually given more attention by the average farmer, yet far greater care would pay big dividends. It takes but little time to make sure of the germinating quality of all farm seeds, including an ear test of the seed corn. And it will pay, no matter how sure we may be that it is all right.

Clover Seeding Problems

IN the interest of succeeding crops and for the sake of the live stock industry of the state it is important that the acreage of red and alsike clover be increased, and with seed at a lower price the opportunity to extend the clover acreage is more favorable the coming spring than at any time during the past four or five years.

The most important point to be observed in securing a good stand of clover is the selection of pure seed of high germinating power, and right now prospective clover growers should be looking about for good seed. The past season's crop as a whole is not of such good quality as might be desired. However, the improved systems of handling and cleaning the seed practiced by the better class of seedsmen makes it possible for the farmer to make himself safe against failures in securing good seed of high germinating powers.

Good red clover seed is plump, bright with a slight lustre, the color of the seed varying from violet to light yellow. The seeds should be of fair size and uniform, free from adulterants of any kind and from seeds of noxious weeds. As a rule, home-grown seed will prove better adapted to local conditions.

Always bear in mind that the sowing value of the seed is represented by the amount of true clover which will germinate with reasonable promptness. Thus, if four-fifths of the seed is pure clover, and only three-fourths will sprout, then only three-fifths, or sixty per cent of the original seed as it comes from the grower will grow. This explains why the germinating test is such an important factor in determining the value of the seed purchased.

Because so many farmers who grow wheat and rye plan to take advantage of the late snow for carrying clover seeds down into the ground, the absence of snow, as seems probable this spring, should not have a tendency to reduce the acreage of clover seeding. As good results may be obtained by sowing the seed as soon as conditions

permit and going over the field with a light smoothing-harrow with the teeth set well aslant. This will cover the seed sufficiently deep to give the young plant roots a good hold in the soil, and the grain crops will be benefited by the stirring of the soil, especially if the early part of the season is dry.

News of the Week

Wednesday, February 23.

THE government of Persia has been overthrown by Persian Cossacks.—American farmers contribute five million bushels of corn for famine relief in China.—Seven persons are killed when a train is derailed near Waco, Texas.—The Michigan house of representatives passes a bill providing for the disarming of all aliens.—President-elect Harding's complete cabinet is announced as follows: Secretary of State, Charles E. Hughes; Secretary of the treasury, Andrew Mellon; Secretary of War, John W. Weeks; Attorney-general, Harry M. Daugherty; Postmaster-general, Will H. Hays; Secretary of the Navy, Edwin Denby; Secretary of Interior, A. B. Fall; Secretary of Agriculture, Henry C. Wallace; Secretary of Commerce, Herbert Hoover; Secretary of Labor, James J. Davis.

Thursday, February 24.

THE American government refuses to be bound by the action of the League of Nations in the disposition of Yap Island.—The Michigan democratic state convention is held in Jackson where only one contest is made in the selection of candidates for the April election.—Representatives of organized labor open a fight on the law enacted by congress which declares labor organizations are not copartnerships.—The number of cases of sleeping sickness in New York City is reported to be 227.—Aviators carry mail from San Francisco to New York City in thirty-four hours.—Department of health officials declare the milk supply of Detroit to be the most satisfactory in the country.

Friday, February 25.

REPORTS from Moscow state that revolts against the Red regime are growing in the Ukraine, Tambov and Orenburg districts of Russia.—Panama appeals to the United States to use its good offices to avoid bloodshed in Central America.—Italy asks the United States to make loans secured during and since the war, into long-time obligations.—Austria will refuse the plan to turn that government over to the allies, according to President Hainisch.—Mexican railway employees call a general strike.

Saturday, February 26.

A FEDERAL grand jury sitting in Indianapolis indicts 223 coal operators, coal operating associations and coal mining companies.—The allies are asking the United States to sit with allied conferees to dispose of the Yap Island controversy.—A seventeen-year-old Chicago bank clerk is missing with Liberty Bonds valued at \$772,000.

Sunday, February 27.

SOVIET forces take Tiflis, the capital of Georgia, Asia Minor, after having been evicted.—Edwin Denby, of Detroit, announces his acceptance of the appointment as secretary of the navy in President-elect Harding's cabinet.—Mexican trains continue to run despite the general strike of railway men which now appears a failure.—The United States Senate approves an army of an average strength of 175,000 men during the next fiscal year.—The Mexican government denies that Japanese have invested \$500,000,000 in oil lands in lower California.

Monday, February 28.

IN a collision on the Michigan Central near Porter, Indiana, 37 persons are reported to have been killed and nearly one hundred injured.—Should Germany refuse to agree to reparations an immediate economic blockade already planned will probably be enforced.—The United States destroyer Woolsey is sunk in a collision with a steamer off the Pacific Coast of Panama.—Reports indicate that Emir Feisal is to be made king of the Arabians.

Tuesday, March 1.

THE United States Supreme Court holds unconstitutional the sections of the Lever act under which the government ended the coal strike in 1919 and endeavored to cut the cost of living.—Allied troops are moving into the Rhine district of Germany preparatory to the enforcement of reparation demands upon the latter country.—Elkhart railway repair shops are reopened.

New Annual Sweet Clover

Increased at the Michigan Agricultural College for Distribution—By Prof. J. F. Cox

IT is only recently that the ban has been lifted which placed sweet clover in the outlaw class of noxious weeds. Today on many Michigan farms there are enthusiastic supporters of sweet clover who number this crop among the elect of useful forage and soil improvement crops.

The ordinary sweet clover is a biennial, requiring two seasons to complete growth. There has recently been brought forth a new variety—annual white blossomed sweet clover, which completes its growth in a single crop season. The announcement of a new crop is usually received with mixed sentiment by the public, but let the skeptical keep in mind the rapid progress made by the ordinary biennial type of sweet clover, before passing adverse judgment on this new crop.

The possible agricultural value of the annual white sweet clover was first seen by Professor H. D. Hughes, of the Iowa Experiment Station.

The Farm Crops Department of the Michigan Agricultural College recently announced the fact that large increases had been made of the Hubam clover. At the Michigan Experiment Station seed planted in late March or early April produced by early July, a large growth of forage, well adapted for hay or pasture purposes. The plants stood at that date three feet or more in height and were not nearly as coarse-stemmed as the biennial type. It is estimated that a yield of at least two tons of hay per acre could have been harvested.

From late June until the coming of frost, this type of sweet clover should furnish an excellent pasture crop for hogs, sheep, or cattle. As a seed crop, experience of the Farm Crops Department shows that the plant is quite dependable under lower and western Michigan conditions. The seed matures in late September and early October.

THE annual white sweet clover is the only short-season leguminous crop, adapted to Michigan, which is comparable to alfalfa or clover in the methods of cultivation and utilization. It appears very probable that this crop will occupy a valuable place in Michigan agriculture, particularly on light soils. The farmer who finds that his clover or alfalfa has failed to come through the winter, may find in the Hubam clover a valuable addition to the class of short-season hay crops. For soil improvement purposes it apparently has great possibilities. Judged by the acre planted at the G. R. & I. Experiment Station at Howard City, the Hubam clover is well adapted to growing on light lands, and may prove valuable on light and sandy loams.

As yet, comparatively little is definitely known in regard to the seeding of this crop with companion crops, or its real place in Michigan farming as a hay and pasture crop. At the experiment station a plot of oats was seeded with the annual white sweet clover. An excellent growth resulted adapted to pasture for late summer hay purposes, but seed did not mature.

The Farm Crops Department first received a small consignment of the Hubam annual white sweet clover in 1918 from Professor Hughes, of Iowa. This was increased in the hands of Professor F. A. Spragg. In 1919 eighteen pounds of seed was available. After scarification fourteen pounds were left. This was planted at the rate of

one and a quarter pounds per acre, in rows twenty-eight inches apart. Five and one-half acres were planted for increase purposes on the station farm. An approximately like acreage was grown, cooperatively by several members of the Crop Improvement Association, by the G. R. & I. Experiment Station, and a small acreage at the Chatham sub-station. The crop matured seed at all points south of the straits,

The distribution of seed from the increase at the college will be accomplished through farmers skilled in seed growing who are members of the Michigan Crop Improvement Association, and a proportionate amount will be sent to county agents for distribution at cost. A certain amount for increase will also be supplied at cost to seed firms in Michigan desiring same. Farmers who wish to try small quantities

and one bottle contains sufficient material to inoculate a bushel of seed.

On ground needing lime from one to two tons of ground limestone or several loads of marl should be applied. Acid phosphate at the rate of two hundred to three hundred pounds per acre will increase seed production and hasten maturity. From one to two pounds of seed per acre is sufficient for an ample seeding for seed purposes.

A good garden drill is excellent for planting, but an ordinary grain drill can be used by blocking off compartments over every fourth drill cup with heavy cardboard and setting drill at proper rate. Cornmeal can be used in sufficient amounts to regulate rate to one pound per acre. A corn planter can be adjusted for planting by filling plates with lead or babbitt and opening small holes of proper size to carry annual sweet clover seed. Small lots should be planted in rows thirty inches apart, seeding two to four inches in the row.

There is not sufficient seed at present for planting with a companion crop or nurse crop. The Farm Crops Department will carry on extensive experiments to ascertain the real value of this promising new crop.

The Farm Bureau Seed Department should be able to furnish quantity lots for planting in 1922.

BOYS' AND GIRLS' CLUB WORK.

THE idea and purpose of the Boys' and Girls' Club work is often misunderstood. First of all, a boy or girl enrolled in a club is not required to give all of his or her time to club activities. To illustrate, when a club member buys a pig he takes care of the pig in the best possible way and according to directions given him by his club leader, but he does not have to stop work in the fields to do it. There is no round of festivities for the club member, but he simply has a business of his own to handle in a business-like manner.

During the season club meetings will be held regularly at which the social activities of the group receive attention. Here, also, he learns from his club leader of other information about raising pigs or chickens, or growing a garden. At the end of the season he can either sell his products or, if animals, keep them to get a start. It is better to grow into a business than to go into one.

The big purpose of club work is to keep farm boys and girls interested in the farm business, to teach and to demonstrate good practices in agriculture and home economics. There are prizes offered by the various pure-bred breeders' associations to keep up lively competition, but primarily the profit that the club member makes on his project and the knowledge he receives from his own experience, shows him that when all things are considered farming is a good business.

In the case of the pig club the boys and girls get the best gilt that the pure-bred breeders raise. It is a business proposition and the farmer who encourages his boy or girl to join one of the Boys' and Girls' Clubs in the community and helps in keeping up the interest will find he has made that boy or girl his partner on the home farm.

Information regarding Boys' and Girls' Club work may be had by writing R. A. Turner, State Club Leader, East Lansing, Michigan.

Why Named Hubam

IN view of the length of the name—Hughes Annual White Sweet Clover, Mr. J. W. Nicolson, Manager of the Farm Bureau Seed Department, Lansing, has suggested "Hubam Clover" as being more convenient and appropriate. Professor H. D. Hughes, of the Iowa Experiment Station, Ames, Iowa, was the first to call attention to the agricultural possibilities of this annual type of sweet clover, found growing in Alabama. The new name recognizes both the discoverer and native home of this plant. The use of the new name is highly acceptable both to Professor Hughes and many others interested.

but did not ripen at the Chatham Upper Peninsula Station, though it made an excellent forage growth.

The fields at the experiment station stood about six feet high at harvest time. A corn binder of the upright type was used in harvesting and very little shattering resulted, yielding an average of eight bushels of seed per acre. The crop was threshed with an ordinary grain separator and when

will be furnished with a small envelop of seed. There will be no seed for general sale this year, but it is hoped that by next year the Michigan Crop Improvement Association can furnish a large supply for distribution through the Farm Bureau Seed Department. The annual white sweet clover has all the "ear marks" of being a valuable addition to Michigan agriculture.

It is recommended that the crop be



A Large Field of Hubam Annual White Sweet Clover at the Michigan Agricultural College. This Crop is Apparently a Valuable Addition to Michigan Agriculture.

dry hulled with scarifier and fanned. When it is kept in mind that seed of this variety sold last spring and is now quoted at \$5.00 to \$8.00 a pound, and that the present price is approximately \$300 per bushel, the importance of this increase can be recognized. The object of the Farm Crops Department is to place this seed in the hands of individuals, who will increase it as rapidly as possible, so that the crop may be made available for Michigan farmers at a reasonable seed price.

planted in early April on a firm, clean seed-bed such as is offered on ground which was in corn, beans, or potatoes the previous year. It should be drilled in rows from twenty-eight to thirty-two inches apart and cultivated with corn cultivator until several feet high. Seeds should be inoculated with culture which may be secured from the Department of Bacteriology, of the Michigan Agricultural College, East Lansing, Michigan. The price is twenty-five cents per bottle



Secretary A. L. Bibbins, of the Michigan Crop Improvement Association, Analyzing a Sample of Field-Inspected Grain, for Statement of Analysis Given on Certification Tags.

Committee of Fifteen Organizes

To Look After Live Stock Marketing

THE Live Stock Marketing Committee of Fifteen held its initial meeting at the Congress Hotel, Chicago, Illinois, on February 24-25. This committee was appointed by President J. R. Howard, of the American Farm Bureau Federation, as the outcome of a live stock marketing conference, held in Chicago four months ago. The committee is expected to draft plans for the marketing of live stock, which will reduce the costs of the process, eliminate unfair practices in the present system and measurably stabilize the industry.

Most of the first meeting was spent by the committee in executive session, perfecting its internal organization and drafting rules of procedure. President Howard requested that C. H. Gustafson, of Lincoln, Nebraska, and a member of the committee assume the duties of permanent chairman. Mr. Gustafson is also chairman of the Grain Marketing Committee of Seventeen, and Director of Marketing for the American Farm Bureau Federation. A. Sykes, of Ida Grove, Iowa, was elected vice-president, and H. W. Mumford, Director of Live Stock Marketing for the Illinois Agricultural Association, and formerly professor at M.

A. C. was elected secretary-treasurer. Mr. Howard stated that although the American Farm Bureau was not dictating the work of the committee, it was his hope that the members would cooperate to the fullest possible extent and work together as a producers' organization. Inasmuch as it was impossible to represent all sides and interests in the live stock industry in the narrow confines of a group of fifteen men, to which he was limited by the resolution adopted at the original conference, he had appointed the ten alternates, and it was his intention and belief that all alternates should be present at every meeting of the committee and have full voice in its deliberations; that the committee should meet as a committee of the whole until the final report had been drafted.

Chairman Gustafson called attention to the work of the Committee of Seventeen, which had had the utmost harmony throughout and every vote had been unanimous.

In response to the request of the chairman, various members of the committee expressed their views as to the

broad outlines of the committee's work. Senator Kendrick stated that it was not difficult to point out the need for action, but it was very difficult to find the remedy. He spoke particularly of the burden imposed on the industry, especially in the west, by the railroad rate increase; of the fact that one-third of our live stock is produced up to the time of finishing on a scavenger basis, and that this form of production went on regardless of market conditions and any plan for relief must take it into account; that in other industries adjustment to changed conditions is almost automatic; a lower price results in reduced production.

Mr. Hyde, of Oklahoma, called attention to the involved and conflicting nature of the problem with the interests of the stock men in the feeder-growing and feeding districts, each to be considered. He stated that in his belief the task of this committee was more difficult than that of the Committee of Seventeen.

Other members dwelt upon the extreme difficulty of the task, which had been set to the hand of this committee

and recognized that live stock producers in all sections were looking earnestly to the committee to find a way out of the hardships, with which they are confronted, and which are especially severe at the present time. The committee began its work with a profound desire to hold the confidence of the industry.

Much time was spent in deciding the status to be allowed to the alternates, but Mr. Howard's original intention that the committee should be virtually a committee of twenty-five, rather than a committee of fifteen, ultimately prevailed.

The main lines of work mapped out by the committee at this meeting are indicated in the names of various subcommittees which are as follows: Orderly marketing (control of flow); co-operating marketing agencies and centralized markets; live stock statistics, reports and market reporting; transportation; legislation; financing the committee, and eat more meat.

The next meeting of the committee will be held at Chicago on April 7. At that time the subcommittees will submit their reports and the definite start will be made toward the construction of the committee's program.

Michigan Wool Pool-Prices-Blankets

SUGAR scored a reasonable advance when assurance of a tariff was at hand; also because the sugar manufacturers agreed to refrain from forcing the market. Wool should strongly advance based on similar reasoning, provided always that holders do not crowd their wool on the market or sell on a speculative basis.

The Michigan State Farm Bureau and federal organization have been working with wool growers to secure from congress a fifteen-cent per pound duty to add to the price for the grower. Chairman Fordney, of the ways and means committee, has been insistent that protection is for the wool grower as have also been other members like Green, of Iowa, and Longworth, of Ohio. Speculative buying which withdrew from the market in times of depression and left no outlet for the grower except through his own efforts in wool pools will endeavor to obtain the benefit of the tariff and advancing prices when through no efforts of theirs that a market reappears. The idea of the wool pool is to secure volume selling direct to the mills and avoid speculation.

The farm bureau will begin to send out a twenty-five per cent wool dividend this week to its 18,000 consignors. Beginning March 1, 1921, the fiscal year for wool handling will commence. That means that storage, insurance, etc., is reckoned to that date. For the 1921 wools a new year begins.

Plans for 1921.

Wool will be assembled in twenty or more places in the state within easy wagon or truck haul distance and during specified weeks. Wool will be received and graded on the day of arrival in the presence of the grower. Weight and grading certificates which are final will be issued and financial arrangements made for immediate advances. Accompanying the graders will be a representative of the agricultural college to advise on wool and sheep problems and when possible demonstrate docking and castration. Representatives of the farm bureau will visit the assembling zones at an early date to secure storage and arrange for local conditions. The new plans for handling wool will eliminate

much expense as wools will be sold as soon as possible.

Wool in the grease shrinks about one-half, the fine wools more than the coarse. Carbonized wool is the removal of the burrs and chaff by means of chemicals that convert the foreign material into dust. Then the wool is neutralized and restored as if never contaminated. If you will take fifty cents

off every burry or seedy fleece you can about figure the loss, which may be partially, if not entirely obviated by proper care.

"All Wool" is the glib term used to deceive in describing wools. Shoddy is derived from woolen rags spun into yarn with some new wool, and is defective in wearing quality. Virgin wool is the term the wool grower uses to

distinguish from the homage that vice pays to virtue or the hypocrisy of "all wool." If the consumer would demand virgin wool he would secure twenty-five per cent more wear in blankets and the wool grower be freed from the competition of the rag man. The farm bureau blankets are stamped just what they are, viz.: One hundred per cent virgin wool, eighty per cent and seventy-five per cent. The cotton warp used makes a blanket of equal if not greater wearing quality and is less liable to injury when washed. A cotton warp allows a tighter weave and a better "nap." The warp does not come into contact with the user of blankets.

Wool growers may patronize their own industry by using virgin wool. The discriminating consumer should insist on what is due him—twenty-five per cent more wear—and reject blankets or fabrics not labeled in percentages of virgin wool. The Michigan State Farm Bureau is furnishing a blanket of honest material made for honest people at an honest price—direct from the mill to the consumer.—J. N. McBRIDE, Chairman Wool Marketing Committee, American Farm Bureau Federation.

Latest Farm Bureau Notes

NINE thousand members of the Michigan Sugar Beet Growers' Association received contracts during the week of February 28-March 5 which were drawn up in their behalf for presentation to the manufacturers by the Sugar Beet Growers' Association. Signing the contract makes the association the sole representative of the grower to the manufacturer. Prices mentioned in the contract closely followed those agreed upon by Idaho and Utah farm bureau growers with their manufacturers, and which were adopted by the recent American Farm Bureau Federation conference of beet growers.

Shippers who ship potatoes in an ordinary box car, signing an interstate bill of lading releasing the carrier from all liability from damage by heat or freezing, cannot recover damages for freezing of the potatoes due to a delay in transportation and delivery, rules the Michigan Supreme Court notwithstanding the general rule that a carrier may not wholly exempt itself from liability for negligence. The case cited was that of Rendell et al., vs. the Detroit & Mackinac Railway. The railroad claimed it was not able to furnish refrigerator cars at the time.

An important change in the time limit for filing claims for express loss is announced by the State Farm Bureau Traffic Department. Under the new official classification No. 28, the time limit for filing claim is made four months and fifteen days after date of shipment in lieu of the four months' period after reasonable time for delivery had elapsed.

The State Farm Bureau Traffic Department has lined up with the shipping forces opposing the railroad's plea for an increase in refrigeration charges.

The Committee of Fifteen on dairy affairs in Michigan will hold its first session at the State Farm Bureau headquarters in Lansing, on Thursday, March 3. The committee will take the first steps toward a solution of the dairy problems of the state, considered the most complex of Michigan's agricultural tangles. Problems of organization of the producers, cooperation in marketing with the manufacturers, and methods of raising the quality of Michigan dairy products are involved. The Committee of Fifteen is comprised of five representatives from the Michigan Milk Producers' Association, five from the cooperative marketing associations and five from the Michigan State Farm Bureau.

"Cream buying stations cost farmers of Chippewa county hundreds of dollars annually through an average charge of 2.96 cents per pound of butter-fat for handling cream," says the Sault Ste. Marie News, in urging that the farmers could save money by shipping direct. The investigation was brought about by a recent State Farm Bureau article showing the continued deterioration of Michigan dairy products because of the cream station system of paying for cream without regard to quality, and because of the duplication of cream stations in the same district. The Chippewa county paper is the official organ of the Chippewa County Farm Bureau.



M. B. McPherson, of Lowell, account of whose nomination to a position on the Michigan State Board of Agriculture was published last week.

Co-operative vs. Speculative Marketing

Bruce Lampson Assistant Organization Director, Washington-Idaho Wheat Growers' Association, Gives the Western Farmers' Idea on Co-operation

THIS is the first in a series of five articles discussing the fundamental and essential principles of pure cooperative marketing of farm products as contrasted with the present system of speculative marketing.

Agriculture is rapidly breaking into a new epoch. The great educational campaign that has been fostered by the United States Department of Agriculture, the colleges of agriculture, and the numerous agricultural publications have affected the farmers to a marked degree. As the farmer has been developing his farm and changing from the state of living on what he produced to the state of living from the profits of his product, there necessarily developed a great speculative system by which profits are made in the distribution of agricultural products.

This commercial system has had its place and has given a great service, but in its present highly organized state it has become a "bear" to the producer and a "bull" to the consumer. It is also very wasteful because of the large number of transfers before a commodity reaches the consumer. Different lots of wheat have been traced, where it was found that it was bought and sold at a profit as many as ten times without being moved from its original storing place. This is a wasteful system. The welfare of the consumer and the producer is demanding a more economic and less grasping system of distributing farm products.

In looking to the future for the elimination of the present trade evils we must look for a plan of distribution that will eliminate the large profits and the waste between the producer and consumer. We must build a distributing system that will operate upon cost only, not large profits. There is a plan known as the pure cooperative plan, whereby the producer sells his own product cooperatively as direct as possible.

Such a plan of distribution is economic.

Two Systems of Distribution.

We have before us today two channels, through which we may distribute farm products. The one is the speculative marketing system; the other is the producer's pure cooperative association. In order that we may clearly understand the difference between these two systems, it is necessary that we analyze clearly the fundamental principles and objects of each.

The old uneconomical system is the speculative system based upon capital stock. Its object is to pay dividends to its stockholders. Its membership consists of those who have money to invest, farmers and others. Any concern operated upon a capital stock basis must buy as cheaply as possible and sell as high as possible in order to pay dividends. The interest of such a company is adverse to the producer's interests and likewise to the interests of the consumer.

The new system is a non-speculative and non-capital stock, pure cooperative association. Its object is not to buy cheap, but to sell the produce of its members at a fair price to the producer and consumer. Its membership does not consist of those who have money to invest, but those who have a farm product to sell. It is a selling agency only. The interest of this association is not adverse to the producer's interest, who are the only members, but identical with theirs. There are no adverse interests in a pure-cooperative marketing organization. Its object is to sell all of its members' products to the consumer at a price that will insure the total consumption of each crop.

The old system of marketing farm produce has become very highly developed. It is established and operated by business men and farmers who have money to invest. Their manager's advancement and the amount of salary he gets depends almost wholly upon the number of turn-overs and the spread that he can make between the producer and consumer. In other words, the larger profit the manager makes for his directors and stockholders the more salary he gets. He serves stockholders, whose sole object is to get good returns on the money invested.

Some of these companies have attained their object to a very high degree and have become highly organized. Among the most prominent of them is a national organization of grain dealers. The grain dealers of the northwest have recently organized and affiliated with this national organization.

On October 6, 1920, the directors of this northwestern association, who were chosen representatives of the regular grain dealers of Washington, Oregon and Idaho, put out an announcement stating that they had secured the services of an experienced industrial secretary who had been very successful in attaining and maintaining normal trade conditions in the grain industry of Montana and Wyoming.

They state the following in their announcement:

For satisfactory trade conditions, it is necessary for the regular grain dealers to cooperate with each other and their secretary, who will give his entire time to working in the interests of the associated dealers.

The elimination and prevention of trade evils, with the securing of those things good to have, can only be had through collective efforts, wisely directed. This is not an experiment: results have been obtained wherever applied, stabilizing the industry and making it worth while to those regularly engaged therein. In no other way can your business be what it ought to be.

No matter what your ability and integrity, if you have to meet with unfair practices and unwholesome competition, you will suffer. Cooperate with your organization; it is a clearing house that avoids confusion and loss and dissatisfaction, making harmony with good results.

An organization in name only amounts to nothing. To be mighty in producing good results, it must be active, based on fairness to those within and without. The more active we are the sooner we will be in the enjoyment of a normal trade.

The program of the associated grain dealers as announced by the secretary is, in part, as follows:

Establish prices at country-buying points.

Careful grading and docking. Dealers not to discriminate against each other.

Association to settle all differences. Dealers not to be influenced or governed by hearsay in their dealings.

Dealers not to follow uncommercial or bad practices.

Grain dealers not to pay above established price on account of farmers' shipping direct.

Undue solicitation of grain in the field considered uncommercial.

Advancing money on growing crops and grain stored on farms not to be encouraged.

These dealers should be congratulated upon their good judgment and good business sense in forming such an organization for the benefits of their own business. This plan will certainly prove efficient in attaining their object; that is, fixing the price upon the grower's wheat—buy it cheap.

(The second article in this series will discuss the principles and objects of a pure cooperative marketing association and will show how such association narrows the spread between producer and consumer).



Factors In Sugar Beet Production

Dr. Townsend Gives Results of Recent Governmental Experiments

THAT the acre yield of sugar beets in Europe is much higher than our own, and even the European yield is not as high as it should be, it was pointed out. Care and thoroughness in every operation connected with the growing of the crop was emphasized by Dr. Townsend as paying substantial dividends at the time when the beets are marketed. Cutting of waste now too common in the ordinarily employed methods of culture means dollars and cents for the beet grower.

The beet farmer must take into consideration the previous treatment of his fields before deciding where he is to put his beets, if best results are to be secured. The type and fertility of the soil must be taken into account. The wise grower will consider whether the field fits into the farming operation as a whole, the management of the live stock, the rotation of crops, and the number of acres that he wishes to grow.

Fall plowing Dr. Townsend recommended as generally giving the best results. Of course, individual soil problems must be taken into account, and this the farmer must decide for himself, but as a general rule fall plowing has paid the greatest dividends. In support of fall plowing it was pointed out that when the grower had

prepared his land in the fall he was in position to get his crop in early, which allows a longer growing period and gives larger beets. The spring work also comes into account—fall plowing gives more time for attention to other crops in the spring. Again, the packing and settling which takes place during the winter brings about a firm root bed, a condition necessary for a full uniform yield. Finally, fall plowing is generally more effective in controlling disease and insects.

FROM the standpoint of disease control it is important that the furrow slice be turned completely over and under to a good depth. This disposes of the rubbish that carries over the disease. The moldboard plow with a jointer is considered the most effective tool in controlling disease and insects. Getting a good stand and keeping a good stand is the thing to keep in mind in obtaining a profitable beet crop. It is impossible to get a good yield when the stand is cut to pieces by careless blocking, thinning, and cultivating. A good seed-bed, good seed properly put in, careful thinning, blocking, and cultivating are requisites of a good crop. The attempt to save seed at planting time is usually poor economy. If the seed-bed is especially well prepared

the seeding may be somewhat lighter than ordinary, but in a majority of cases underseeding is not profitable. The preparation of the seed-bed should be begun early and thoroughness should be the slogan in its preparation. Dr. Townsend emphasized the importance of shallow planting. "Planting should be just as shallow as possible and still secure germination." The tiny beet plant has not much reserve food at its disposal, and when it has to penetrate considerable soil before coming to the surface it is handicapped from the start. Planting should not be deeper than one inch—a half-inch is better—if moisture is sufficient and the seeds are covered."

Even maturity is necessary in a successful crop and even maturing is dependent on an even depth of planting. It is here that the firmness of the root and seed-bed is important. Attention should be paid that drill teeth are adjusted to the same depth of planting, and if the drill has a compacting attachment it should be determined that the pressure is distributed evenly.

The crucial time in the growing of the crop begins with cultivating, blocking, and thinning. "The grower must save the stand he has. When once a beet plant is cut out with a hoe or cultivator it is gone. When the stand is

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cut to pieces by careless blocking and thinning the yield is inevitably slashed. It is common to go into a field following blocking and thinning and find uneven blocking with some spaces far too wide. In thinning in some places all of the beets may be pulled out and in others more than one beet is left. The possible yield is thus seriously cut down. Every grower should decide just about the proper distance for blocking and thinning for his particular soil and make it a point to see that the work is uniformly well and carefully done.

ORDINARILY cultivating takes an expensive toll of beets. The man on the cultivator is likely to think rather lightly of the beets that are cultivated out of the row, thinking that

the loss will be compensated for by the increased size of the remaining beets. But this is not the case. The loss is always marked up in bushels of loss at harvesting time. Proper culture of the crop is not always an easy thing to accomplish, but the grower will be repaid by making certain that his stand of beets is not cut to pieces by careless blocking, thinning, and cultivation. Diseases, insects, worms, and other enemies will take a toll of the crop. But it is the grower's job to see that he has as near a perfect stand as possible.

Just as in every other operation connected with handling of the crop, improper methods of topping means a loss of profit. Part of the beet may be slashed off with the top, thus occasioning loss.

Delivery of the beets to market as soon as possible after harvesting, Dr. Townsend spoke of as desirable. Often beets are left in the field too long so that a considerable portion of moisture is lost. Even under the best of conditions evaporation is continually going on after harvesting, and delay in marketing should be avoided if possible.

Spraying the crop for the control of leaf spot Dr. Townsend branded as economically impracticable. Spraying with Bordeaux mixture every week or ten days from the time the first spot appears, until harvest, will control the disease, but this method costs too much to put into practice.

The practice of following beets with beets should not be followed too far. It should be discontinued as soon as

disease appears. The big danger of this practice is that the grower is often tempted to risk a crop for one more year in a field that he knows is giving diseased beets. The loss of fifty per cent of a crop is a costly lesson, but it is one that many growers who follow the beet after beets plan too far often experience.

Beet seed treatment with formaldehyde for the control of the spread of leaf spot by seed is proving effective, and the methods are being perfected at the present time.

Results of fertilizer tests, according to Dr. Townsend, show that commercial fertilizers are beneficial in rainfall lands. Rather strangely, better results have been secured on the better soils than on the poorer ones by the use of fertilizers.

Present Marketing System Wasteful

According to Committee of Seventeen

IN announcing the essential features of its plan for cooperative marketing of grain on a nation-wide scale, the Farmers' Marketing Committee of Seventeen, wishes to call attention to the following basic facts:

1. Agriculture is the nation's most fundamental industry. Upon the six and one-half million food producers of America rests the great responsibility of supplying 110,000,000 people with their daily food, a task which increasing population and declining soil fertility makes yearly more difficult.

2. Our national sense of justice must acknowledge the farmer's right to the same standards of living that prevail in other occupations, the same return on invested capital that is received by other industries, the same compensation for labor and management that is paid for like skill in other enterprises.

3. The business of farming as conducted now and in the past does not yield sufficient returns to meet these requirements. It does not yield sufficient returns to restore and maintain soil fertility, to buy the machinery and equipment necessary to the most economical production, or to offer sufficient financial inducements to keep the most ambitious boys and girls on the farm.

Investigation conducted by this committee convinces us that the fundamental reason for the lack of adequate profits in farming is a faulty system of marketing farm products. All other great industries merchandise their products under their own direction. They are fully informed as to supply and demand. They suit distribution to

demand, thereby maintaining a fairly stable market price, without daily fluctuations, and with only very gradual seasonal fluctuations. The farmer, on the other hand, ships his grain on the markets without regard to demand.

Grain prices in the United States are determined in a few large centers of distribution, known as terminal markets. The market places at these terminals are owned, operated and maintained by private closed corporations or associations known as grain exchanges or boards of trade. Upon examination of the rules governing these associations and upon questioning their officers, we have learned that elevator companies, distributing earnings on basis of patronage, cannot become members of these exchanges. The effect of this is the exclusion of such farmer cooperative grain dealers from the terminal grain markets of our country.

The grain exchanges furnish the facilities by which speculation in grain and its products is carried on to an extent that almost staggers all human comprehension. We have, for instance, been informed from reliable estimates that the wheat sold each year in the wheat pit of the Chicago Board of Trade is three times the entire production of the world. The total grain sold on the Chicago Board of Trade annually is approximately fifty-one times the amount of grain actually shipped to the Chicago market, and this market dominated all the markets of the country.

The inevitable results of this unlimited speculation are: First, constant manipulation of prices. Second, great

losses to producers and the public generally.

The credit facilities of the country are designed to meet the needs of business, with its quick turnover, and, as recent experience has demonstrated, do not adequately take care of the farmer's needs. It is often difficult for the farmer to secure sufficient credit to permit the orderly marketing of grain, fitting available supply to consumptive demand, this resulting in wide fluctuation in prices, to the disadvantage of both producer and consumer. The consumer's price is based on the high point of the year, while the producer sells most of the grain at the low point.

The only adequate remedy for the conditions set forth, in the judgment of the committee, is for farmers to enter extensively into the business of grain distribution, merchandising grain as the products of other industries are merchandised. We have adopted a plan for cooperative grain marketing and financing for submission to our various organizations, which we believe will accomplish the desired results.

We believe that the public will be greatly benefited by more stabilized prices for grain and its products, and we know that farm investments and the farmer's vocation will be made far more sound and secure thereby. We note with satisfaction and great pride the many benefits that have been brought to consumers and producers of grain by the farmer cooperative elevator companies of our country, the number of which is now over four thousand. We have taken the farmer

cooperative institutions as the basic unit upon which to construct our grain marketing system.

We deem the practice known as short selling of grain and other farm products a crime and have asked congress to legislate against it.

We are striving for the enactment of laws that shall open these grain exchanges and boards of trade to membership of farmer cooperative elevator companies distributing their earnings on a basis of patronage.

We believe that grain should be distributed to the millers and exporters direct from country points in, so far as this is possible, and the system of elevators and selling which we recommend has this end in view.

Realizing the benefits to be derived by selling grain in large quantities, our plan provides for contracts to be signed by the grower running to his local elevator company or direct to a national association where no local elevator exists. Also a contract to run from each local elevator direct to the national sales agency. These contracts are for the purpose of bargaining cooperatively for the sale of large quantities of grain direct to millers and exporters at the least possible cost.

Before adjourning, the committee appointed a sub-committee of seven to perfect organization plans and to call a meeting of all grain marketing organizations to consider the proposed plan. Another sub-committee will propose by-laws and contracts, and submit these as above stated to prominent attorneys for approval as to legality. The committee hopes to have the new system started this year.

Growth in Pure-Bred Live Stock

ENOUGH of the 1920 census returns have been made public to indicate that this census is a vast improvement over those of preceding decades, especially in the collection of valuable agricultural and live stock information. It is believed that the returns from the census on pure-bred live stock will be useful in developing a larger interest in the improvement of farm animals by the use of better breeding stock.

Statistics showing the proportion of pure-bred live stock to all live stock, the number of farmers who own pure-bred cattle, horses, swine and sheep, and the relative standing of the states in percentage of farms reporting pure-bred animals, are already out for Ohio, Michigan, Indiana, New Hampshire, Massachusetts, South Carolina, Virginia, West Virginia, Delaware and Oklahoma.

Of these ten states, Indiana stands at the head in percentage of farms re-

porting pure-bred live stock, pure-breds being kept on 31,127 of her 205,124 farms. Ohio with 266,699 farms, reports pure-breds on 33,365 farms, leading the other nine states in number of farms reporting pure-bred live stock, and having a better percentage in all lines of stock. Michigan stands comparatively high among the ten states, with pure-breds on 21,873 of her 196,649 farms.

The census returns on pure-bred stock have been an agreeable surprise to officials of the Department of Agriculture, who are especially concerned in live stock improvement. They evidently did not realize the extent of the pure-bred stock industry and the rapidity of its development in recent years.

The value of the information contained in the census is pointed out by the department officials in showing centers of breeding pure-bred animals of the different breeds. In the great

milk-producing centers, like Ohio, Michigan and New Hampshire the Holsteins lead and Jerseys are second, while in Indiana and some of the southern states the Jerseys are in the lead.

The figures compiled in these states show a total of 19,135 Holstein bulls, and 7,896 Jersey bulls. Shorthorns lead the beef breeds with 23,665 bulls. Herefords come next with 10,864 bulls.

Of the sheep breeds, Shropshires lead in nearly all the states reporting. In Ohio, as would naturally be expected, the Merinos are most numerous. On 1,291 Ohio farms there are 24,170 pure-bred Merino sheep.

The Poland Chinas and Duroc Jerseys are close competitors and are the predominating breeds of hogs in the ten states. Durocs are first in Michigan, while Poland Chinas lead in Ohio and Indiana. In Indiana the census indicates that the Spotted Poland Chinas are making unusual progress and

are rapidly gaining popular favor.

It is interesting to note that horses stand at the foot of the column in percentage of farms on which pure-breds are kept. While in all the ten states more than ten per cent of the farms report some kind of pure-bred animals, only two states, Ohio and Indiana report above one per cent of the farms having pure-bred horses. The Percherons stand highest in numbers, with Belgians second in Michigan, Ohio and Indiana.

Figures showing the standing of the pure-bred live stock industry in the remaining thirty-eight states, it is said, will not be available until next fall, the work being held up by a lack of appropriations to carry it on expeditiously. It is expected, however, that when all the statistics on purebred stock are available, they will be highly useful to breeders' associations and all others who are interested in the improvement of our live stock.

Behavior of Cloverseed Prices

Some Interesting Data for the Producer

WILL there be a better time to sell clover seed than now? Is clover seed going to be cheaper later on? Is there a surplus of seed? Is there a shortage? Will there be a big spring demand?

These are questions now puzzling farmers who are at once the producers and sellers, as well as the consumers of clover seed. Because of its importance in soil fertility preservation it is desirable that prices be neither so high as to discourage its use, or so low as to discourage its production.

In antebellum days, the annual requirements for red clover seed were estimated at 100,000,000 to 120,000,000 pounds. The Department of Agriculture calculated in 1918 that 27.5 per

cent of the winter wheat acreage was seeded to red clover and that the average amount of seed used per acre was 9.8 pounds. If we apply these figures to the present winter wheat acreage we get a requirement of 109,000,000 pounds of red clover seed. Such requirements are quite elastic, however, since timothy seed, which is much cheaper, or alsike, which has smaller seeds and can be used in smaller amounts may be substituted, or the number of pounds of red clover per acre may be reduced. Inasmuch as five-sixths of the clover seed is sown upon winter wheat, variations in the acreage of spring grain are not of much importance.

Data upon clover seed production are rather unsatisfactory. The government's estimate for the 1920 crop is 1,760,000 bushels produced on 966,000 acres of land, compared with 1,341,000 bushels in 1919; 1,197,000 bushels in 1918; 1,488,000 bushels in 1917, and 1,706,000 bushels in 1916. The 1920 crop is the largest in the last five years during which records have been obtained. It equals 105,600,000 pounds. This includes all kinds of clover seed.

Ohio and Indiana usually produce about thirty per cent of the clover seed crop, but this year, as well as last, they had a short crop, and Illinois and

Wisconsin are in the lead with about 335,000 bushels each, while Ohio's crop is 195,000 bushels and Indiana's 142,000 bushels.

Usually exports and imports practically balance each other so that we are dependent upon the last crop and the carryover from the previous crop for our supply.

Last year high prices in this country checked consumption to some extent and attracted very heavy imports at the same time. Imports for the twelve months ending June 30, 1920, and for the preceding year were:

As a result of decreased consumption and increased imports the carryover on July 1, 1920, was much larger than usual and was estimated at about 12,000,000 pounds compared with about 1,839,000 pounds on July 1, 1919. In brief, if these estimates are correct we have this year both a larger crop and a larger carryover from the old crop than usual.

Both the French and Italian crops are reported to be above normal, but lower prices have checked imports. During the first six and a half months of the present crop year only 503,000 pounds of red clover seed, 604,000 pounds of alsike, 2,347,000 pounds of crimson clover, and 503,000 pounds of alfalfa seed had been brought in.

Exports have been fairly large this year and have exceeded imports during the last few months so that the normal balance between the two has been deranged again and the available supply decreased by two or three million pounds.

Prices declined very rapidly during the last half of the year because of the prospect for a large crop and in sympathy with the general trade slump. Seedsmen made no effort to provide for their full spring requirements because of the uncertain outlook and the difficulty of getting money to finance purchases.

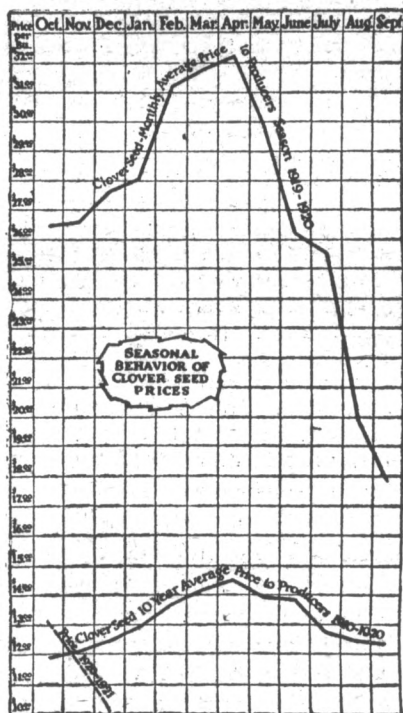
On the other hand, the farmer has not sold as freely as usual as prices have not paid cost of production. Based on surveys made earlier in the year it is probable that growers still have at least half of the red clover and alfalfa, one-third of the alsike and possibly two-thirds of the sweet clover seed crops still in their hands.

The size of the spring demand is the big question upon which prices will depend. The fact that farmers have been cropping their soils heavily because of high prices for the grains, whereas grain prices are now below cost of production, leads to the belief that farmers will use a good deal of clover seed this spring. Prices of seed are only about one-third those of last year and this may also help distribution. They still are higher than most farm products, however, and tightness of money in country districts will also be an offsetting influence. Furthermore, prices both of seed and hay to the grower are not high enough to afford any special stimulus to increase production.

The accompanying chart shows that highest prices, on the average, have been received by producers during the month of April. Probably this date would vary to some extent with the section of country represented, northern states reaching their high point later in the spring than those on the southern border of the clover-growing belt.

The chart also shows the precipitate drop since last April, prices declining from \$32 practically to \$10 per bushel.

(Continued on page 301).



The lines show the prices paid to producers for clover seed as estimated upon the fifteenth of each month by the Department of Agriculture. The ten-year price line shows a gradual advance from October, when the new crop year begins, to April when prices usually are at their highest point. A gradual decline follows. Prices were extremely high early in 1920 but declined very sharply after April and up to the time of the last available record the decline had not been checked. The April 15 price was \$32.23 but by December values had shrunk to \$10.03 per bushel.

How the Standard Oil Company (Indiana) Fulfills Its Social Obligations

THERE are people in the world—though we believe that they are greatly in the minority—who still consider that smallness is a merit, that greatness is a shame, that mediocrity is commendable, and that commercial success is a crime.

The Standard Oil Company (Indiana) believes that without great commercial enterprises a nation is a dead nation; that great commercial enterprises must be efficient in service to be successful, and that this efficiency means more to the nation than the success means to the organizers of the enterprise.

The Standard Oil Company believes that a great commercial enterprise, to be successful under existing conditions, must contribute to:

- (1) Greater efficiency in the production of wealth;
- (2) Greater justice in the distribution of wealth;
- (3) Greater wisdom in the consumption of wealth.

(1) *Greater efficiency in production:* Among other notable improvements in the refining of petroleum, the Standard Oil Company (Indiana) has contributed the Burton process. This process greatly increases the percentage of gasoline derivable from crude oil.

(2) *Greater justice in the distribution of wealth:* The Standard Oil Company (Indiana) cites the organization of its Company, its liberal policy toward employees—including its annuity system benefitting retired workers; its fairness to competitors—in maintaining open prices and never deviating from them; to customers—by bringing necessary petroleum products to them with the utmost economy.

(3) *Greater wisdom in consumption of wealth:* The Standard Oil Company (Indiana) not only recognizes its obligation to conserve petroleum and petroleum products to the end that no waste occur, but it maintains a staff of experts, ever at the service of its patrons, to instruct them in the efficient and economical use of the products manufactured by the Company.

The Standard Oil Company (Indiana) is committed to a policy of creative leadership, and because of its loyalty to the ideals outlined above, it is today of signal service to hundreds of thousands of people in ten very important Middle Western States.

Standard Oil Company
(Indiana)

910 S. Michigan Avenue, Chicago, Ill.

2389

When Shall We Market Poultry

Gilbert Gusler Tells when the Best Prices are Paid

EVEN though prices for nearly all other farm products have declined far below the profit level, poultry is still above that line. During a recent week average prices on beef steers at Chicago were ten cents a pound; on hogs, nine and a quarter cents; on sheep, four cents; and on lambs, ten and three-quarters cents. At the same time live hens at Chicago were bringing twenty-three and a half cents a pound; spring chickens, twenty-three and a half cents; ducks, twenty-eight cents; geese, twenty-six cents, and turkeys, forty cents a pound. There is a greater demand for good poultry than there is a supply; holidays are the bane of a poultry dealer's existence for there are never enough fat turkeys, hens and ducks to go around.

Although the Thanksgiving and Christmas holiday seasons of fat prices for fat poultry are past, there are yet the Hebrew holidays ahead which begin in March of this year. Purim falls on March 4, 1921, Passover on April 23-24, Last Passover on April 29, and the Feast of Weeks on June 12. Of these the two Passover festivals are the most important in the poultry market. The Jewish people eat only white meat at these times and will pay practically any price for poultry, especially if it is fine and fat. Turkeys, fowls, geese and ducks are in demand and should be sent to market from two days to a week before the holiday if advantage is to be taken of the special demand at such time.

It is said that only a small percentage of poultry comes to market in a well-finished condition. When you consider that hens weighing four or five pounds are now bringing from four to ten cents more a pound than do the small ones, you may realize how important it is to fatten them well before selling.

To know whether a bird is properly fattened, it is necessary to handle it. If the bird "is heavy in proportion to size" when lifted and if its body is well filled out with flesh nearly or completely covering the breast bone, it is ready for market and there will be no advantage in feeding it longer.

The simplest method of fattening is to separate the birds to be marketed from the rest of the flock for two or three weeks before they are to be sold. Fattening pens should allow two to three square feet for each bird so that they will not exercise too strenuously. They can be fattened almost entirely on corn and skim-milk. An agricultural experiment station writer says, that three hundred and fifty pounds of the right mash feed moistened with butter-milk or skim-milk, fed to strong, vigorous young stock which has been reared on range will produce one hundred pounds of poultry meat. Mash feed is now worth about one and a half cents on the farm where produced so that each pound which you add to the weight of the fowl would cost around five and two-tenths cents plus the cost of the skim-milk, and will sell in the market now at twenty to twenty-five cents a pound, besides adding to the selling price of the original weight.

Poultry which is to be dressed before it is shipped may be fed by one of the various intensive methods, such as crate-feeding, but fowls which are shipped alive will shrink and bruise badly in transit if fattened to capacity so that much of the benefit of fattening is lost. In fattening turkeys, many experiments have been carried on but no confinement method of feeding has ever proved successful. They may be gradually put on a heavy diet of corn

three times a day if they are permitted to range freely.

The chart shown here portrays the usual seasonal changes in chicken prices. The lines represent five-year averages by months, using the prices to producers in the United States as estimated by the Department of Agriculture in one case, and Chicago prices for spring chickens and hens for the other two lines.

Up to the end of April, the quotations on springers at Chicago are upon chickens hatched in the previous spring. Beginning with May such

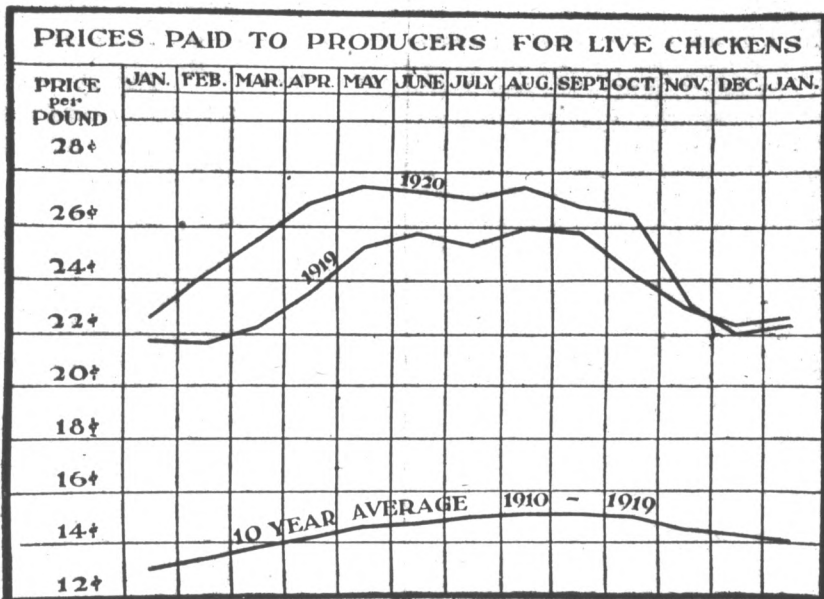
chickens are counted as hens and stags and the springers or broilers quoted are from the new hatch. Since few are hatched in winter and extremely early spring these spring chickens are very scarce in May, June and July so that they bring a big premium over the general run. The premium is gradually lost as such birds become more abundant and quotations upon them in late fall and winter are practically the same as upon hens. During March the springers have sold higher than hens, although the reason for this is not clear, especially as they

seem to sell again in the same notch during April.

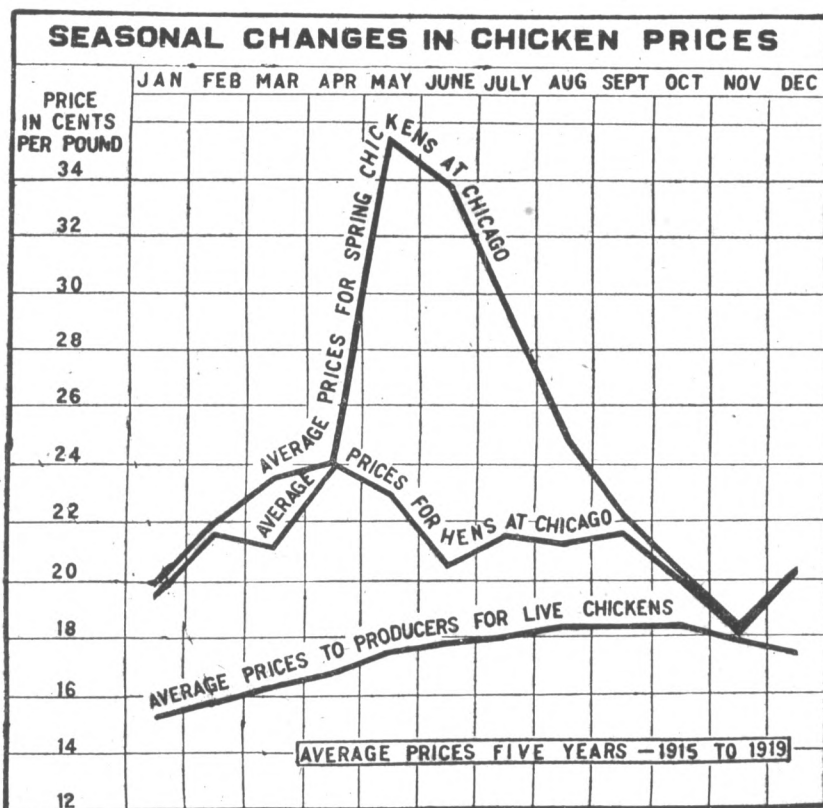
It is noticeable that the prices of both springers and hens decline on the average during the late summer and fall to the lowest point of the year in November when receipts are largest. Holiday demand which develops late in November and is prominent in December causes December prices to average materially higher than November. Hens reach their highest point as a rule in April when they are laying heavily and are kept back on the farms. From this point prices decline as supplies become more abundant. June shows up as a month of low prices for hens partly because of the fact that they are in poor condition when marketed immediately after the laying season.

The prices to producers shown are averages made up by the Department of Agriculture from the statements of a number of country buyers located throughout the United States who report the prices paid at country buying points. The curve for these prices is not consistent with the curve for Chicago prices for reasons not entirely apparent. Prices to producers have averaged highest during late summer and early fall and are lowest during the winter and early spring months.

To sell best on the open market poultry should arrive from Tuesday to Friday. Demand usually is light on Monday, and on Saturday prices are often reduced so as to effect a clearance and avoid holding stock over till Monday.



THE prices to producers shown on the chart above are averages for the entire United States, based on the reports for the first of the month. They are highest during the summer months. Note that the ten-year average line is similar in its course to the five-year average on the other chart. Prices in 1919 and in 1920 are similar to each other in their behavior and somewhat similar to the average for ten years, except that they are on a much higher level. The actual figures for January 1, 1921, are not available and this portion of that line is an estimate based on central market price trends since December 1. Poultry prices have declined proportionately less during the last few months than most other farm products.



THE Chicago prices are quotations at wholesale for live hens and chickens. Note that spring chickens are highest in May and decline rapidly during the summer to the low point in November, after which there is an advance during the winter months. Up to the end of April the spring chickens quoted are those hatched in the previous season. Hence the very sharp advance from April to May when the new hatch is quoted. Hens reach the highest point in April during the laying season. Thereafter they are marketed in larger numbers and June prices usually are low. Another decline takes place in the fall, due partly to the abundance of spring chickens. Beginning in September and continuing through most of the winter, hens and spring chickens fluctuate together. Prices to producers are averages for the entire United States. They show less marked changes from month to month and are highest during the late summer and early fall months. They also seem to behave differently from Chicago prices.

POTATOES ON SWEET CLOVER STUBBLE.

I NOTICE in The Michigan Farmer of February 19, that unusual success had attended the sowing of rye on sweet clover stubble. I have had a similar experience with the growing of potatoes after sweet clover.

On a piece of land that had produced very little the five years preceding 1919 I grew a crop of sweet clover from which two cuttings of hay were made. Last spring I plowed a strip of this sweet clover stubble together with an adjoining strip of June grass sod and planted both pieces to potatoes. The whole patch was given the same care.

But when we began digging last fall it was found that the men would average one hundred bushels per day on the sweet clover stubble and only fifty bushels on the June grass sod land. And when run over a No. 1 U. S. screen the potatoes from the sweet clover land screened out only about six bushels to each fifty, while the others screened out about twenty bushels to each fifty and those from the June grass sod were not very good looking after being graded. I firmly believe there is a lot of land in these northern counties on which sweet clover would be a valuable crop to grow.

Otsego Co.

C. B. LEWIS.

CONFERENCE ON TRANSPORTATION COSTS.

A CONFERENCE to consider ways and means of lowering transportation costs is to be held at the Congress Hotel, Chicago, on Monday, March 14. Invitations are extended to all farm bureaus, other farm organizations, and shippers' associations. Railway labor organizations and railway executive associations are to be asked to send delegates.

Our Supplies of Roughage

HAVE you ever tried to winter cattle or sheep on cornstalks and straw, and if you have, haven't you found it a sort of uphill business? I have seen the thing tried, in the belief that it is a cheap or economical plan of wintering the animals. On most of our farms there is a vast amount of both these roughages which we must plan to utilize as far as possible, but as for making either one or both of them sustaining feeds, especially during the winter months, it is not at all advisable.

It has been estimated that on a farm having a rotation of corn, small grains, and clover there is about two tons of roughages produced for every two of grain. This would mean over one ton roughages produced for every ton of us would consider that a very low figure when our grain yields are fairly substantial or well above the average.

Of course, we cannot use all these roughages as feed except where a very intensive system of farming is followed; we must husk a part of our corn from the standing stalk and a portion of our straw must be used for bedding of farm stock. But even with all of the roughage that is made available through siloing or shredding the corn fodder and threshing of the small grain there is too little of it used as feed for our live stock.

I know a few farmers who a few years ago never thought of feeding straw or other roughages; they used clover hay, corn and oats exclusively; sometimes they would shred two or three hundred shocks of fodder when hay was high-priced or a short crop. Today these farmers put up from one to two hundred tons of silage and are disappointed if rust or wet weather renders the straw unfit to blow into their barns or in some available feeding spot. Most of them are keeping more live stock now than they did then, and yet there is no more roughage produced on the farms now; the difference is that they have made more of it available through the adoption of

the silo. They are leaning more and more to the use of silage, and they do not plan on harvesting big clover crops like they formerly did. Labor has made haying more costly to some; some utilize their clovers largely for pastures and thereby cut down the expense of storing hay, while others still depend on clover hay as one of the most profitable roughages to feed along with their silage.

The silo has been the means of making much of our commonest roughages usable as feed. While silage has been classed as a roughage itself, it is superior to the other roughages because it is more succulent and contains a fair proportion of grain when made of corn. Live stock fed on silage is far thrifter than that fed on stalks and straw. But when feeding silage our stock creates an appetite for some dry roughages, such as straw, shredded fodder, or hay, and in this way we are able to utilize such dry feeds to good advantage and secure a value from them that it would not be possible to obtain otherwise and get the roughage converted into manure to help conserve our soil fertility. In following such a system of feeding our efforts are directed largely toward keeping the soil in a state of high productivity, which is one of the foremost problems of today.

I have a friend who each winter goes into the stock yards and takes home a bunch of very thin steers. His chief object is to feed the steers all the roughages he has put away during the summer and fall, and by the time these are all gone, which is along after corn planting sometime he takes them back to the stock yards where he expects to sell them for about two cents more per pound than he paid. They are not fat cattle but have grown into good flesh and are suitable for butchers or feeders for some farmer who wants to finish them. All he plans on is getting a good price for his silage and roughages and the privilege of putting many loads of manure back on his sandy soil.—J. L. J.

Is This a Bluff?

AS the hearings before the house committee on banking and currency on the farm organizations proceed, it develops that the object of the committee in making the investigation is to secure information as to the relation existing between the county agents and the American Farm Bureau Federation, with the view, if possible, of divorcing the county agents from the farm bureaus. There seems to be an idea prevailing in congress that the county agents are promoting the farm bureau federations and that the state and national federations could not exist without the funds appropriated by the government for the support of the county agents. The recent aggressive attempt of the Washington representatives to secure action of certain agricultural bills, it is apparent, is at the bottom of the investigation.

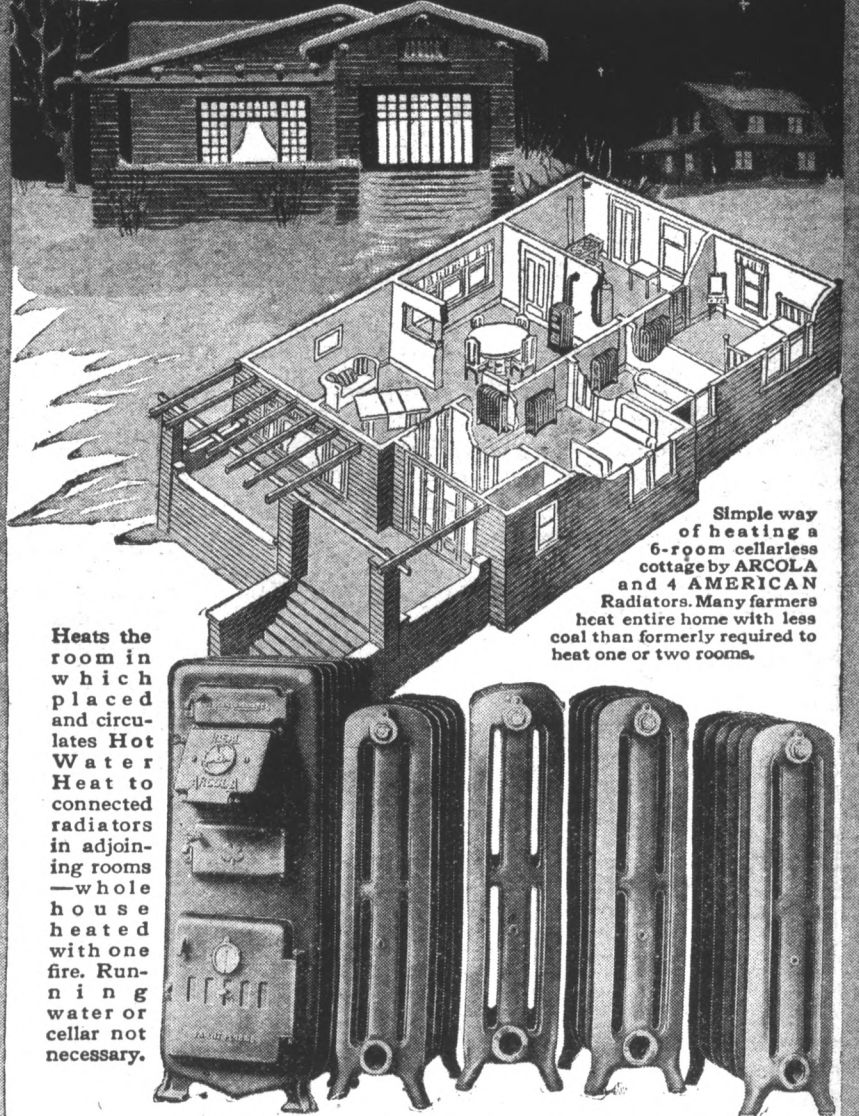
Dr. A. C. True, director of the States Relations Service of the Federal Department of Agriculture, was called before the committee, February 15, to testify as to the relations of the county agent to the local farm bureau. Dr. True said the States Relations Service had nothing to do with recent farm bureau federation development; that while the States Relations Service had found the County Farm Bureaus to be the best means of cooperating with farmers in demonstration and educational work, the county agent was un-

der obligation to assist and advise all the farmers whether members of the farm bureau or not, and to cooperate with any farm organization that desired such cooperation.

In reply to the question as to whether the farm bureau depended upon the county agent system for its existence, Dr. True said he could see no reason why the farm bureau should not exist without the county agent. He said instructions had been sent to county agents not to participate in membership drives of the farm bureaus, and he explained that the States Relations Service did not cooperate with the Farm Bureau Federations as it does with the County Farm Bureaus. The Department of Agriculture took no part in organizing the state and national federations, and the States Relations Service is not responsible for anything the federation is doing. Dr. True said he did not want a condition where farm organizations are quarreling with one another.

It is to be regretted that leaders of one or two of the farm organizations represented in Washington, especially the National Board of Farm Organizations, have used these hearings as a means of attacking the American Farm Bureau Federation before a congressional committee. It can have no other effect than to lessen the influence of all the farm organizations in congress.

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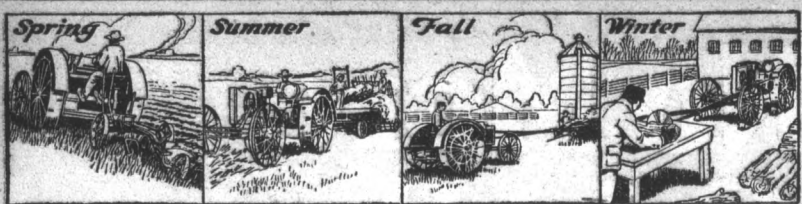
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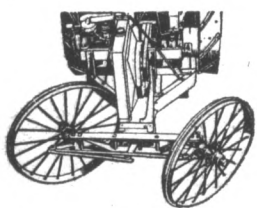
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Maple Syrup. Making

Business to be Revived in Michigan

REVIVAL of the maple syrup industry in Michigan is imminent, following a decline in the state's production from third to sixth place among the six leading maple syrup producing states of the Union. Complete reorganization by the Michigan Maple Syrup Makers' Association and its affiliation with the Michigan State Farm Bureau has been the action taken by the syrup makers to put the industry back where it belongs in this state.

For years the state has had a maple syrup organization which had as its secretary a man who gave his time and efforts toward marketing the product of some eighteen hundred producers in the state—and with marked success up until the last few years when a number of factors began to undermine the syrup industry in Michigan, says Prof. F. H. Sanford, of the farm bureau forestry department. However, to the old organization and to its secretary goes the credit for increasing the return given the Michigan maple syrup producer by more than one hundred per cent.

During the foregoing period, says Professor Sanford, times were good for the industry and it prospered until the organization began to weaken when cane, corn and other less expensive syrup firms educated the public to their product, and the farmer in his wartime and early post-war prosperity forsook the strenuous spring job of syrup making. Then came the decline in production until today not more than one sugar bush in four is scheduled to be tapped and many of the finest bushes in the state have been cut down as offerings to the recent peak prices for maple timber.

Today, although the flavor of Michigan syrup surpasses that produced in any other state—even the Vermont product—the association's figures show that the state production has declined from 200,000 gallons in 1910 to about 15,000 last year, valued at \$350,000. Five states now lead Michigan in production, New York, Ohio, Vermont and New Hampshire, and Wisconsin, in the order named. However, Professor F. H. Sanford and the maple syrup makers' leaders believe that times have changed and that better times are coming for maple syrup makers with the improvement in marketing facilities which is planned.

Meeting recently at the Michigan State Farm Bureau headquarters in Lansing, and later at Charlotte, the maple syrup men revised their constitution to permit incorporation which would enable them to affiliate with the Michigan State Farm Bureau and elected the following officers:

A. M. Bullock, Lapeer, president; R. E. Decker, county agricultural agent for Eaton county, secretary, and the following to the board of directors: Charles Dean and Edgar W. Stevens, of Vermontville; Wesley Clark, Eaton Rapids; C. F. Hart, Williamston, Earnest Stevens, Charlotte, and N. B. Hunt, Fruitdale. Other things it was agreed that each member of the association should pool at least one-third of his average annual run with the Michigan State Farm Bureau marketing organization each year.

Many marketing improvements are said to have been discussed at the meeting, including the hope for a central canning plant eventually. The syrup will be carefully graded and marketed on a quality basis. It was said that growers hope to realize \$3.00 to \$4.00 a gallon for their product this year.

Nationalization of the industry as advocated by New York, is declared to have found favor with Michigan pro-

ducers. The New York organization expects to finance the movement to include the maple syrup and sugar men of six states—New York, Ohio, Vermont, New Hampshire, Michigan and Wisconsin—in one big organization having a central canning plant which would establish standard qualities and grades. Attractive syrup containers and a national advertising campaign are contemplated as sales helps.

WHAT OTHER FARM BUREAUS ARE DOING.

CALIFORNIA Farm Bureau Federation has organized a \$1,000,000 elevator corporation and has leased a terminal elevator at Oakland with a capacity of two million bushels for a period of five years. The corporation, it is announced, will build and operate county elevators in all of the grain districts of the state. The announcement adds that the State Farm Bureau will take no part in the financing or operation of the corporation. It will have its own staff of officers.

For the purpose of securing needed agricultural legislation, the Missouri Farm Bureau executive committee has invited the various farmers' organizations of that state to unite their efforts and form a farmer legislative committee composed of one representative from each organization.

C. W. Vetter, county agent of Lewis county, Missouri, has discovered a limestone deposit testing over ninety-one per cent pure carbonate. The Farm Bureau Association of that county will endeavor to purchase and operate several rock crushers on a cooperative basis.

Over twenty thousand Ohio farmers have purchased uniform farm account books prepared by the College of Agriculture and issued by the Ohio Bankers' Association. Internal revenue collectors state that by using these books the farmers will be able to determine their income tax data very easily.

Officers of the Minnesota Farm Bureau Association announce that fifty-eight thousand Minnesota farmers have joined the farm bureau. Township units are being formed at the rate of twenty per day.

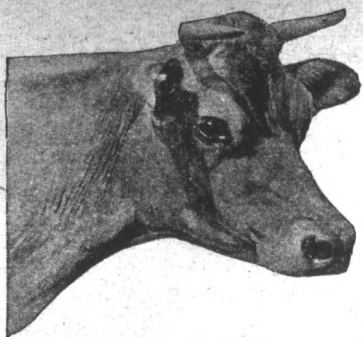
South Dakota Farm Bureau Federation is contemplating an initial gift of a trainload of corn for the relief of the starving people of Europe, China, and the near east.

The opening meeting of the Farmers' Live Stock Marketing Committee of Fifteen was held in Chicago on Wednesday, February 23.

Acting on the request of the Fruit Growers of America, President J. R. Howard, of the American Farm Bureau Federation has issued a call for a meeting of a representative from each State Farm Bureau Federation to discuss the advancement of American fruit growers' interests. This meeting will be held at the Congress Hotel in Chicago on April 15.

Mr. C. W. Craig, secretary of the Paducah, Ky., Board of Trade, has offered his services to the County Farm Bureaus of Kentucky in assisting them on their traffic problems. He is investigating the recent raise in freight rates on agricultural limestone and announces that he will take such action as may be necessary to remedy this situation.

The senate and house conferees have agreed on the senate bill limiting migration of aliens to three per cent from April 1 to July 1, 1922. The percentage is based upon the number of aliens in the United States at the time the 1910 census was taken.



Some Market Milk Problems—By W. A. Freeboff

LESS stir is made on the part of the buying public when shoes are raised five dollars a pair than when milk is advanced one cent a quart. Both shoes and milk are articles of universal consumption, and in many families the shoe bill is larger than the milk bill. But somehow or other the public has it fixed in its mind that the price of milk has something to do with infant mortality, or at any rate, that one cent a quart raise will prevent the poor mother in the slums from giving her children milk.

The effort is being constantly made, therefore, to force down the retail price of milk, and pressure is brought to bear upon the milk distributor. This latter, astute gentleman that he is, keeps an accurate set of books, and is nearly always able to prove that he is not making an unreasonable profit. But the price simply must come down, so the farmer or milk shipper is next interviewed.

"I am producing milk at a loss now," declares the farmer, and he is up in arms at once. "Prove it," taunts the city press, and in too many cases the farmer must let his case rest upon his mere sayso that he is losing money. He doesn't keep books so that he knows what the milk is costing him.

As a matter of fact, a great many milk tariffs seem to have been agreed upon by compromising two sets of prejudices rather than upon a close analysis of admitted facts. In most instances the farmer and the dairyman was the chief loser, as he lacked both the organization and the facts to enforce his claims.

One factor which keeps milk high in price is the competition between too many milk distributors in a city. When three and four milk wagons go up the same street, this duplication is bound to make a great difference in the cost of getting milk to the consumer. Some authorities believe that three or four large milk companies in the larger cities, whose routes overlap a little but who, in the main, have well-established territories, will do as much as anything else to keep down the cost of distribution. Others believe that the privilege should be given to one corporation, which is to be duly licensed, be under state supervision, and closely regulated. Others believe that every municipality should conduct its own milk distribution.

LET us look at it from the standpoint of the city consumer. Public safety demands that the milk he gets be handled under the most modern and sanitary conditions. The great milk distributors are experts at pasteurizing and clarifying milk, so that it is clean when it gets upon the table, and free from disease germs, unless these have been introduced after the milk is delivered and the bottle uncapped. Any new system of milk distribution would have to include all necessary safety and sanitary measures.

The milk depots which are being established in many cities where the customers come with their own containers, and get their allotment dipped out of open cans, are a great danger to

(Continued on page 318).



"The teat cup action is superior to anything else on the market." —ALVIN VOIGT.

Perfection Milks Just Like the Calf

IF you put your finger in a calf's mouth and then in the teat cup of the Perfection you won't feel a particle of difference. The gentle suction followed by a downward squeeze, followed by a period of rest is a perfect copy of the calf's action. Human hands can't duplicate the calf's milking.

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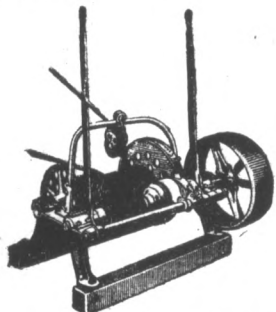
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EQUIPMENT

Milk Scales Bring Profit

By Charles E. Richardson

I REMEMBER a few years ago, I bought a certain cow. This cow looked good to me, but there was one thing that I did not like about her. That was, because she was a small cow. However, I got her for a reasonable price so I "took a chance."

After I got her home, different ones that saw her declared that she was too small for business purposes, that is, she might do all right for a family cow but to keep for dairy purposes it would be better to have the money invested in a larger cow, etc. I remember a friend of mine who was looking her over. I asked him:

"Why is it that you do not care for a small cow?"

"Well, you do not get anything for them when they are old," he said. "Now, if you have a cow that is large, after she gets too old to be of any use, you can sell her for beef and get something for her. But, a little cow such as she is, won't bring very much."

I always gave my cows balanced rations. To do that I had to weigh each cow's milk and after finding out what one gave and estimating her weight, I would mix a ration for her with the correct proportion of carbohydrates, proteins and fats. I, of course, have a table which shows the amount of these in the different kinds of feed and telling the quantity that cows need that give different amounts of milk and butter-fat according to their size. While all standard books telling about feeding cows have this information in them, it can also be obtained from the Department of Agriculture at Washington, D. C., and also most state experiment stations.

After I had found out what proper feed was best for this new cow, I learned that she did not need as much as the other cows that were larger. And yet she did as well in proportion as if she were big. In fact, the scales (by weighing the milk) showed if she was getting too much or too little feed.

By carefully using the scales each time she was milked, I soon found out when she received the right amount of grain. Too much grain is sometimes as bad for a cow as too little. Besides it is being wasted. A good many farmers generally feed each cow the same ration of grain. They think that it is too much bother to figure an individual feed. But, if they would only weigh their cow's milk they would soon be convinced that the trouble is worth taking.

I found out that I saved about fifteen cents each day, by giving the new cow a ration which was as she needed, as shown by the milk scales. So, at that rate, when she got too old to keep, the saving that I had made on her feed would more than offset the difference which I might have gotten if she were a larger cow. In my case, instead of losing by getting a small cow, I made; in fact, I could afford to give her away when she got old and still not lose. But if I had not weighed her milk, and done as most farmers do, I would never have known that I was feeding her too much, and she would not have done so well either.

OF course the principal reason for weighing the cows' milk, is to find out if each one is giving enough to pay for her keeping, etc. There are many farms that have "slacker" cows which, if the milk scales were used, would soon be found out. It takes a pretty good guesser to estimate the amount of milk in a pail with a lot of froth on the top! I've seen many a person get "fooled" that way. But the milk scales are sure. And if there ever was a time that "knowledge was power," it is nowadays in the dairy business.

I have found by watching the scales, that there have been times that a certain cow would begin to drop off in her flow. By investigating I would find out the cause and correct it. But if I had not been weighing the milk at each milking I would not have noticed the sudden "drop off" and would have gone on milking perhaps, until she got too far to get back again. Then again, when trying some new kind of feed, the scales will show if it is best to use it. If it agrees with the cows, the scales will give the regular milking weight or better, if the feed is better for them. If the feed is not as well for them, or is not relished as well by them, the scales will show it by a dropping off in the flow. Of course, to get the full benefit from weighing, regularity in milking must be looked out for. It is the little things which, taken care of, will make a cow do her best. If one will only watch the care taken of one of the record-making cows they will understand it better. But the scales is the fundamental guide in their care.

So, even if one has the best cows that can be raised, and the best of feeds to give them, and the best of care in stabling (the best of everything), and also the use of a Babcock test to determine the quality of their milk; with all these there is only guesswork unless the milk scales are used.

If farmers would begin with the milk scales, try them for one year in an honest careful manner, they would find there would be some profitable surprises. And, as one thing leads to another, balanced rations and the use of the Babcock test would be given a trial, with other things to help that go with them. The farmer would gain and the nation, too.

There is no reason why the farmer cannot use his head as well as his hands, and the milk scales is the stepping-stone in that direction.

PRODUCERS PROTEST COLD STORAGE ACT.

THE American Farm Bureau Federation and National Grange representatives are receiving many protests from the northwestern dairy interests and the California poultry raisers against the provision in the cold storage act which requires perishable commodities to be marked "cold storage" if on the road more than ten days. The Petaluma, California, poultrymen sent telegrams saying that their industry would be ruined unless the time was extended to thirty days. It is probable that shippers of poultry products and butter from some of the middle west and Rocky Mountain states will be similarly affected by this measure. It is predicted that a change in the time allowed in transportation to thirty days will be made early in the next session of congress. It is impossible to get a bill through congress satisfactory to all the producers.

CONGRESSIONAL HIGHWAY LEGISLATION DELAYED.

AN effort was made to attach an appropriation of \$100,000,000 for road construction to the post office bill. It failed, however, because the senate refused to suspend its rules to make the proposed legislation in order. This clears the way for early consideration of the Townsend highway bill next season.

If you are not willing to do the work necessary to keep your poultry free from lice, don't try to raise it. It will not pay you.

Children May Share the health drink — INSTANT POSTUM

This pure cereal beverage is made of prime wheat, bran and molasses.

Satisfying, pleasing, and nothing in it to do harm.

Instant Postum has a rich, coffee-like flavor.

It is economical and convenient

Postum comes in two forms—Postum Cereal (in packages) is made by boiling a full twenty minutes.

Instant Postum (in tins) made instantly in the cup by the addition of hot water.

"There's a Reason"
Sold by grocers everywhere

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

TO DEMAND CLEAN MILK.


POINTING out the fact that the state of Michigan does not require tuberculin testing of cattle, and that communities cannot demand it of milk producers, Dr. George F. Clark, health officer, told the milk committee of the League of Women Voters that the solution of the milk problem lies in the education of consumers to demand milk produced under sanitary conditions, and of the producer to realize that it is to his benefit to maintain proper sanitation. Any community can prevent the sale of milk produced under insanitary conditions and some are doing so, the health officer declared, and in this way can control its milk supply. He had no fault to find with producers who, he said, were willing to improve conditions complained of by city inspectors. Living conditions of the cattle are of first importance the women were told. Four herds have been found in one county stabled under such bad conditions that the use of milk in any way, even for making butter, has been forbidden. The communities are demanding proper cleaning, white-washing and ventilation of barns, immunization of all cattle and better feeding. "When the producers realize," said the health officer, "that increased production under more favorable conditions will more than offset the cost of improving sanitation, they will be more than willing to cooperate."

FOUNDATION WALLS.

WHEN you build that new chicken coop, hog house or barn, extend the concrete foundation walls a foot or more above the floor. It is cheaper than lumber, the sills and board ends will not rot from touching the ground and, best of all, the cold breezes cannot chill the chickens, hogs or cattle. A concrete foundation wall two feet above the floor is absolute insurance against cold feet from cold floors.

MORE EFFICIENT GOVERNMENT SERVICE.

AN interesting meeting of business and professional men in Marquette on January 14, listened to an exposition of the defects in state organization made by Mr. G. C. Cummin, of the Institute of Social Service of New York, who has completed a survey of our state affairs for the Community Service Council. Mr. Cummin has spoken at several points in this part of the state on this subject. The creation of an enlightened public opinion is his object, and no one who has on his own account investigated the arrangement of the governmental affairs will question the substantial accuracy of Mr. Cummin's description. Inquiries have come to me regarding the location of the several agencies of conservation involved in the governor's scheme. It seems to me that this should give no real difficulty. Taking the department of agriculture and conservation, for example, there would be a departmental chief at its head, comparable to the secretary of agriculture in the government of the United States. The department would be divided into bureaus of forestry, plant and animal husbandry, geological survey, drainage, marketing, etc. The bureau of forestry would be divided into the divisions of reforestation, fire prevention, field division, etc. Fish and game would be comprehended in two divisions of another bureau. Still another bureau would comprise divisions of immigration and of land settlement. This would simplify and systematize this department of our present official activities under this head, and would definitely fix responsibility. It follows the analogy of the federal government but should avoid the defects of the federal system.—CHASE.



Keep The Boy In School

THE pressure of urgent spring work is often the cause of keeping the boy out of school for several months. It may seem necessary—but it isn't fair to the boy! You are placing a life handicap in his path if you deprive him of education. In this age, education is becoming more and more essential to success and prestige in all walks of life, including farming.

Should you feel that your own education was neglected, through no fault of yours, then you naturally will want your children to enjoy the benefits of a *real education*—to have some things you may have missed.

With the help of a Case Kerosene Tractor it is possible for one man to do more work, in a given time, than a good man and an industrious boy, together, working with horses. By investing in a Case Tractor and Grand Detour Plow and Harrow outfit now, your boy can get his schooling without interruption, and the Spring work will not suffer by his absence.

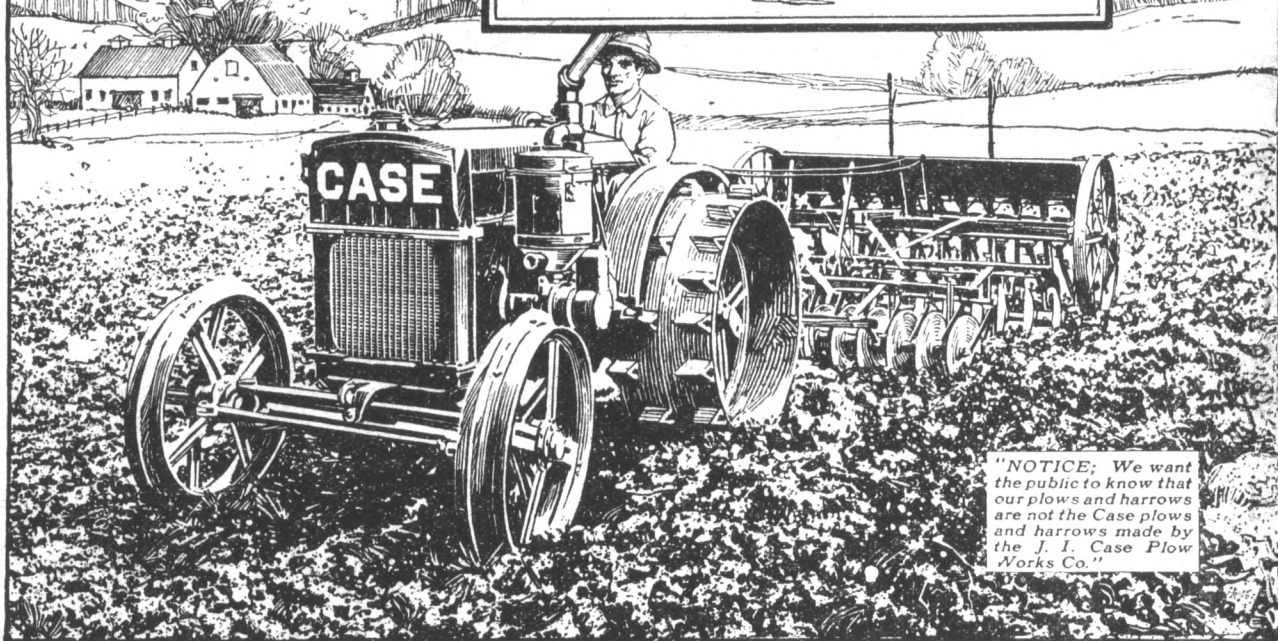
Keep the boy in school—and let a Case Kerosene Tractor take his place in the field. You'll never regret either investment.

J. I. Case Threshing Machine Company
Dept. C 16 Racine, Wisconsin

CASE

TRADE MARKS REG. U.S. PAT. OFF. AND IN FOREIGN COUNTRIES

KEROSENE TRACTORS



"NOTICE: We want the public to know that our plows and harrows are not the Case plows and harrows made by the J. I. Case Plow Works Co."

Wood Silos Make Perfect Silage—and the TECKTONIUS METHOD

BEST SILO ON EARTH
Make Perfect Silos



That's a fact! 7,000 TECKTONIUS silos in Wisconsin alone prove it. Thousands more in the United States, Canada and foreign countries. Before you decide on a silo investigate the TECKTONIUS METHOD of Silo Building, endorsed by dairymen and farmers everywhere.

A 5-Year Success
The TECKTONIUS METHOD is a proven success. It is backed by a 5-year guarantee. No other silo can give you the exclusive TECKTONIUS air-tight door that locks at four corners, automatic adjusting hoop fastener and super cable and base stave anchorage system.

Beware of Imitations
Don't confuse ordinary silos with superior silos built by the TECKTONIUS METHOD. Our method gives you a rigid, air-tight silo that will stand for years, in all kinds of weather—one that makes perfect silage right up to the wall.

FREE Farm owners, write today for our book "Perfect Silage". It gives you the real facts about silos and explains our method fully. Also send name of your lumber dealer.

E. C. TECKTONIUS MFG. CO.
1207 Racine Avenue
Racine Wisconsin

PERMANENCE



HOOSIER SILOS last for generations. Proof against wind, fire and frost. Glazed or unglazed vitrified tile, reinforced every course. Continuous double sealed doors set flush inside allow even settling of silage. HOOSIER SILOS also in wood or cement stave. Same splendid value, backed by HOOSIER reputation. Build ALL farm buildings of hollow tile for permanence and economy. Write for prices, literature and special agency proposition.

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Dept. M99 Albany, Ind.

Dickey Glazed Tile Silos

Best of materials, six different diameters, everlasting hollow tile roof, easiest to build—such features as these have made the Dickey pre-eminent among silos.

The Fruit Jar of the Field
Send for catalog No. 9
W. S. Dickey Clay Mfg. Co.
Macomb, Ill.
Kansas City, Mo. Chattanooga, Tenn.

POTATO MAGAZINE

3 Months Trial
PUT DOLLARS IN YOUR POCKET
Learn how to grow and market table and seed potatoes at greater profit. Send 25c for 3 months to THE POTATO MAGAZINE, City Hall Square Bldg., Chicago, Ill.

25c



This is SOME Sprayer!

Sprays trees, shrubs, potatoes and field crops for insects and fungus; sprays stables, pig and poultry pens and barn yards for lice, vermin and for disinfecting. Also useful for whitewashing stables, poultry houses and fences. It's handy too, for washing windows, buggies and for spraying stock.

SMITH'S No. 22 BANNER COMPRESSED AIR SPRAYER

Heavy, 4-gallon galvanized steel or brass tank, strongly made. Easy to fill—by detaching pump. Pump is seamless brass, 2 inches in diameter; nothing to rust, corrode or wear out.

Handle easily locks into pump. A few strokes of pump and tank is filled with compressed air. **Automatic, Brass, Non-cloggable Nozzle** throws long, fine mist or coarse spray. No waste. Easily operated by man, woman or child.

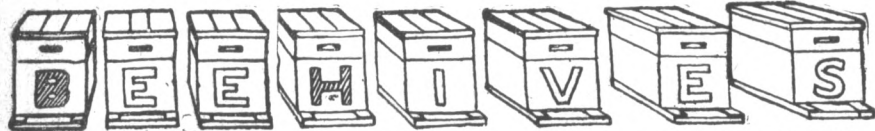
This No. 22 Banner is built to stand rough, hard service. Be sure and ask for it by name.

If your dealer cannot supply you, write

D. B. SMITH & CO., Manufacturers
70 Genesee St., UTICA, N. Y.

On sale in New York City at No. 98 Chambers St.

We make 50 different styles and sizes of sprayers. If you are interested in smaller or larger sprayers send for catalog.



Winter Problem solved by the Hive with an Inner Overcoat. Wintered 100% perfect, no loss of bees, winters of 1916-17-18. The Inner Overcoat did it. Send for free 48 page catalog of bee keepers supplies. **BEES WAX WANTED A. G. WOODMAN CO., Dept. M.]F., Grand Rapids, Michigan.**

Fleece Wool Wanted

We are paying the following prices for fleece wool f. o. b. Detroit.

Delaine 33c	
Fine Clothing 24c	
1-2 blood combing 26c	
3-8 " " 24c	
1-4 " " 22c	
Rejects " 15c	

Wool sacks furnished for packing wool. Check sent on receipt of wool.

Traugott Schmidt & Sons,
508-560 Monroe Ave., Detroit, Mich.
Capital \$1,750,000.

SOY BEANS

Michigan grown Early Browns direct from grower.

A good early bean of best quality. Bags free.

George S. Hedrick, Holloway, Mich.



Learn Auto and Tractor Business

Earn \$150 to \$400 a Month Right in your own neighborhood get into big-paying business. Learn in 6 to 8 Weeks. Work on real Autos, Trucks, Tractors. Write today for FREE 68-page Opportunity Book.



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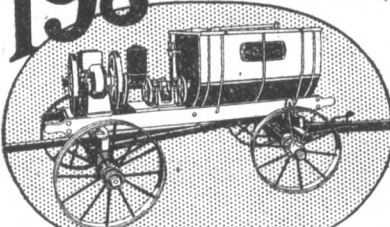
OTTAWA LATEST DESIGN

Durable, Powerful, Reliable, Massive. Built to last; to do hard, heavy work. Uses Cheapest Fuel.

Pull 1/4 to 1/2 horse-power more than rated. Lowest Prices. 3 Months Trial. Easy Terms. Sizes 1 1/2 to 22 H.P. Easy to start. No cranking. No batteries. 10 Year Guarantee. Most practical engine ever built. Engine book free. A postal brings it.

THE OTTAWA MANUFACTURING CO.
1861 King Street, OTTAWA, KANSAS

198⁵⁰ for a Real Power Sprayer



Hardie Junior Sprayer

Not an experiment, but the old reliable Hardie Junior in a new form. \$55 less in price, with nothing cheapened, only a few non-essentials left out. This low price makes it available to the small grower. In fact, over ten thousand growers have seen in this Hardie Junior Special their opportunity to get away from inefficient low pressure hand spraying.

Long on horse power, big in capacity, will maintain the highest spraying pressure. It is equipped with the famous Hardie Orchard Gun, which takes the arm ache and back ache out of spraying, fits in any farm wagon—weighs only 490 lbs., is equipped with 25 feet Hose and Orchard Gun, but truck is extra.

This special offer is limited. Write today. A post card brings full particulars

Hardie Mfg. Co., 112 Hardie Bldg.

For 21 years the largest exclusive manufacturer of sprayers in America
Hudson, Michigan



Automatic Stropper \$2.50

Sharpens all razors, old style as well as any make of safety razor blade.

Especially designed to give to all users the Master Barber's stroke that assures a perfect velvet shaving edge which makes shaving a pleasure. All broken in ready for use with extra holder for safety razor blades. Mailed to any address in U. S. each \$2.50 to Canada duty paid \$3.00. Satisfaction guaranteed or money refunded within 10 days. Thos. Russell, 48 Alexanderine East, Detroit, Mich.

Our Service Department

CONTROLLING PLUM CURCULIO.

I have some Lombard plum trees twelve years old which bloom heavily every spring, then the little plums drop off; some are half-grown. I have not sprayed very much. What must I do to get a crop of plums? The trees are large and nice.

Gladwin Co.

H. H.

The loss of the plum crop was probably due to the work of the plum curculio, although it is possible that the blossoms were not properly pollinated, owing to the fact, as we infer, that there is but one variety.

The plum curculio is a small beetle which appears about the time the fruit sets and after making a crescent-shaped cut in the fruit deposits an egg under the center flap which has been made. In about ten days the egg hatches and the worm makes its way to the pit. As a result the fruits which have been "stung" will drop and this may result in the loss of the crop.

Formerly it was customary to fight this insect by spreading sheets on the ground and jarring the trees. By doing this three or four times at intervals of two or three days, in the cool of the morning, it is possible to catch and destroy the curculio and save the crop. It was later on found that the curculio could be controlled by spraying.

Especially in unfavorable seasons many varieties of plums are self-sterile, and will not set fruit unless another variety is growing near-by. While not necessary, as a rule, with Lombard it will surely be helpful if some other variety, such as Green Gage or Grand Duke is grown with it.

The San Jose scale is still to be found in many sections of southern Michigan, and we would advise the spraying of the plum trees during the month of April with commercial lime-sulphur solution diluted with water at the rate of one part to eight parts of water. When the blossom buds begin to show white, but before the petals open, spray with lime-sulphur at the rate of one gallon to fifty gallons of water and add one and a half pounds of dry arsenate of lead. Repeat this application four or five days after the petals have fallen and again in ten days or two weeks. It will be well to use lime-sulphur alone, three weeks later.—L. R. TAFT.

LIME AND ACID PHOSPHATE.

I want to sow one hundred and fifty pounds of acid phosphate and one hundred and fifty pounds of lime to the acre. Can I mix them together and sow them with a lime sower, or will the acid neutralize the lime. I am to sow them on wheat when I seed to grass in the spring.

Grand Traverse Co. W. W. W.

No particular harm would result in mixing acid phosphate and lime together and sowing it at one operation. The lime will cause the phosphoric acid in the acid phosphate to revert, but, then, it will do this in the soil anyway, but it does not get in a form so that it cannot be used as a food for plants.

The serious mistake you are making is in only using one hundred and fifty pounds of lime per acre. This is not enough to be of any appreciable benefit. If you use hydrated lime you should sow not less than five hundred or one thousand pounds per acre and this would be considered a moderate application. If you use ground limestone you ought to sow, at least, one ton per acre, and two tons would be none too much. On the other hand, one hundred and fifty pounds of acid phosphate for a cereal crop would be

a fair application. Most people do not think of sowing less than two hundred pounds.

I think you are making another mistake in sowing acid phosphate and lime on your wheat this spring. Both should have been applied last fall and mixed with the soil. I am of the opinion that you will get very little result from this application on top of the ground this spring. Sometimes, nitrate of soda is used in the spring on a poor stand of wheat and gives results, but this is a very soluble fertilizer and even then, with heavy rains, much of it is liable to be lost. The proper way to use fertilizer and lime is to mix it with the soil when the land is being prepared for a crop or in the case of fertilizer to distribute it with a fertilizer drill when the crop is being sown. In either case, the fertilizer is well mixed with the soil.—C. C. L.

POTATOES FOR PIGS AND COWS.

Will you please advise me in regard to feeding potatoes to pigs and fresh cows? We have all kinds of home-grown grain and roughage. We would like to feed the potatoes which are worth thirty cents, if we can make it pay.

Tuscola Co.

G. B. S.

Where you have no silage a moderate feed of potatoes to dairy cows is a good thing. The succulency of the potatoes make them more valuable as a food than the food analysis would indicate. I would not advise feeding over thirty pounds per day to a cow.

Potatoes make an excellent food for pigs, but they should be cooked. However, it is not necessary to cook them for the cows. If you will boil the potatoes with cull beans, one-third beans and two-thirds potatoes by weight you will have a splendid food. If you haven't got the beans you can mix wheat middlings or linseed meal with boiled potatoes. It is a question whether potatoes at thirty cents a bushel can be fed at a profit at the present price of corn meal and oil meal possibly it would pay you to sell these potatoes at thirty cents a bushel, because their feeding value is not great owing to the amount of moisture which they contain. I am of the opinion that it will pay you to feed a small feeding to the cows if you have no other silage.

C. C. L.

FERTILIZER FOR ALFALFA.

Would fertilizer be of much value when drilled with oats to get a good catch of alfalfa on common loamy soil? If so, what kind and how much fertilizer would you recommend?

Osceola Co.

J. B.

Fertilizer will be of great help in getting a stand of alfalfa where you seed alfalfa with oats. I know of nothing better that you could do to assure a good catch of alfalfa than to use a good amount of fertilizer when you sow the oats and alfalfa seed, which, of course, can all be done at one operation.

Any good brand of fertilizer. It would be better to have a complete fertilizer, one containing nitrogen, phosphoric acid and potash, but a good application of acid phosphate would be a help to the alfalfa, as much as it would the oats. You can secure acid phosphate of any reliable fertilizer manufacturer. The county agricultural agent in your county could get it for you. A number of farmers in some counties are buying it in carlots by pooling their orders.—C. C. L.

In the ash of bran there is a large proportion of phosphates, much larger than in the ash of barley or oats.



TRY KENTUCKY WONDER BEANS.

AMONG the varieties of garden beans which we have tried, none have been relished like the Kentucky Wonder. Plan on growing a few of them in the home vegetable garden this year and we believe you will plant them every year. A row twenty to thirty feet long will be sufficient as the vines should be trained on poles and each seed produces a large plant which develops many of the long twisted green pods.

The Kentucky Wonders are the best to eat when about half-grown but the pods are still rich and meaty when they have reached their largest size, which is about ten inches long. We find these pods free from woodiness or stringy material, even after reaching a large size.

We tried planting sunflowers in a row near the Kentucky Wonder beans with the idea of training the beans up the sunflower stalks. However, the stalks furnished too much shade and took so much moisture from the ground that the beans near the sunflowers were far inferior in quality and quantity to the beans we raised in the garden and trained on poles. The plants will produce beans abundantly, even when they are not trained up, but the beans will become covered with dirt after every hard rain and they will not grow as large and smooth as on the plants that are trained up.

We have had good luck in selling Kentucky Wonder beans to city buyers and they prefer them to other varieties of string beans and butter beans which we have sold. The Kentucky Wonders are so large that it does not take long to harvest a bushel and this saving of time is an important factor in raising such crops in the garden as beans or peas.—R. G. K.

PRUNING BUSH FRUITS.

Raspberries and blackcaps must not be pruned until spring just before the buds begin to swell. If pruned too early they freeze back. These berries are borne only upon new wood. Remove all the old wood of last year's fruiting, prune the raspberries back to about two and one-half feet from the ground and the blackcaps should have the side branches cut back to from six to ten inches long. The purpose of pruning is the same as for grapes, i. e., to secure large and superior fruit.

Currants and gooseberries should never be cut back. About once every three years, cut out considerable of the old wood, especially that which is low down. These fruits are borne on old wood so don't prune too severely.

L. B. R.

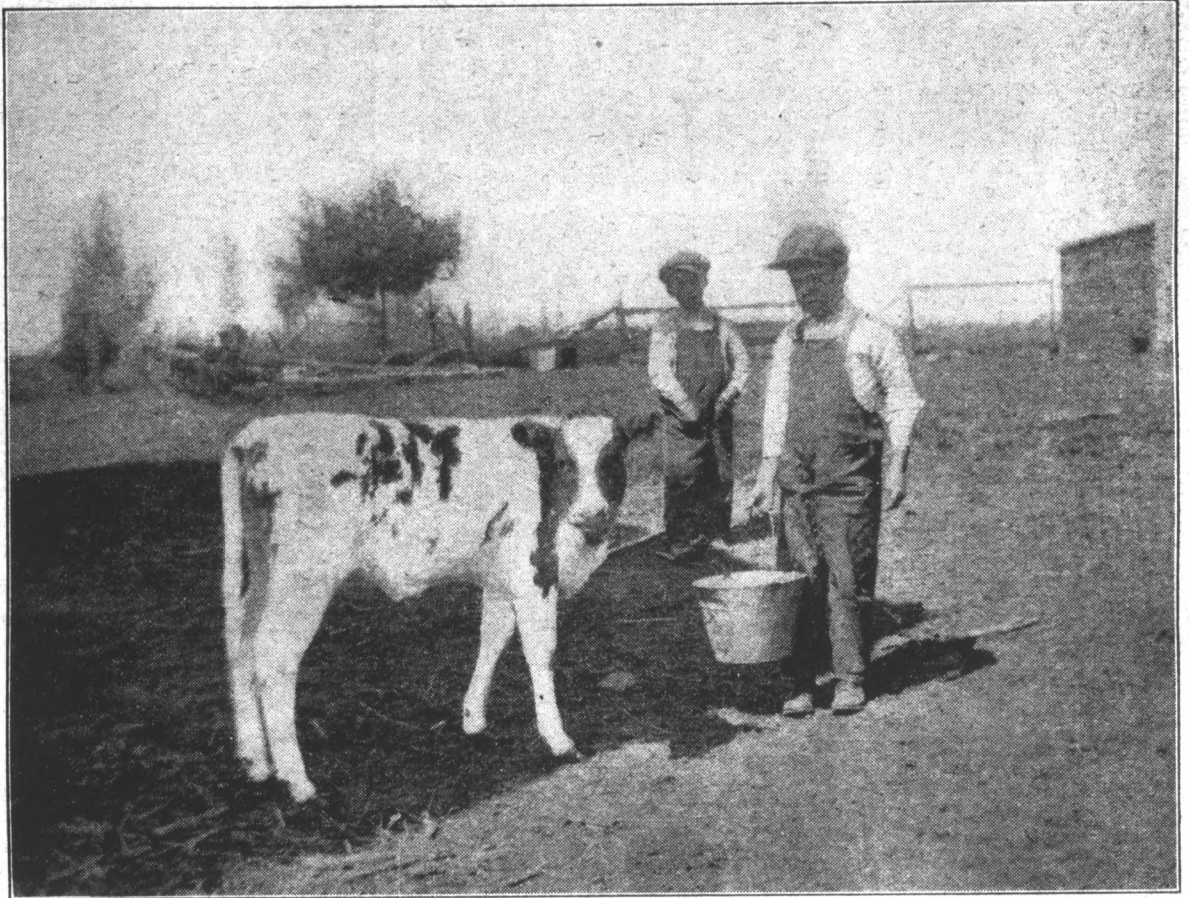
CLOVERSEED PRICES.

(Continued on page 293).

Prices now are materially below the ten-year average.

Will prices advance as usual during the coming spring? Apparently there is a fair chance that they will do so, but there is nothing to indicate that the advance will be a very pronounced one. More buying is certain to take place later in the spring, but the force of this is partly neutralized by the large holdings, especially those in farmers' hands.

There is always a chance that the course of the market will favor those who delay buying, but prices have already receded so far, that it does not seem likely that they will go further downward during the season of spring seeding.



Kodak on the Farm

On the farm Kodak serves a double purpose. Like the auto it is ready for business or for pleasure.

It is always ready for pictures in and about the home. The children, the family pets, the grange picnic, the thousand and one familiar scenes around the farm—all these contribute delightfully to the family Kodak album.

And there's a worth-while business use for the Kodak on every farm. It keeps a record of crop and orchard growths, the progress of building, the condition of the "line fence." It sells live stock.

And picture taking by the Kodak method is simpler and less expensive than you think. A catalogue of Kodaks and Brownies free by mail or at your dealer's.

EASTMAN KODAK COMPANY, Rochester, N. Y.

"even when there is no fungus"
— for fruits and vegetables —

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Pyrox
TRADE MARK REGISTERED

Read about Pyrox, the combined poison and fungicide, in the March 12th issue of this paper.

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Today



FARM WAGONS

High or low wheels—steel or wood—wide or narrow tires. Steel or wood wheels to fit any running gear. Wagon parts of all kinds. Write today for free catalog illustrated in colors.

ELECTRIC WHEEL CO., 35 Elm Street, Quincy, Ill.

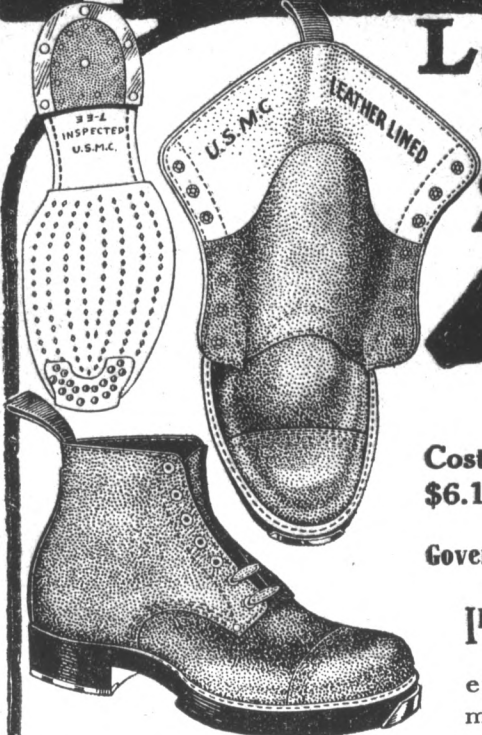


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SMITH

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Leather Lined
\$4.90
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Parcel Post FREE

Cost The Government
\$6.10 a Pair-Buy Now!

Government Loss—Your Gain

IDEAL work shoes
for farmers, miners,
engineers, railroad
men and mechanics.

These shoes are made of extra plump weights of dark russet horse butts full bellows tongues, blucher pattern, box toes, toe caps, uppers lined with best chrome fresh splits; outsoles best scoured oak tanned plump hides, 9 iron in thickness. These shoes are also fitted with a tap or half soles of best scoured oak tanned plump hides, 9 iron in thickness, secured by brass screws and wooden pegs. The heels are built of whole lifts about 1/8 inch thick, cut from hemlock or oak tanned leather; all heel lifts have grain on; top lifts are iron horseshoes, 1/8 inch in thickness, securely fastened to the heel. Inside of iron horseshoe filled with best hemlock or oak tanned leather. These shoes are also fitted on the sole at the toe with a steel tip.

(Barnyard Acid Will Not Affect These Shoes)

National Shoe Co.
533 Market St., Philadelphia

Upper Peninsula News

By L. A. Chase

MR. J. A. JEFFERY, formerly professor of soils at the Michigan Agricultural College, and now land commissioner for the Duluth, South Shore & Atlantic Railroad, has for some time been carrying on experiments to determine the soil corrective which gives the best results on our muck lands. I have his report in relation to operations for the past season on a two-and-one-half-acre tract five miles west of Seney, Schoolcraft county. The crop tried out was oats and in the experiment, Mr. Jeffery explains, it was sought to ascertain the effect of lime, limestone screenings, barnyard manure, potash (in the form of muriate of potash), raw rock phosphate, acid phosphate, or super-phosphate, and a high-grade commercial fertilizer having the formula (1-10-10). All of the materials, except the raw rock phosphate and the commercial fertilizer, was used in varying amounts per acre, and all was used independently in various combinations. Briefly, the results are thus summarized: The average of twenty-one samples harvested from as many points on untreated soil was 17.1 bushels per acre. The average yield where lime was used was 26.24 bushels. Where eight to ten tons of manure was used, the return was 37.17 bushels. Where potash was used, the yield was 48.2 bushels per acre. Where manure and potash were used, the average yield was fifty-three bushels. The armyworm and grasshopper are considered to have destroyed 12.5 per cent of the crop. Making a correction of yields on the above basis, and charging up to each yield the average cost per year for treatment, Mr. Jeffery arrives at the following result: The average net increase per acre from the use of lime was 6.45 bushels per acre; from the use of manure, 5.95 bushels; from the use of potash, 26.5 bushels; from the use of manure and potash, 25 bushels.

There are twelve associations in the upper peninsula affiliated with the Michigan Potato Growers' Exchange, is the information just received from Mr. A. B. Large, general manager. I am also informed that their exchange has never had occasion to cause the forfeiture of a member's promissory note held as a guarantee of good faith, which indicates that an excellent spirit of cooperation exists.

Farm Tenancy in Cloverland.

The investigation of farm tenancy in Michigan, recently carried on by the Michigan State Farm Bureau, indicates that, while twenty-one per cent of the farms of the lower peninsula of Michigan are operated by renters, only eight per cent of the farms in the upper peninsula are so rented. This is the word which comes from Mr. E. E. Ungren, assistant director of publicity of the State Farm Bureau. He quotes Mr. L. R. Walker, agricultural agent of Marquette county, to the effect that the only farm tenancy found in this county is in the neighborhood of Ishpeming, where some farmers rent forty-acre tracts from the iron mining companies.

Production High in Upper Peninsula.

The Annual Summary Crop Report for Michigan, just issued from the office of V. H. Church, statistician, Lansing, shows that the upper peninsula district in 1920 produced 1,994,100 bushels of oats, which was an average of 39.4 bushels per acre, which exceeds the average yield in the central counties of the southern peninsula by three bushels per acre, the northwestern counties by more than twelve bushels per acre, the west central counties by nine bushels, and the southwestern counties by four bushels. It is only the southern, southeastern, and east

central counties that slightly exceed the upper peninsula average yield of oats. Only 15,170 bushels of winter wheat were produced north of the straits, and the average return was fourteen bushels per acre, which is the same rate of return as that of the southern counties of the state. The production of 395,000 bushels of corn is noteworthy, and the yield of thirty-four bushels per acre, while somewhat less than that of the southern counties—forty-one bushels—is not a bad showing for this latitude. Of barley the yield was 177,730 bushels, and of rye, 55,900 bushels. The average per acre yield of both crops exceeded that in the southern counties. The importance of the upper peninsula in the potato output is indicated by its production of 6,196,000 bushels—a return of one hundred and fifty-seven bushels per acre as against a state average of one hundred and five bushels per acre. The hay crop in the northern peninsula amounted to 201,500 tons. This was an average of 1.36 tons per acre, as compared with 1.16 tons in the southern counties and 1.20 tons in the central counties. Of the hay crop, 52,210 tons came from Chippewa county, its leading crop. Beans are hardly an upper peninsula crop and so we are not surprised that the output here amounted to only 7,800 bushels, at nineteen bushels per acre. But the bean belt appears not to be in it as regards the per acre return. Cloverland's yield of cloverseed is hardly what one might expect—three hundred and ninety bushels—but the average is high—4.9 bushels per acre.

Farmers to Have Electric Current.

It is practically determined that farmers living near Marquette are to have electric power furnished them by the city power station. Marquette owns its own electric plant, power being derived from a station on Dead River, northwest of the city. The city is understood to have the lowest domestic lighting rate in the state—five cents per K. W. H., with lesser rates for quantity lots. The farmers will organize their own distribution service and the city will deliver their station current at the quantity rate, the farmers adjusting their own consumption rate to suit themselves. Some thirty farmers attended the organization meeting at Scandia held recently and approved the project. The service will extend some twenty miles from the city. Under the state constitution a municipality may furnish current without its corporate limits to an amount not in excess of twenty-five per cent of that furnished within its boundaries.

I have already described in these columns the cooperative arrangement between the Spies Public Library of Menominee and the board of supervisors of Menominee county, whereby the service of the city library is extended to the rural sections of Menominee county. A recent report of operations shows that the twenty-seven branch libraries circulated 5,622 volumes last month. Children and adults are said to use this service about equally. It means a great deal to these isolated rural communities to have the service of a well-equipped city library close at hand.

Ironwood is now holding a poultry show and the Globe states that some thirty-five new members have been added to the Gogebic Range Poultry Association during the past year. Among the birds shown this year are the Sicilian Buttercups and the Black Giants. Many pure-bred birds are said to have been acquired by the membership of the association, resulting in a notable increase of egg production.

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Making Silage from Sunflowers

ONE of the greatest problems of the live stock operator, and farmer, in the summer range districts of the northwest has been the subject of winter feeding, and, though numerous experiments have been tried out in an effort to solve the situation, it was not until this winter that those engaged in the work felt sufficiently confident to make any definite announcement. Now, however, we are told that the Upper Peninsula Experiment Station, at Chatham, Michigan, has determined the marked superiority of sunflowers, over beets, oats, corn and other silage crops, for winter feeding.

Early in the spring of 1920 a seven-acre plot was seeded to sunflowers. The test plot was given careful attention, and a week later saw the sprouts reaching up and squaring away for a healthy growth. The plants thrived and grew rapidly until, at the time of cutting, had reached an average height of about eight feet, with heavy, thick stalks, wide leaves, and great yellow heads eight inches or more in diameter.

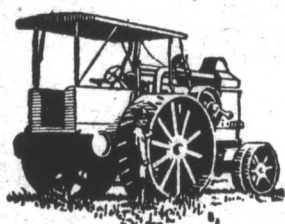
The plot yielded 24.6 tons to the acre, as compared with eight, nine and eleven tons for oats, beets and corn, respectively, grown on an adjacent plot, and receiving the same amount of care. Thus, approximately one hundred and seventy-five tons of sunflowers were hauled to the silo, cut into one-inch bits and packed tight, no other product having been mixed with them. When the fermenting process had been completed, the experiment was begun, first, on the cattle.

HOLSTEINS which received forty pounds a day thrived rapidly, and took on weight. Milk and butter-fat showed a decided increase and the silky gloss to the hide, the rounded udders and healthy calves were striking evidence of the success of sunflowers for winter feed.

This much having been definitely established, the same experiment was begun on the sheep and lambs. The ewes waded into the juicy feed with a will, eating it clean and leaving not a scrap. The lambs, however, held back and, though they seemed to sample it from time to time, did not take to it heartily. It was found that the lambs would turn aside the sunflowers for turnips or rutabagas.

The ewes, however, stuck to the sunflowers, in preference to any other feed, with the result that they soon out-stripped the lambs in weight and appearance. That sunflowers contain a decidedly nourishing substance is not questioned at the station where these tests were first tried out. Not only that, they declare, but sunflowers, fed in less amount than any other type of silage, produces better results where the animal shows a liking for it. Mr. MacMillan estimates that the sunflowers now in the silo are sufficient to feed his dairy herd of twenty Holsteins and all of the ewes for the rest of the winter.

Another interesting experiment—though conducted quite accidentally—was carried out with sweet clover. A part of a band of sheep, breaking out of the feeding corral, wandered into a field of annual sweet clover and, when discovered later, they were digging away at the tender sprouts as though actually eager to "take on" as much of the feed as possible before being discovered. Later, when six inches of snow covered the same field, the sheep were turned in, as an experiment, and the entire flock, scenting the clover beneath, immediately began digging down for the roots. Consequently, further tests will be carried out with annual and semi-annual sweet clover this spring, to determine its field value as compared with other kinds of win-



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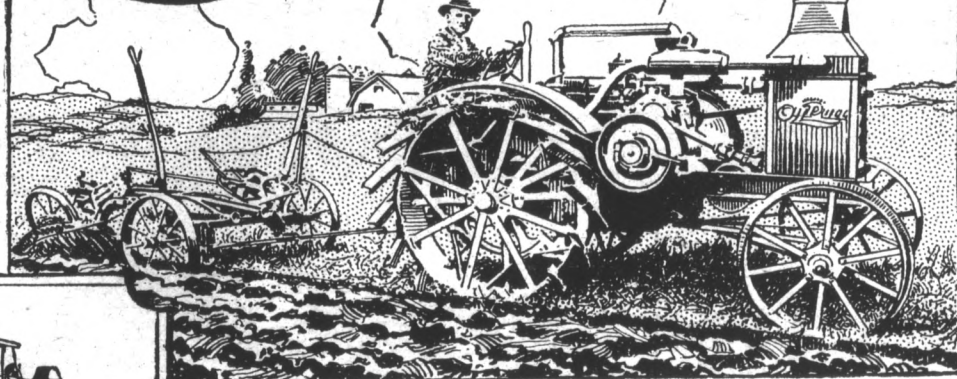
After 8 years of hard plowing, threshing and road work, my OilPull is in such good shape that I would not trade it "even up" today for a new tractor of any other make. It always has more power than I need, even on the toughest jobs. It has given no trouble and I am positive it will easily last 15 years more.

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—And From Your Section

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L. & C. Buell,
Kalamazoo, Mich.



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The Advance-Rumely dealer in your locality will be glad to supply all the information you desire about these or other features of the four sizes of the Rumely OilPull tractors, or about the five sizes of Rumely Ideal threshers. See him or write us.

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ter feed grown in this latitude.

Just at present, however, the experiment station officials are emphasizing the high field value of sunflowers for silage, believing that therein lies at least a partial solution of the winter feed problem for the northwestern farmers and grazers. It was also determined that sunflowers show a much greater resistance to frost than corn, or other silage crops, which, again, places the sunflower to the fore as a silage crop. And, lastly, the fact that sunflowers will produce approximately three times the tonnage of corn—the latter a stable silage crop for years—has brought forcibly to the attention of the northwestern farmer the decided advantage of the former, as applied to the growing conditions in this region.

Further tests will be carried out this spring, and it is confidently expected that next fall and winter will establish, beyond a doubt, the fact that sunflowers for silage is one of the most valuable economic features which the northern can emphasize today. Already there is a marked tendency towards the increased cultivation of the plant, and it is believed that the coming season will find sunflowers thriving on most of the up-to-date farms throughout the region.

SUDAN GRASS FOR HAY.

Will you kindly discuss through your paper, "Incarnate Clover?" its soiling values, also its value as a pasture or hay? Is Sudan grass in this part of Michigan a good hay crop? Does it deplete the soil? My soil is a heavy clay.

Kalamazoo Co. M. E. G.

Sudan grass belongs to the sorghum family. Of course, it is native of the south but will grow successfully here. It is a very vigorous grower, produces a very heavy crop of rather inferior forage. If grown for hay, it should be sown broadcast and quite thickly, or the stems will be too coarse. In proportion of food nutrients it compares quite favorably with our timothy hay but is nowhere near as good as clover. This is not a soil improver like our leguminous crops, clover, soy beans etc. It ought to be used in our northern agriculture more as we use millet as a catch crop.

For your heavy clay ground I would prefer to sow peas and oats to be made into hay. This is good soil for peas and while you may not get quite as large a yield per acre it will make a much more valuable forage crop, ton for ton.

Incarnate, or crimson, clover is not indigenous to this climate. It belongs further south, in Maryland for instance. This is used as we use common red clover here in the north. Even there, it is no better than red clover is here, and I would see no reason for trying to substitute this plant for our old reliable red clover. It is nowhere near as hardy and is very apt to winter-kill.—C. C. L.

PRESERVING A WOOD SILO.

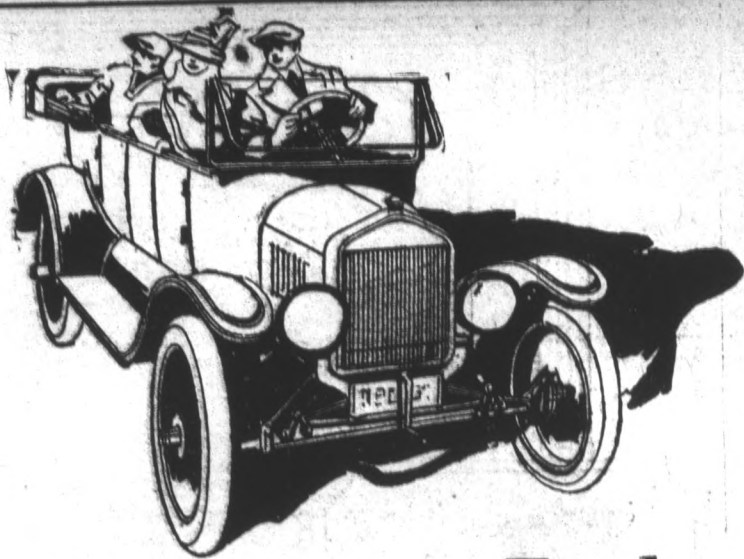
Would coal tar be as good as anything I could get to preserve a wooden silo inside?

Tuscola Co.

R. B.

When wood silos were first being introduced great pains were taken in coating them with tar paint, or something of that sort to preserve the wood, but this practically has gone out of use. Experiments show that these paints do but little good, and again, they are somewhat injurious to the silage. Without paint a wood silo will last for a great many years.—C. C. L.

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For Sale 40 acres all under plow, 2 horses, 1 cow, 3 hogs, flock of chickens, all farm tools. Good buildings. Orchard. A bargain at \$2900. Easy terms. Write JOHN CONANT, Grand Haven, Michigan

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

Small Farm For Sale or Trade near town. Willis Bradley, Bedford, Va.

Additional Farm Ads. on Page 325

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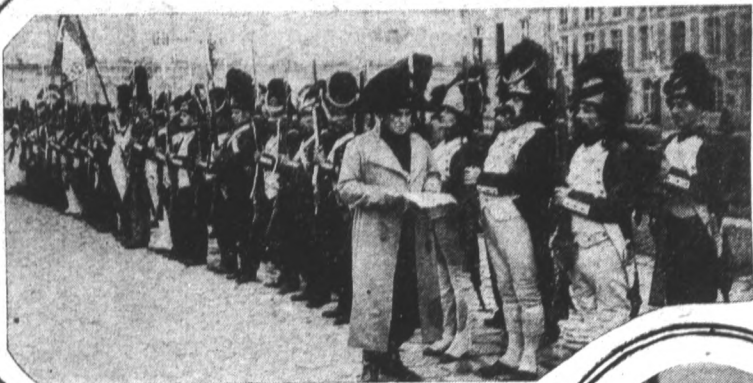
WORLD EVENTS IN PICTURES



New York health officers examine all immigrants for vermin which carry the dreaded fever typhus.



Although scarcely sixteen years of age, Erika Moriki is classed with Kreisler, great violinist.



French educators reproduce historic events in picture form. Here is shown Napoleon reading a petition that one of his grenadiers has just handed him.



Enrico Caruso, world-famous tenor, now convalescing from a critical illness, with his wife and child.



Corporal Guillemot, French war veteran, who won 500 meter race at the Olympic games, is training for athletic events at Madison Square Gardens.



This eight-year-old child has the mind of a child of fourteen, according to the Binet tests.



William G. McAdoo, former secretary of the treasury who, with his wife, is on a pleasure trip to Mexico, is shown purchasing needlework from a Mexican peon.

THE VOICE OF THE PACK

By EDISON MARSHALL

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Snowbird told him, overpowering him with her enthusiasm. And Dan shook his shoulders with rough hands. "You're hurting, boy!" Lennox warned. "I'm a bag of broken bones."

"I'll tote you down there if I have to tie you in," Dan Failing replied. "Before, I've bowed to your will, but this time you have to bow to mine. I'm not going to let you stay here and die, no matter if you beg on your knees! It's the test—and I'm going to bring you through."

He meant what he said. If mortal strength and sinew could survive such a test, he would succeed. There was nothing in these words to suggest the physical weakening that both of them had known a few months before. The eyes were earnest, the dark face intent, the determined voice did not waver at all.

"Dan Failing speaks!" Lennox replied with glowing eyes. He was recalling another Dan Failing of the dead years, a boyhood hero, and his remembered voice had never been more determined, more masterful than this he had just heard.

"And Cranston didn't get his purpose, after all." To prove his words, Dan thrust his hands into his inner coat pocket. He drew forth a little, flat package, half as thick as a pack of cards. He held it up for them to see. "The thing Bert Cranston burned the house down to destroy," he explained. "I'm learning to know this mountain breed, Lennox. I kept it in my pocket where I could fight for it, at any minute."

Cranston had been mistaken; after all, in thinking that in fear of himself Dan would be afraid to keep the packet on his person, and would cravenly conceal it in the house. He would have been even more surprised to know that Dan had lived in constant hope of meeting Cranston on the ridges, showing him what it contained, and fighting him for it, hands to hands. And even yet, perhaps the day would come when Cranston would know at last that Snowbird's words, after the fight of long ago, were true.

The twilight was falling over the snow, so Snowbird and Dan turned to the toil of building a sled.

CHAPTER XV.

THE snow was steel-gray in the moonlight when the little party made their start down the long trail. Their preparations, simple and crude as they were, had taken hours of ceaseless labor on the part of the three. The ax, its edge dulled by the flame and its handle burned away, had been cooled in the snow, and with his

one sound arm, Lennox had driven the hot nails that Snowbird gathered from the ashes of one of the outbuildings. The embers of the house itself still glowed red in the darkness.

Dan had cut the green limbs of the trees and planed them with his ax. The sled had been completed, handles attached for pushing it, and a piece of fence wire fastened with nails, as a rope to pull it. The warm mackinaws of both of them as well as the one blanket that Lennox had saved from the fire were wrapped about the old frontiersman's wasted body—Dan and Snowbird hoping to keep warm by the exercise of propelling the sled. Except for the dull ax and the half-empty pistol, their only equipment was a single charred pot for melting snow that Dan had recovered from the ashes of the kitchen.

The three had worked almost in silence. Words didn't help now. They wasted no sorely-needed breath. But they did have one minute of talk when they got to the top of the little ridge that had overlooked the house.

"We'll travel mostly at night," Dan told them. "We can see in the snow, and by taking our rest in the daytime, when the sun is bright and warm, we can save our strength. We won't have to keep such big fires then—and at night our exertion will keep us as warm as we can hope for. Getting up all night to cut green wood with this dull ax in the snow would break us to pieces very soon, for remember that we haven't any food. I know how to build a fire even in the snow—especially if I can find the dead, dry heart of a rotten log—but it isn't any fun to keep it going with green wood. We don't want to have to spend any more of our strength stripping off wet bark and hacking at saplings than we can help; and that means we'd better do our resting in the heat of the day. After all, it's a fight against starvation more than anything else."

"Just think," the girl told them, reproaching herself, "if I'd just shot straight at that wolf today, we could have gone back and got his body. It might have carried us through."

Neither of the others as much as looked surprised at these amazing regrets over the lost, unsavory flesh of a wolf. They were up against realities and they didn't mince words. Dan smiled at her gently, and his great shoulder leaned against the traces.

They moved through a dead world. The ever-present manifestations of wild life that had been such a delight to Dan in the summer and fall were quite lacking now. The snow was trackless. Once they thought they saw

a snowshoe rabbit, a strange shadow on the snow, but he was too far away for Snowbird to risk a pistol shot. The pound or two of flesh would be sorely needed before the journey was over, but the pistol cartridges might be needed still more. She didn't let her mind rest on certain possibilities wherein they might be needed. Such thoughts stole the courage from the spirit, and courage was essential beyond all things else to bring them through.

Once a flock of wild geese, stragglers from the main army of waterfowl, passed overhead on their southern migration. They were many months too late. They called down their eerie cries—that song that they had learned from the noise the wind makes, blowing over the bleak marshes. It waited down to them a long time after the flock was hidden by the distant tree tops, and seemed to shiver, with curious echoes, among the pines. Trudging on, they listened to its last note. And possibly they understood the cry as never before. It was one of the untamed, primitive voices of the wilderness, and they could realize something of its sadness, its infinite yearning and complaint. They knew the wilderness now, just as the geese themselves did. They knew its cold, its hunger, its remorselessness, and beyond all, the fear that was bright eyes in the darkness. No man could have crossed that first twenty miles with them and remained a tenderfoot. The wild was sending home its lessons, one after another, until the spirit broke beneath them. It was showing its teeth. It was reminding them, very clearly, that in spite of houses built on the ridges and cattle pens and rifles and all the tools and aids of civilization, it was still unconquered.

Mostly the forest was heavily laden with silence. And silence, in this case, didn't seem to be merely an absence of sound. It seemed like a substance in itself, something that lay over the snow, in which all sound was immediately smothered and extinguished. They heard their own footfalls in the snow and the crunch of the sled. But the sound only went a little way. Once in a long time distant trees cracked in the frost; and they all stood still a moment, trying to fight down the vain hope that this might be some hunter from the valleys who would come to their aid. A few times they heard the snow sliding, with the dull sound of rolling window shade, down from the overburdened limbs. The trees were inert with their load of snow.

As the dawn came out, they all stood still and listened to the wolf pack, sing-

ing on the ridge somewhere behind them. It was quite a large pack. They couldn't make out individual voices—neither the more shrill cry of the females, the yapping of the cubs, or the low, clear G-below-middle-C note of the males.

"If they should cross our tracks—" Lennox suggested.

"No use worrying about that now—until we come to it," Dan told him.

The morning broke, the sun rose bright in a clear sky. But still they trudged on. In spite of the fact that the sled was heavy and broke through the snow crust as they tugged at it, they had made good time since their departure. But now every step was a pronounced effort. It was the dreadful beginning of fatigue that only food and warmth and rest could rectify.

"We'll rest now," Dan told them at ten o'clock. "The sun is warm enough so that we won't need much of a fire. And we'll try to get five hours' sleep."

"That leaves a work-day of nineteen hours," Dan persisted. "Not any too little. Five hours it will be."

He found where the snow had drifted against a great, dead log, leaving the white covering only a foot in depth on the lee side. He began to scrape the snow away, then hacked at the log with his ax until he had procured a piece of comparatively dry wood from its center. They all stood breathless while he lighted the little pile of kindling and heaped it with green wood—the only wood procurable. But it didn't burn freely. It smoked fitfully, threatening to die out, and emitting very little heat.

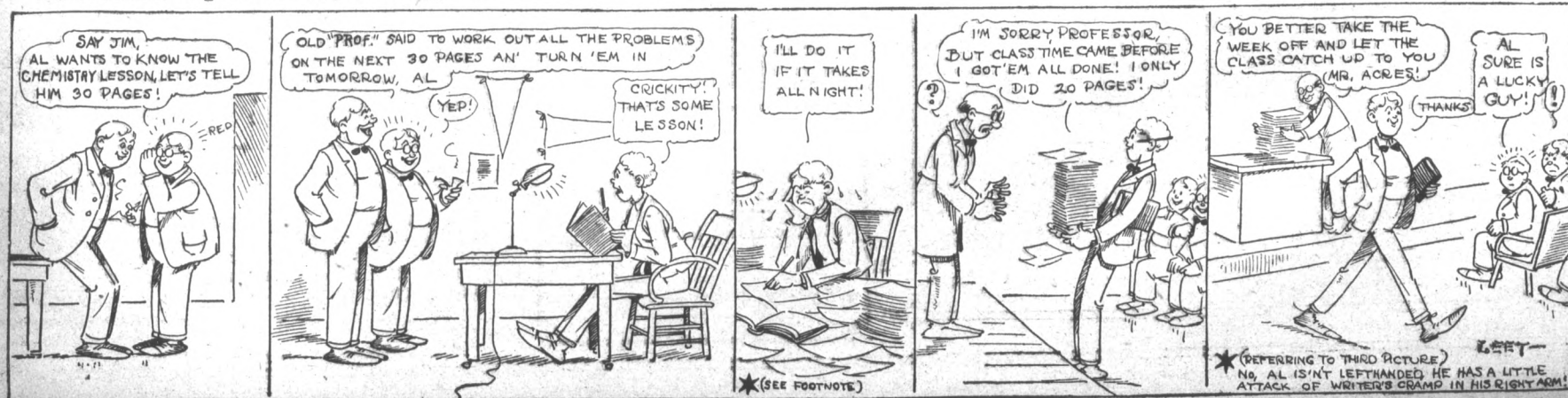
But they didn't particularly care. The sun was warm above, as always in the mountain winters of Southern Oregon. Snowbird and Dan cleared spaces beside the fire and slept. Lennox, who had rested on the journey, lay on his sled and with his uninjured arm tried to hack enough wood from the saplings that Dan had cut to keep the fire burning.

At three they got up, still tired and aching in their bones from exposure. Twenty-four hours had passed since they had tasted food, and their un replenished systems complained. There is no better engine in the wide world than the human body. It will stand more neglect and abuse than the finest steel motors ever made by the hands of European craftsmen. A man may fast many days if he lies quietly in one place and keeps warm. But fasting is a deadly proposition while pulling sledges over the snow.

Dan was less hopeful now. His face told what his words did not. The lines cleft deeper about his lips and eyes;

AL ACRES—Again the Unexpected Happened

—By Frank R. Leet



(REFERRING TO THIRD PICTURE)
No, AL ISN'T LEFT-HANDED HE HAS A LITTLE
ATTACK OF WRITER'S CRAMP IN HIS RIGHT ARM!

and Snowbird's heart ached when he tried to encourage her with a smile. It was a wan, strange smile that couldn't quite hide the first sickness of despair.

The shadows quickly lengthened—simply leaping over the snow from the fast-falling sun. Soon it dropped down behind the ridge; and the gray twilight began to deepen among the more distant trees. It blurred the outline and dulled the sight. With the twilight came the cold, first crisp, then bitter and penetrating to the vitals. The twilight deepened, the snow turned gray, and then, in a vague way, the journey began to partake of a quality of unreality. It was not that the cold and the snow and their hunger were not entirely real, or that the wilderness was no longer naked to their eyes. It was just that their whole effort seemed like some dreadful, emburdened journey in a dream—a stumbling advance under difficulties too many and real to be true.

The first sign was the far-off cry of the wolf pack. It was very faint, simply a stir in the ear drums, yet it was entirely clear. That clear, cold mountain air was a perfect telephone system, conveying a message directly, no matter how faintly. There were no tall buildings or cities to disturb the ether waves. And all three of them knew at the same instant it was not exactly the cry they had heard before.

They couldn't have told just why, even if they had wished to talk about it. In some dim way, it had lost the strange quality of despair that it had held before. It was as if the pack were running with renewed life, that each wolf was calling to another with a dreadful sort of exultation. It was an excited cry, too—not the long, sad song they had learned to listen for. It sounded immediately behind them.

They couldn't help but listen. No human ears could have shut out the sound. But none of them pretended that they had heard. And this was the worst sign of all. Each one of the three was hoping against hope in his very heart; and at the same time, hoping that the others did not understand.

For a long time, as the darkness deepened about them, the forests were still. Perhaps, Dan thought, he had been mistaken after all. His shoulders straightened. Then the chorus blared again.

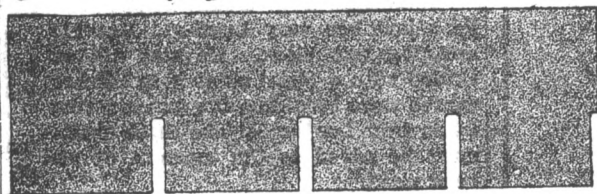
The man looked back at the girl, smiling into her eyes. Lennox lay as if asleep, the lines of his dark face curiously pronounced. And the girl, because she was of the mountains, body and soul, answered Dan's smile. Then they knew that all of them knew the truth. Not even an inexperienced ear could have any delusions about the pack song now. It was that oldest of wilderness songs, the hunting-cry—that frenzied song of blood-lust that the wolf pack utters when it is running on the trail of game. It had found the track of living flesh at last.

"There's no use stopping, or trying to climb a tree," Dan told them simply. "In the first place, Lennox can't do it. In the second, we've got to take a chance—for cold and hunger can get up a tree where the wolf pack can't."

He spoke wholly without emotion. Once more he tightened the traces of the sled.

"I've heard that sometimes the pack will chase a man for days without attacking," Lennox told them. "It all depends on how long they've gone without food. Keep on and try to forget 'em. Maybe we can keep 'em bluffed."

But as the hours passed, it became increasingly difficult to forget the wolf pack. It was only a matter of turning the head and peering for an instant into the shadows to catch a glimpse of one of the creatures. Their forms, when they emerged from the shadows of the tree trunks, were entirely visi-

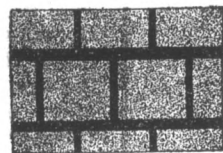
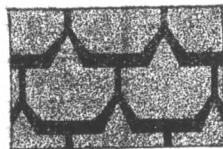


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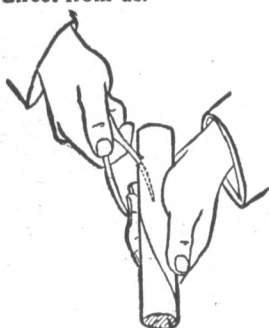
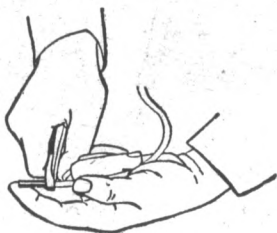
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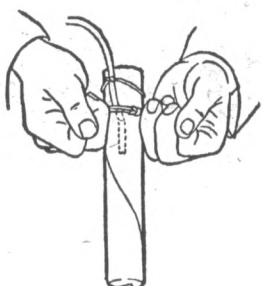
Crimping the Cap

Cut a sufficient length of fuse squarely off, and slip cap over the end. Crimp cap to fuse, as shown, with cap crimper,—it is absolutely essential to USE A CAP CRIMPER,—obtainable from your dealer or direct from us.



Priming the Cartridge

Punch a hole with handle of cap crimper in the side of cartridge deep enough to contain all of the cap. See illustration at left.



Securing Fuse

After inserting cap with fuse attached, tie a cord around fuse and then around cartridge, as shown. If several cartridges are needed, this "primer" cartridge is put in last. After loading, tamp earth tightly in hole using a WOODEN tamping stick. The success of the shot depends largely on the tightness of the tamping.

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ble against the snow. They no longer yapped and howled. They acted very intent and stealthy. They had spread out in a great wing, slipping from shadow and shadow, and what were their mental processes no human being may even guess. It was a new game; and they seemed to be seeking the best means of attack. Their usual fear of men, always their first emotion, had given way wholly to a hunting cunning: an effort to procure their game without too great risk of their own lives. In the desperation of their hunger they could not remember such things as the fear of men. They spread out farther, and at last Dan looked up to find one of the gray beasts waiting, like a shadow himself, in the shadow of a tree not one hundred feet from the sled. Snowbird whipped out her pistol.

"Don't dare!" Dan's voice cracked out to her. He didn't speak loudly; yet the words came so sharp and commanding, so like pistol fire itself, that they penetrated into her consciousness and choked back the nervous reflexes that in an instant might have lost them one of their three precious shells. She caught herself with a sob. Dan shouted at the wolf, and it melted into the shadows.

"You won't do it again, Snowbird?" he asked her very humbly. But his meaning was clear. He was not as skilled with a pistol as she; but if her nerves were breaking, the gun must be taken from her hands. The three shells must be saved to the moment of utmost need.

"No," she told him, looking straight into his eyes. "I won't do it again."

He believed her. He knew that she spoke the truth. He met her eyes with a half smile. Then, wholly without warning, Fate played its last trump.

Again the wilderness reminded them of its might, and their brave spirits were almost broken by the utter remorselessness of the blow. The girl went on her face with a crack of wood. Her snowshoe had been cracked by her fall of the day before, when running to the fire, and whether she struck some other obstruction in the snow, or whether the cracked wood had simply given way under her weight, mattered not even enough for them to investigate. As in all great disasters, only the result remained. The result in this case was that her snowshoe, without which she could not walk at all in the snow, was irreparably broken.

CHAPTER XVI.

FATE has stacked the cards against us," Lennox told them, after the first moment's horror from the broken snowshoe.

But no one answered him. The girl, white-faced, kept her wide eyes on Dan. He seemed to be peering into the shadows beside the trail, as if he were watching for the gray forms that now and then glided from tree to tree. In reality, he was not looking for wolves. He was gazing down into his own soul, measuring his own spirit for the trial that lay before him.

The girl, unable to step with the broken snowshoe, rested her weight on one foot and hobbled like a bird with broken wings across to him. No sight of all this terrible journey had been more dreadful in her father's eyes than this. It seemed to split open the strong heart of the man. She touched her hand to his arm.

"I'm sorry, Dan," she told him. "You tried so hard—"

Just one little sound broke from his throat—a strange, deep gasp that could not be suppressed. Then he caught her hand in his and kissed it—again and again. "Do you think I care about that?" he asked her. "I only wish I could have done more—and what I have doesn't count. Just as in my fight with Cranston, nothing counts because I didn't win. It's just fate, Snowbird. It's no one's fault, but maybe, in

this world, nothing is ever anyone's fault." For in the twilight of those winter woods, in the shadow of death itself, perhaps he was catching glimpses of eternal truths that are hidden from all but the most far-seeing eyes.

"And this is the end?" she asked him. She spoke very bravely.

"No!" His hand tightened on hers. "No, so long as an ounce of strength remains. To fight—never to give up—may God give me spirit for it till I die."

And this was no idle prayer. His eyes raised to the starry sky as he spoke.

"But, son," Lennox asked him rather quietly, "what can you do? The wolves aren't going to wait a great deal longer, and we can't go on."

"There's one thing more—one more trial to make," Dan answered. "I thought about it at first, but it was too long a chance to try if there was any other way. And I suppose you thought of it too."

"Overtaking Cranston?"

"Of course. And it sounds like a crazy dream. But listen, both of you. If we have got to die, up here in the snow—and it looks like we have—what is the thing you want done worst before we go?"

Lennox's hands clasped, and he leaned forward on the sled. "Pay Cranston!" he said.

"Yes!" Dan's voice rang. "Cranston's never going to be paid unless we do it. There will be no signs of incendiarism at the house, and no proofs. They'll find our bodies in the snow, and we'll just be a mystery, with no one made to pay. The evidence in my pocket will be taken by Cranston, sometime this winter. If I don't make him pay, he never will pay. And that's one reason why I'm going to try to carry out this plan I've got."

"The second reason is that it's the one hope we have left. I take it that none of us are deceived on that point. And no man can die tamely—if he is a man—while there's a chance. I mean a young man, like me—not one who is old and tired. It sounds perfectly silly to talk about finding Cranston's winter quarters, and then, with my bare hands, conquering him, taking his food and his blankets and his snowshoes and his rifle to fight away these wolves, and bringing 'em back here."

"You wouldn't be barehanded," the girl reminded him. "You could have the pistol."

He didn't even seem to hear her. "I've been thinking about it. It's a long, long chance—much worse than the chance we had of getting out by straight walking. I think we could have made it, if the wolves had kept off and the snowshoe hadn't broken. It would have nearly killed us, but I believe we could have got out. That's why I didn't try this other way first. A man with his bare hands hasn't much of a chance against another with a rifle, and I don't want you to be too hopeful. And of course, the hardest problem is finding his camp."

"But I do feel sure of one thing: that he is back to his old trapping line on the North Fork—somewhere south of here—and his camp is somewhere on the river. I think he would have gone there so that he could cut off any attempt I might make to get through with those letters. My plan is to start back at an angle that will carry me between the North Fork and our old house. Somewhere in there I'll find his tracks, the tracks he made when he first came over to burn up the house. I suppose he was careful to mix 'em up after once he arrived there, but the first part of the way he likely walked straight toward the house from his camp. Somewhere, if I go that way, I'll cross his trail—within ten miles at least. Then I'll back-track him to his camp."

Mention The Michigan Farmer When Writing to Advertisers

THE BATTLE.

BY GERTRUDE K. LAMBERT.

I awakened in the night to chill and darkness,
Outside the winds of March, made high alarm;
I turned again to sleep serene and thankless
Though I was snug and warm.

And then I caught a murmur of contention,
That roused my drowsy sense
To hear the battle call with keen attention,
The rallying for defense.

For hours it raged with life or death persistence,
I shuddered at the din,
Spring's fierce attack, Old Winter's grim resistance—
The field to which could win.

But with the dawn, I knew one was defeated;
I heard the drip of rain,
Broken and crushed, Old Winter had retreated
And spring stood tapping at my window pane!

"And never come back!" the girl cried.

"Maybe not. But at least everything that can be done will be done. Nothing will be left. No regrets. We will have made the last trial. I'm not going to waste any time, Snowbird. The sooner we get your fire built the better."

"Father and I are to stay here—?"

"What else can you do?" He went back to his traces and drew the sled one hundred yards farther. He didn't seem to see the gaunt wolf that backed off into the shadows as he approached. He refused to notice that the pack seemed to be steadily growing bolder. Human hunters usually had guns that could blast and destroy from a distance; but even an animal's intelligence could perceive that these three seemed to be without this means of inflicting death. A wolf is ever so much more intelligent than a crow—yet a crow shows little fear of an unarmed man and is wholly unapproachable by a boy with a gun. The ugly truth was simply that in their increasing madness and excitement and hunger, they were becoming less fearful of these three strange humans with the sled.

It was not a good place for a camp. They worked a long time before they cleared a little patch of ground of its snow mantle. Dan cut a number of saplings—laboriously with his ax—and built a fire with the comparatively dry core of a dead tree. True, it was feeble and flickering, but as good as could be hoped for, considering the difficulties under which he worked. The dead logs under the snow were soaked with water from the rains and the thaws. The green wood that he cut smoked without blazing.

"No more time to be lost," Dan told Snowbird. "It lies in your hands to keep the fire burning. And don't leave the circle of firelight without that pistol in your hand."

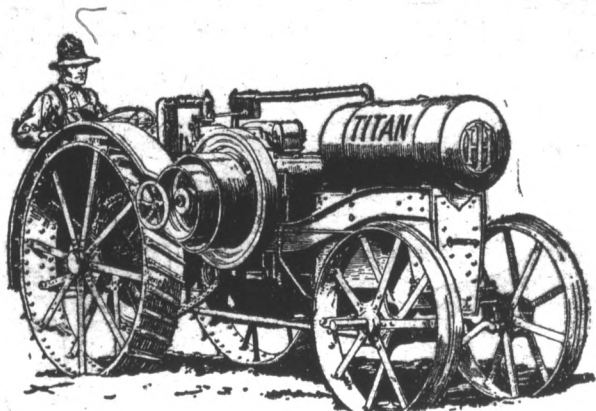
"You don't mean," she asked, unbelieving, "that you are going to go out there to fight Cranston—unarmed?"

"Of course, Snowbird. You must keep the pistol."

"But it means death; that's all it means. What chance would you have against a man with a rifle? And as soon as you get away from this fire, the wolves will tear you to pieces."

"And what would you and your father do, if I took it? You can't get him into a tree. You can't build a big enough fire to frighten them. Please don't even talk about this matter, Snowbird. My mind's made up. I think the pack will stay here. They usually—God knows how—know who is helpless and who isn't. Maybe with the gun, you will be able to save your lives."

"What's the chance of that?"



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AND THE YEARS TO COME

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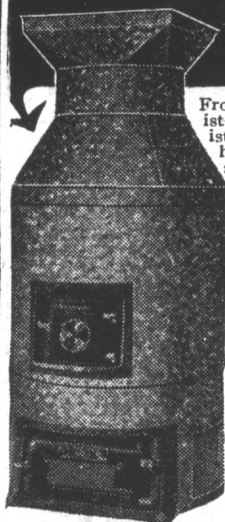
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"You might—with one cartridge—kill one of the devils; and the others—but you know how they devour their own dead. That might break their famine enough so that they'd hold off until I can get back. That's the prize I'm playing for."

"And what if you don't get back?"

He took her hand in one of his, and with the other he caressed, for a single moment, the lovely flesh of her throat. The love he had for her spoke from his eyes—such speech as no human vision could possibly mistake. Both of

them were tingling and breathless with a great, sweet wonder.

"Never let those fangs tear that softness, while you live," he told her gently. "Never let that brave old man on the sled go to his death with the pack tearing at him. Cheat 'em, Snowbird! Beat 'em the last minute, if no other way remains! Show 'em who's boss, after all—of all this forest."

"You mean?" Her eyes widened.

"I mean that you must spend only one of those three shells in fighting off the wolves. Save that till the moment

A Real Cow Wanted

Our Weekly Sermon—By N. A. McCune

ABOUT a month ago, a peculiar request came to the people of East Lansing. They were asked to buy a cow for a poor family in Bulgaria! If anyone doubts that the world is getting closer together, let him read this. A lady missionary who has relatives in the above town, wrote; stating the circumstances. A certain Bulgarian workman is having a hard time of it. He is sober, industrious and supports his family to the best of his resources. But his wages are eleven dollars a month, which is about enough to buy wood and the simplest of food. The youngest child is sadly undernourished, anemic and may not live if she cannot have milk. Milk is expensive in Bulgaria. Hence the S. O. S. from eastern Europe to Michigan, send us one hundred dollars for a cow. The money is being sent this week. Various societies in the church, the local business men's association and others raised it. There is a Persian proverb that runs, "When a sick child cries in the dark, the throne of God rocks from side to side." There will at least be one less sick child, we hope, of the millions in stricken Europe.

This is a fine indorsement of the dairyman. Children cannot live properly without milk. Milk produces good health. Good health is necessary to the growth of the soul. Therefore the milk industry is an aid to morals and religion. Is there any leak in the logic? I suspect that all dairymen do not realize the greatness of their task, however. If some of them did, there would be less dissatisfaction and more joy, in their work. They would appreciate that they are working with God. All farmers, in fact, are working with God. And if God failed to function, all the scientific agriculture in the world would be as helpless as a lamb in a Montana blizzard. God is the farmer's best friend. The dairyman is building up the oncoming generation. If to give a cup of cold water to "one of these little ones," is an act that is blest, is it any less so to give a cup of clean milk? In a certain eastern city there is an ordinance to the effect that if any farmer's milk cans are found to be improperly cleaned, his milk will be dumped out, and a red tag will be tied to his cans. One day the cans of a certain farmer were found by the inspector to be exceedingly dirty and their contents were poured into the sewer, and they were decorated with the red tags. When the cans arrived at their owner's home, he swore loud oaths. The elders of his church heard of it. They held a meeting and expelled him from the church for his profanity. The man from whom I get this says, that what those solemn elders should have done, was to expel the recreant member for sending unclean milk to be drunk by helpless children, and to have left him to settle the profanity between him and his God.

one is starving he is unfit to think high thoughts, to will strongly, or to give heed to religion. His only thought is food. That is why vast areas of the world have never made great progress. The people are but half fed. Their highest ideal is to have enough to eat. When missionaries went to India, for example, they found thousands of people who had but one meal a day, and that was a poor meal. They were hardly better than slaves. Slaves not of men, but of circumstance. The missionaries decided that the best results could only be attained by teaching these folk to farm. They should learn how to fertilize the soil, how to plant trees and prevent soil washing, how to double the crop yield, and how to fight animal diseases.

One of the foremost promoters of this kind of missionary work, is Sam Higginbottom of India. He went as an evangelistic missionary. He was a Princeton graduate. But in a few years he returned and took a two-years' course in agriculture at an agricultural college. Now he has a large number of students at the mission station, who come to him, not only to study the Bible, but to study how to plow right, grow cover crops, and all the rest. Some of these are native princes, men of large wealth. They have never done a day's work in their lives. But Higginbottom makes them take off their kid gloves, put on overalls and jumper and go to it. The British government has offered Mr. Higginbottom large inducement to enter its service, but he elects to remain the missionary. The native Indian farmer becomes master of the situation. He gets a better house, and some nourishing food. He slowly escapes from debt. And Christianity has done all this. A religion that is good for his soil, ought to be good for his soul.

THUS farming is a religious work, in a sense peculiar to itself. To feed the world is to cooperate with the Father of lights from whom cometh every good and perfect gift. Christ fed the five thousand, and at the same time He discoursed on the bread of life. A meal is begun with grace. Feeding the body and feeding the soul are not far apart. Farmers' churches ought to flourish. There ought to be a good building, an educated minister, an earnest body of workers, an eager company of worshipers. It is unfortunate that frequently it is not so. But better days are coming. Better country preachers are growing up. Don't close the country church. The nation needs it. We can get on very nicely without many things. But we cannot get on without the "Church in the Wilderness." We cannot survive without godly men to till the soil and feed the nation and the world.

If it is worth the pains and cost to provide a cow for a little girl in Bulgaria, it is equally worth pains and cost to provide for the needs of body and soul, of the children of America.

AGRICULTURE is directly related to morals and religion. Agriculture produces the food of the world. When

you need it most. The other two must be saved—for something else."

She nodded, shuddering an instant at a menacing shadow that moved within sixty feet of the fire. The fire-light half-blinded them, dim as it was, and they couldn't see into the darkness as well as they had before. Except for strange, blue-yellow lights, close together and two and two about the fire, they might have thought that the pack was gone.

"Then good-by, Dan!" she told him. And she stretched up her arms. "The thing I said—that day on the hillside—doesn't hold any more."

His own arms encircled her, but he made no effort to claim her lips. Lennox watched them quietly; in this moment of crisis not even pretending to look away. Dan shook his head to her entreating eyes. "It isn't just a kiss, darling," he told her soberly. "It goes deeper than that. It's a symbol. It was your word, too, and mine; and words can't be broken, things being as they are. Can't I make you understand?"

She nodded. His eyes burned. Perhaps she didn't understand, as far as actual functioning of the brain was concerned. But she reached up to him, as women—knowing life in the concrete rather than the abstract—have always reached up to men; and she dimly caught the gleam of some eternal principle and right behind his words. This strong man of the mountains had given his word, had been witness to her own promise to him and to herself, and a law that goes down to the roots of life prevented him from claiming the kiss.

Many times, since the world was new, comfort—happiness—life itself have been contingent on the breaking of a law. Yet in spite of what seemed common sense, even though no punishment would forthcome if it were broken, the law has been kept. It was just this way now. It wouldn't have been just a kiss such as boys and girls have always had in the moonlight. It meant the symbolic renunciation of the debt that Dan owed Cranston—a debt that in his mind might possibly go unpaid, but which no weight of circumstance could make him renounce.

His longing for her lips pulled at the roots of him. But by the laws of his being he couldn't claim them until the debt incurred on the hillside, months ago, had been paid; to take them now meant to dull the fine edge of his resolve to carry the issue through to the end, to dim the star that led him, to weaken him, by bending now, for the test to come. He didn't know why. It had its font in the deep wells of the spirit. Common sense can't reveal how the holy man keeps strong the spirit by denying the flesh. It goes too deep for that. Dan kept to his consecration.

He did, however, kiss her hands, and he kissed the tears out of her eyes. Then he turned into the darkness and broke through the ring of the wolves. (Continued next week).

Sunshine Hollow Items

By Rube Rubicon

A great man from Sunshine Hollow recently died. He had lived a good life and influenced many to do right. He was a man of many affairs and useful in his community. But next morning the sun came up as usual, the roosters crowed and the flowers bloomed bright as every. It made us all feel sort of humble for a long time.

Colonel Cobb, who is corn champion of this district, entertained a hobo at dinner Friday. Mrs. Cobb said it was a great treat to her to serve dinner to a man who never kicked on anything from soup to nuts. She says the Colonel raised good corn and also raises something else whenever meals are late or things don't taste right and wishes sometimes she had married a hobo.



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Texaco Tractol is made for just one use—tractor engines and bearings. It is the result of years of laboratory investigation and countless tests to find just the right oil that is needed for an engine that runs at full power for long periods of time.

Do not confuse Texaco Tractol and Texaco Motor

Oil. If they were the same we would not make both. Texaco Motor Oil is intended for use in automobiles and motor trucks. Texaco Tractol meets the far different conditions of tractor operation.

Texaco Tractol is an oil that has great lasting qualities—it is an oil that maintains a complete lubricating film under heat that would break up a light oil—it is an oil that discourages carbon by keeping the cylinder walls clean.

Texaco Tractol is sold in 33 and 55 gallon steel drums, in wooden barrels and half-barrels, and 5-gallon sealed cans. Your dealer can tell you what grade your tractor needs.

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

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96% germination, color fair. Apply C. D. FINKBEINER, Clinton, Mich.

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Exclusive agency and quick sales to Live Dealers selling "DIDDIE'S BLITZEN RODS". Our copper rods 99.96% PURE. Write for agency. Prices are right. L. D. DIDDIE CO., Marshfield, Wis.

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Tobacco Kentucky's Pride, rich mellow chewing, 10 pounds, \$3.25; mild smoking 10 pounds, \$2.50; 100 lbs. \$20.00. John Sanderson, Mayfield, Ky.

Homespun Tobacco 10 lbs. \$3.00; 20 lbs. \$5.00; 100 lbs. \$20.00. FARMERS' UNION, Mayfield, Kentucky

Strawberries and Raspberries

this summer if you set our everbearers. Big money this year for Berry Growers. Our Plants start you right. Let us send our Catalog now telling how to grow big crops of Strawberries. All kinds of small fruit plants at wonderfully reduced prices from grower direct. FRY BROTHERS CO., W. Lafayette, Ind.

FARM HELP

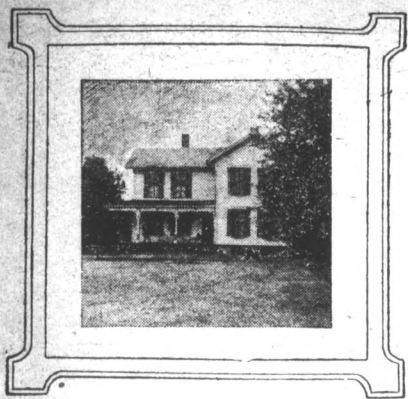
WANTED married man who has farming tools and equipment to work 200 acre farm on shares. Good land and buildings. Near Clarkston, Oakland County. P. S. WRIGHT, 229 Gratiot Ave., Detroit, Mich.

Experienced Farmer with family wishes a farm on salary or stocked farm on shares. Can furnish good references. C. R. B. 4125 Concord Ave., Detroit.

Wanted Experienced man married or single familiar with strawberry, raspberry, blackberry and early vegetable growing. Paul Bock, Pinckney, Mich.

Young man 21 years of age wishes farm work, have had 2 years experience. Address E. W. McNAMARA, 188 Victor Ave., Highland Park, Mich.

Wanted a middle aged 35 or 40 lady for housekeeper on small farm. For particulars write L. H. ROBBINS, Box 161, Tower, Mich.



"We sleep, but the loom of life never stops; the pattern which was weaving when the sun went down is weaving when it comes up in the morning."—Henry Ward Beecher.

Woman's Interests



Virgin Wool or Rag-bag Shoddy

"Baa baa, Black sheep, have you any wool?"
"Yes, sir, yes, sir, three bags full."

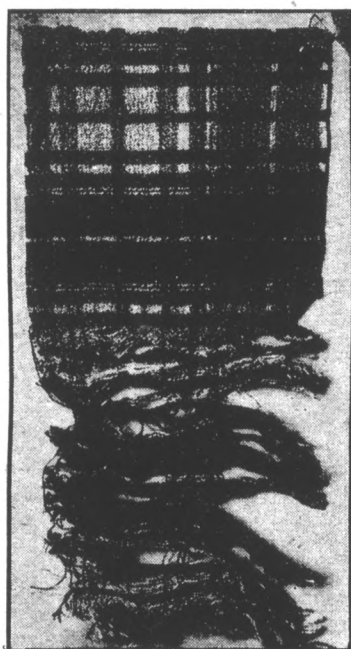
AND we all agreed that was a pretty good "clip." But so great is modern inventiveness that by the time the three bags full got back to old "ultimate consumer" as garments, it looked as though the output from the faithful "baa baa" had been six bags full. We find that all is not wool that smells "wooly," or at least if it is all wool, it has gone through such a long journey on its way from the black sheep's back to ours that its original owner would never recognize it.

So many methods have been devised to adulterate wool or to cheapen it, that the buying public has at last arisen and demanded that goods shall be marked plainly whether they are pure wool, shoddy, or a wool and a cotton mixture. This bill is known as the "Truth-in-Fabric" bill. Women's organizations all over the country are working to secure its passage. If you want to be protected against paying for pure wool and getting a large per cent cotton or shoddy, use your influence with your congressman for the passage of this bill.

ONE of the most popular ways of adulterating wool is to use a cotton thread as a "core" for a wool thread. Around this cotton thread short woolen fibres, often recovered from the old rags sold to the rag man, are spun, and the resulting thread is used in a fabric which is sold to you as all wool. Sometimes this cotton core thread is used simply as the warp for the cloth, sometimes as the woof thread, and sometimes it is used as both. Often the resulting fabric is stronger than all wool cloth would be, as the cotton is stronger than inferior wool. But the point is that it is masquerading; it is represented to you as "all wool" when it is largely cotton. The Truth-in-Fabric bill would force the weaver to label his goods so you may know what you are getting. Then if you want to buy cotton and wool at a lower figure, you may do so, but you will not be tricked into thinking you are getting "all wool" goods.

Again, garments are sold as "all wool" but still you are not getting what you think you are. For when the salesman says all wool, you are thinking of the pure virgin wool, from the sheep direct to you. This same all wool may have been your neighbor's overcoat for ten years. He sold it to a rag man, who sold it to a manufacturer, who converted it into "shoddy." It has already done service, and comes to you much the worse for the wear and tear of several years' struggle with life. In passing, remember that the term "worsted" means pure virgin wool, while the misleading term "woolens" is wool and cotton mixed. The term "union goods" also means wool and cotton mixtures. Don't get the idea that it refers to the "closed" shop factory, and means that the cloth was spun by union men.

SILK is often adulterated in a way similar to wool, that is by weaving short silk fibres around a cotton core. The most common way of adulterating it, however, is by weighting. Raw silk starts as a glutinous gum thrown off by the silk worm. This hardens into a fine elastic fibre. The cocoons are



Cotton and wool mixture tested by strong caustic soda solution. The lower portion shows the cotton threads remaining after the wool fibres were destroyed.

baked to kill the butterfly before it can eat its way out, as this cuts the fibre and injures the silk. Fibres from the baked cocoons are often from one thousand to four thousand feet long. If the butterfly eats its way out of the cocoon, of course the thread is broken, and these short fibres are often used to cover a cotton thread. Sometimes they are spun without adulterating directly into a fabric, but the resulting cloth is not of so fine a quality as the long-fibred silk, and should not command as high a price, though it can be truthfully advertised as pure silk.

The most common way of adulterating silk is by weighting. After the silk is spun into yarn it is boiled in soapy water to remove the natural gum which adheres to it. Sixteen ounces of raw silk usually comes out of this boiling process only twelve ounces. Manufacturers hold it is perfectly legitimate to make up this loss by "weighting" the silk, that is, by dipping it into various solutions, gums, salt, waterglass, iron, sugar, and more often tin. If the weighting stopped with replacing the four ounces lost no one would object, but certain thrifty manufacturers not only replace the original lost four ounces, but add several more for good measure. In certain instances silk which weighed sixteen ounces originally and twelve ounces after boiling had attained the majestic proportion of fifty-four ounces by the time it reached the buying public.

Tin, usually recovered from old tin cans, is largely used in this weighting. The tin salts crystallize and cut the delicate silk fibre, thus causing the cracking to which we object, especially in taffeta.

IN addition to these two ways of adulterating, there is a mixture of cultivated silk with "wild" silk, or pongee. Silk is mixed with mercerized cotton, and then there is silk which is nothing more or less than wood fibre. This is usually called fibre silk, and is used in cheap silk stockings and neckties. Such "silks" usually wash well, and often outwear real silk, for while they are not as strong as first quality real silk, they are stronger than silk which has been cheapened during its journey from the cocoon to you. We will not object to fibre silk when it is sold on its merits. Nor to adulterated wool, if we know what we are getting. What we want is for the dealers to call a spade a spade, to say shoddy, if it is shoddy, and reserve the term pure wool for virgin wool.

LINEN is also adulterated by mixing with cotton, and in fact, is not only adulterated with it, but is so skillfully imitated by present-day weavers that the buyer in a big department store admitted the other day that it took all his skill to tell the difference between linen and cotton table "damask." The old-time test of wetting the cloth—if it wets through immediately it is linen—he declared could no longer be relied upon. When asked how he decided, he could give no method for the layman. His somewhat hazy way of determining seemed to be just "because." He had handled so much of both linen and cotton in his day



In this silk and cotton brocade, only the cotton threads survived the bath in the caustic soda solution.

that by some acquired extra "sense" he thought he knew by feeling.

If we knew of the admixture of cotton in our linen we might not care, as cotton is not altogether a curse. It does not wrinkle so easily as linen, so the things made from it would look well longer than pure linen after laundering. But, on the other hand, on account of the shorter fibres, cotton "fuzzes" sooner than linen.

To determine the contents of a fabric many methods are given. For instance, in buying linen, cotton may sometimes be detected by rolling the goods between the fingers. If there is cotton this "fuzzy" appearance frequently shows up. A drop of glycerine on linen will make the cloth transparent, but will not so affect cotton.

The burning test is frequently used. Ravel your goods and place the warp threads, those running lengthwise, in one pile, and the woof threads, those running crosswise, in a second pile. Then burn them separately. Cotton burns quickly into a flame, and leaves no ash. Wool burns slowly, chars and gives an odor. Silk burns slowly and gives a crisp ash. If there is much "weighting" the ash retains the exact shape of the original sample of silk—when the piece is burned without raveling—and sometimes the pattern of figured silk may be traced in the ash.

SILK and wool are affected by alkalis. As a further test of your goods, boil a sample in a solution made by dissolving a tablespoon of lye in a pint of water, keeping the solution always one pint by the addition of more boiling water as it evaporates. Boil fifteen minutes. At the end of that time the silk or wool will have disappeared. If any substance remains it is of vegetable origin, usually cotton.

As wool and silk are affected by alkalis, both being animal fibres, cotton and linen are affected by acids, both being vegetable fibres. An acid spilled on cotton or linen should be washed out at once. Strong soaps should never be used on wool or silk, as the alkali in the soap is harmful to the fibre. Both these fabrics are injured by intense heat, and should be washed in lukewarm water and ironed with a warm iron, while linen and cotton can stand much hotter water and iron. Linen should not be boiled, however.

It is the difference in the treatment to which the various fibres can be subjected which makes so much trouble when a garment is sent to a professional cleaner. Wool and silk are cleaned by one method, cotton by another. The garment is sent as all wool or all silk, but in the process of cleaning it develops that the fabric is adulterated with cotton. The result is a poorly cleaned garment, and the cleaners are blamed for something which should be laid at the door of the man who spun the yarn or wove the cloth.

The study of textiles is interesting enough to occupy several articles. If your little neighborhood club is casting about for a study subject, why not

take up textiles? The extension department of the Michigan Agricultural College, will help you with bulletins and an expert to get you started. Write Mrs. Louise Campbell, head of the extension department, for suggestions, or Miss Helen Arms, who is the clothing and millinery expert. They may be addressed by writing to the Extension Department, East Lansing, Michigan. If you are in the northern peninsula, write Miss Aurelia Potts, assistant home demonstration leader, at Marquette, Michigan.—(Illustrations by courtesy of the Extension Department, Michigan Agricultural College).

COOKING IN IRON.

TIN, granite and aluminum cooking utensils pushed the old iron kettle into the discard along with the fireplace. But iron is again finding its place in our kitchens as a material par excellence for certain sorts of cookery, and the new iron kettle is working overtime in many households.

Sometimes known as the Dutch oven, the new cooker has a tight-fitting top which retains all the heat, and makes it possible for you to bake a tin of biscuit or perhaps a pie in the kettle over one stove burner. But its most important use is as a cooker for meats and vegetables. Your Sunday roast



The Old Iron Pot Modernized.

may be done on top of the stove, doing away with the necessity of the oven. And if you buy a sufficiently large kettle or "oven" you can roast your potatoes and vegetables along with the meat.

The kettles may be bought large enough to accommodate a large fowl and do away with the necessity for a roaster. They are self-basting, the cover preventing the escape of the moisture and flavors of the meat.

The kettles come in a variety of sizes, from two and a half quarts to twenty quarts.

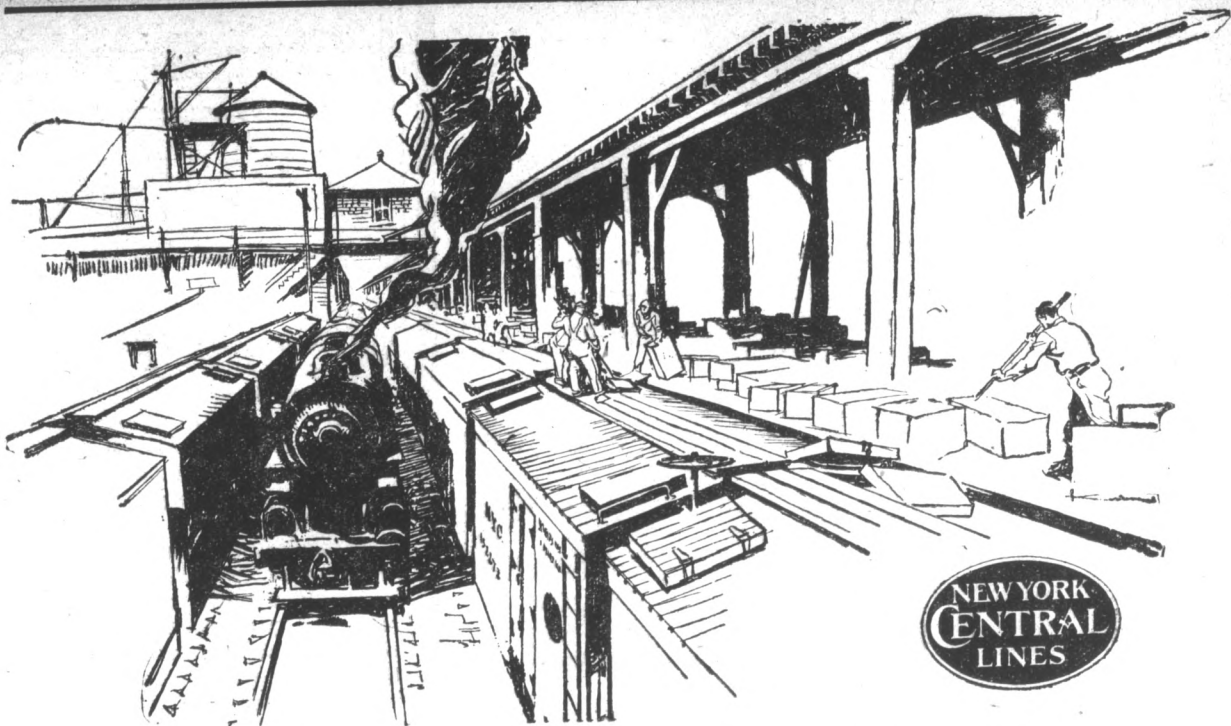
Iron for gem pans is growing in favor. Many cooks contend that muffins baked in the iron containers are better baked and of better flavor than those baked in utensils made of other materials.

HINTS TO HOUSEKEEPERS.

An easy way of breaking crackers or nut meats is to put them in an empty salt or sugar bag and run the rolling pin over them several times.—L. M. T.

If children object to the "scratchiness" of woolen underwear try ironing the garments on the wrong side with a moderately hot iron while they are slightly damp.—L. M. T.

To make my own vinegar, I save apple parings and place them in a three or four-gallon stone jar, cover with water, add enough sugar to sweeten slightly and place the jar behind the range. After it has stood for two or three weeks, I pour a little syrup over strips of brown wrapping paper and drop these into the vinegar to form a "mother." Two or three weeks later the vinegar will be ready to drain off and use.—Mrs. C. C.



Perishable Freight Service

PERISHABLE commodities require special handling, loading, and icing arrangements. Experience has demonstrated the best methods for loading and stowing perishable commodities. The shipper can learn these methods by calling the agricultural service of the New York Central Lines. Actual demonstrations of the proper methods of loading and stowing will be given wherever sufficient interest is manifested. Through this service the shipper is aided in knowing better both his product and market.

In the fruit and vegetable terri-

tories, the Department's experts on refrigerator car loading assist in maintaining the original condition of shipments to destination. An experienced Crop Estimator advises on movable production, date of movement, and wider distribution. The performance of icing services is closely followed and carefully checked.

The shipping of perishable freight over the New York Central Lines is the last step in the attainment of the farmer's profit.

The Agricultural Department welcomes your inquiries.

THE NEW YORK CENTRAL LINES

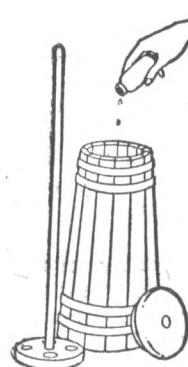
MICHIGAN CENTRAL — BIG FOUR — LAKE ERIE & WESTERN,
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Grand Central Terminal, New York City

La Salle Street Station
Chicago, Ill.

Use Dandelion Butter Color



Add a half-teaspoonful to each gallon of winter cream and out of your churn comes butter of golden June shade to bring you top prices.

DANDELION Butter Color

All stores sell 35-cent bottles, each sufficient to keep that rich, "Golden Shade" in your butter all the year round. Standard Butter Color for fifty years. Purely vegetable. Meets all food laws, State and National. Used by all large creameries. Will not color the buttermilk. Tasteless.

Wells & Richardson Co., Burlington, Vermont.

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No. 3521.—Girl's Coat. Cut in four sizes, 4, 6, 8 and 10 years. A six-year size will require 2½ yards of 44-inch material. Price 12c.

in attracting the judge's eye when the time comes for making ratings in the prize ring.

After you have the calf fitted, ready for the show, the next thing is the showing of the individual. The calf should be trained from the time you take it in charge, to take a natural attractive position. Have the head fairly well up, but not too high. Oftentimes if the head is held too high, the animal will be inclined to stretch, thereby kinking the back, or lowering it slight-

ly and this will spoil its natural outlines. The calf should stand with both fore and rear feet set fairly well apart, with the rear feet as a rule, not too far under or two far back. One must guard against the animal having a stretched appearance, which they seem naturally inclined to have. Keep them together so as to hold all lines as nearly perfect as can be. Many a good animal has lost out in the show ring simply from the fact that he was not properly handled.

Who Do You Help Most?

By Uncle Ed.

I RECEIVED a letter from a little chap the other day. He said: "We are filling the ice house today. I push the cakes of ice out to the men." My boy friend liked to feel that this was his job, just as much as it was that of the men folks. He had a part to do and he was interested to do it the best he could. "We are filling the ice house." He was a member of the firm that day. And he was getting good from his service. For let us be sure that when we do things for others we are gaining something ourselves.

What do we Gain by Helping?

Well, for one thing, we gain strength of body. The day is coming when you will need a man's strength, for your job will be a man's job; and the only way to get it is to do the little things which come along now. Tomorrow's work will be done with strength gained today. If we wait till the harder task comes, we will surely be unprepared.

Still Other Gains.

And there are other gains. We gain in confidence in our own ability to do things by stepping out and doing the tasks assigned to us now. Before now I have seen men who never seemed to have any confidence in themselves when it came to deciding important questions, or doing things which called for quick and decisive action. It is a valuable characteristic to have the ability to know what to do when a time of crisis comes. If we take upon ourselves no responsibility now when we are young, if we waver and stand back and say, "I don't know what it is best to do," we will be very apt always to hesitate and perhaps lose opportunities of the highest possible value. Every time we do a good thing and do it right, we add to our stock of confidence without which we are little better than the horses we drive when about our work on the farm.

A Gain in Usefulness.

Still another thing we gain when we do the small things that are placed upon us day by day, is confidence on the part of others that we are capable of undertaking almost anything that needs to be done. "Ask Tom," a man said of his boy. "He knows how. I'll risk Tom. He always feels competent to undertake anything." I do not know how a father could very well pay his boy a more valuable tribute than that. He trusts his boy because he has proven himself worthy to be trusted. Tom has done things in the past. Now he is fitted for usefulness in every spot and place.

Best of All.

A great many big things are waiting to be done in the future. The boys and girls of today will be the ones to do them. Nobody else can. Some of these things will concern the farm, some will have a wider scope. Some may not seem of a great deal of importance to those who do them, and still, they may be world-wide in their effect.

Who, for example, when he was growing his crop of corn or wheat last year thought that he would be keeping life in hungry men and women, boys and girls thousands of miles away in

Europe? It seems a light thing to tramp up and down the field after a harrow or cultivator, to drive a binder or other harvesting machine. We do get tired of it sometimes; and yet, it may be the means of relieving the suffering of the people across the world.

CLUB MEMBERS BUSY IN CLOVERLAND.

THE report of A. G. Kettunen, assistant state leader of boys' and girls' club work for the upper peninsula, shows that eight of the fifteen counties of the section made expenditures of \$7,575 in behalf of this work. Houghton's outlay topped the list. It was \$3,000, while Gogebic ranked second, followed by Iron, Luce, Delta, Chippewa, Baraga and Alger. Houghton county also led in the number of club members, which was 1,072 in 1920. Gogebic took the lead in the value of the products gathered in, the aggregate being \$13,818.65. This county also led in profit accruing, namely, \$9,598.81. That the upper peninsula again took first prize in the boys' potato exhibit at Farmers' Week in East Lansing, may be taken as a tribute to the quality of the work being done in this direction north of the Straits, and it is our belief that Mr. Kettunen deserves some credit for it. Young Theodore Stenson, of Covington, Baraga county, report of whose record was run in these columns recently, is the second-time winner.—CHASE.

EFFECTS OF SMOKING.

SOME interesting experiments have been made recently to prove the bad effects even of moderate smoking on athletes. It was found that a baseball pitcher after smoking one cigar lost twelve per cent in accuracy and fourteen per cent after smoking two cigars. In shooting at a target rifle-men lost four per cent in their score from smoking one cigar and six per cent after smoking two cigars. Bicycle riders after smoking one cigar or three cigarettes lost nine per cent endurance and increased their heart-beats ten per minute. Similar tests with fencers showed a serious loss in precision in lunging with a fencing foil at a target after smoking two cigars. All these athletes gained in accuracy and endurance when they did not smoke.—Boys' Life.

Snakes fight in two ways—by striking with poison fangs and by wrapping themselves about their foe and choking or crushing it to death. Not man alone, but all living creatures hate snakes, the smaller animals chiefly because they fear for their young (and if birds for their eggs), and the larger ones probably because they fear for themselves. Many animals attack snakes at sight; deer, cattle, and hogs trample them (the hogs eat them after they have killed them); eagles and other birds of prey strangle them with their claws and then eat them; and some smaller birds (owls for instance) harass them and try to peck their eyes out and then kill them at leisure.



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We cull our flocks 3 times, 1st in early fall, 2nd just before winter sets in and again before the breeding season.

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White Leg. 15c
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Send Your Order to the

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CRESCENT EGG COMPANY, Allegan, Mich.

Farm Poultry

With the Fowls in March

By R. G. Kirby

THE buyers of breeding cockerels should realize that birds held over winter have eaten much feed and are worth around a couple of dollars for meat. When such birds are crated and shipped at from three to five dollars each the seller is doing business on a small margin of profit and if he is selling well-bred stock there is no profiteering about the transaction.

Broody hens not wanted for early hatching should be broken up at once and returned to laying condition. Isolate them the first night and they are most easily broken. This gives the nesting space to the laying hens. It takes only a few broody hens to make overcrowded nesting conditions in the average poultry house.

The sudden slump in the egg market warns poultrymen that the profitable flocks must be fall and winter layers when the competition is less from flocks not given the best of care. There seems to be a time every spring when egg prices take a sudden drop throughout the state and poultrymen and farmers who have been feeding flocks of low producers during the winter find that it takes a lot of spring eggs to pay winter feed bills.

Many reasons are advanced for the low price of eggs at this time, but undoubtedly the mild weather brought almost an April yield during February. Storage men did not wish to take a chance on buying chilled eggs. Laboring men out of work are eating fewer eggs and buyers who did without high-priced eggs did not return to egg eating at once. The old law of supply and demand seems to be still working in the egg business. But conditions ought to improve and eggs bring a fair price in comparison with other foods during the remainder of the year.

Possibly the sudden drop in eggs may have a rather good effect in the end. Eggs have been so high that some prospective beginners were going into the business without their emergency brake working. They wanted to raise more hens than one farm ever supported before. They wanted to raise poultry, not for a love of the work but for a love of easy money. Such producers are not a help to the business. They might glut the market for others and lose money for themselves. Now that egg prices are returning to normal, they may also do the same.

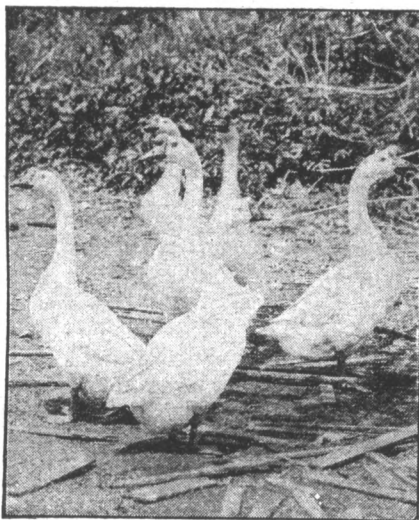
When eggs are sold by the farmer to the consumer he must charge a little more than the grocers will pay him and a little less than the grocers charge. He cannot afford to handle small individual orders on the same basis as eggs can be sold by the crate to a dealer or travelling buyer. It takes time to do business and there is no profit in selling two dozen eggs to a motorist who takes an hour to buy them.

A little more culling in the spring may take out a few hens that do not look as good as breeders and layers as they did last fall. Sometimes a few hens become too fat. Maybe one or two will be heavy and listless and fail to scratch for grain or come from the roost promptly in the morning. A little about the condition of a flock can be told by opening the house suddenly on a sunny day. Watch the good hens flock out and begin to enjoy the range. Not much will be lost by culling out a hen that still hangs around the coop and neither lays or seems to care whether spring arrives or not.

Sometimes poultrymen believe that you can feed a certain ration which will make so many yolks and so many whites and be very sure of getting just that many eggs from a certain amount of that ration. Balancing the ration is necessary but a hen is something besides a machine. Some lack the ability to manufacture eggs regardless of how many whites and yolks their ration is capable of making. That is why culling is necessary and is now the foundation of successful poultry management.

Whenever you hear a poultry owner say that the experiment stations never do any good, just ask him if he discovered culling and its value all by himself. Of course, a lot of practical poultrymen have known something about it and Hogan was a practical leader in that field. But it is the college experiment stations and their laying contests that have brought together their experiences and the experiences of practical poultrymen and combined them in such a way that every owner of hens can know more than his grandfather did about the chicken business without half trying.

A poultryman recently asked: "What can the farm bureau do for the breeder of pure-bred poultry?" Here are



In Some Sections the Production of Geese is Rapidly Increasing.

some of the things: It can make all farmers more prosperous and able to buy pure-bred poultry. It will make all farming more successful and the writer believes that this will help to make better egg and poultry markets. Sometime egg marketing may be carried on quite generally through the farm bureau. Right now that organization has its hands full, but in the future there may be more attention given to poultry interests. We can't expect everything at once and during the past winter the man with laying hens has had no reason to envy the wool producer or the owner of pigs.

Some day it may be possible to have a cold storage plant controlled by the farm bureau where the spring eggs can be stored for winter prices. There is a lot of kicking about cold storage eggs but if it were not for such plants there would be a badly glutted market during the spring and summer and few eggs consumed in the cities during the low period of production in the fall and winter. Properly controlled, the cold storage business is a blessing to both the producer and the consumer.

The day-old chick business does not interfere with the hatching egg trade

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DAY-OLD CHICKS

Strong, vigorous fellows, the kind that live and grow. Carefully selected, open range, purebred utility stock. Price reasonable. Circular free.

SUNBEAM HATCHERY, 2435 S. Main St., Findlay, Ohio.

Additional Poultry Ads. on Page 323

among those who buy one or two settings to raise their own cockerels. Day-old chicks are usually shipped in orders of not less than twenty-five as there must be enough chicks in a compartment so they can help furnish heat for each other. Then the chicks need artificial brooding. One setting hen on a setting of eggs looks after the hatching and brooding of enough chicks to furnish new males for the farm flock. And this is often the cheapest method of obtaining the new blood.

In all fairness to the producers of day-old chicks the buyers must be prepared with brooding equipment when the chicks arrive. Sometimes chick producers may receive unfriendly letters from buyers who have neglected their chicks. This has resulted in a high mortality rate and unjust blame placed on the hatchery. Buyers will have better results if they do not try to purchase very low-priced chicks from hatcheries in distant states several hundred miles from home. It is only natural to suppose that the best chicks might result from the shortest journey and fewest transfers if other things are equal.

Place setting hens in colony houses or other rat-proof buildings. Brood coops with tight floors are useful for setting hens. Many a promising hatch has been ruined by the rat that stole the eggs. Rats are shrewd pests. You may have them though you don't see them. Clean up their breeding places as much as possible and place the setters in protected nests.

THOSE DOGGONE STUMPS.

HOW shall we get rid of the dog-gone stumps? Here is my method, based upon years of successful experience. Dig a hole at one side of the stump, preferably between two big roots. Be sure to get all the dirt away from the roots and the stump body. Now start a hot fire with chunks and trash. Throw a little damp straw or trash over the fire and cover it completely with sods and dirt. You might leave just a little hole next the stump, but this is not really necessary if you don't cover the fire more than five inches with sod and dirt. Go away and forget about the stump. The fire will burn slowly but surely until there is nothing left of the stump. It will even follow the roots into the ground. It may smolder for a week or two but is sure-fire in time. The method is based upon the charcoal burner's methods followed before the time of brick kilns.—J. B. R.

AMERICAN REPRESENTATIVE AT ROME.

SINCE the death of David Lubin this government has been unable to secure the services of a competent representative at the Interanational Institute of Agriculture in Rome, because of the insufficient appropriation for salary and expenses. Dr. Hunt, of California University, now on leave of absence, is acting temporarily in this capacity.

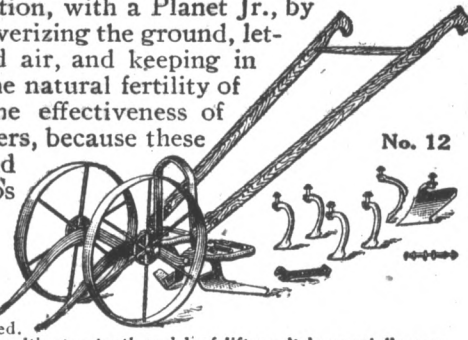
After a proposed increase in appropriation had been turned down by both senate and house committees, the American Farm Bureau Federation representatives took up the matter with Senator Arthur Capper, of Kansas, who succeeded in getting an amendment attached to the diplomatic and consular service appropriation bill, through the senate, calling for an appropriation of \$25,000 for the American representative at Rome in place of the present \$16,500 appropriation.

A good plan is to have a feed-coop which the young chickens can enter but the old hens cannot, and always have some cracked wheat, oats, or oatmeal and corn-chops in it. You will be surprised how fast the chicks will grow if they have such a feeding-place while on range.

Get the Full Value Out of Your Soil

Thorough cultivation, with a Planet Jr., by breaking up and pulverizing the ground, letting in warmth and air, and keeping in moisture, doubles the natural fertility of the soil, doubles the effectiveness of manures and fertilizers, because these lie idle in the ground unless fed to the crops by cultivation.

No. 12 Planet Jr. Double and Single Wheel Hoe either straddles the rows or goes between them, as desired. Equipped with plows, hoes, cultivator teeth and leaf lifters, it is specially recommended for home or market gardens.



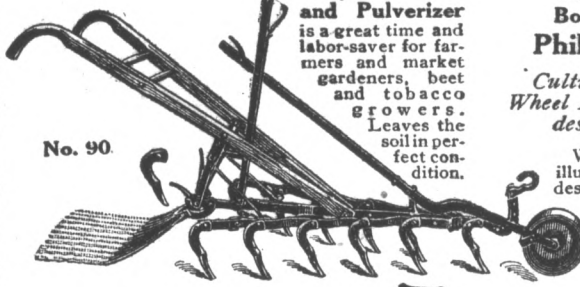
Planet Jr. Cultivators because of their scientific construction, break up and turn the ground in the way best suited to crop growth. They feed the plants, producing much larger and better growth. They can be set to uproot, or to cut off below the ground, dock, bindweed and other deep rooting weeds. Whatever form of cultivating you need done, there is a Planet Jr. to do it the best way.

No. 90 Planet Jr. Twelve-tooth Harrow, Cultivator and Pulverizer is a great time and labor-saver for farmers and market gardeners, beet and tobacco growers. Leaves the soil in perfect condition.

S. L. Allen & Co. Incorporated
Box 1107M
Philadelphia

Cultivators and Wheel Hoes of every description.

Write for our free illustrated catalog, describing and giving directions for the use of all Planet Jr. Implements.



Planet Jr.

Michigan's Largest Pedigree Poultry Farm
DAY OLD CHICKS

From S. C. W. Leghorns, That have been carefully culled for heavy laying. Mated with PEDIGREE cockerels, whose records in the past five years are, the lowest in that time, 215 eggs, in one year, and as high as 290 eggs, in one year. We guarantee that every chick and breeder that we sell comes from Lakewood Farm only. Write for catalog. Grade A, 20c each. Grade B, 15c each.

Lakewood, Farm, Box B, Holland, Mich.

Baby Chicks Pure Bred 800,000 in 1921

To your door prepaid by us Guaranteed live delivery. We have the most modern methods of hatching and shipping methods and we ship you nothing but the best, our stock is of the standard Free range bred for heavy egg laying quality and our chicks are strong and healthy and will develop very rapidly. We have the following breeds S. C. White, Buff and Brown Leghorns, Anconas, W. and B. Rocks, R. C. and S. C. R. I. Reds, B. and W. Orpingtons, W. Wyandottes. Get our big bargain offer in CHICKS and BROODERS and save money on your ORDER and Maturity of your flock. Circular FREE.

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

Hubers Reliable Chicks—700,000 For 1921.

By Parcel Post Prepaid. By Special Delivery. Guarantee Live Delivery. Eggs for Hatching by Setting or 100.



We have installed the most modern features of the Hatching Industry, which will insure chicks as strong as Hen Hatched Chicks and full of pep. This is our 12th season. With the great increasing demand for our chicks and the fine Testimonials, Photos, Show Reports and Wonderful Egg Records we receive from our customers proves that our chicks from stock of Good Quality, Bred for Heavy Egg Production and that they are Properly Hatched. To insure success buy our Reliable Chicks. We hatch all our chicks from pure bred, free range farm stock. S. C. White and Brown Leghorns, S. C. Anconas, Barred Rocks, R. C. and S. C. Reds, S. C. and R. C. Buff Orpingtons, S. C. Black Minorcas and White Wyandottes. Special combination offer on chicks and brooder stoves. Before buying elsewhere send for illustrated catalog and prices. Place order at once and avoid disappointment in the rush of the season.

Hubers Reliable Hatchery, East High St., Fostoria, Ohio.

James Carriers Make Cleaning Easy

HOW do you do your chores—the old way or the James Way? The old way—cleaning out the barn is the dirtiest and hardest work on the place, a chore that is shirked by every one who has a chance to get away from it.

But this task, like many other tasks in the dairy barn, has been changed by James to a chore that even the boys like, and which they can do as well as the strongest man.

A 320-page book tells all about the James carriers and other work-saving James devices such as James cow stalls and stanchions, steel pens, ventilators, drinking cups, bull staffs, and it also tells about the James Barn Plan Service.

James Mfg. Co.

Fort Atkinson, Wis

The book is sent free, if you ask for James Way book No. 24.



The Great United Line Farm Helpers

United Milkers Double Dairy Dollars

Unquestionably America's Greatest Value in Milkers—simplest—most sanitary—most efficient—safest made. Pump-pulsator type—gives complete vacuum release on teat. Smooth natural action of calf.

THE "SEE-THRU" TEAT CUP—Clear as crystal. As easy to clean as a china dish—shows all teats milking. Saves time and trouble. Tell at a glance what each cow is doing. Write for information—or ask your dealer.

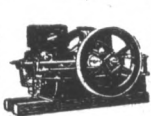
United Washers

With the famous full-swing DOLLY. Washes quicker—safer for any clothes. Hand and Power (electric or engine) with handy swinging wringers. Single and double tub models. Get the facts.



United Engines

13-4 to 12 H. P. Engines for every farm purpose—200,000 satisfied users. Highest quality—most economical power. Has no duplicate in value. Learn the features—get the facts.



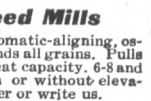
United Diabolo Separator

160 to 900 lbs. capacity. Backed with a guarantee of separator perfection. Easiest turning—closest skimming—most sanitary. Ask your dealer for trial or write to us.



United Feed Mills

Self-sharpening automatic-aligning, oscillating burrs. Grinds all grains. Pulls easy—durable—great capacity. 6-8 and 10-inch sizes. With or without elevators. See your dealer or write us.



See The United Dealer—If a dealer near you cannot show you the United line, write to us. The high standard of United quality and low prices make the United America's Greatest Value. Get all the facts.

UNITED ENGINE COMPANY Dept. 38 LANSING, MICHIGAN (28)

CONE-SHAPE GRINDERS

IT PAYS TO GRIND ALL GRAINS

Look to the Grinders. They do the work! Bowsher's Cone-Shape grinders are the correct principle in Feed Mill construction. They mean larger grinding surface close to center of shaft; thus more capacity, lighter draft, longer life.

"Desire to express my appreciation of the long-lasting, trouble-proof Bowsher. Have used a No. 4 ten years with less than one dollar per year for repairs." E. W. Watt, Jacobusburg, O.

10 sizes; 2 to 25 H. P. Write for free catalogue.

D. N. P. BOWSHER CO., SOUTH BEND, IND.

Heaves Fleming's Tonic Heave Powders good for "Heavey," thin, run-down, hide-bound horses. \$1.04 a package postpaid. Money back if they fail. Describes Heaves and 200 other Horse and Cattle Diseases.

FLEMING BROTHERS, 252 Union Stock Yards, Chicago

\$24.95 ON TRIAL

American CREAM SEPARATOR

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

Monthly Payments

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

Western orders filled from Western points.

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

public welfare, and should not be permitted. Safety demands that the milk be sold and sealed in suitable containers. If milk is to be distributed from public depots, it should be bottled, and the customer given the saving of delivery costs.

It so happens that milk, relatively, is not high in price. Compared with meats and many other food commodities, milk is very cheap, figured on a food value basis. More than that, milk has certain nutritional qualities, due to factors called vitamins, which renders it extremely necessary in the normal growth and development of children. The real value of milk is very much greater than its present cost, or its chemical analysis indicates.

The farmers who have been sweating blood over the question of milk price have overlooked one thing: that price is fixed not by cost of production but by what the public is willing to pay. If the general public understood thoroughly the real significance of milk in the diet of humans, both infants and adults, it would pay twice as much for milk as it does now, and be glad of a chance to get it.

If we read our census statistics aright we are not confronted with an oversupply of milk nearly so much as with an under-consumption. There are literally millions of people in this country who are indifferent to whole milk and dairy products in general, and if these could be persuaded to drink one glass of milk a day, or use an ounce of cheese a day, or substitute butter for the coconut oils they are spreading on their daily bread, there would be a greater call for milk than the farmers could supply, and the price problem would take care of itself.

As I see it, it is the duty of the farmer to supply a clean, sanitary healthy product which will please the consuming public. Clean milk from clean barns from disease-free herds will help tremendously to increase the consumption of milk. Clarified and pasteurized milk distributed in sanitary containers, without too much duplication of expense, is the duty of the distributors.

IN Wisconsin the division of markets is closely studying this problem, but until they have more dependable facts to work upon, they are going to reserve final judgment. But any division of markets, or any state legislature, can do little more than control and direct private effort. Legislation which would permit cities to make milk a public utility and control its distribution, might help by holding a club over the grasping distributor, or finding relief for a city overrun with distributors.

But even such legislation would not hit at the crux of the problem because it would do very little towards increasing the consumption, and until the consumption is increased, little real work can be done towards making possible a better price, and to maintain that price against public clamor.

BEAN PODS FOR DAIRY COWS.

What value has bean pods for feed for dairy cows? Are they all right to feed to a cow heavy with calf, say once a day? Is there gas enough to bean pods to hurt a cow after calving?

Osceola Co. E. D.

Bean pods are a very good feed for any kind of stock. Of course, some bean pods are more valuable than others, just as some hay is more valuable. If the beans are harvested before they get too ripe and when the weather is favorable so they are not bleached out in the rain good bean pods are nearly as good as clover hay. There is nothing in the idea that bean pods would injure a cow heavy in calf. I don't think you can give her any better food. You can feed bean pods to any kind of live stock with the assurance that no harm will come.—C. C. L.

Judgment

You use good judgment when breaking in a colt—the whip at the wrong time and a valuable horse would be spoiled.

Use the same good judgment in buying a suit—a choice of the wrong fabric means less satisfaction as well as a loss of the extra service a better fabric would give.

You can know what is the most dependable fabric for your clothes—year in and year out.

For wear—service—looks—most—for-dollar—you can't beat guaranteed Clothcraft Serge Specials—tested by over a half million wearers.

Clothcraft Serge Specials are backed by 75 years' experience in clothes making. The biggest selling suit in the world, made in the largest single clothing factory, is the Clothcraft Serge Special No. 5130.

Get samples of these serges—in gray, brown, and blue—with a little folder which has a big message for you—they're all yours for the asking. Just write saying "Send Serge Folder"—address:

THE JOSEPH & FEISS CO.
625 St. Clair Ave., N. W., Cleveland, Ohio

Increase the Value of Your Farm With a Silo



Get the beauty and durability of tile in the Lansing "ship-lap" block. Ends overlap—extended shoulders top and bottom—less mortar exposed, better settling of silage—less chance for frost, better looking silo, blocks uniform in shade. Stronger walls. Notched ends on blocks prevent mortar from slipping. Twisted steel reinforcing. Steel hip roof—steel or tile chute—fire proof. Write for Catalog.

J. M. Preston Company
Dept. 309 Lansing, Mich.

Factories: New Brighton, Pa.;
Urichville, O.; Brazil, Ind.;
Fort Dodge, Ia.

Lansing

Vitrified Tile Silo

Gombault's Caustic Balsam

The Standard Remedy

Human and Veterinary

As a veterinary remedy its curative qualities have been acknowledged for many years in cases of Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Spavin, Ringbone and other bony tumors.

A Perfect Antiseptic
Soothing and Healing

For treatment of Rheumatism, Sprains, Neuralgia, Lumbago, Sore Throat, Stiff Joints, Cuts and Bruises it is invaluable. \$1.75 per bottle at druggists, or sent by parcel post on receipt of price.

The Lawrence-Williams Co., Cleveland, O.

Agents Make Big Money Selling Our
Write today for catalog and big commission proposition. NAFFANEE LUMBER & MANUFACTURING CO., NAFFANEE, IND.

SILOS

HANDLING DAIRY CATTLE.

Will you please advise me the best time to feed dairy cows that are giving milk, how to construct a manure pit, and plans for a building apart from the dairy stable for protecting the cattle from the weather? Would it be practical to allow the stock to run loose in such a building during the cold winter days? I am keeping about twenty milch cows and about the same number of young stock on my farm.

Van Buren Co. R. L. G.

Probably no two successful dairymen do the daily work exactly alike. One man will milk the cows before he feeds them, another will feed them the very first thing. One man will feed his cows several times a day, another man will only feed them twice a day.

Now, in reality, it makes little difference as to whether you feed before or after you milk, or whether you water the cows before or after feeding, and so on, providing you are systematic in your work. Work out a system that fits your convenience best and then stick to it. Don't feed the cows before milking one morning and then after milking the next morning. Regularity in everything we do in the dairy barn goes a long way towards successful dairying. This shifting from one system to another will keep the cows nervous and they will not do anywhere nearly as well. Then again, do things at the same time each day. If you get your cows in the habit of getting a feed of hay, grain, or ensilage, or, in fact, anything, at five o'clock in the morning, don't feed them one morning at five o'clock and the next morning at seven. And the same about milking. Milk regularly at a certain time each day. This is very important in getting the best results with cows, and personally, I don't think it makes very much difference just when these things are done if they are only done regularly and systematically, every day.

A Manure Pit.

The only essential of a practical manure pit is to have a water-tight bottom and the side walls high enough to hold the liquid manure so that it can neither seep or run away. That is all there is to it. You can build them any shape that you choose to, one to suit your convenience and it will keep the manure just as good as a more elaborate one, or one built in some other way. It is not necessary to have a roof over it, but you can control the manure pit better if you do have the cover. Then you can add water, if necessary, and not too much. The only objection to a long, narrow manure pit would be the expense in proportion to the capacity of the pit. If it is long and narrow it will probably take twice as much cement to build it of the same capacity, than if built wider and not so long.

A Covered Barnyard.

The idea of having a building either connected with the barn or away from the barn and the manure carried out there daily by a manure carrier, is nothing more or less than a "covered barnyard," and this, by the way, is the best kind of a manure pit. It is an excellent thing to deposit this manure where the hogs can have access to it and where it will be tramped and packed down by the young cattle running in this yard. Open mangers can be arranged so that the young cattle can be fed here, in fact, some people have covered barnyards for their milch cows. They are put into stables to be fed the grain and to be milked and then they are turned into this larger enclosure, where they have free access to water and the roughage part of the ration. In this way of handling live stock, it necessitates a large amount of straw for bedding in order to keep the animals clean but it makes a splendid manure factory. Manure tramped in this way will keep almost indefinitely without fermentation or loss and can be hauled out at the convenience of the farmer.—C. C. L.

Dairying is most profitable



PRICES for dairy products have held firmly, while the cost of feed has been greatly reduced. Because of this there is relatively more profit than ever in dairying, and many farmers are turning low-priced feed into high-priced butter-fat. An eminent dairy authority says that you can make corn worth \$2 to \$3 a bushel by feeding it to good cows.

Times like these prove the value of dairying. It is the backbone of the nation's agriculture—the most profitable, surest and safest of all branches of farming. Dairying is not suffering from overproduction, is not overcrowded or overdone.

And De Laval Cream Separators have done more than any other factor to place the dairy industry on such a firm and profitable basis. They save cream, time and money twice a day, every day in the year. They produce a steady cash income. They have made the market accessible, even though you live 500 miles from a creamery. They keep the skim-milk on the farm to produce another crop of calves, hogs and poultry. They are made so well that 20 to 30 years' service from a De Laval is not unusual. Over 2,500,000 are in use in all parts of the world.

You need a De Laval more than ever.
There is a De Laval agent near you—see him.

The De Laval Separator Company
NEW YORK CHICAGO SAN FRANCISCO
165 Broadway 29 East Madison Street 61 Beale Street

Sooner or later you will use a De Laval Cream Separator or Milker

Cleans as Easily as a China Bowl



Sturges Steel Churns save time and labor and give the best churning results. The all-metal barrel, soldered smoothly, makes them easy to clean and keep clean. No corners to hold dirt—no wood to soak up milk. Never look greasy.

Beautifully finished in red and blue. One lasts a lifetime. If your dealer hasn't them, write for circular No. 5.

STURGES & BURN

MFG. CO.

Est. 1865

Chicago Ill.

Sturges

Steel Churns

Big Four Stock Salt

This medicated salt is a wonderful tonic, conditioner and worm expeller for stock.

100 pound kegs \$7.00
40 " pails 3.50
15 " " 1.75

If your dealer does not handle it we will deliver at above prices. Send no money—you can pay on delivery. Satisfaction guaranteed.

Eastman Salt Products Co.
Saginaw, Mich.

Some Bargains in Good Reading

OFFER No. 309.

Michigan Farmer, one year.....\$1.00
People's Popular Monthly, 1 year .35
Gentlewoman, one year25
Household Journal, one year..... .35

Total value\$1.95
All for \$1.55.

OFFER No. 310.

Michigan Farmer, one year.....\$1.00
Pictorial Review, one year..... 3.00
Woman's World, one year50

Total value\$4.50
All for \$3.40.

OFFER No. 311.

Michigan Farmer, one year.....\$1.00
Woman's Home Companion, 1 yr. 2.00
McCall's Magazine, one year..... 1.50

Total value\$4.50
All for \$3.25.

OFFER No. 312.

Michigan Farmer, one year.....\$1.00
National Sportsman, one year... 1.00
Everybody's Poultry Mag., 1 year .60

Total value\$2.60
All for \$2.05.

OFFER No. 313.

Michigan Farmer, one year.....\$1.00
Breeder's Gazette, one year..... 1.50

Total value\$2.50
Both for \$2.00.

OFFER No. 314.

Michigan Farmer, one year.....\$1.00
Hoard's Dairyman, one year..... 1.00
Swine Breeders' Journal, one year .50

Total value\$2.50
All for \$2.00.

OFFER No. 315.

Michigan Farmer, one year.....\$1.00
American Fruit Grower, one year 1.00
Corn Belt Farmer, one year..... .50
Gleanings in Bee Culture, 1 year 1.00

Total value\$3.50
All for \$2.60.

OFFER No. 316.

Michigan Farmer, one year.....\$1.00
Today's Housewife, 1.00
McCall's Magazine, one year..... 1.50

Total value\$3.50
All for \$2.25.

OFFER No. 317.

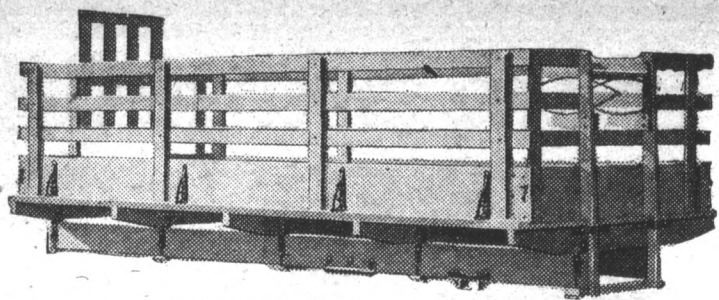
Michigan Farmer, one year.....\$1.00
Swine World, one year 1.00
American Sheep Breeder, 1 year 1.50

Total value\$3.50
All for \$2.50.

OFFER No. 320.

Michigan Farmer, one year.....\$1.00
Potato Magazine, one year..... 1.00
Tractor & Gas Engine Review
one year 1.00

Total value\$3.00
All for \$2.00.



3 Handy Wagon Beds

Make Them Yourself—Free Plans Tell How

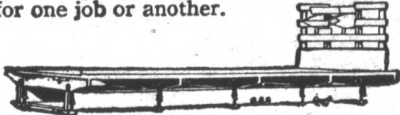
Why bother with heavy wagon beds that take two men to lift off and on?

With a set of A-P hardware, any man handy with saw and hammer can make these three beds—hay rack, grain bed, stock rack—to fit any wagon.

The beds are made in sections. It's easier and quicker for one man to lift in place a single section than for two men to carry and change a heavy, clumsy bed of the ordinary kind.

On receipt of the coupon below, we will send you without obligation a free set of "blue print" plans. They tell plainly how to cut material and how to fit in place every piece of hardware.

The hay-rack below is a bed that you use every working day of the year for one job or another.



The hay-rack can be changed in a jiffy by one man alone to a bed for hauling grain. Just bolt the sides and end-gate on separately—only eight nuts to tighten in all—lock the four end-gate fasteners. You then have a low, wide, strong bed for hauling all kinds of grain, as shown below.



For hauling stock there are two additional sides and an end that fit on the grain-bed in sections. Just lock four end-gate clamps. Your stock rack is ready for use. As shown in the large picture above.

Allith-Prouty Co.

Dept. 4703, Danville, Illinois

Please send me without obligation your free plans telling how to make A-P combination wagon beds. Also tell me the name of nearest dealer who handles the hardware sets.

Name.....

Town.....

State.....

Dealer's Name.....

Plans Free

Send for them today. Look them over. See for yourself how easy it is to put these handy beds together. Judge for yourself how strong and durable they are. Don't go without these easy-to-handle wagon beds any longer, when they can be had for the making.

Mail the Coupon

Allith-Prouty Co.

Dept. 4703

Danville, Illinois

BICKMORE'S GALL CURE

ON COWS

Sore teats mean less milk. Rub ointment into teat and wipe away all excess with a cloth. Teats healed and softened over

night. Excellent for caked udder, wire cuts, cracked hoof, etc. Write to The Bickmore Co., Box 153 Old Town, Me.



RHODES DOUBLE OUT PRUNING SHEAR



RHODES MFG. CO.

615 S. Division Ave. GRAND RAPIDS, MICH.

Cuts from both sides of limb and does not bruise the bark.

Made in all Styles and Sizes. All shears delivered free to your door. Send for circular and prices.

We Pay \$6 a Day

taking orders for Insyde Tyres—inner armor for automobile tires. Positively prevent punctures and blowouts. Guaranteed to give double tire mileage. **Work Spare Time or Full Time** Every auto owner buys on account of low price. Enormous demand. Write quick for territory and special terms to County Representatives.

AMERICAN ACCESSORIES CO., B-1459 CINCINNATI, O.

"B-V-T" Silo

Will last forever. You will never have to rebuild it! Neither will your grandchildren. Built from the famous BRAZIL VITRIFIED FIRE CLAY. The "B-V-T" has been on the market **ten years** without a failure.

Send for Catalog D

Brazil Hollow Brick and Tile Company
BRAZIL, INDIANA

Ear Tags FOR STOCK

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

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

Death to Heaves or refund

Newton's for Heaves, Coughs, Distemper, Indigestion, Conditioner, Worm Expeller. Three large cans guaranteed for Heaves. 65c and \$1.30 per can, at dealers or by mail.

Newton Remedy Co., Toledo, O.

More Work From Your Horses

Horses, like people, work according to the way they feel. On warm spring days, horses sweating under winter coats don't feel right and don't work right. You can't dry them off properly, resulting in colds, stiffness and other horse ailments.

Clip Your Horses This Spring

It will put life into them and keep them fit and ready. Progressive farmers clip their horses in the spring with a

Stewart Ball Bearing Clipping Machine. Price \$14 at your dealer's, or shipped by us on receipt of \$2, balance on arrival. Guaranteed to please or money back.

15% More Wool

This Stewart No. 9 Machine gets 15% more wool than the best hand blade shearing. Shears quickly, does not cut the sheep, and anyone can use it.

Price, complete, \$22 f.o.b. Chicago. Your dealer has it, or you can buy from us by sending \$2 with order and paying balance on arrival.

Catalog No. 69 shows complete line of hand and power operated machines. Write for it.

Chicago Flexible Shaft Company
Dept. AB127 5600 Roosevelt Road, Chicago



HE WORKS or YOU LOSE

SAVE-THE-HORSE will save you loss by curing, while he works, Ringbone, Thoropin, SPAVIN—or Shoulder, Knee, Ankle, Hoof or Tendon Disease—even the old, so-called incurable cases. Over 300,000 satisfied users and 27 years of success testify to its positive dependability. Sold only under our signed **MONEY-BACK** Guarantee to cure—we take the risk. Use it once and you'll always depend upon **SAVE-THE-HORSE**. Saves many times its cost in the first emergency.

Write today for **FREE** sample of **GUARANTEE** and 96-page **BOOK** on how to locate, understand and treat all lameness; also expert veterinary advice, all **FREE**.

TROY CHEMICAL CO., 320 State St., Binghamton, N.Y.
Druggists everywhere sell **SAVE-THE-HORSE** with Signed Guarantee, or we send it direct by Parcel Post Prepaid.

Stock Farming

Preparing for Strong Lambs

THE sheep is in many respects a wonderful farm animal when you consider the results and returns that may be had from them with a minimum of expense and care throughout the greater portion of the year. On many farms they are left to provide largely for themselves in the fields and round the stacks, ten months out of the year. A little care and attention have killed most of the vegetation, however, will be well repaid in the thrifty condition of the sheep that can be maintained up to lambing time.

Late winter is really harder on the ewes than the early winter days, because they have by that time lost some of the flesh and fat that was put on them during the summer. Any farm breeding animal is the better for the good flesh it carries, especially if it is bearing young. If the ewes are put into a good thrifty condition or kept in that condition during the winter they will be more likely to bear strong lambs. On the other hand, if they must shift for themselves most of the winter, picking up dead stuff in the meadows and existing on the straw stack, the owner is likely to be disappointed in the lambs that arrive with all the flabbiness of a wet dishrag and about as useless, for often they will not last more than two or three days, if that long.

A ewe is a cheap animal to keep. Give her good clover hay of some kind once or twice a day, a little oats and corn, and she will bear as good lambs as any flockmaster could expect. We have fed silage in place of clover hay and linseed meal with the grain in small quantities. These feeds will put starch into the lambs which will arrive perfectly formed and make the owner feel he has gained something worth while. Too much corn is fattening to a pregnant ewe, so it is better to utilize more oats and clover hay and only enough corn to improve her flesh and keep her appetite sharp for it. Our ewes enjoy a daily feed of good corn silage also.

It is not advisable to keep them in close confinement even during cold and snowy weather. We usually let ours run into the stalk pastures and clover fields, where they roam about and perhaps find a little something to

eat while getting plenty of exercise. The natural habitat of the sheep is on the range or open field or wooded knoll, and I recall years when because of lack of barn room we used to feed our flock outdoors during most of the winter, and our lambs were strong and thrifty as those we raise today under better shelter conditions. As lambing time approached we hurdled the ewes in the barn, but this practice was not as convenient as feeding under cover.

Time is an important element to the present-day farmer, and everywhere that we can practice economies it will pay to do so. Strong lambs are the result of good care and feeding, and to get them started on the right road requires little time. If he is vigorous after the first few days he needs practically no more attention other than that of being watched. Weak lambs require lots of close care for several days if they are to survive. A few weak lambs will just about keep one busy looking after them, and this means attention well into the night. So proper feeding of the ewes will prove to be an economy at lambing time.—J. L. J.

RYE AND VETCH HAY FOR HORSES.

Is rye and vetch hay good for the horses? Would it be safe for me to buy vetch seed now and keep it until next fall for seeding? It is very difficult to secure good seed in the fall.

Wayne Co.

A. T.

Where rye and vetch hay is cut at the proper time and properly cured there is no objection to feeding it to horses or any other kind of live stock. Probably the horses will like the vetch better than they do the rye. Sometimes when the rye is not cut at the proper time it is not very palatable, the stock will leave it and pick out the vetch.

It will be perfectly proper to save the vetch seed and keep it till next fall to sow with the rye. It will not deteriorate in germinating power to any degree in that length of time.—C. C. L.

The nutritive value of winter-roughage for stock, depends in a large measure, upon its palatability. This is a point that should be given more consideration in making up the grain-ration for the stock.



A new Class F champion record of production for the Guernsey breed was recorded November 6, 1920, at the conclusion of a twelve months' test, by Katherine's Trixie, owned by Walter C. White, Ohio. Trixie's milk production for the twelve months' period was 18,945.7 pounds, giving her a margin of 3,416.9 pounds over the previous record, held by Langwater Hope. Her butter-fat record was 791.48 pounds.

BREEDERS' DIRECTORY

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

THE HOME OF Imp. Edgar of Dalmeny Probably The World's Greatest Breeding Bull

Blue Bell, Supreme Champion at the Smithfield Show 1919, and the Birmingham Show 1920, is a daughter of Edgar of Dalmeny.

The Junior Champion Bull, Junior Champion Female, Champion Calf Herd and First Prize Junior Heifer Calf, Michigan State Fair, 1920, were also the get of Edgar of Dalmeny.

A very choice lot of young bulls—sired by Edgar of Dalmeny are, at this time, offered for sale.

Send for Illustrated Catalogue.

WILDWOOD FARMS ORION, MICHIGAN

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

For Sale Woodcote Trojan-Ericas

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

Write for our 1921 BULL SALE LIST

Woodcote Stock Farm, Ionia, Mich.

REGISTERED Aberdeen-Angus. Ten heifers, six bulls from eight to fourteen months. Best of breeding, the growthy kind that make good. Reasonable. Inquire F. J. WILBER, Olio, Mich.

CLOVERLY ANGUS

Cows and Heifers Bred to Blackcap Brand of Woodcote 2nd For Sale GEO. HATHAWAY & SON, Ovid, Mich.

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

Public Auction March 18, 1921

dispersal sale of 16 head of cattle 7 head of Reg. Guernseys 2 reg. Jerseys. 2 grand sons of Don Diavolo out of high test cows. One Guernsey milking 50 lbs. All cattle sold on 60 day retest for T.B. One United milker, one handsome bay pacing Mare mark 17 1/2, 3 heavy Percherons, reg. Poland China Boar, reg. Hampshire sheep 4 1/2 miles north east Eaton Rapids. 9 miles west of Mason, 14 miles southwest of Lansing. Hot lunch at noon.

JAS. A. LEWIS, Rural 5, Eaton Rapids, Mich.

Registered Guernseys

A bull calf, nearly ready for light service, at a price, you will pay, don't wait long on this fellow. J. M. WILLIAM, No. Adams, Mich.

The Village Farm Guernseys offer for sale: The Pride of Sweet Orchard Farms No. 6507. Dropped Dec. 3 1919 ready to head your herd, his full sister now on A. R. test has milked over 2000 lbs. 90 lbs. fat in 50 days. Sire Langwater Wilchester (28058), dam Governor's Minnewaska 2d milking 45 lbs. daily (38158). Sire Langwater Advocate (26344), dam Imp. Gov's Minnewaska (2624). First check of \$250 takes him. Her 6 girls, Herdsman, O. J. Winter, Owner, Sebawaing, Mich.

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

Guersey Bulls of May Rose Breeding Their dams have records 420 to 650 lbs. fat also a few cows and heifers are offered. H. W. WIGMAN, Lansing, Mich.

GUERNSEY BULL CALVES whose sire's dam made 19,460.20 milk, 309.05 fat. Their mother's sire's dam made 15,109.10 milk, 778.80 fat. T. V. HICKS, Battle Creek, Mich.

FEDERAL Inspected Guernsey Bulls. Priced to sell. Nine sold in 10 mos. A fine Masher Sequel 3 yrs. old, sure sound and right \$175.00. Four grandsons of Ex-Champion A. A. cow, under 8 mos. old from cows on test. G. W. & H. G. RAY, Albion, Mich.

For Sale Six registered Guernsey bulls May Rose breeding ready for service. Cheap if taken soon. John Ebels, R. 2, Holland, Mich.

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.

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

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

HOLSTEIN BULLS 16 mos. old 30 lbs. sire untested dams Price \$100. Dewey O. Pierson, Metamora, Mich.

FUTURE OF THE LIVE STOCK AUCTION.

WISCONSIN Holstein sales managers are organizing into a federation for the avowed purpose of keeping auction sales of black-and-white cattle in the badger state on a high plane. This federation seems to be desired by all of the managers, and is a hopeful sign of the present trend in live stock affairs.

The shyster public sale must go. Buyer and seller alike have the right to demand a square deal, and the convenience of the sale is such that it should be continued. The live stock sale properly managed, and containing meritorious animals, can be staged more economically than it is ordinarily possible to sell privately. It gives the buyer a larger selection in a brief space of time, and gives him the further advantage of fixing his own values.

In dairy cattle tuberculosis and contagious abortion are the two great menaces of the pure-bred industry. Sales managers are more and more insistent that consignments be subject to a sixty-day retest under provisions which also safeguard the seller. They are insisting on knowing the breeding record of any female of breeding age, and barring all cows and heifers which cannot prove a satisfactory breeding history. The same diseases also require careful attention in the sales of beef cattle.

But disease is not the only thing to be guarded against. By-bidding and manipulation of values have put a great many sales into disfavor. High-speculative prices, particularly if they are not cash transactions, are bad for any breed of live stock. Conservative values for cash, high enough to insure a profit commensurate with the investment, skill, and risk required, should be the rule.

The recent tragedy at Dixon, Illinois, the finale on the \$100,000 Rag Apple Korndyke 8 sale is a good example of inflated values. He has left one suicide and a trail of financial failures in his wake, all caused by a senseless exploitation of pedigree; a pedigree which came under a cloud shortly after the purchase had been consummated. I remember a well-known breeder remarking to me, in the hey-day of this exploitation, that the farmer-breeder who worked his head off and built up a herd slowly and surely was a fool. It is the speculator who is the fool.

If the public sale of live stock is to continue it has to keep this farmer-breeder ever in mind, because the pedigree speculator comes and goes, and there is no stability under him. But the farmer will buy for cash, and will pay pretty nearly what the animal is actually worth.


PROPER TEMPERATURE FOR THE COW STABLE.

Kindly tell me what is the proper temperature for cow stables where milch cows are kept.

Kent Co. J. W. P. About forty degrees is considered the best temperature to keep a stable, taking everything into consideration. If you have it much warmer than this for any considerable length of time the cows do not seem to be so vigorous and haven't as good an appetite. However, they won't eat quite so much if you keep the temperature up to seventy degrees, neither will they apparently act as well and have as much vigor. Quite careful experiments have been made on this question of temperature and they all tend to show that in feeding for a considerable length of time, around forty degrees is the more practical temperature.—C. C. L.

When selling your surplus stock, don't forget that you will want some yourself for table-use.

FEED UP



Do This —

Give your dairy feed the **PROFIT-OVER-FEED** test. Weigh your feed. Weigh your milk. At the end of a month, subtract the cost of the month's feed from the month's income from the milk. Put this figure* down where you can refer to it in thirty days.

Then, ask your dealer for **BUFFALO CORN GLUTEN FEED**, the protein feed that makes milk. Mix up yourself, at home, 2 parts of **BUFFALO CORN GLUTEN FEED**, with 1 part of wheat bran or mill feed, and 1 part of ground oats. *You can mix up a ton in a half-hour—and few jobs will pay you better.* Feed this mixture liberally. Keep the daily feed and milk records for another month, as before. Then subtract the cost of the month's feed from the month's returns from the milk. Check this margin-of-profit figure* with the other one.

It probably won't take a whole month to convince you that it pay\$ to feed **BUFFALO CORN GLUTEN FEED**.


Write us for literature giving mixtures for feeding BUFFALO CORN GLUTEN FEED. If your dealer cannot supply you, tell us who and where he is. Write to

Corn Products Refining Co.

New York Chicago

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

HOLSTEIN CATTLE



Oscar O. Zehring, R. 2, Germantown, Ohio, writes:

"The purebred Holsteins were never so popular as at the present time. The demand for them is still increasing, as a result of the remarkable and profitable dairy performances. I never saw a better time to breed good Holsteins than at present. I have sold 23,000 of offspring from one cow bought 13 years ago. They surely are a gold mine and a mortgage lifter."

Send for Free Booklets

The Holstein-Friesian Association of America
164 American Bldg., Brattleboro, Vermont

For Sale \$450.00

Cash or Terms

A show bull from A. R. O. Dam born December 15, 1915. Sired by our Show Bull.

MODEL KING SEGUS GLISTA

Whose grand dam, GLISTA ERNESTINE, has six times made better than thirty pounds of butter. Buy now in order to have 1921-22 winter calves.

GRAND RIVER STOCK FARMS

315 N. East Ave., Corey J. Spencer, Owner Jackson, Mich.
Under State and Federal Supervision

\$175 buys reg. Holstein heifer 2 yr. old. Fresh soon. Sire by "Prince Korndyke Johanna". A 31.65 lb. bull. Bred to 23 lb. bull. B. B. Reavey, Akron, Mich.

NOTICE

The Winwood Herd

on Nov. 1st will move their Herd of Pure Blood Holsteins to their new home, 1 1/2 miles south of Rochester, Mich. and for the next 30 days we will sell what bull calves we have cheap as we will be unable to get our buildings complete before winter. So get busy if you want a son of Flint Maplecrest Boy at your own price.

JOHN H. WINN, (Inc.)

Roscommon, Michigan

FOR SALE Registered Holstein-Friesian bull calf ready for service extra choice breeding and individuality. King of the Pontiac breeding. Henry S. Rohlf, R. 1, Akron, Mich.

"Top Notch" Holsteins

Buy a "milk" Bull of Quality from the Breeders of the world's only cow to produce 800 lbs. milk in 7 days, having an 800 lb. daughter.

Our herd is rich in the blood of Colantha 4ths Johanna, the only cow that ever held all world's records in every division from one day to one year at the same time. She produced 651.70 lbs. milk in 7 days. We are offering for sale a bull, whose dam exceeds this record by over 7 1/2 lbs. in 7 days.

His dam's records are:—

Milk	1	Day	100.1 lbs.
Milk	7	Days	659.3 lbs.
Butter	7	Days	25.31 lbs.

His name is **KING VALE CORNUCOPIA WAYNE, No. 312599** Born February 6, 1920

His dam and sire's two nearest dams average

Butter	7	Days	33.92 lbs.
Milk	7	Days	607.3 lbs.

Handsomely marked about one third white. \$250.00 f. o. b. Howell.

McPHERSON FARMS CO.

Howell, Mich.
All herds under U. S. Supervision.

ENDORSE GRAIN MARKETING PLAN.

THE American Farm Bureau Federation is the first of the great farm organizations to endorse the grain-marketing plan put out by the Committee of Seventeen at Kansas City. Its executive committee voted unanimously in approval of the plan and directed a message of congratulation be forwarded to the Committee of Seventeen. The agricultural editors of America have been invited by C. H. Gustafson, Chairman of the Committee of Seventeen, to meet in the Congress Hotel, Chicago, on Wednesday, March 2, to discuss the plan.

Veterinary.

CONDUCTED BY DR. W. C. FAIR.

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

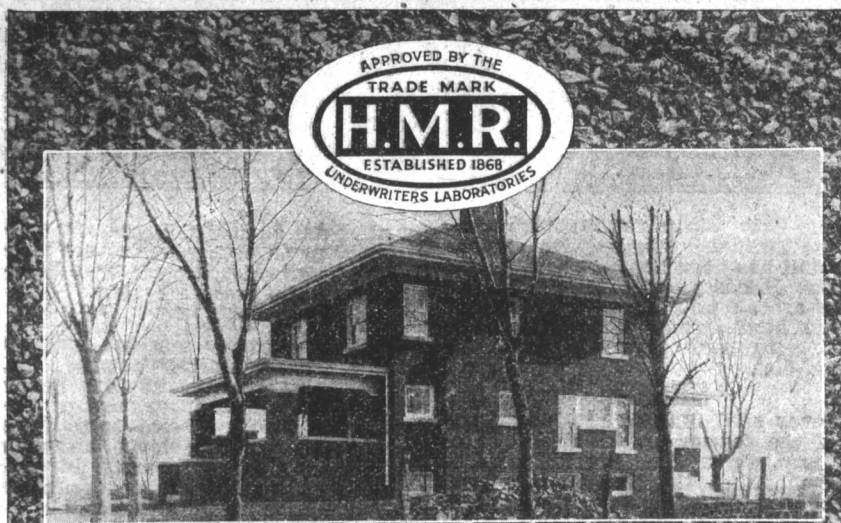
White Scours.—Some of my calves seem to be troubled with what is called white scours, which make us much work cleaning up after them. What is the cause of this ailment? W. B., Marlette, Mich.—White scours is caused by specific pathogenic germs. The infection is a rule is taken up by the mouth. In some cases, however, the germs may enter the body through the navel. The germs, which are persistent and difficult to eradicate from infection as a rule is taken up by the your calves having scours. White scour serum not only prevents but is curative in its action; therefore you had better ask your veterinary to treat your calves. You will never get rid of the infection if you do not clean and thoroughly disinfect your cow stable, calf pen and yard where the diseased stock have been kept.

Worms—Lameness.—I would like to know the best remedy for destroying worms in horses. I also have a mare weighing 1,300 pounds that shows a slight lameness after doing heavy hauling, and I might add, she has been lame for ten months. Local veterinary tells me to save her from doing heavy pulling. J. R. P., Howell, Mich.—Give each horse two drams of santonin and one dram of calomel in bran mash three times a week for two weeks. If you prefer a less expensive remedy, give one dram of powdered sulphate of iron, one dram of sulphur and a half-ounce of ground gentian in soft feed daily. From your history of the case I am unable to correctly locate the lameness. Consult local veterinary.

Sore Tails—Necrobacillosis.—I have some pigs two and a half months old that were weaned at six weeks. Have been fed mixed corn and rye, equal parts. Have also fed them small potatoes, but they were well cooked. About ten days ago one pig died. I examined it and found the tail entirely gone. It seems to be a disease of some kind, as it had eaten up into the pig's body. Every one of the pigs have diseased tails. I cut the tail off one, but pig died. What ails them? C. P., Water-vliet, Mich.—The only disease that they could have which might cause the destruction of their tail is Necrobacillosis and this is not the trend of the ailment, it usually affects the skin, mucus membrane, mouth, head and internal organs. Are you sure that their tails have not been frozen? I am inclined to think so. Give them good care, keep them clean, dry and warm. Apply tincture of iodine to tail daily.

Paralysis.—I have a pig three and a half months' old that has seemingly lost the use of its hind legs. It has been well fed on corn and whey. W. M., Butternut, Mich.—You have fed pig too much corn and not enough oats, tankage, and green food, such as roots, etc. Apply equal parts of turpentine and lard to back three times a week. In many such cases it is profitable to slaughter the animal, as the meat will doubtless be fit for food.

Lice on Cattle.—I am told that lice can be driven from cattle by giving them sulphur; if so, how much should I give at a dose? C. B. L., Vanderbilt, Mich.—No, giving sulphur to cattle will not drive lice off them. Sulphur acts remotely in stimulating the functions of the skin and respiratory mucus membranes, so-called alterative action. If you have lousy cattle, apply raw linseed oil with a stiff brush.



Reynolds

Shingles

Also Protect

This Farm House

The above photograph pictures C. F. Busby's farm house, Ridgefarm, Ill., roofed with Reynolds Asphalt Shingles, which protect it against fire and weather.

Like thousands of other business farmers, Mr. Busby insisted upon Reynolds Protection—a protection approved by the Underwriters Laboratories and recognized by insurance companies because of fire-resisting qualities.

You, too, want this same positive roofing protection and owe it to yourself to investigate Reynolds Shingle Service—Service based on 20 years of distinctive leadership and ten-year iron clad guarantee that mean years of additional roofing protection. Reynolds Shingles do not curl, split or crack and with their mineral surfaced coatings, fairly sparkle with beauty.

The Reynolds Trademark protects you. Whether you buy now or later, write for Special Booklet D, and name of nearest authorized Reynolds Dealer. This will in no way obligate you and will bring you helpful roofing advice.

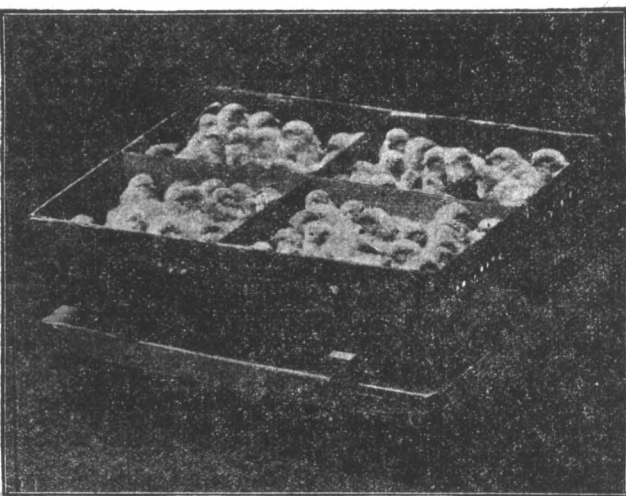
H. M. REYNOLDS SHINGLE COMPANY

"Originators of the Asphalt Shingle"

GRAND RAPIDS

MICHIGAN

Reynolds Shingles "Grow More Beautiful With Age"



200 Chicks Ready for Shipping

POULTRY

Fowler's Buff Rocks Cockerels, hens and pullets. Write for prices. R. B. FOWLER, Hartford, Mich.

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

BABY CHICKS 25 for \$5.50, 50 for \$10 and 100 for \$18.00. Prepaid, safe delivery guaranteed. Single Comb White Leghorns; White, Buff and Barred Plymouth Rocks; S. C. R. I. Reds and Anconas. Fenton Chicken Hatchery, Box 244, Fenton, Mich.

BABY CHICKS English Strain White Leghorns. The heavy laying strain at \$18.00 per 100 for April; \$16 for May. Prepaid by mail. Safe arrival guaranteed. LEO M. LOEW, Dor, Mich.

BABY CHICKS Single Comb White Leghorn (Tom Barron Strain) White and Barred Plymouth Rock, S. C. R. I. Red, Anconas, White Wyandottes and Brown Leghorns 25 for \$5.50, 50 for \$10.00, 100 for \$18.00. Rose Wade, Meadow Brook Hatchery, Mt. Morris, Mich.

Barred Rocks from Rocky Ridge Hatching eggs from bred to lay birds \$1.50 per 15. Prepaid by Parcel Post. W. T. RICHARDSON, Hanover, Mich.

Barred Rocks 15 eggs, \$1.75; 30 for \$3; by mail. Flock average last year 133 eggs. LEWIS B. AVERY, Clinton, Mich.

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

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

COCKERELS: A few choice S. C. Mottled American and W. F. B. Spanish cockerels. \$3 and \$5 each. Prize Winners. Lawrence Lahaie, Cheboygan, Mich.

Chicks, Rose Comb Reds \$20 per 100. From farm range flock bred for eggs. Guaranteed arrival. Write for circular. GORET BROS., Corunna, Mich.

DAY OLD CHICKS and hatching eggs from select heavy producing stock. Delivery guaranteed. Wh. Leghorns, Bar. Rocks, W. Wyand., S. C. Reds, B. Orp. -Cat. free. GOSHEN POULTRY FARMS, R-19 Goshen, Ind.

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

Jersey Black Giants. Again the sensation at Madison Square Garden, the world's greatest Poultry show. The giant of poultrydom. If given free range will find the larger part of it's own living. For descriptive folder and price list on hatching eggs, write MARCY FARMS, Matawan, N. J.

Look! 100,000 for 1921. Day Old Chicks. Barred Rocks; S. C. W. Leghorns, American and English; and Anconas. Write for free catalog. Fairview Hatchery, R. 2, Zeeland, Mich.

Oh's Improved Leghorns BABY CHICKS, bred from stock with high egg records and show room quality. None better for filling the egg basket. Catalogue free. Oh's White Leghorn Farms, Marion, Ohio

100,000 CHIX 15c UP.

Best selected utility trapnested exhibition stock ever produced. 15 varieties. Hatching eggs \$1.00 each. Early bookings, avoids disappointment. Catalog FREE. Beckman Hatchery, 26 E. Lyon, Grand Rapids, Mich.

PULLETS 8-week White Leghorns—Anconas. Don't bother with chicks. Get our catalog. ZFELAND PULLET FARMS, Zeeland, Mich.

Rhode Island Reds R. C. Large fancy cockerels at \$3 each. Address BURT Sisson, Imlay City, Mich.

Rhode Island Whites If you have ever said there is no money in raising poultry try the R. I. White, stock for sale, order ahead. H. H. JUMP, R. 5, Jackson, Mich.

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

R.C. Rhode Island Red eggs for hatching. Also some fine cockerels for sale. MRS. ALBERT HARWOOD, R. 4, Charlevoix, Mich.

SELECTED WINTER LAYERS S. C. WHITE LEGHORN EGGS FOR HATCHING, laid by hens that averaged over two hundred eggs each last season. 15 Eggs \$3.00; 30 \$5.50; 100 \$15.00. BABY CHICKS each week beginning March 1st, 15¢; 50¢; 25¢; 100¢; 50¢; 100¢; 100¢; 100¢. No catalogue. Dunningville Poultry Farm, Dunningville, Mich.

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

Additional Poultry Ads. on Page 285

HOGS

Central Mich. O. I. C. Swine Breeders Ass'n.

Hogs of all ages of popular blood lines. Every sale guaranteed by association.

DR. H. W. NOBLES, Sales Mgr. Coral, Mich.

O.I.C.'s. Big Type Gilts, bred for Mar. and April farrow. Boars all ages. Write me for prices. G. P. ANDREWS, Mason, Mich.

L. S. P. C. a few choice boars at farmers' prices. gilts bred to Black Giant one of the best pigs out of Ill. this fall. Also a grandson of The Clansman and Harrison Big Bob. H. O. SWARTZ, Schoolcraft, Mich.

Advanced Type Polands

A few splendid gilts and boars farrowed Oct. 22 from Clansman dam and Giant Buster sire; royal purple bred, at \$40 each, \$75 a pair. Here is the year's greatest bargain. Write quick.

G. S. Easton, Buchanan, Mich.

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

Big Bob Mastodon Spring gilts bred for March and April and some sows bred to Big Bob his sire was champion of the world, his dam's sire was Grand Champion of Iowa State Fair. O. E. GARNANT, Eaton Rapids, Mich.

L. T. P. C.

70 head of Poland Chinas at private sale. Am offering spring boars from \$40 to \$50 and gilts the same price. Summer and fall pigs \$25 each. The first check will bring you the first choice. HART, FULCHER & CLINE, Address F. T. Hart, St. Louis, Mich.

Francisco Farm Poland Chinas

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

BIG TYPE POLANDS

Bred gilts for sale. Also a few choice fall pigs by The Clansman and his son The Clansboy. They are great. Immune and registered. Come or write. WESLEY HILE, R. 6, Ionia, Mich.

LARGE Type Poland Chinas. A few choice fall boars for sale. Write or come and see them. A. A. FELDKAMP, R. 2, Manchester, Mich.

Pig Type P. C. some very choice boars double immune, out 1100 lb. sire and mammoth sows from Iowa's greatest herds. E. J. Mathewson, Burr Oak, Mich.

Bg Type Poland Chinas at lowest prices. Both sex, all ages, and bred sows and gilts. G. A. BAUMGARDNER, R. 2, Middleville, Mich.

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

L. T. P. C. If you are looking for something good, in bred gilts at a right price. Write W. J. HAGELSHAW, Augusta, Mich.

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

Leonard's Big Type P. C. Sows bred to Orange Clansman, Fall boar pigs weigh 175 lbs. Real herd boar prospects. Call or write. E. R. Leonard, R. 3, St. Louis, Mich.

Registered Hampshire gilts now ready to ship. Spring boars and fall pigs at a bargain. JOHN W. SNYDER, R. 4, St. Johns, Mich.

PINE GROVE HAMPSHIRE

We are offering a few tried sows bred for March and April farrow. These sows are all closely related to our winning show herd and of popular blood lines, and the price! Way Down! Geo. Coupar & Sons, Marlette, Mich.

SHEEP.

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

Shropshires Choice ewes, all ages, bred to imported ram. Also a few rams W. B. McQUILLAN, R. 7, Howell, Mich.

Want a Sheep? Let American Hampshire Sheep Association send you dandy booklet with list of breeders. Write COMFORT A. TYLER, 22 Woodland Ave., Detroit, Mich.

LATEST MARKET REPORTS

GRAIN QUOTATIONS

Tuesday, March 1.

Wheat.

Detroit.—Cash No. 2 red \$1.82; May \$1.75; No. 2 white and No. 2 mixed \$1.80.

Chicago.—No. 2 red \$1.76½; No. 2 hard \$1.71; March \$1.66½.

Corn.

Detroit.—Cash No. 3 yellow 71c; No. 4 yellow 68c.

Chicago.—No. 2 yellow 68c; No. 3 mixed 63¼@63¾c.

Oats.

Detroit.—Cash No. 2 white 47¼; No. 3 white 45¾c; No. 4 white 42¾c.

Chicago.—No. 2 white 44¼@44½c; No. 3 white 43@44c.

Beans.

Detroit.—Immediate and prompt are lower at \$3.75 per cwt.

Chicago.—White beans steady. Hand-picked beans choice to fancy \$4.50@4.75; red kidney beans \$9@9.25 per cwt.

Rye.

Detroit.—Cash No. 2 rye \$1.55.

Seeds.

Detroit.—Prime red clover \$11; alsike \$15; timothy \$3 per bushel. Toledo.—Prime red clover, cash and March \$11.45; alsike \$15; timothy at \$2.70 per bushel.

Hay.

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

WHEAT

Green bug damage, high winds and dust storms have been reported from the southwest during the past week, although thus far damage to the crop is not large. Freezing and thawing weather has also been a factor and Hessian fly is also reported in a number of sections in the winter wheat belt. Foreign demand for wheat has been somewhat spasmodic during the past week, but in the last few days Italy, Germany, Switzerland and Greece have all been in the market for rather liberal quantities. Country holders are refusing to sell on declines, as the belief that the market is in a strong position, barring a panic is widespread. Not only is Argentine wheat of poor quality, but recent rains impaired Australia's crop and in both countries late estimates of surpluses have been revised downward. India continues to report rain as badly needed in important producing sections, and the crop this season promises to be less than domestic requirements even after allowing for a liberal carry-over.

CORN

Apparently the winter movement of corn to terminal markets is rapidly drawing to a close and it is expected that receipts after the next two weeks will be comparatively light. Export demand continues brisk. Germany may import 18,000,000 bushels or more in order to reduce the demand for wheat. In addition 500,000 bushels of natural corn will go to Poland and 1,000,000 bushels to France. The supply available in the Argentine is comparatively small, and rains are delaying the maturity of the new crop so that it is not expected to come upon the market until later in the season than usual.

OATS

The oats market continues to shadow corn, and price changes are holding within narrow limits. Planting of corn has begun in Texas, while seeding of oats is progressing rapidly northward.

BARLEY

Barley prices have been very firm throughout the past week. Rye continues to follow closely upon the heels of the wheat market and appears to be in an even stronger statistical position than the main bread cereal.

BEANS

Bean markets still appear to be dominated by the strained conditions in the Michigan trade. Buying is restricted as a result of the break as purchas-

ers are uncertain as to the future trend of the market. Consumptive demand at retail has been helped by unemployment. Prices f. o. b. Michigan stations are about \$3.80 to \$3.85 for the choice hand-picked stock, with \$3 to \$3.25 being paid to growers for beans in the dirt.

SEEDS

Clover seed reached the lowest level of the season toward the close of the past week. The normal increase in demand at this season has been more than offset by increased selling by growers in this country and by liberal imports. About 1,200,000 lbs. entered this country from France and Italy during the first two weeks of February and growers abroad appear inclined to press sales in order to dispose of their surplus. Export demand for timothy seed is only fair and this market also reacted slightly in sympathy with clover.

FEEDS

Mill feeds advanced \$2@3 per cwt. wholesale during the past week. Hominy feed and tankage also recovered some of their recent losses, but linseed oil meal is quoted \$2 lower at Minneapolis than a week ago. Demand increased when the low levels of two weeks ago were reached, bringing about the advance since that time.

Supplies are sufficient to prevent prices going much higher unless the market for feed grains should rise materially above the present basis.

HAY

Many of the hay markets made a show of firmness during the past week, due partly to light receipts and partly to a slight increase in demand at current price levels. Prices are down close to the fighting level, although still further declines are not improbable and the foundation for a substantial advance is not in evidence.

CHEESE

Cheese markets were firm throughout the past week. Country markets advanced radically early in the week on practically all styles. Export inquiry continues at New York for undergrade cheese, but actual buying is limited on account of the discount in exchange. Receipts were comparatively light during the past week, although they are considerably heavier than a year ago.

BUTTER

The butter markets continued to advance throughout the past week. Fresh butter is comparatively scarce and buyers have been obliged to make use of storage holdings of the better grades which are none too abundant. Storage

holdings are still larger than a year ago. Prices upon 92 score fresh butter as quoted by the bureau of markets on February 26 were: Chicago 51c; Philadelphia 53c; New York 52½c; Boston 52c; Detroit 49@50c.

EGGS AND POULTRY

Egg markets receded again during the past week as a result of substantial increases in arrivals at central markets, prices returning practically to the low point of early February. Weather is favorable for production and the usual spring increase in supply is showing up ahead of the normal season. Latest quotations as follows: Detroit.—Eggs, fresh candled 35@36c dozen. Live poultry, spring chickens 30@31c; leghorns 26c; heavy hens at 32c; light hens 30c; roosters at 20c; geese 27@28c; ducks 35c; turkeys 40@42c.

POTATOES

The potato markets have gradually strengthened during the past week, due to lighter receipts and the development of greater confidence that the remainder of the large crop produced last year would be absorbed. The fear that the market would go to pieces during March and April has been very largely dissipated. The government report of two weeks ago showing that holdings were only slightly heavier than a year ago in spite of the big crop, and considerably lighter than two years ago, is now being appreciated at its true worth. While the market may not advance much higher it is now felt that the worst is over. Prices for Northern Round White stock U. S. Grade No. 1 in consuming centers in carlots on track are as follows: Chicago \$1.25@1.35 per cwt; Cleveland \$2.30 per 150-lb. sack; New York \$2.15@2.40 per 100-lb. sack; Pittsburgh at \$1.80@2 per 150-lb. sack; Philadelphia \$1@1.20 per 100 lbs; Detroit \$1.85@2 per 150-lb. sack.

APPLES

Apple markets have developed a better tone during the past week, due to the fact that supplies in distributors' hands have been gradually disappearing.

DETROIT CITY MARKET

There is very little produce offered by farmers these days. Apple prices range from 75c@83c per bu; cabbage 50@75c; carrots 50@75c; onions 60@70c; parsnips 50@90c; potatoes 70@75c; turnips 70c@1.25; eggs 44@50c; poultry 35@40c per lb; hogs 14@15c; veal 17@18c.

FARM BUREAU MARKET REPORT.

Markets during the past week have held fairly well under pressure, due to lack of export demand and limited local demand for coarse grains. Considerable export business recently reported but no market advance. Coarse grains seem due for substantial advance if export buying continues. Hay is dull and draggy, and lower prices must prevail. Timothy seed scored a decline of 25c during the past week and now quoted at \$2.75 at Toledo. Market for alsike holds firm at \$15. There is a light demand for all grades of alsike except prime. June clover has fluctuated somewhat and is a little stronger; \$11 is listed as the high price for past week. Demand is brisk but farmers are still holding for higher prices.

HORSE MARKETS ARE ACTIVE.

HORSE markets displayed a further increase in activity this past week although values are not higher than a week ago. Demand still centers upon the 1000-1400-pound chunks. Slight improvement was also noticeable for heavy horses for city trade, ascribed to slight improvement in eastern industrial conditions. The receipts are ample.

COMING LIVE STOCK SALES.

Guernseys.—March 18, Jas. A. Lewis, Eaton Rapids, Mich.
Rambouillet Sheep.—March 18, F. O. Behymer, Saline, Mich.
Holsteins.—March 21, Beeson & Holden, Three Oaks, Mich.
Holsteins.—March 22, Joseph L. Ziegler, South Lyon, Mich.

Live Stock Market Service

Markets for March 2.

BUFFALO

Hog prices are generally steady, heavy hogs bringing \$10.50@11; mixed hogs \$11.50@11.75; others \$11.75@12. Lambs are steady at \$11.50, and best calves \$16.

DETROIT

Cattle.

Market steady.
Best heavy steers \$8.75@ 9.25
Mixed steers and heifers 7.50@ 8.00
Best handy wt bu steers 7.00@ 8.00
Handy light butchers 6.50@ 7.50
Light butchers 6.00@ 6.75
Best cows 5.75@ 6.50
Butcher cows 4.00@ 5.00
Common cows 3.25@ 4.00
Canners 2.50@ 3.00
Choice bulls 5.50@ 6.00
Bologna bulls 4.50@ 5.00
Stock bulls 4.50@ 5.00
Feeders 6.50@ 7.00
Stockers 6.00@ 6.50
Milkers and springers.....\$ 40@ 90

Veal Calves.

Market steady.
Best \$14.00@14.50
Others 5.00@10.50

Hogs.

Hogs 15@25c higher.
Mixed hogs \$10.25@10.75
Pigs 11.25
Heavy 9.75@10.00

Sheep and Lambs.

Market very dull.
Best lambs \$ 9.50@10.00
Fair lambs 8.50@ 8.75
Light to common 5.00@ 7.25
Fair to good sheep..... 5.00@ 5.50
Culls and common 1.50@ 3.00

CHICAGO

Hogs.

Estimated receipts today are 19,000; holdover 9,361. Market active and 10 @25c higher; butchers up most. Bulk

of sales \$9.90@10.85; tops \$11; heavy 250 lbs up medium, good and choice \$9.90@10.30; medium 200 to 250 lbs medium, good and choice at \$10.10@10.80; light 150 to 200 lbs common, medium, good and choice \$10.60@11; light lights 130 to 150 lbs common, medium, good and choice \$10.70@11; heavy packing sows 250 lbs up smooth \$8.75@9.75; packing sows 200 lbs up rough \$8.50@8.75; pigs 130 lbs down medium, good and choice \$9.75@10.85.

Cattle.

Estimated receipts today are 8,000. Market dull and about steady. Beef steers medium and heavy weight 1100 lbs up choice and prime \$10.25@10.90; do medium and good at \$8.75@10.25; do common \$8@8.75; light weight 1100 lbs down good and choice \$9.65@10.75; do common and medium \$7.75@9.65; butcher cattle, heifers, common, medium, good and choice \$6@10; cows common, medium, good and choice at \$5@8.25; bulls bologna and beef \$5@7.25; canners and cutters cows and heifers \$2.75@5; do canner steers \$4.25@6; veal calves light and handyweight medium, good and choice at \$10@13.25; feeder steers common, medium, good and choice \$7.25@9.25; stocker steers common, medium, good and choice at \$6@8.25; stocker cows and heifers, common, medium, good and choice at \$4.50@6.25.

Sheep and Lambs.

Estimated receipts today are 22,000. Market very slow and 25@50c lower. Lambs 84 lbs down medium, good, choice and prime \$9@10.90; do 85 lbs up medium, good, choice and prime at \$8.25@10.50; do culls and common at \$6.75@8.25; spring lambs medium, good, choice and prime \$7@9.50; ewes medium, good and choice at \$5.25@7; ewes cull and common at \$2.25@4.25; yearling wethers, medium, good and choice \$7.50@9.

Little Journeys to the Markets

2.—Deflation.

TO deflate means to let the wind out. Prices became "inflated" in this country during the war largely as a result of an increase in the volume of money in circulation. Our balance of exports over imports resulted in a tremendous influx of gold. Bank deposits, which are the basis for credits, increased even by 1918 to a point nearly double the volume in the period just before the war. Broadly speaking, if the volume of money in circulation doubles prices of commodities will double. Something like this took place in the United States during the war. European countries also increased their volume of money, although their gold supply was not increased. They issued large quantities of paper money. In England, the volume of money has been more than doubled. In France, Italy, Norway and Sweden it has been trebled, while in Central Europe and Russia the volume has been increased even more rapidly. In all of these cases money was not kept on a gold basis. They must do much more deflating than is needed in this country in order to return to normal.

Virgin Wool Blankets

An honest blanket from honest wool for honest people—Direct to the user—by parcel post. Money refunded if not satisfied 100%.

The AURORA Double Blanket

100% Virgin Wool.
In plaids of blue and white, tan and white, grey and white with a neat lockstitch binder.
Size: 72x84. Weight 5 1-2 lbs. Price: \$9.50 per pair.

The GEORGE WASHINGTON Double Blanket

80% Virgin Wool—20% Cotton Warp.
Light grey with rich brown, blue or pink border bound with white soisette ribbon.
Size: 72 x 84. Price: \$9.50 per pair.

The ILLINOIS Single Blanket

75 % Virgin Wool—25% Cotton Wrap.
Beautiful small checks—soft and downy—suitable for bed cover or auto robe.
Size: 66x84. Price \$6.50.

The MICHIGAN STATE FARM BU EAU AUTO ROBE

Solid color—dark neatly bound—Virgin wool. Will last a lifetime.
Size: 62x72. Weight 4 1-2 lbs. Price \$6.50.

Address

Michigan State Farm Bureau
Wool Department
Lansing, Mich.

FARMS AND FARM LANDS

Farm Lands For Sale

Choice Heavy Clay Loam Soil underlaid with limestone in Michigan's wonderful Clover Seed Belt—Price \$10.00 to \$30.00 per acre on time—near Onaway, Presque Isle County. These are Beech and Maple Lands from which the timber has been removed.

Let Clover and Alfalfa Seed Crops pay for your land—it is doing it for others HERE—Why not for you? (Entire fortunes often paid for out of a single crop of seed—the product of one bushel of seed.)

A small cash payment exacted, (and if desired only the interest the first and second years.) The amount of payments the third year and thereafter—until land is paid for—is measured entirely by returns from seed yields harvested yearly at the rate of 5 acres for every fourth purchased. Do you catch the point?

What you receive for your Seed Crops yearly—be it big or little—establishes the amount of your yearly obligation on interest and payment from third year on.

While building the farm home you are not confronted with a fixed yearly cash payment that, if not paid promptly, often endangers the loss of your property, and in many cases discourages would-be settlers.

Your responsibility is limited to seeding stipulated acreage yearly—harvesting and marketing the seed crop and applying proceeds upon payment of land yearly until land is paid for.

Paying for a farm in Clover Seed Belt where Seed Crops average \$100.00 per acre, entails no hardship for the dairyman or stockman—as the hay and chaff crops more than pay the expense, leaving the seed Crops as the mortgage lifter.

THAD. B. PRESTON
ONAWAY, MICH.

Strout's Spring Catalog Farms! Just Out.

More than 1,000,000 people will read this new 100-page illustrated catalog, packed with money-making farm bargains of 30 states. You'll want to read on page 15 details of 27 acres, 6-room house, barns with horse, 10 cows, implements, crops, \$3,000, only \$1,000 down. See 50 acres, page 73, house, barn, including horses, cows, pigs, chickens, tools, \$1200 takes all, \$500 down. Details page 18, 400 acres, 10-room house, good barns, silo, fruit, 1000 cords pulp wood, 2,000 cords block wood, with 2 horses, 10 cows, 3 heifers wagons, machinery, hay, crops, etc., etc., all only \$4500, part cash. This book goes to every corner of America; write today for your free copy. STROUT AGENCY, 814 BC Ford Bldg., Detroit, Mich.

For Sale At a Bargain

200 acres in Wexford Co. Selma Township, nine miles from Cadillac. Known as the Thorp farm. All under plow. Nine room house, two barns, hen house, silo (new), good well, with steel wind pump. Fairly well fenced. Can't be beaten in County for general farming and stock raising. On good road, near church and school and in good neighborhood. Owner sick. Must sell. Price \$25,000 per acre. Liberal terms. Address E. G. HAILEY, Marion, Ind., or see ANDREW KNECHT at farm.

FARMS FOR SALE AND EXCHANGE

We have some of the best farms in Michigan for sale and exchange, we have one of 120 acres just 8 miles from Lansing on state reward road best of soil, two sets of buildings, one new basement barn with cement floor, large new house, modern; this is now being used as a dairy farm. Price is right. If you are interested in a farm let us tell you what we have. M. L. Stearns, 612 Oakland Bldg., Lansing, Mich.

WANTED

300 Acres or more to rent for cash. Will buy stock and tools or rent with everything furnished. Must have conveniences for carrying a large number of all kinds of stock.
BOX B. 35—MICHIGAN FARMER, Detroit, Mich.

WOOL

About fifteen per cent of the wool held by the state pools is reported to have been sold at prices averaging about forty per cent of last year's values. The range on fine staple has been 33@40c; on three-eighths-blood from 26@30c; on quarter-blood 20@28c; and on low quarter 20@23c. Markets in this country have been steady during the past week, although foreign markets declined largely as a result of the absence of buying by American representatives who are unwilling to operate further until the possibility of a tariff at the present session of congress has been settled. The American Woolen Company announced prices on goods for fall delivery at a decline of 40 to 50 per cent lower than a year ago. There is no prospect of a sharp advance in the immediate future, although a tariff would strengthen the market materially. On the other hand, it is expected that sufficient buying will appear to maintain current prices.

Receipts at Boston since January 1, 1921, amount to 33,112,445 lbs., of which 6,344,725 lbs. were domestic wool and 26,767,720 lbs. were foreign wool. During the same period last year 11,298,355 lbs. of domestic wool were received and 20,353,420 lbs. of foreign wool. The total amount was slightly larger than last year, but receipts of domestic wool were smaller.

Boston quotes the market as follows: Michigan and New York fleeces: Delaine unwashed 39@40c; fine unwashed 29@30c; half-blood unwashed 32@34c; three-eighths-blood unwashed 29@30c; Kentucky, West Virginia and similar, three-eighths blood unwashed 29@30c; quarter-blood unwashed 28@29c.

DAIRY INTERESTS HOLD CONVENTION.

THE Annual Convention of the Michigan Allied Dairy Association, held in Grand Rapids, February 16-17, was a success, although the attendance was not quite up to expectations. The annual address of the president, Glen Overton, of Allegan, was received with keen interest. All of the old directors were elected as follows: Glen Overton, Allegan, representing the butter interests; N. P. Hull, Lansing, the producers; C. H. Parker, Saginaw, the market milk distributors; E. G. Pray, Charlotte, the condensed and milk powder manufacturers; N. J. Dessert, Detroit, the ice cream manufacturers, and R. A. Page, Zeeland, the cheese manufacturers.

Two new units were initiated: The Dairy Department of the State Farm Bureau, and the Dairy Equipment and Supplies Association. M. L. Noon, of Jackson, was elected to represent the State Farm Bureau, and R. J. Ellwanger the supplies association on the board of directors. Officers will be elected at the next regular meeting of the directors on March 16.

The committee on resolutions submitted the following:

Whereas, in these times of unsettled commercial, industrial, social and political conditions, with the present undergoing certain definite revision and the future veiled with uncertainties, we believe, conservatism, constructive and sober thinking should mark the way of those who are connected with the formulation of our future policies as they apply to the dairy industry, and

Whereas, especially during this period of lowering values and uncertain conditions, dairy production seems to offer a stabilizing effect upon agriculture,

Therefore be it resolved, that this convention go on record as endorsing the state department of agriculture bill now being considered by the state legislature that we stand unitedly for the creation of a dairy bureau in the proposed department of agriculture. The appointment of a head of this bureau and the provision for a sufficient appropriation to adequately and efficiently promote this industry.

Resolved, that we commend and uphold the officers of the National Dairy Union, the National Dairy Products Committee, and the National Dairy Council, in their efficient efforts in behalf of the dairymen and all connected with the industry.

We would not be unmindful of the splendid work and cooperation of the Michigan Agricultural College, the state food and drug department and especially the splendid efforts and accomplishments of the dairy division of said department under the leadership of its present chief.

Resolved, that we cooperate with the State Farm Bureau and solicit most warmly their participation with us in matters that will best promote the interests of Michigan dairying in best serving the greatest number interested.

AUTOMOBILE OWNERS

The farmers of Michigan own about one-half of the automobiles in the state, yet it is estimated that in 1920 their losses, through fire, theft, property damage, personal injury and collision, amounted to over ONE MILLION DOLLARS.

On account of the large number of automobiles sold each year, traffic has increased and easily becomes congested and traffic accidents, damage claims and many law suits result. With a re-adjustment of prices the careful man will protect his property and himself against liability claims by a proper insurance policy. The BIG MUTUAL Automobile Insurance Company of the state has been carrying farmer's business for six seasons and has paid out a total of 5,004 claims to January 1st, with a total amount of \$643,285.00.

The Company has experienced officers, adjusters and attorneys in every part of the state to aid the policy-holder in case of trouble. Stolen cars have been recovered in Chicago, St. Louis, New Orleans, Cleveland, Columbus and Toledo and the Company is well-known to the Auto Theft Department of all of the cities of adjoining states. The Company is therefore equipped to assist the policy-holder in the recovery of stolen cars and to give a prompt settlement in case of a loss.

No insurance is accepted in the City of Detroit and a special rate is made on farmers' automobiles, covering fire, theft and the damage claims made against the owner of the car, of \$1.00 for the policy and 30c per horse-power. The collision rate is only \$2.00 per hundred.

In 1906 there were 364 people in the United States and in 1920 10,000 people killed by automobiles in there were 10,000 people killed. That's why the prudent man keeps his automobile insured in the

CITIZEN'S MUTUAL AUTOMOBILE INSURANCE CO.

of Howell, Mich.

If not insured see local agent or write the above company today.



ROSS' Eureka Corn

These seven cows fed one year on the product of one acre of Eureka Corn. Yield was 64 tons of best quality silage. Every bag of Ross' Eureka Corn bears our trademark—man holding stalk of corn.

We have complete line of supplies for farm, garden, dairy, orchard or poultry. Seeds our specialty. Send for 120-page free catalog. Supply limited; write today.

ROSS BROS. COMPANY
37 Front Street, Worcester, Mass.



Read about Pyrox, the combined poison and fungicide, in the March 12th issue of this paper.

APPLE AND PEACH TREES

25c EACH postpaid. Send for 1921 Bargain Catalog of Fruit Trees, Plants and Vines, Farm, Flower and Garden Seeds. Special prices and samples of Grass Seeds on application. ALLEN'S NURSERY & SEED HOUSE, Geneva, Ohio

HAY Ship to The Old Reliable House Daniel McCaffrey's Sons,

623-625 Wabash Bldg., Pittsburg, Pa.

HAY Apples, Potatoes Wanted Highest prices paid

E. L. RICHMOND CO., Detroit, Mich

POULTRY

"Superior Baby Chicks" Strong, healthy, purebred. Catalog free. Superior Hatchery, Zeeland, Mich.

Thoroughbred Golden Wyandotte Cockerels \$5.00, pullets \$3.00. Write H. C. SCHLICHT, Thomas, Mich.

Useful Anconas Are you interested in results? Hogan tested, layers of large, white eggs winter and summer, beauty and utility combined, hatching eggs of real quality at prices that will surprise you. Specialty breeder, write for particulars, College View Farm, Hillsdale, Mich. R. 3, G. A. Zilch, Prop.

March Chicks Buy 'em Home

	Buy 'em Home	Buy 'em Home	Buy 'em Home
	100	50	25
S. C. White Leghorns	\$18.00	\$9.50	\$5.00
Bd. Rocks, R. I. Reds	20.00	10.50	5.50

Write for other varieties. With order please give date wanted and name second choice. Prepaid and guaranteed 97% live chicks
Washtenaw Hatchery, Ann Arbor, Mich

BABY CHICKS of Superior Quality

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

5 lb. English White Leghorns

Barron strain. My free catalog describes them, gives feeding methods, a new way to cull hens and much valuable information. A. Wauchek, Gobleville, Mich

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

White Wyandotte Eggs for Hatching. Pen No. 1, 25c each egg. \$20.00 per 100 eggs. Pen No. 2, 15c each egg. \$15.00 per 100 eggs. Flock No. 1, 12c each egg. \$12.00 per 100 eggs. Free range. Prize winning stock. Book orders now. Lone Elm Farm. EARLE R. MORRISH, Flint, Mich. R. 6.

White Wyandottes: Pullets \$5.00 Cockerels from hens with 207 egg average \$5.00 and \$8.00 each. Eggs \$2.00 per 15. FRANK DeLONG, R. 3, Three Rivers, Mich.

Whittaker's R. I. Red Chicks and Eggs. Both Combs. Michigan's Color and Egg strain. Prepaid and safe delivery guaranteed. Send for free catalog. INTERLAKES FARM, Box 39, Lawrence, Mich.

White Wyandottes Winners Chicago Coliseum—Some strong, sturdy, good breeding Cockerels at \$5.00, \$7.50 and \$10.00. H. J. RILEY, Box M, Hillsdale, Mich.

White Wyandotte Cockerels from bred-to-lay stock, \$5.00 each. HOWARD GRANT, Marshall, Mich.

White Holland Turkeys White African Guineas 80 H. Burgess, Prof., Poultry, Mich. Agri. College, Farm for sale. Alden Whitcomb, Byron Center, Mich.

Giant Bronze Turkeys all sold. Wish to thank my customers and solicit their future patronage. Will not have eggs for sale. N. EVALYN RAMSDELL, Ionia, Mich.

60 BREEDS chickens, ducks, geese, turkeys, guineas, pigeons, hares, dogs, fine felines, and desc. catalog only 10c. Edwin A. Souder, Sellersville, Pa.

HORSES

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

Good Clubbing Offers

OFFER No. 301.

Michigan Farmer, one year.....\$1.00
McCall's Magazine, one year.... 1.50

Total value\$2.50
Both for \$1.75.

OFFER No. 302.

Michigan Farmer, one year.....\$1.00
Woman's World, one year..... .50
American Women 50

Total value\$2.00
All for \$1.55.

OFFER No. 303.

Michigan Farmer, one year.....\$1.00
American Boy, one year 2.50

Total value\$3.50
Both for \$3.25.

OFFER No. 304.

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

Total value\$3.00
Both for \$2.35.

BUY YOUR NAPPANEE SILO NOW



You Won't Have To Pay a Cent Down — and — It Won't Cost You a Cent Until it Has Paid for Itself

This BIG FREE BOOK Tells How

You would put a new silo on your farm tomorrow, if you thought you could get one for nothing—wouldn't you? Well, we have a Silo Selling Plan whereby you can do just that. You can place a NAPPANEE Seal-tite SILO on your farm and it won't cost you a cent. That sounds interesting—doesn't it? Our big FREE Book tells how you can order your NAPPANEE SILO now and make it pay for itself on your farm. Think of it! On this novel plan you virtually get a silo for nothing. A silo that will earn its own cost the first year or so and make you a couple of hundred dollars clear profit every year after that. Better write for your copy of our big silo book today and find out all about this easy way to own a silo. The book is FREE and postpaid for the asking.

Over 15,000 NAPPANEE SILOS in Use on American Farms

Thousands of American Farmers have taken advantage of our liberal Silo Selling Plan. The fact that NAPPANEE SILOS are being used in every part of the country from New England to Texas, proves that this Nappanee Selling Plan is ALL RIGHT and that NAPPANEE SILOS are "making good" wherever they go. Get our big FREE Silo Book and see for yourself the many gratifying letters of satisfaction which we have received from NAPPANEE owners. Many say that their silo paid for itself with the first crop they put in it. They tell why they like the NAPPANEE better than any other silo and some give actual facts and figures on the profit the NAPPANEE has made them.

If the NAPPANEE will produce big returns for so many other farmers it will do the same for you. And on our liberal Selling Plan you cannot afford to get along without a NAPPANEE another day.

Read What These Michigan Farmers Say:

Tecumseh, Mich.
Dear Sirs:—The Nappanee silo has proven alright and paid for itself the first year and would not be without one at any price. It was easy to erect, went together fine and everything was alright.
Jahmie Boyd

Rockford, Mich.
Dear Sirs:—I have had my silo three years and have filled it three times and am satisfied that it has saved me the price of it, alone, in feed. Some of my neighbors have cement silos around here that cost three times as much and they say my Nappanee is just as good, and we are well pleased with the silo.
Frank E. Buckley.

Elm Hall, Mich.
Dear Sirs:—I like your silo better than any I have ever seen. It stood the test of a cyclone. It never faded it. It blew down the silos around here, but the Nappanee stood, it is a good silo. We could not do without it.
Thos. Croton.

Camden, Mich.
Gentlemen:—I have a Nappanee Silo and I am very much pleased with it. I can get more feed out of an acre than I can any other way. If any farmer is going to buy a silo he should be sure to look at the Nappanee. It has the best points of any silo I have seen.
Frank Howard.

We have many other letters as gratifying as those above in our files from this state and other states, but the limited space does not allow us to print them all.

Send for Our FREE Silo Book Today—Use the Coupon

Just fill out the coupon with your name and address, or drop us a postal if you prefer, and we will send you FREE and postpaid our new 1921 NAPPANEE Silo Book—the biggest and finest silo catalog ever printed.

It tells all about our novel Silo Selling Plan whereby you can get a NAPPANEE SILO practically for nothing. It also tells all about how NAPPANEE SILOS are made and their 25 points of superior merit, such as our Perfect Splice which is air-tight and rot-proof, our Anchoring System which is storm-proof, our Hip Roof which gives more room, our Ladder that is accident-proof, our Seal-tite Silo Doors that are real man-sized and will never warp, and many other exclusive improvements.

No matter when you expect to put up a silo send your name and address for this BIG, FREE SILO BOOK TODAY.

NAPPANEE LUMBER & MFG. CO.
Box 67 NAPPANEE, INDIANA

NAPPANEE LUMBER & MFG. CO.
Box 67, Nappanee, Indiana

Gentlemen: Please send me FREE and postpaid, a copy of your Big 1921 Nappanee Silo Book and also complete information on your SPECIAL SILO SELLING PLAN.

Name.....

Post Office.....

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

NINE Out of Every TEN Silos Are Built of Wood Why?

The next time you drive to town or to the County seat, take particular note of the silos in your community, just for your own satisfaction.

We venture to predict that in your neighborhood, just like most farming districts throughout the country—that probably nine out of every ten silos you pass (or at least a great majority) will be built of wood. Why?

There Must Be Some Good Reason for This

Your own good, common sense will tell you that it would be absolutely impossible to persuade the majority of the hard headed, successful farmers in your community who own silos to build them of wood unless there were some mighty good sound reasons for giving wood silos the preference. And you can "bet your bottom dollar" there are some good logical reasons why most farmers buy wood silos.

Wood Silos Give Better Service

Did you ever hear anyone say that silos of other materials will cure silage better or keep it better than wood? No! But many agricultural experts, chemists and thousands of farmers who speak from actual experience emphatically assert that wood silos make and keep silage far better than do other kinds of silos.

It takes a certain amount of heat to cause fermentation in the silo and cure silage properly for wholesome feed. Wood is the only material non-conductive of heat and cold. Wood keeps in the heat necessary for the proper fermentation, and it also keeps out the extreme cold that causes silage to freeze.

Of course, you have to paint a wood silo every five or six years on the outside. But painting a wood silo on the outside is a whole lot easier than "doctoring" up the walls on the silo inside with some preservative preparation every few years. And remember, when the roof is on the silo you can't get a ladder inside of it.

These are some of the reasons why the majority of silos throughout the country are built of wood. And the best wood silo you can buy is a NAPPANEE Seal-tite SILO, because they are the most practical, the most serviceable, the most useful and convenient wood silo for any farm—the silo that will give you the biggest value for your money.

Wood Silos Cost Less

A NAPPANEE SILO costs just about half the price asked for silos built of other materials. And the cost of erecting it is far less, too. You don't need a crew of skilled mechanics to erect a NAPPANEE. The average farmer can do the work himself with the help of a farm hand and finish the job in two or three days time.

Where else can you find a silo that will give you all the convenient, useful, time and labor saving features that you will find incorporated in the NAPPANEE, such as the Double Anchor System that is as near storm-proof as it is possible to make—the real Man-Sized Doors that are six inches wider than the average silo door and give ample room and comfort in entering the NAPPANEE—the extra heavy metal Door Fasteners that seal up the NAPPANEE as tight as a fruit jar—the safe and sane Ladder, built so it is almost impossible to slip and fall—the Hip Roof Rafter that are furnished FREE with the NAPPANEE and add more room to the silo, and so on all down the line.

A NAPPANEE SILO is easy to erect, easy to fill and will cure your silage perfectly. It will keep the silage in A1 condition so that it is safe to feed to your live stock. Yet the NAPPANEE costs you no more and sometimes a great deal less than other silos.

The Silo You Ought To Have At the Price You Ought To Pay

A NAPPANEE SILO on your farm will make every acre of corn you put into it do the work of two acres the old fashioned way. And the NAPPANEE is backed by an iron-clad guarantee that it will not only give you satisfactory service, but will pay for itself on your farm.

Find out about the NAPPANEE SILO today. Find out about our easy payment plan, where by you can put a NAPPANEE on your farm now and make it pay its own way. Don't fail to write for our big FREE 1921 NAPPANEE SILO BOOK—as offered on this page—the biggest and most interesting silo catalog ever published. It tells all about the many time-saving and labor-saving features on NAPPANEE SILOS not found on other silos. It also tells all about our novel silo selling plan that makes it possible for you to own a NAPPANEE without it really costing you a cent. This big silo book is FREE and postpaid. Mail the coupon on this page for it, or a post-card will bring it by return mail.

NAPPANEE LUMBER & MFG. CO.
Box 67, Nappanee, Indiana