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CAN MICHIGAN FARMERS REPEAT?

Our Progressive Growers and Active Farm Leaders are Already Preparing to Defend Michigan's Reputation Established at the International Last Year.

By A. L. Bibbins

FARMERS, millers, seedsmen, and grain dealers are still talking of the wonderful record made by Michigan farmers at the 1920 International Grain and Hay Show. Probably Michigan's record of winning the first twenty-eight prizes in the rye class and fourteen of the Soft Winter Wheat class will never be equalled; however, with the Michigan Agricultural College and the Michigan Crop Improvement Association again cooperating with the farmers of Michigan, the International Show is certain to see some high-class samples exhibited from the Wolverine state and if a goodly amount of prizes are not brought back it will be largely because the other states did some "tall hustling."

Recently the Chicago Board of Trade called a meeting of the various states to consider plans for the 1921 Grain and Hay Show. Professor J. F. Cox and the writer, of the Farm Crops Department of the Michigan Agricultural College, represented the interests of Michigan farmers, and feel that Michigan should do very well this fall and win its share of the ten-thousand-dollar prize money.

Changes in Regional Map.

It will be remembered that Charles Laughlin, of Michigan, won first prize in Region 2 Corn Class, and that Farley Brothers, of Albion, and Arthur Jewitt, of Mason, were also prize winners; however, northern Michigan had little or no chance to compete with the corn entries from southern Michigan, southern Wisconsin and Minnesota. Professor Cox served on the committee that revised last year's regional map. Their report is as follows:

"Region number one is enlarged by adding to it all of North Dakota; the western parts of South Dakota and Nebraska west of the one-hundredth meridian (as near as county lines will allow); that part of Minnesota north of Yellow Medicine county; that part of Wisconsin north of Pierce county; that part of Michigan north of Thompsonville on the west, lower point of Saginaw Bay on the east; that part of Ontario north of Kincardine on the west; Tor-

onto on Lake Ontario; that part of New York north of Oswego on Lake Ontario to the west and state line dividing Massachusetts and Connecticut on the east."

This means that northern Michigan farmers will be more fairly treated at the next International Show in that their corn will be in competition with corn raised in regions having similar climatic conditions. With this arrangement northern Michigan Dent and Flint corn should make an excellent showing in the prize lists.

It will be noticed that those located in that portion of Michigan which is south of the line extended from Thompsonville to the lower point of Saginaw Bay will be in Region 2, as was the entire state last year.

"Grains clipped, scoured, bleached, etc., are objectionable for seed purposes. Any samples of oats or barley clipped or scoured so that the endosperm is exposed will be disqualified at the discretion of the judges."

The writer believes this to be an advantage to Michigan farmers because clipping is by no means a common practice in this state, while it is often followed by some of our competitors from other states.

Last year there was only one class in soybeans, hence Michigan entries were placed in competition with those from the corn belt. This fall there will be three classes of soys, one for Michigan, Wisconsin, Ontario, etc., a second for the corn belt and a third for the southern states. This will give Michigan growers of soy-

beans a very good opportunity to win some of the prizes offered in our region. Indications are that a large acreage of soybeans will be planted in Michigan this year and it is hoped that growers having quality seed will carefully prepare samples for the show.

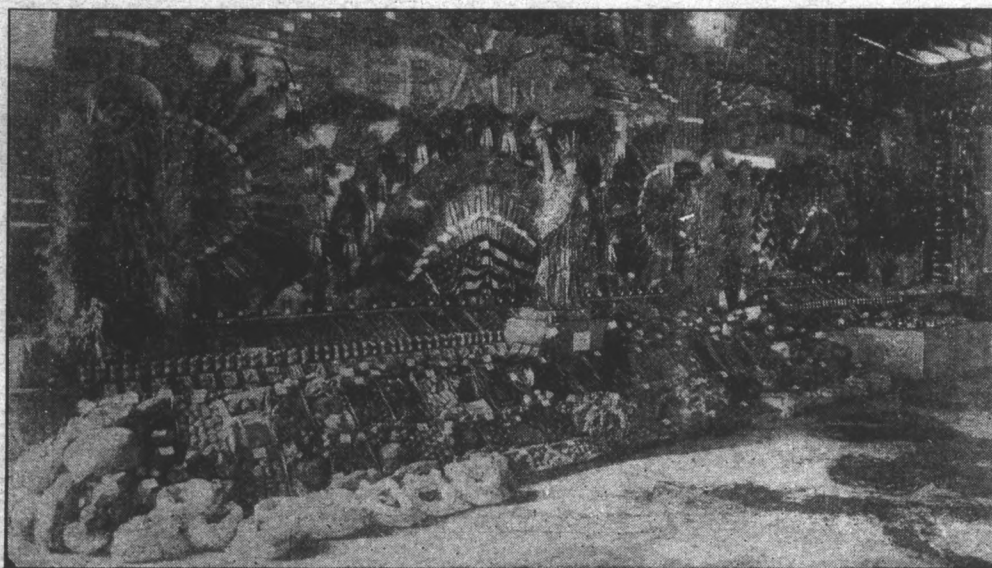
Rosen Rye and Red Rock Wheat Complimented.

The representatives of some of the other states complained about their having to compete with Michigan Rosen Rye and Red Rock Wheat. It was stated that these two Michigan varieties were of such superior quality that the varieties grown in the other states could not win prizes when put up against Red Rock and

Rosen. The idea of placing Rosen and Red Rock in special classes by themselves was considered, but the committee decided that if Michigan produced such superior grain that it made an excellent mark for the other states to aim at.

Junior Contest.

At the suggestion of Mr. Bridges, of the Board of Trade, classes were made in corn for members of the Boys' and Girls' Clubs. This junior work is very strongly organized in Michigan and it is expected that State Leader R. A. Turner will, through the assistance of the various county leaders, bring Michigan to the front in the junior (Continued on page 685).



Michigan Agriculture Should Have the Publicity which it Merits.



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CURRENT COMMENT

The Special Session

IN his message to the state legislature, which assembled in special session on May 24, Gov. Groesbeck recommended the submission of several amendments to the state constitution, including the proposed amendment to make possible the passage of an income tax law by the legislature. The governor rightly expressed the opinion that as a general proposition constitutional restrictions which operate to prevent the passage of laws which may be needed or found expedient are undesirable.

Apparently this action, together with the recommendation of a rather extended program of legislation was represented by a considerable number of the legislators who proceeded to plan for early adjournment, evidently as a means of limiting the work of the special session very largely to the passage of soldiers' bonus legislation and the correction of legislative errors made during the special session of which there were several which would have made the special session necessary had there been no other reason for calling it.

Another reason for the boiling over of the political pot was the recommendation made for the submission of a constitutional amendment providing for the "short ballot." The short ballot, within the meaning of the governor's recommendation, would provide for the appointment of all state officers by the governor, with the exception of the lieutenant-governor and the justices of the supreme court, by the omission of which the governor has apparently established the measure of his political modesty. This proposition very naturally does not appeal to the ambitious politicians, either in the legislature, or out of it for that matter. As a matter of fact, it is a very different proposition from the submission of an amendment which would permit the legislature to pass a law for which there is a popular demand or which might be found most expedient from the standpoint of public economy, since the adoption of such an amendment would in itself change our system of government by making the chief executive the supreme dictator in every department of state affairs, except legislative and judicial. Under the reorganized state government he is now practically dictator in purely administrative affairs, but under the present arrangement the other mem-

bers of the administrative board are not responsible to him for their actions or indebted to him for their places. The argument for this change is that it would center responsibility in the chief executive, making it impossible to "pass the buck" in any case where public criticism is directed toward an administrative act. Others believe that "two heads are better than one" in the matter of wisdom and that the division of responsibility among several elective officers is preferable to the concentration of power in one person, who will always be a mere human being and never a super-man.

Another objection to this proposition, and a very tenable one, is that it would again place the educational institutions of the state wholly under political control, from which the last constitutional convention very wisely removed them to some degree. Although their entire removal from politics has not been accomplished by providing for the popular election of the boards of control of our institutions of higher education, we firmly believe that this system is preferable to again making these important places strictly a matter of political patronage. But the submission of this proposed constitutional amendment by the legislature would not settle the matter. The electors of the state have the final say in their adoption, and in an important matter of this kind can be depended upon to render intelligent judgment.

From the present outlook the special session of the legislature, although of brief duration, will prove more interesting to the people of the state than did the regular session, since it is likely to give them a better line on the personal attitude of their several representatives in the law-making body toward important public questions.

Working with Nature

THE rains which have fallen in most sections of the state during the past ten days have relieved a severe May drought which promised to be a severe handicap to Michigan farmers right at the opening of the crop-growing season. Fortunately this general droughty condition was broken before serious damage was done, and generally favorable moisture conditions in the corn planting season have given the average farmer a favorable outlook for the coming season.

These handicaps which are constantly being imposed upon us, by Dame Nature are, however, not an unmixed evil. They keep us constantly reminded of the fact that we must work with nature if we would get the best results. The farmers who come nearest to the ideal in this respect are the ones who are most successful. The governing of soil moisture, within the limits of our ability is one way in which we should work with nature to overcome this handicap, which is one of the greatest imposed upon us by Dame Nature. The elimination of surplus moisture in the spring by good drainage and the conservation of needed moisture by good cultural methods pays big dividends, and should have the careful and constant attention of every farmer.

STANDARDIZED CONTAINERS CUT MARKET COSTS.

TO eliminate fraud in the marketing of fruits and vegetables by the substitution of short-measure packages at full-measure prices is one of the principal objects of specialists of the United States Department of Agriculture. In Farmers' Bulletin 1196 from the bureau of markets, just published by the department, the specialists discuss the need for standard containers for fruits and vegetables and describe how the public is sometimes defrauded because

of the many types and sizes of containers now in use.

Since the passage of the federal standard barrel law, in 1915, and the federal package container act in 1916, there has been steady progress in the work of eliminating unnecessary and deceptive sizes from the list of fruit and vegetable containers.

Multitude of Sizes Increases Cost.

The serious lack of uniformity of containers increases the cost of marketing, because of the greater expense of manufacturing a large number of unnecessary styles and sizes and by breakage in transit, which is sometimes directly attributable to the difficulty of loading odd-sized containers. There are in common use about forty sizes of cabbage crates, twenty styles of celery crates, thirty lettuce crates or boxes, fifty styles and sizes of hampers, fifteen styles and sizes of round-stave baskets and marketing baskets varying in size from one to twenty-four quarts, whereas relatively few standard sizes would satisfy all demands of the trade. In many cases the six-quart market basket, the fourteen-quart peach basket, the seven-eighths-bushel bean hamper, and the five-peck lettuce hamper are confused with peck, half-bushel, bushel, and one and a half bushel baskets.

At present there is no standard for hampers, one of the most widely used types of containers, especially popular in the eastern and central states. About 30,000,000 of these baskets are used annually. The size of hampers recommended by the bureau of markets as being sufficient to satisfy all legitimate requirements are as follows: Eight quart, or one peck; sixteen quart, or half bushel; thirty-two quart, or one bushel; forty-eight quart, or one and one-half bushel. It is suggested that the latter be made in two styles to meet the preference in various parts of the country.

The round-stave basket, for which there is no standard, is popular in all regions except the southern and middle Atlantic states and on the Pacific Coast. About 20,000,000 such baskets are manufactured annually. The sizes recommended as standards by the bureau of markets are the same as those recommended for the hamper except for the elimination of the eight-quart size. The splint, or veneer baskets, for which there are also no standards, are well-known to the public as market baskets. The sizes which are proposed by the bureau of markets are five in number—4, 8, 12, 16 and 24-quart.

MICHIGAN LEADS IN WOOL POOLING.

THE end of the first month of the 1921 wool pool finds the State Farm Bureau with close upon a million pounds already pooled and graded. The farm bureau likes to accent that word graded, because last year it was a twelve-months' job to grade all of the wool. This year it looks like it would be only a three or four-months' job. A fourth grader and crew have been added to the wool department's staff.

So far as is known, Michigan is leading the United States this year in the assembling of wool just the same as she led last year with the biggest pool in history. The blue days of uncertainty for the 1921 pool have passed. It is more correct to say that the pool has progressed out of its stage of uncertainty for, though there were some who thought the low wool market of last year would result in a demoralization of the wool grower this year, those in closest touch with the situation believed the pool would be a big success and laid their plans accordingly.

Last week the wool department reported that it had sold fifty thousand pounds of short staple fine wool at twenty-three cents to a large eastern mill. Half-blood clothing sold for twenty cents a pound. In the open market farmers would have gotten not to exceed twelve cents a pound for these grades. The wool grading dates for this week and next are as follows the week of June 6 are:

Monday.—Cassopolis, Lapeer, Montgomery and Middleton.

Tuesday.—Cassopolis, Imlay City, Montgomery and Ithaca.

Wednesday.—Cassopolis, Imlay City, Hillsdale and St. Louis.

Thursday.—Eau Claire, No. Branch, Hillsdale and Stockbridge.

Friday.—Buchanan, North Branch and Hillsdale.

Saturday.—Buchanan, Caro and Prattville.

News of the Week

Wednesday, May 25.

OFFICIALS of the railroads in the central west ban gambling on trains.—In the Ulster vote for Irish home rule children and all vote.—The United States Senate orders quiz in Newberry election.—Germans are repulsed and put on the run by Polish insurgents when they attacked Leschnitz and Annaberg.—A pet ram in Waukegan, Wis., becoming enraged at click of camera, attacks woman trying to take its picture.—United States Senate will make probe of strife in the Tug River mining district along West Virginia and Kentucky border.—Walter Oliver, a conscientious objector during the war, and a son of wealthy Iowa farmer, dies after a sixty-day self-imposed fast.

Thursday, May 26.

ELEVEN die in Sinn Feiner uprising in Dublin. Torch is applied to the city.—One thousand ask permit to be at dock to bid adieu to Caruso and family, who sail for Italy.—Harrington, Michigan, ousts woman mayor who refused to relinquish office after being defeated at election.—Dr. Chaim Waizman, president of the world Zionist movement, is given big welcome by Detroit Jewish citizens.—Two troopers are killed in West Virginia coal fracas.—Frank W. Brooks resigns presidency of the Detroit United Railways and subsidiary interurban companies.—Fake employment agent in Flint collects "job fees" from many unemployed in Flint, Michigan.—Chinese students in America cut out luxuries to help the starving at home.

Friday, May 27.

JUSTICE GORDON, Detroit, finds public and landlords to blame for high cost of meat.—Auditor-General C. B. Fuller refuses a \$2,500 raise in salary because it is unconstitutional.—French Chamber of Deputies back Premier Briand's German repatriation stand.—United States ratifies tariff treaty with China in which China can charge a five per cent duty on American goods entering that country.—The Missouri state vice commission decides patron has right to swear once at telephone operator when service is poor, when it ordered the telephone company to restore service to a Daviess county farmer.—Capt. Eddie Rickbacher narrowly missed death when his plane smashed in making a landing at Cheyenne.—Over fifty boys escape from Industrial School at Lansing in the last five days. A change in management is expected.—A Bad Axe couple, Mr. and Mrs. W. H. McDowell, married sixty-seven years, die three hours apart.

Saturday, May 28.

SINN Feiners are badly beaten in Home Rule vote. Ulster Unionists will get forty of the fifty-two seats in the Irish government.—Wireless and aeroplane assist in saving the life of a coast guard at Manteo, North Carolina, after he had been overcome by gasoline fumes.—The United States government has seized all the property of draft dodger Bergdoll. The seizure was authorized by the President under the alien-enemy act.—Ecuador and Venezuela have signed an arbitration treaty to settle their differences.—The French cabinet has authorized the immediate and non-restricted importation of wheat in France.

Sunday, May 29.

PRESIDENT HARDING signed the emergency tariff bill.—A Japanese schooner captured while seal-poaching in Canadian waters, was destroyed by the Canadian government and the crew arrested.—Sixteen labor union officials were indicted by special grand jury in Chicago on building graft charges.—Six members of the United States Coast and Geodetic Survey will cut themselves off from civilization for four months to make a complete survey of the Colorado Grand Canyon.—The American Railway Association reports an increase of over 52,000 cars loaded during week ending May 14.

Monday, May 30.

CANADIAN Bureau of Statistics reports 709,100 acres of fall wheat in Canada.—Rain squelches big forest fires in the Adirondacks.—All government departments in England are in- (Continued on page 708).

Tuscola Farmers Make Auto Tour

Find Trip Highly Educational and Extremely Interesting

SEVENTY-FIVE farmers of Tuscola county made a tour of four hundred miles last week in search of information. They were particularly interested in live stock raising, and made it a point to visit representative herds of practically all of the standard breeds of cattle and hogs raised in Michigan. The trip was made under the auspices of the Tuscola County Farm Bureau and was planned by Alex MacVittie, county agricultural agent.

Two kinds of farms were visited, those operated by rich owners with plenty of capital to import the finest stock and hire the best of herdsmen, and those operated by ordinary farmers, each of whom started a few years ago on perhaps a thousand dollars and a single registered animal and have, by careful selection of individuals, built up a valuable herd, a high reputation, and a remunerative business. Many cattle were seen which had never been shown in the show ring. The visiting farmers saw them just as they had been driven up from the pasture or stood in their stalls ready for milking. What was learned about barn arrangement and management, pasture accommodations, the best kinds of stanchions to use, was probably as valuable an object lesson as was the sight of the herd themselves. The Tuscola men invariably received a cordial reception.

Just to motor through Michigan and view the prosperous farms, rich land, and beautiful scenery, is something that it would be well for every farmer in the state to do. To get a new impression of the dignity of his business and of the vast resources of his own state is well worth the time that any farmer might put into such a trip. One of the tourists remarked, "It is the country after all that counts and not the small towns. Just look at that land out there. I never realized before that there were so many prosperous farms in the state."

The tourists hit the trail early on the morning of May 24 from Reese, Tuscola county. As they entered each county on their route they were met

by the respective county agents and officers of the County farm Bureaus, who did their utmost to make their visitors happy.

The first visit was at the home of Conrad Hecht, who has eighteen Holstein cows and a nice bunch of calves. He lives in the southeast corner of Saginaw county. Mr. Hecht belongs to that group of farmers who have slowly and carefully built up a valuable herd. He had one cow that produced thirty-four pounds of butter a week.

August Grouber, near Frankenmuth, showed his herd of Poland-China hogs as the second number on the program. Mr. Grouber has six boars, and thirty-five pigs, and started in business in 1914. The visitors were particularly

interested in one sow, noted for its large litters. It had never been known to farrow less than eight pigs and its highest has been fifteen. Mr. Grouber possesses a model hoghouse, an overhead nest supported by concrete is located in the corner of each pen. The nests are floored with inch plank and littered with straw.

The Tuscolans even visited a herd of grade Holsteins belonging to Walter A. Stafford, near Frankenmuth. Mr. Stafford started ten years ago with a grade cow of exceptional merit. Through the wise choice of individuals and careful breeding he has what is probably one of the best producing grade herds in the state. Recently he bought nine head of registered stock and it must be acknowledged that very

few persons could tell the difference between his grades and his pure-breds. However, the lesson to be learned at the Stafford farm is that Walter Stafford himself acknowledges that if he had started then years ago with a registered cow instead of a grade he would now be worth \$40,000 or \$50,000.

At the D. D. Aitken farm out of Flint the visitors admired thirty-three head of Holstein cows, six yearlings, ten pretty young calves, and two bulls. This is one of the leading Holstein farms of the country. It is this farm which owns Flint Maplecree Ona Tula, the cow which holds the world's championship in the senior yearling class. The visitors received a royal welcome there as well as at the Crapo farm, also near Flint, which holds a leading place in the Hereford world that the Aitken farm does in the Holstein. The Crapo farm consists of more than one thousand acres of land of which six hundred acres was formerly a worthless swamp which was converted into a valuable tract by Governor H. H. Crapo. For over fifty years these people have specialized in pure-bred Hereford cattle. At present their herd is headed by the international prize winner, Wyoming the 9th.

Dropping southward into Shiawassee county the automobiles parked in front of the home of F. A. Thompson, who has a herd of thirty-one Jersey cows, said to be among the best producing herds in the state. Mr. Thompson clips his calves. He says that they do better. He had never shown his cattle except at the local county fair but he has some exceptional stock and his is one of those cases where he has built up the herd through careful selection.

Dinner on the first day was eaten at Owosso, where the Tuscola farmers were the guests of the Owosso Chamber of Commerce, the Shiawassee County Farm Bureau and the Holstein and Jersey breeders of the county. In welcoming the guests, W. E. Seigmiller, secretary of the Owosso Chamber of Commerce, said that it used to be that all a farmer needed to start a bus-

(Continued on page 688).

Final Results of Stover Feeding Test

THE final figures on the steer-feeding tests made at the Michigan Agricultural College, an account of which appeared in last week's issue of this journal, are now available. Costs were calculated on the basis of normal silage priced at \$4.00 per ton, stover silage \$1.60 per ton, shelled corn \$0.50 per bushel, cottonseed meal \$40.00 per ton, and clover hay \$10.00 per ton. The following table gives the results in a most comprehensive manner and will enable the reader to make the proper comparison.

Remember that Lot 1 received normal silage, cottonseed meal, clover hay, and during the last sixty-seven days, shelled corn. Lot 2 was fed stover silage, cottonseed meal, clover hay, and during the last sixty-seven days shelled corn. Lot 3 received the same as Lot 2, except that during the first one hundred and eight days these steers were fed an amount of corn equal to that taken from the stover silage which they ate. Here is the table:

	Lot 1.	Lot 2.	Lot 3.
Original cost per cwt.....	\$ 9.03	\$ 9.03	\$ 9.03
Original weight, lbs.....	8,092	8,123	8,133
Original value	\$ 730.71	\$ 733.51	\$ 734.41
Cost of feed Nov. 20 to May 12.....	268.63	215.99	246.19
Cost of feed May 12 to May 18.....	12.46	12.18	12.18
Freight, commission, etc.....	34.19	34.19	34.19
Total cost	1,045.99	995.87	1,026.97
Weight at home May 18, lbs.....	10,965	10,220	10,390
Weight at Detroit, May 19, lbs.....	10,550	9,820	10,130
Shrink, lbs.....	415	400	260
Selling price per cwt. at Detroit.....	\$ 8.50	\$ 8.25	\$ 8.00
Final value	896.75	810.15	810.40
Price received per cow at feed lot.....	7.86	7.59	7.46
Value of pork produced.....	29.06	16.51	24.55
Loss per lot, not crediting pork.....	149.24	185.72	216.57
Loss per steer, not crediting pork.....	18.65	23.21	27.07
Loss per lot, crediting pork.....	120.18	169.21	192.02
Loss per steer, crediting pork.....	15.02	21.15	24.00
Dressing, per cent.....	55.8	54.58	54.04
Dressing weight, lbs.....	5,887	5,360	5,474
Cost per cwt. dressed beef.....	\$ 15.23	\$ 15.11	\$ 14.82

Michigan-Bred and Michigan-Fed Hereford Steers



Hereford steers, bred and fed in Michigan, top the Detroit market by seventy-five cents per cwt. These cattle were bred by A. Fruitchey, of Cass City on his ranch in northern Michigan, who sold them to W. R. Jones, of Holly, through the firm of Johnson, Prince, Hammond & Hall, last December, when they averaged 702 pounds in weight. They were again sold on Tuesday by the same firm to the Michigan Beef Company at \$9.00 per cwt., at an average weight of 1,110 pounds. Mr. Jones may be seen in the foreground with hat removed.

ACTIVITIES OF FARM BUREAUS

Latest News From Local, State and National Organizations

Will Sell to Packers

Committee of Fifteen Recommends Producer-Owned Live Stock Commission Companies, Packer Regulation, and Lower Freight Rates

THE Live Stock Marketing Committee of Fifteen appointed by President J. R. Howard of the American Farm Bureau Federation to formulate plans for the cooperative marketing of live stock, held its third session at Chicago May 25-26.

The report of the sub-committee on cooperative marketing agencies which recommended that live stock commission companies owned and controlled by live stock producers be established at leading markets as soon as practicable and where conditions warrant, was adopted. The same sub-committee was authorized to work out plans to establish such commission companies as well as such other affiliated companies as are necessary to handle the stocker and feeder trade.

The legislative sub-committee also presented its report and made specific recommendations on packer regulation, but the main committee was unable to reach an agreement to adopt the report. Instead the sub-committee was authorized to go to Washington and work with the legislative representatives of the American Farm Bureau Federation and Secretary of Agriculture Wallace, to secure such packer regulation as the latter deemed advisable. This sub-committee is composed of O. O. Wolff, C. H. Gustafson, S. P. Huston, A. Sykes, H. M. Gore, E. C. Lasater, and C. E. Collins.

The American Farm Bureau Federation was also requested to ask for a general reduction in freight rates on live stock. Reduced rates on live stock being shipped for exhibition are also to be sought with the aid of the National Association of Fairs and Expositions, the National Association of Pure-bred Record Societies and the individual record association.

Shall Producers' Establish Selling Agencies?

Most of the two-day session was spent in discussing the desirability of establishing the producer-owned selling agencies which were finally recommended. In setting forth its position on this question, the committee stated that since it had been appointed to represent all the live stock producers of the country, it was in duty bound to take immediate steps to establish such selling agencies in order to meet the demands of the large number of live stock producers who wish to sell through a producer-owned-and-controlled commission company. At the same time nothing would be done to abridge the right of the individual producer to consign to the established commission firms if he wished to do so. Establishment of producer-owned companies merely gives the same full freedom of choice to those producers who wish to patronize a company in the ownership and control of which they have some voice.

A Steady Growth.

The committee has come to the conclusion that many of the criticisms directed toward producer-owned commission companies now in existence have at one time or another also been made against the regular commission companies and their employees. The producer-owned companies have grown steadily and in some instances rapidly and have developed into very efficient selling machines.

With the extension of cooperative

marketing agencies at various markets, and by the wise selection of individual salesmen, together with the assurance from buyers that they will not discriminate against such selling agencies, it is believed by the committee that ultimately such companies will have advantages in marketing not now available. Presumably the possibility of regulating receipts and stabilizing prices to a measurable degree is one of the advantages to be obtained in this manner.

Work Together.

The committee stated that all the producer-owned selling agencies should work in harmony with each other and so far as possible and practicable, the existing cooperative selling agencies should become parts of the national plan and that no new ones should be formed except as they conform to the plans to be provided.

It is not expected that the producer-owned commission companies will entirely eliminate the established selling agencies nor does the committee consider that their elimination will be desirable as a reasonable amount of competition between the two groups will stimulate better service on the part of both.

The committee gave expression to the growing feeling that the hostility of the regular commission companies to those owned and controlled by live stock producers is to be deeply regretted. Producers' live stock commission companies are entitled to operate on the markets without the handicap of this hostility and will insist on the opportunity to do so. If the regular commission companies are more efficient, it will never be so recognized until after the producers who wish to do so have had a fair and equal chance to test out the selling agencies owned and controlled by themselves.

Other Suggestions.

Other specific reasons given by the committee for recommending that producer-owned commission companies be established are substantially as follows:

It is desirable for the live stock producers to control as far as practicable the marketing of their live stock.

Live stock producers will never fully understand how to produce intelligently and profitably to meet market requirements or market practice that is in their interest or against their interests, until they maintain selling agencies completely controlled by themselves.

Producer-owned selling agencies may tend to eliminate inefficient commission companies and thus bring about greater economy in marketing.

With the growth of the cooperative shipping associations there is need for increased attention to the handling of cooperative shipments which can best be done by selling agencies in full sympathy with them. These shipments create new marketing problems and there is evidence of inefficiency in handling them, both in the country and at the markets. Improvement in methods of cooperative shipping associations will come about most effectively from selling agencies controlled by producers who now control the shipping associations.

With the widespread demand for the formation of producers live stock com-

mission companies patronage will be large without the necessity of advertising, soliciting and promotional work which contribute largely to the expense of regular commission companies. Large patronage will bring about economy in marketing.

Efficiently conducted producers live stock selling agencies have already demonstrated that a considerable saving in the marketing expense is possible.

H. W. Mumford, E. H. Cunningham, J. M. Anderson, C. E. Collins and C. H. Gustafson compose the sub-committee on cooperative marketing at terminal markets which formulated the foregoing report.

H. W. Mumford reported upon the results of a questionnaire as to the desirability of establishing cooperative

live stock commission companies which was sent to live stock producers, packers, farm bureaus, and live stock commission companies. The last group ignored the questionnaire but the great majority of responses from the other groups was favorable.

It is understood that F. R. Marshall, secretary of the National Wool Growers' Association, will replace F. J. Hag-enbarth as a member of the committee.

The next meeting of the committee will be held at Chicago on July 6.

When the final report of the Committee of Fifteen has been formulated it is to be submitted to a general conference of representatives of live stock producers to be called by the president of the American Farm Bureau Federation.

Farmers Finance Company

*U. S. Grain Growers Inc., Launch New \$100,000,000
Subsidiary Corporation*

THE executive committee of the farmers' grain marketing machine got into action last week and after going into details of organization and finance took initial steps to form the Farmers' Finance Corporation, a subsidiary corporation to the United States Grain Growers' Inc., with an authorized capital stock of \$100,000,000.

Just as the United States Grain Growers', Inc., is the pioneer in the national grain marketing field for the farmer, so also, is the Farmers' Finance Corporation the initial move to enable the producer to use his surplus funds in the conduct of his business beyond the limits of his farm according to its organizers. It is intended that it should enable other farmers' cooperative marketing associations, such as live stock commission companies, cooperative cheese factories, creameries, etc., to obtain needed financing as it provides that funds to them will be made available when not needed by the grain growers. Lack of credit is not to hamper the progress of this organization as it has so frequently hampered many of the cooperative efforts of the farmer. The United States Grain Growers appear to be avoiding as best they can the mistakes that have been fatal to so many other cooperatives. They remember none too well the dire circumstances which grain farmers found themselves in last fall during the period of money stringency and the new subsidiary is to meet such a situation should it ever arise again.

No one has been selected to head the new company but it is rumored that Bernard Baruch, a Wall street millionaire, who was chairman of the war industries board during the war may be placed at the head of this corporation. George Jewett, general manager of the Pacific Northwestern Wheat Growers has also been suggested. Mr. Jewett has had considerable experience that should render him a fit head for the company, having been identified with the Federal Reserve Bank in the northwest before associating himself with the Pacific Northwest Wheat Growers.

Stock in denominations of \$100 and up will be sold to farmers at the time memberships in the United States Grain Growers is solicited.

President James R. Howard, of the American Farm Bureau Federation, came before the committee and reported for the special committee appointed to investigate affiliation by the wheat

growers' associations with the United States Grain Growers, Inc. This committee, it will be recalled, consisted of Mr. Howard, U. L. Burdick, of North Dakota, and W. F. Schilling, of Minnesota. Northwestern farmers are strong for pooling and, according to President Howard, only one man in all their meeting throughout Montana, Washington, Oregon and Idaho would declare that he was opposed to one hundred per cent pooling of grain. The farmers and their farm organizations in the northwest states are very strongly in favor of the Committee of Seventeen and the United States Grain Growers' plan of marketing and there was no dissenting voice heard on the entire trip opposing the amalgamation of the organization.

The committee made a written recommendation to the executive committee leaving the matter of deciding affiliation with the United States Grain Growers to themselves, but as this was a matter that should properly come before the board of directors, rather than the executive committee, action was deferred until the directors meet the first week in July.

Expect a Million Members.

A million members this year is the goal set by William G. Eckhardt, chairman of the organization committee. Details of the organization work were taken up and the plan modified after consultation with their general counsel, Clifford Thorne, who advised that the cooperative marketing laws of several states were not very clear as to the legal status of the operation of the company. Clifford Thorne was elected general counsel at a recent meeting at a reported salary of \$15,000 per year and expenses for such part of his time as he may be able to give to the work. It was his belief that operations can be begun in the following states without passage of new laws: Minnesota, Illinois, Iowa, North Dakota, South Dakota, Montana, Washington, Oregon, Idaho, Colorado, Kentucky, Mississippi, Texas, Wisconsin, Kansas, and Nebraska, Indiana and Michigan. It is believed that they can operate as soon as forms are made out conforming with new laws recently enacted.

Mr. Eckhardt is also treasurer of the organization and has been authorized to borrow \$1,000,000 to get the organization under way. He has already succeeded in negotiating loans from farm organizations for \$175,000 and reported.

(Continued on page 688)

Heavy or Light Cream?

By Russell A. Palmer

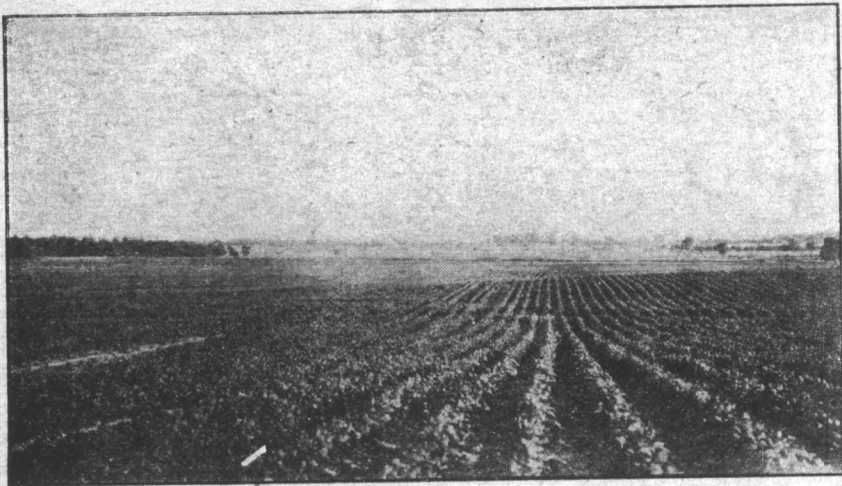
COMPARATIVELY few owners of cream separators understand the proper adjustment of the cream screw, to say nothing of the adjustment of the rest of the machine.

The cream screw is intended to control the consistency of the cream that the separator delivers. However, this screw does not, as is generally supposed, regulate the efficiency of skimming. The machine will, as a rule, skim just as clean when delivering a heavy, high-testing cream as it will when skimming a thin, low-testing cream. The cream screw should be so adjusted that it will deliver a heavy thick cream unless the owner is selling the cream by the quart. If the owner is selling by the volume, he should have his separator adjusted so that it will deliver cream as near the requirement as possible because at this point it will net him the most profit. Once the cream screw is adjusted to the proper place, the owner naturally concludes that all the cream skimmed will test the same or nearly the same. Consequently when the check arrives for his shipment of cream and he finds that it did not test

These factors are the most important ones that cause the variation in the test of the cream delivered from the separator.

It is easy to conclude that both the heavy and the light cream have their market. Which is best for the average farmer? Any person that is selling cream on the Babcock test, especially where he ships his cream, can make more money by skimming to produce a heavy, high-testing cream.

In the first place the farmer that skims to produce a high-testing cream will keep more skim-milk on the farm, thus saving the transportation charges and the skim-milk at the same time. For example, if a farmer sells a hundred pounds of butter-fat in cream and receives thirty dollars for it and it came from cream testing twenty per cent he would have to ship six ten-gallon cans to hold the five hundred pounds of cream. He would have to pay the transportation charges on four hundred pounds of skim-milk besides losing the skim-milk worth fifty cents per hundred pounds. However, if this farmer would skim so as to produce a heavy cream testing forty per cent he



A large Michigan bean field, typical of the war years, when Michigan bean areas expanded under war pressure. Under present conditions the best bean growers are planting more conservative acreages and are giving more careful attention to cultural methods, in order to secure higher yields per acre, at less cost per bushel.

nearly as high as the previous shipment, he wonders why. Usually he blames the consignee and says the cream was not properly tested.

Such misunderstandings resulting in the cream producer accusing the dealer of improper testing can often be avoided if the owner of a separator knows that a number of factors other than the adjustment of the cream screw will cause a variation in the test of the cream delivered.

A few of the factors that cause thin cream to be delivered from the separator, other than the adjusting of the cream screw, are:

1. Skimming the milk when it is excessively warm.
2. Running the speed of the separator bowl too low.
3. Forcing the milk through the separator too rapidly.
4. Flushing the separator bowl out with large amounts of skim-milk or warm water, and permitting the cream delivered from these flushings to mix with the other cream.
5. Skimming a low-testing milk.

On the other hand, some of the factors causing a heavy cream to be delivered, when the cream screw is not tampered with, are:

1. Skimming cold milk.
2. Increasing the speed of the separator bowl.
3. Reducing the flow of milk into the separator bowl.
4. Not putting the bowl flushings in the cream can.
5. Skimming a richer milk.

would receive the same amount (thirty dollars) for the one hundred pounds of butter-fat contained, but would have to ship only three ten-gallon cans to hold the two hundred and fifty pounds of cream. He would thus save two hundred and fifty pounds of skim-milk worth \$1.25, besides the transportation charges on the same two hundred and fifty pounds.

Aside from the saving of skim-milk and transportation charges, the producer of heavy or thick cream saves in two other ways: First, he has less cream to cool and handle, thus saving time and labor; secondly, his thick cream can be kept in better condition and he will receive a better price for it at the creamery.

If a thick cream will net the producer more he had better adjust the cream screw properly in the first place and then pay attention to these other factors that cause the separator to deliver a thick, high-testing cream or a thin, low-testing cream.

DRAINAGE EXPERT DOES FINE WORK.

THE Michigan Agricultural College drainage expert, Mr. O. E. Robey, has spent several profitable days with the county agent in Calhoun county. Twenty drainage systems have been laid out. Five septic tanks have been installed. The drainage system laid out for one farmer saved him about \$1,000. He had a home-made plan which he had started on.

WOOD PRESERVATION

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



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

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

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

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

Stop the Decay of Fence Posts

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

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

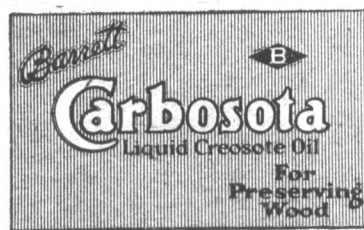
And you can creosote your own fence posts, using the so-called "scrub" timber from your own woodlot—the non-durable species such as cottonwood, willow, ash, sap-pine, second-growth cypress, red and mixed oaks, as well as dozens of other species. They will readily last 20 years instead of from three to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

A Big Saving

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

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

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



Chestnut and Cedar Posts

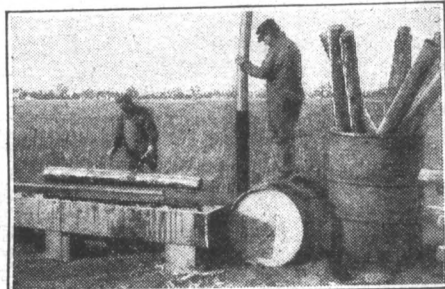
Only the butt ends of these require treatment as the upper portions are not subject to quick decay. A convenient method of treatment is the "hot and cooling bath." One steel drum is all that's needed. The butt

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

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

The Barrett Company

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



Farmer's home-made treating plant for non-durable posts.

OUR SERVICE DEPARTMENT

RIGHTS OF LESSEE FROM LIFE TENANT.

About nine years ago I rented forty acres of land from a man, who gave me a lease for \$150 per year, which I have paid in full each year in due time. This lease was to be effective during his lifetime. This man died March 15, 1921. Can I hold this farm on these same terms, or can the heirs put me off or collect more rent?—L. K.

The heirs or remainder men are entitled to possession immediately upon the death of the life tenant; but the lessee of the life tenant has the right to return and harvest the crops planted before the life tenant died.—J. R.

SUNFLOWERS FOR SILAGE.

In a recent issue of the Michigan Farmer I read "Making Silage from Sunflowers," with much interest. We live in the frost belt, and the large southern corn is not sure to ripen, so I have been reading with interest on sunflowers. A year ago a neighbor grew sunflowers, which he put in the silo along with corn silage. In the spring his cows looked very bad, and it took them until along in the summer to gain back. He blamed the sunflowers, thought it affected their kidneys. They were fed marsh hay, straw and silage. Were the sunflowers to blame? I have a pound of sunflowers in five acres of corn and cannot see any evil effect on my cows this year. We can grow a much greater tonnage of them if it is safe to use them for the cows.

Missaukee Co.

I. W.

Sunflowers have not been used extensively in this section of the country, but out west in Idaho, etc., they are grown quite extensively for silage and I never heard that they in any way injure the cows. Year before last I planted sunflowers with sweet corn and they grew to be mammoth plants. We harvested these with sweet corn stalks and put them in the silo. The cows ate them seemingly as readily as the other silage, and there was no injurious effects that could be noted. I don't believe there is anything in the idea that sunflower ensilage will act as a diuretic and affect the kidneys. The ration which your neighbor fed, marsh hay, straw and silage would not allow any cattle to come through the winter in any shape. There isn't enough protein in this ration to bring them through in good condition. Some grain should have been added, wheat bran, cottonseed meal or ground oats and a little oil meal would have fixed this ration so that the cattle would undoubtedly have done well.—C. C. L.

CHICKS FAIL TO HATCH.

For several years we have had trouble with chickens hatching. The shell comes off and the skin sticks and sometimes dries on. For the last hatchings I dampened the nest and put the eggs in water a few days before hatching time. That helped some, but I don't have the results I should have. My hens have laid well all winter and seem healthy, and I don't have any trouble raising all the chicks that hatch successfully.—Mrs. H. S.

Place a piece of moist sod in the nest box and cover the sod with a little loose litter. The moisture in the sod will be enough to help the eggs hatch if moisture is the cause of the trouble. Sometimes chicks are not strong enough to hatch because of some weakness in the breeding stock, caused by a lack of exercise or green feed or some other cause which may seem unexplainable. Sometimes a certain hen will constantly produce eggs which will contain chicks too weak to hatch. Trapnest records of certain hens have proven this to be a fact.

The failure of chicks to emerge from the shell occurs most often in artificial incubation but hen-hatched chicks seldom have that trouble if the nest is

furnished with a sod and then placed where it is not too hot. It might occur if the eggs were placed in a nest in a very hot brood coop or colony house late in the spring when the weather is often hot.—R. G. K.

RIGHTS OF MORTGAGEE DURING FORECLOSURE.

A party owns a farm on which is a mortgage covering slightly more than half the purchase price. A year ago the owner contracted with me to cut into stove wood and fence posts the wood on a number of acres, giving me two years to do the work. Now, at the end of a year the mortgagee threatens to foreclose the mortgage, the installment not having been paid, and states that foreclosing will stop me from executing any further any contract I may have with owner by invalidating the agreement. How about this? Can the mortgagee prevent me from carrying out any part, or the whole, of this contract?—H. P. H.

Cutting growing timber is a species of waste, and if it would impair the mortgagee's security he may have it enjoined pending the foreclosure of the mortgage.—J. R. R.

FORFEITURE OF LAND CONTRACT.

Will you give me the law as regards the selling of a farm on a land contract? A sells a farm to B on a land contract running for five years. B can not pay his first year's interest which has been due one month now. Can he be put out? In other words, is the contract null and void after the day the interest is due, with three days' grace?—H. W. J.

Default does not forfeit the rights of the purchaser under a land contract. They continue until notice of forfeiture and foreclosure is served. J. R. R.

TREATING SEED POTATOES FOR SCAB.

Will you please advise me how to treat seed potatoes for scab? Also, should I treat seed potatoes this year that were grown from treated seed?

Wayne Co.

G. S. R.

Seed potatoes can be treated with either formaldehyde or corrosive sublimate to control scab. However, the corrosive sublimate has proven the more effective in controlling black scurf or rhizoctonia and, therefore, it is usually recommended to use this material. The corrosive sublimate (mercuric chloride) can be purchased of most any druggist and comes in crystal form. It is a deadly poison and should be kept away from all animal life, not only when in the crystal form but after it is dissolved as well.

To prepare it for treatment it should be dissolved in hot water as it dissolves very slowly in cold water. It is also advised to use an earthen or wooden container in which to handle the material. After the crystals are dissolved the liquid should be diluted so that one ounce of the crystals will make eight gallons of the poison solution. If a person is going to use a barrel in which to do the treating, at least sixteen gallons of the solution should be made. When the quantity of seed to be treated does not exceed fifty bushels it will be quite satisfactory to secure two barrels which will hold water and remove the head from each barrel. A two-inch hole should be bored close to the bottom of each barrel and the same closed with a spigot or a bung. By placing these barrels on potato crates or boxes so that the liquid when drained off from the potatoes will run into a wooden tub or similar receptacle it will be an easy matter to transfer the liquid from one barrel to another.

When treating in this matter the

dope can be made up in one barrel or in the tub and one of the barrels filled practically full with potatoes. It is not necessary to sack them when treated in this way. After the potatoes are placed in the barrel, the liquid is poured over them until they are fully covered. The length of time which the treatment requires depends upon the condition of the seed. If it is comparatively free from scab or black scurf thirty minutes should be sufficient. If, on the other hand, there are a good many large black scurf spots or a considerable sprinkling of heavy scab spots, it would be well to extend the treatment to forty-five minutes or perhaps an hour.

No harm will be done if the treatment covers a period of one and one-half hours. As a matter of economy of time as well as precaution against possible infection of the soils, it is advisable to sort out all potatoes which have on them large scab or black scurf spots. When this is done the thirty minute treatment will be sufficient. When the proper time has elapsed the liquid should be drawn off the potatoes and transferred to the other barrel which should be filled with potatoes while those in the first barrel were soaking. The treated potatoes can then be dumped on the floor or ground and spread and the barrel then returned to its former place and refilled. This operation can be repeated until all of the seed is treated.

Corrosive sublimate weakens with use. It is, therefore, necessary to do one of two things to keep it up to normal strength. Every batch of material may be used three or four times, depending upon the amount of dirt on the potatoes, the fewer treatments being made when the potatoes are dirty and a new batch made after that number of treatments. Another method of keeping up the strength of the material is to add one ounce of corrosive sublimate after each treatment. It is not always easy when this method is used to determine the strength of the material. For this reason it is generally considered safer to use the first method indicated, that is, renewing the dope after a few treatments.

Where a large quantity of potatoes is to be treated it will facilitate matters to provide a trough-like vat with the ends sloped in such a manner that it will be possible to shovel the potatoes out of the liquid. It was generally advised when the formaldehyde was used to place the crates and all in the vat but the corrosive sublimate corrodes nails and thus it is not desirable to use the crates in the corrosive sublimate treatment.

It is a matter of economy of time to treat seed potatoes a considerable length of time before they are to be planted. This treatment can be carried on during a wet period when other work is at a standstill. The one thing which should be kept in mind where treatment is made before planting is to avoid re-infecting the seed by placing it in dirty sacks or crates. It is becoming a very common practice to green-sprout potatoes before planting and where this is done the treatment should be given first. Some growers prefer to treat just before planting but it usually adds a good deal to the work at a busy time and if left until then often is either done too hastily or not done at all. One of the precautions which should always be taken when treating potatoes is to see that they dry quickly unless they are planted immediately after treating. If the weather is wet and the air filled with moisture so that the drying process will be slow, it is a good plan to

throw water over the potatoes following the treatment to stop the further action of the material which adheres to the tubers. Potatoes left in sacks for several hours after treating, or piled deeply in piles, or even left in crates with the crates filled full, may be injured by the material continuing to act on the eyes until the potatoes are dry. This long extended action may result in the potatoes starting to grow slowly or in their not growing at all in extreme cases.—C. W. WAID.

GROWING MILLET ON MUCK.

I have about two acres of muck which has been in corn the last four years. I have in mind sowing it to millet. This muck is good and dry and very productive. What would be the probable result of sowing it to millet? How does millet hay compare in feeding value to clover hay? About what time would you advise sowing, and what amount of seed would you sow to the acre, and what is the value of seed? What time is it ready to cut?—M. A. H.

Hungarian millet will do well on a fertile muck soil. It is widely used as a hay crop by muck farmers. It makes a rapid growth and is especially adapted for growth in the hot summer months which are usually frost-free in the southern part of the state. It is not as tender as other annual plants which succumb entirely to frost, but very often, especially after the plants have become well established, Hungarian millet will recover from frost injury and make a good tonnage. Millet is not as valuable as clover hay. I am advised by a feeder that it contains one-fourth less protein and less fat than clover. I would advise sowing about the first of June, in the southern part of the state. Twenty-five pounds to the acre is not too much. To prevent the grass from becoming coarse, heavier seeding is used by many muck farmers. It must be emphasized that the muck should be well rolled and fertile to grow the crop with satisfactory results. The price of millet is about \$2.50 per bushel, fifty pounds to the bushel. It should be cut before it becomes too coarse.—E. L.

BUCKWHEAT FOR HORSES.

Is feeding of buckwheat to horses liable to be injurious? The buckwheat in question was cut when the stalks and leaves were green. The bundles were well cured and put in the barn without rain on them. There is some buckwheat in the heads, but there was hardly enough to pay for the threshing, so the bundles are still intact. I have fed some of these to my horses once a day. One or two bundles to a horse. They relish them very much and eat them in preference to hay. I have fed in this way now for about a month with no apparent ill results. They have not received them every day, but perhaps two or three times a week. I have quite a quantity of this material, and the question is, can I increase this kind of feed with safety? Van Buren Co. G. E. C.

There is nothing in the nature of buckwheat that would be injurious to horses. The only question is in feeding buckwheat in the bundles this way, is to determine the amount of grain. Buckwheat itself, that is, the grain, is a rich food and you could easily overfeed. That, I think, would be the only danger that you might run up against. My advice would be to feed this regularly, but rather sparingly so that you are sure you are not feeding an excessive grain ration. You could feed a bundle at a feeding and also feed hay and a little grain with it and you could tell by the results whether the horses get enough grain or not. You can easily increase or decrease the amount of buckwheat and keep fairly good track of the grain ration.—C. C. L.

Board Opens State Parks

MEMBERS of the new state conservation commission met in Lansing May 19 for the purpose of organizing and outlining a program to be followed during the coming summer. One of the first steps to be taken will be to order the opening of the twenty-one state parks, which will be available for tourists this summer. Work on these parks has been progressing and all will be ready for the tourists by June 10.

It is probable the commission will make a tour of inspection of the parks early in the summer, and will also attempt to locate sites for other parks, as links in a string of public playgrounds along the lakes of Michigan.

East Tawas was the first place in northeastern Michigan and the second in the state to give a park site to the new commission. The site consists of twelve acres, with more than half a mile of sandy beach, on Tawas Bay, located at the very door of the town's business section.

Work was started on improvement of the park early last season, grading completed and a commodious bath house erected. Then East Tawas people decided that they wanted a community building on the park and they found a way to build it. The old state park commission had planned to build a rest room and comfort station on the park at a cost of about \$6,000, but East Tawas people proposed to provide the money necessary to enlarge upon that plan and make the rest room a community building. The park commission accepted the proposal and now work is well under way on the new building, plans for which were prepared by A. E. Munger, an architect of Bay City.

The building is fifty-four by ninety-eight in dimension, with concrete foundation, stucco walls and brick trimmings, and will provide for all purposes of a real community building. There will be an auditorium seating several hundred people, with a stage, dressing-rooms, etc. At one end will be rooms suitable for club meetings and a wide covered porch will face the lake, adjacent to which will be a large kitchen so arranged that meals can be served equally well on the porch or in the auditorium. The basement will provide room for modern bowling alleys.

The building will cost \$18,000 and the people of East Tawas have raised their share by popular subscription, money coming not only from the people of East Tawas but in goodly sums from many states, subscribed by former residents of the town. Some townspeople and farmers in the vicinity contributed several days' work and when the excavation for the basement and foundation was started, scores of

people, many with scrapers and teams, turned out and made a "bee" for several days, until the work was completed.

The new building will be completed for use the latter part of June, and it is planned to dedicate it by holding the commencement exercises of the East Tawas high school therein, while the schools propose to beautify the surrounding grounds by planting trees on arbor and Memorial Day.—J. M.

CAN MICHIGAN REPEAT?

(Continued from first page).

contest. The older exhibitors are always keenly interested in what the "young-uns" are showing, so the Michigan boys and girls have the best wishes of the "old-timers," who hope that they will "bring home the bacon."

It was the unanimous opinion of the committee that the educational exhibits prepared by the various agricultural colleges were of the utmost importance. The Farm Crops Department of the Michigan Agricultural College had an extensive exhibit at the 1920 show that was given the credit of being the best by far. Professor Cox gave assurance that Michigan would again be represented and that every effort would be made to produce an exhibit that would be of educational value to the thousands visiting the show.

We cannot rest on the laurels won last year, but instead must make every effort to retain them. Many of the states are "out to get Michigan," hence it behooves us to do even better this year, as the competition is certain to be of the very keenest sort.

The grain crops should be carefully watched during the season and at harvest one may select shocks from that portion of the field that produced the best grain. These shocks should be immediately put under cover to prevent discoloration by rain and dews. Later the grain may be flailed out and prepared for the show.

At some later date detailed information will be given concerning the selecting and preparing of grain for show purposes. The main point to have in mind now and during the early part of the season, is to give the crops the best possible chance and to locate certain parts of the field where the best is being produced.

The results of last year's Grain and Hay Show were a great boom to Michigan agriculture—a repeater would be invaluable. From an educational standpoint the experience is well worth one's trouble, and if Michigan can "come through" again the advertising value gained cannot be measured. To do our best we must prepare early, so let us now start building for next December's show.

The Significance of Maintained Quality

OF highest significance to the motorist is the fact that during those times when the demands for gasoline have been so great as to threaten positive famines, Red Crown, the high-grade motor gasoline manufactured by the Standard Oil Company (Indiana), maintained its standard of quality in the face of every difficulty.

Impartial tests made on authority of the Government proved Red Crown surpassed the specifications set by the Government for its requirements of motor gasoline. These facts indicate the ideal of service which animate the activities of the Standard Oil Company (Indiana) in every department of its business.

To maintain the quality of a product when the demand is normal is a general practice. It is when demand is pressing and the supply is low that insistence upon maintained quality is a true measure of a manufacturer's integrity.

To maintain the quality of each product at the point set by the technical staff is an outstanding characteristic of the Standard Oil Company (Indiana). Red Crown is a good example.

Another is Fortnite long-time burner oil. This product is used in railway signal lamps. These signals are often located at points remote from human habitation. For public safety their uninterrupted service is of the utmost importance. It is essential that the oil shall burn with a clear, bright flame for days at a time without attention.

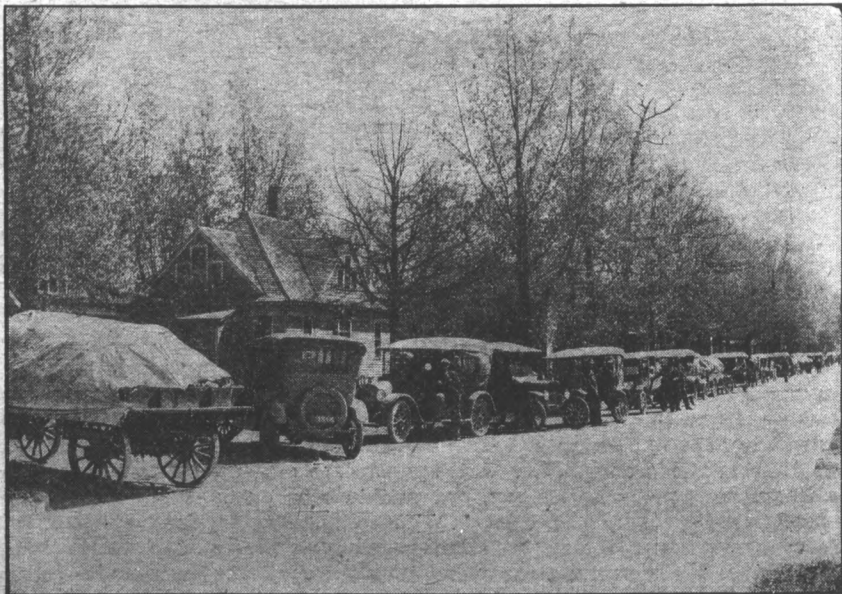
During the blizzard of January, 1918, lamps filled with Fortnite, located high up in the Rocky Mountains, burned night and day during the ten days that traffic was tied up, and at the end of that period they were giving perfect service.

It is only by multiplying such records of quality and integrity of manufacture over a long period of years that the reader can grasp the degree of public confidence enjoyed by Standard Oil Company (Indiana).

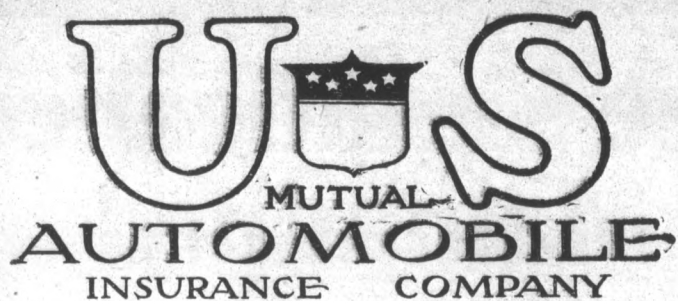
Standard Oil Company
(Indiana)

910 S. Michigan Avenue, Chicago, Ill.

2455



Waiting to Unload their 1921 Clip of Wool.



The Farmer's Own Company

The U S Five Point Policy

Gives You Full Coverage for \$1.00 per Horse Power

It protects you against:

- 1.-Fire
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- 3.-Collision
- 4.-Property Damage
- 5.-Liability

Just think what this complete protection at \$1.00 per horse power means to you. It means a saving up to 75%, depending upon the car you are driving. Of course this low rate applies only to the farmer, and to protect all farmer members of the U S Mutual, it is essential for us to use care and judgment in selecting new members. But after three years of prosperity, we know that we can give protection at cost. And, that is the mutual idea. Not to build up a reserve, by asking the farmer to pay for the city man's risk which is much greater, but to pay only in proportion to his own risk and to let him buy this complete protection at absolute COST, plus the small membership fee of \$1.00 annually.

The Motor Troop Idea

Colonel Augustus H. Gansser, Director and General Manager, who served with the 32nd—"Over There", is now organizing Motor Troops throughout the State and has worked out the idea of:

- A Motor Troop For Each Community.
- A Motor Squadron For Each County.
- A Motor Corps For Each State.

This plan of forming Auto Clubs in each community is so practical and beneficial for all U S Policy Holders that Colonel Gansser is being invited throughout the State to organize Motor Troops and is meeting with success everywhere.

Why don't you write Colonel Gansser and be the one to form a Motor Troop in your community. Don't put off saving on your Automobile Insurance. Start today.

U S Mutual Automobile Insurance Company

Executive Office
Grand Rapids, Michigan
Colon C. Lillie, Pres.

Home Office
Bay City, Michigan
F. F. McGinnis, Sec. and Treas.
Col. A. H. Gansser, Director and Gen. Mgr.

News From Cloverland

By L. A. Chase

OPENING OF NEW FARM LANDS.

A POLL of the upper peninsula press, this week, shows unusual activity in the opening up of new farm land. The Cloverland Press of Ewen, Ontonagon county, refers to the number of deals consummated and in progress as the largest ever. This territory has a large area of rich clay soil—the dried-up lake bed of pre-historic "Lake Ontonagon,"—of remarkable depth and richness, and it is rather remarkable that there is any land left to be taken up. The Calumet News, through Agent L. M. Geismar, of Houghton county, has pretty much the same thing to say about the Otter Lake district in the south central portion of that county, where some forty farms were brought in last year, and twice that number are due to appear, this year, it is averred.

No doubt great credit is due the Otter Lake Agricultural School in holding young people to agricultural pursuits in that section. It is hardwood country with great agricultural possibilities. The Mining Journal of Marquette, has a lengthy account of the prospective farm settlement to be pushed, this season, by a land company of Chicago. This concern has recently acquired approximately twenty thousand acres in the vicinity of Chatram, Alger county, and is putting on an active campaign of land settlement.

THE FINNISH FARMER.

MR. J. G. HELLA, an Ironwood farmer, objects to my recent use of the term, "high grade," in connection with my reference to the Finnish farmers of Ironwood township. He thinks it classifies his people with cattle to which the term is usually applied. The writer meant to be complimentary, and I think most of my readers so understood it. There are many farmers of Finnish descent in Ironwood township, and this is one of the most highly developed farming sections of the upper peninsula and compares very well with farming communities in the well-developed sections of the southern peninsula. Mr. Hella's own farm is one of the very fine farms of the state, regardless of location. The writer has already contended that the future agricultural development of the upper peninsula owes very much to our farmers of Finnish descent, who are sturdy, hard-working, ready to learn, and will be Americanized as rapidly as other Americans, who have been longer in the country, help them to it.

LAND CLEARING METHODS.

THE opening up of a lot of new cut-over land, involves land-clearing operations on an extensive scale. There will be much use of explosives and stump-pullers. Both are manufactured in this territory. There is a very large plant making stump-pullers, located at Escanaba, whose output is reported by the company at some ten thousand machines per annum. The pullers that operate on the drum or clutch principle, and with horse or man-power, are a local invention developed from local experience.

In removing stumps, local opinion seems to favor the prior use of explosives, to split the stump and disengage it from the ground, after which the fragments can be easily removed by mechanical means.

In connection with the manufacture of explosives for the mines, there are several explosive factories in the district. Obviously these are not indisposed to furnish farmers with explo-

sives also; and it is hardly to be expected that these explosive concerns view with favor the purchase of explosives by farmers from the government at prices much below their own market prices. The superintendent of one of these local plants is outspoken in his criticism of one of our county agents for his activity in securing cheap TNT from the United States arsenal at Charleston, through the medium of the state highway department. Twenty tons of this TNT were thus secured for the farmers of Marquette and Baraga counties, it is reported, at a cost of eleven cents per pound delivered.

The superintendent of one of the large plants points out that, if farmers would combine their orders and buy of them, they could also greatly reduce their prices on dynamite, which, they aver, is superior to TNT. It is admitted that the saving on the shipment just mentioned, would be only about half that actually obtained through the government purchases, and this saving, the agent involved insists, is worth securing for the farmers.

Farmers, like other folks, may be expected to consult their own best interests in placing their orders for explosives. In fact, considerable difficulty has been encountered in securing government TNT, and there have been vague rumors of hidden influences that have blocked its distribution. On the other hand, there are somewhat vague assurances that there will eventually be forthcoming for agricultural use, large quantities of government picric acid, salvaged from the war stocks, as soon as its general use is rendered safe by experiments now in progress. For some time, it has been known that there are large stocks of this explosive in Wisconsin and in the east, and Cloverland farmers will be grateful to any agencies that will procure it for them in a form safe to handle and at moderate cost.

CLOVERLAND ROADS TO BE MARKED.

FROM the upper peninsula district office of the state highway department comes the announcement that all our trunk lines are to be properly marked this season; to indicate their number, detours and danger points. The Escanaba warehouse of the department is said to be well supplied with the material. Indeed, number signs are already in place at many points. An important cut-off adjacent to the Mackinac-Schoolcraft county line is to go in early in the summer, it appears. This is on trunk-line No. 12, (The "Cloverland Trail"), which connects the Straits of Mackinac with all the country west of it—and there is a good deal of it. This five-mile cut-off will save a sixteen-mile detour, reports the Republican News, of St. Ignace, which, however, reminds its readers that the detour, traversing the Manistique Lake district, is one of the most beautiful drives in the upper state.

PRODUCE DEALER KNOCKS MARKETING METHODS.

AN Escanaba produce dealer calls attention to his estimated one thousand cars of potatoes from the 1920 crop still unsold in the territory within one hundred miles' radius of that city, and asks the farmers to take note of the failure of the Michigan Potato Growers' Exchange to dispose of the crop. He thinks that this situation points to the failure of the cooperative system. Some will not agree with him.

TO THE BUTCHER BECAUSE SHE ATE TWO PIGS.

A NEIGHBOR sent his only pure-bred brood sow to the butcher this spring because she ate two pigs. He had wanted to get into the pure-bred business for a long time and when he finally made the start with a fine Duroc gilt he gave up in despair. He should have tried again and instead of feeding his sow corn and other heavy feed, he should have given her a little tankage and kept her in good condition until farrowing time. She would probably never have eaten another pig.—J.

FLEECES DAMAGED BY VEGETABLE MATTER.

A SUBSCRIBER forwarded to this office a sample of wool which showed discoloration, lacked life, was difficult to cut, and according to the correspondent, was becoming more common in his flock. This sample was submitted to Mr. Williams, extension specialist in sheep husbandry, who replies as follows:

"Probably these ewes have been allowed to run in fields where there is underbrush or burnt stumps and vegetable matter had accumulated in the fleeces. The wool is also dry and brashy and very tender. This may be caused by many things, such as improper feeding, improper housing, or it may be due to some disease. Possibly the skin has been irritated in some manner. Ewes producing this type of wool should be culled from the flock and replaced by good thrifty yearling ewes."

IMPORTANT CONFERENCES AT M. A. C.

FIVE conference to be held at M. A. C. during June and July have been announced by Prof. E. H. Ryder, director of the summer session.

Perhaps the most significant will be an agricultural and economics conference on June 23-24 at which extension workers, specialists in agriculture and members of the farm bureau and other organizations will have opportunity to hear vital questions of the day discussed by men of national reputation. Among the speakers will be Thomas Nixon Carver, famous Harvard economist; David Friday, professor of economics at the University of Michigan; Eugene Davenport, dean of agriculture at the University of Illinois, and Hale Tennant, marketing expert at M. A. C.

These men will also address the seventh annual conference for ministers and laymen, to be held from June 21 to July 1. Dr. Warren H. Wilson, of New York City, expert in rural sociology, who took charge of the ministers' gathering last summer, has again been engaged as director. The attendance record of one hundred and fifty set in 1920 is expected to be broken this year.

Simultaneous with the ministers' conference will be the sixth annual meeting of boys' and girls' club workers, of which R. A. Turner, state club leader will be in charge. Also on June 23-24 a conference on rural school consolidation will be held, with Lee L. Driver, Pennsylvania educator, as one of the speakers.

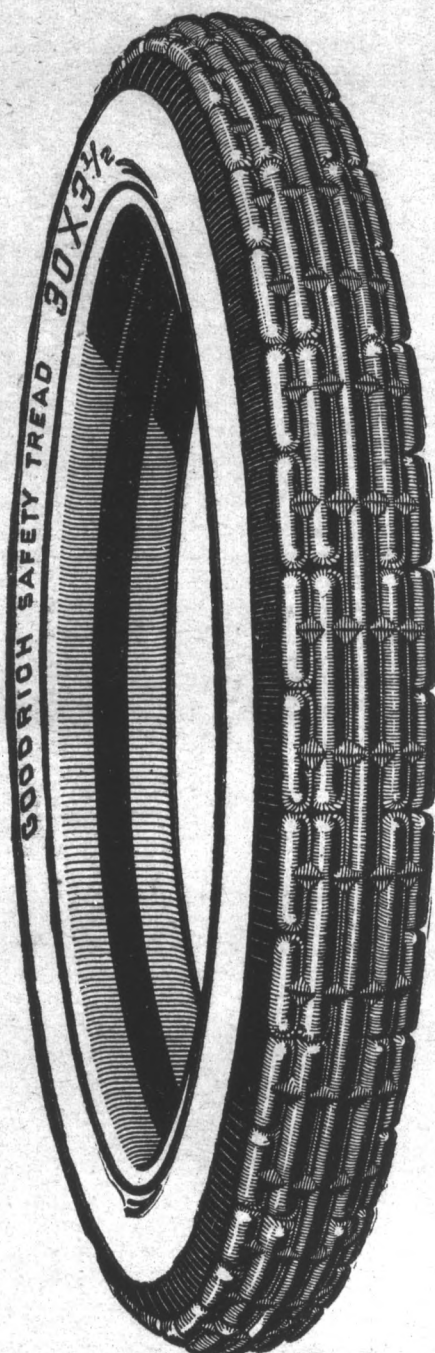
Teachers of agriculture in the high schools of the state will meet July 18-29 for the purpose of considering methods of standardization of such instruction. The educational department at M. A. C., directors of vocational training for the state, and representatives of the normal schools will cooperate and the program will be in charge of W. H. French, professor of agricultural education at M. A. C., and E. E. Gallup, supervisor of agricultural education in the state.—H.

The finest Tire for Small Cars

Goodrich

30x3½

Anti-Skid Safety Tread
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Goodrich 30x3½
anti-skid safety tread fabric tire
now available at the
20% Price Reduction which
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Here is a 30x3½ tire, with snappy black tread and creamy white sides—clean, trim, splendidly finished—generously large and full in size, with the Goodrich anti-skid safety tread.

This tire will give you much longer mileage, the greatest of durability, the utmost riding comfort and the fullest satisfaction.

Like all other Goodrich tires the "30x3½" is made only in one quality. It is so thoroughly and unusually good that its makers frankly declare it the best tire ever made for small cars.

THE B.F. GOODRICH RUBBER COMPANY
Akron, Ohio

Dealers everywhere are selling Goodrich Silver-town Cords, Goodrich Fabric Tires and Goodrich Red or Gray Tubes—all one quality—at the 20% reduction in prices which Goodrich made effective May 2nd, 1921.



Has it long, full heads of sound grain?
Is the straw stiff enough to stand?
Will it yield as much as you hoped?
Is the clover or grass stand in it good?
If not, think over the matter of using a fertilizer that will help you.

For six years wheat fertilizers have contained little or no Potash.
Potash prices are now much lower.
Enough German Potash has now come forward, so that those who wish can buy wheat fertilizers with

4 TO 6% POTASH

Go at once to your dealer and tell him what you want and insist that he get it for you when the fertilizer salesman makes his first call.

Potash Pays

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

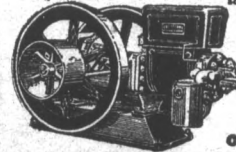
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The Midwest Utilitor works better than any other small tractor because no other machine has these necessary features—

VARIABLE SPEED GOVERNOR
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QUICK ATTACHABLE TOOLS
QUICK DEMOUNTABLE RIMS
DOUBLE CLUTCH CONTROL

Put a Utilitor in your field and prove to yourself that it is the most efficient small tractor made.

For its size it has no equal in power actually developed on the draw bar and belt. Economy is one of its greatest advantages.

Let our owners tell you what they think of the Utilitor and the company behind it.

Write for the name of our nearest dealer and our beautifully illustrated folders describing every use for this machine.

MIDWEST ENGINE CO.
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INDIANAPOLIS, U. S. A.

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.

Shoo Fly THE ANIMALS' FRIEND

For keeping Flies Gnats and many other insects off animals. Used and endorsed since 1885 by leading dairymen. Cows give 25% to 35% more milk during fly season if sprayed with Shoo-Fly.

\$1.50 worth \$20

in milk and flesh alone on each cow in a single season. Excellent for galls. Always itching. Aids in healing cuts and sores. Excellent for lice and mites in poultry houses.

Send \$1.50 for enough Shoo-Fly to protect 10 cows 2 weeks, also our 3-tube gravity sprayer. Money back if not satisfactory. Name Express Office. Booklet FREE

SHOO-FLY MFG. CO., 1334 N. 10th St., Phila.

Hoosier Yellow Pine or Oregon Fir, with or without hinged doors. Best anchoring system on the market. We can furnish one-piece staves in Pine up to 24 feet long. Fir up to 32 feet long. Prompt shipment from stock.

WOOD SILO

Steel Roofs, Chutes, and Paints. Complete line of steel roofs and chutes for silos. Paints for all kinds of farm buildings at money-saving prices direct from manufacturer to buyer. Write for prices and special agents' proposition.

HOOSIER SILO CO. Dept. M-39 Albany, Ind.

BINDER TWINE
Farmers get our low factory price and save money. Agents wanted. Samples free. We pay the freight.

THEO. BURT & SONS, Melrose, Ohio.

Barn Paint \$1.35 Per Gallon
Get factory prices on all paints. We guarantee quality. We pay the freight.

FRANKLIN COLOR WORK, Dept. M, Franklin, Ind.

Natural Leaf Tobacco—Kentucky's finest. 3 lbs. sample, 1919 crop, chewing, smoking, \$1.00. 12 lbs. mild smoking \$2.00, 20 lbs. \$3.50. Hancock Leaf Tobacco Assn., Dept. 20, Hawesville, Kentucky.

Homespun smoking and chewing tobacco shipped collect on delivery 10 lbs. \$3. 20 lbs. \$5. Farmer's Union, Mayfield, Kentucky.

Hardwood Ashes applied to meadows after having pay big Peterborough, Ontario

GEORGE STEVENS.

Agents: Mason sold 18 Sprayers and Autowashers one Saturday. Profits \$3.00 each. Square Deal. Particulars free. BUSLER COMPANY, Johnston, O.

Late Agricultural News

TO SELL 1921 CLIP EARLY.

THIS year Michigan wool will not be held but will be sold on the current market, according to the State Farm Bureau, which says that arrangements have been made with mills in the east to dispose of practically the entire amount of the 1921 pool. A representative of the wool department who has just returned from Philadelphia, announces that some of the new wool was included in a recent sale of 150,000 pounds, prices ranging from eighteen to twenty-seven cents a pound, according to the grade. A fourth wool grader was hired who will make a circuit of certain of the one hundred and fifteen grading stations in the state.

Half a million pounds of wool remain in the 1920 pool while the same amount has been practically collected in the 1921 pool, the farm bureau reports. The closing of last year's pool is being rushed in order to make final remittances to the wool growers.

TO ADJUST MICHIGAN FREIGHT RATES.

COMPLAINT will be filed with the interstate commerce commission and with the Michigan Public Utilities Commission for a readjustment of the freight rates between Michigan and other states and within the state. Proceedings will be initiated by the Michigan Traffic League.

At the present time freight tariffs in Michigan are much higher than the rates obtaining in other states and these higher tariffs place all industries in the state at a serious disadvantage when competing with outside interests. In the proceedings class and commodity rates, interstate and intrastate tariffs, inflated mileages, and rates to and from the upper peninsula will all be given special attention. Michigan freight zones authorized in 1917 have been used apparently to discriminate against the producer and consumer in this state and the maintenance of these zones will be vigorously attacked in these proceedings.

WOULD CRIPPLE JOINT STOCK LAND BANKS.

HEARINGS on the Smoot Federal Farm Loan act amendments will be held before the senate committee on banking and currency some time this month. The first of these amendments, senate bill 431, provides for the liquidation of joint stock land banks. Section 16 of the act creating the joint stock land banks is repealed, with the exception that a joint stock land bank incorporated before July 1, 1919, may continue to operate under the act, with certain restrictions until July 1, 1924, when all such banks must go into liquidation.

A second amendment, senate bill 432, provides that the federal farm loan Board shall levy assessments upon the federal land banks and joint stock land banks sufficient to pay its estimated expenses and the salaries of its members.

A third amendment, senate bill 433, removes the tax exemption features from joint stock land bank bonds.

The avowed object of these bills is to put out of business the joint stock land banks. It is believed by friends of the farm loan system that the real purpose of the proposed legislation is to destroy the farm loan act. They apprehend that the joint stock land bank feature being the weakest link in the system, it has been selected as the most vulnerable point of attacking the act. It is at least well known that at least some of the professed enemies of the joint stock land banks

are none too friendly toward the federal farm loan associations.

If the purpose of the farm loan act is to provide money at low rate of interest for agricultural development and production, then that money must be raised in a special market. And up to this time the only way that has been devised for creating a special market in which money can be secured at low rates is that of issuing tax-free securities. Hence, the tax-free farm loan bond. From this standpoint, it is argued that the farmers and their organizations have considerable interest in making an effort to save the tax exemption on farm loan bonds, at least until municipal bonds and all other government securities are denied this tax exemption privilege. There is no telling what this congressional tinkering may do to the farm loan act.

TUSCOLA FARMERS MAKE AUTO TOUR.

(Continued from page 681).

ness was a wife, an ax and a plug of tobacco; now he said it was a vastly more complicated proposition and one of the first things that farmers absolutely must do is to organize.

The farmers also visited the farms of H. B. Peters, D. Dutcher, and Mr. Booth in the vicinity of Owosso and arrived in Lansing at seven o'clock in the evening. The following morning they visited the State Farm Bureau offices and the M. A. C., taking dinner at East Lansing at eleven o'clock and then proceeding south to visit farms around Jackson. Thursday the biggest day of the trip, they swing through Jackson, Washtenaw, Oakland and Lapeer counties and return home late at night.

FARMERS' FINANCE COMPANY.

(Continued from page 682).

ed favorable progress, although no personal solicitations have yet been attempted.

President Gustafson is now located with the rest of his staff in their new offices, which comprise the entire nineteenth floor of the Mallery Building in Chicago. Although he has not yet resigned as director of the marketing department of the American Farm Bureau Federation, it is expected that he will do so in the very near future as the bylaws of the organizations specifically states that he shall give his time exclusively to the work of the grain growers.

J. H. Mehl, formerly investigator in cooperative organization for the United States Bureau of Markets, has been employed to assist President Gustafson in his work. Mr. Mehl helped on the Committee of Seventeen in perfecting their plan and is an Iowa product, having been for eight years previous to his connection with the bureau of markets, manager of a farmers' elevator in Iowa.

P. J. Crandall, formerly secretary of the South Dakota Farm Bureau Federation, has been employed to assist William G. Eckhardt in the finance department, and W. F. Schilling was appointed vice-chairman of the organization committee to assist Mr. Eckhardt on details of organization. F. M. Russell and S. E. Elliott have been added to the staff of the department of information. Mr. Elliott was formerly agricultural editor of the "Farmers' Dispatch" at St. Paul, and Mr. Russell was director of the News Bureau of the Nebraska Farm Bureau Federation.

Milk is the only food that contains all the elements necessary to build up and repair the tissues of the human body.

STATE ASSISTANCE FOR GRASSHOPPER CONTROL.

THAT counties of Michigan lose no time in taking advantage of the state aid in grasshopper control, made possible by the action of the 1921 legislature, is urged by officials of the entomology department at M. A. C. According to the terms of the measure, \$40,000 has been made available to reimburse counties for one-half of the sum spent for buying poison bait. The money is to be paid on warrants drawn by the county officers on the state treasury. The work in each county will be in charge of a man appointed by the board of supervisors, in most cases the county agent.

Grasshoppers descended in clouds last summer upon those sections of Michigan which were unprepared. If proper preventive means are used, the pest may be controlled without trouble, it is believed, though another serious outbreak threatens.—H.

LIMITS IMMIGRATION.

THE Johnson bill passed by the house and senate limits the number of immigrants to come into this country between now and June 30, 1922, to 355,000 people. In view of the proposed restrictions it is interesting to note that only two and eight-tenths per cent of the vast number of immigrants entering this country last year were farmers. A large proportion of those arriving were incapable of earning a livelihood, according to the immigration committee's report. The committee is convinced that "the arriving immigrants are not those who might go to the farms."

MICHIGAN FIRST IN RYE PRODUCTION.

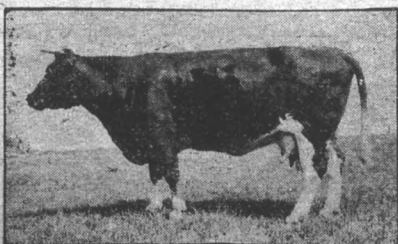
MICHIGAN now stands at the head of the list in rye production. Statistics recently published show that this state raised fourteen per cent of the total crop produced in the United States last year. Until two years ago Michigan never ranked better than fourth or fifth. In 1919 it rose to second, however, and the 1920 figures show the Wolverine state leading.

Much of the increased yield is ascribed by officials at M. A. C. to the introduction of Rosen rye, the variety perfected by Prof. F. A. Spragg, plant breeder, after it had been brought to this country by a Russian student of that name who attended M. A. C.

So successful has Rosen rye proved that twenty-nine out of thirty prizes for this class went to samples of Rosen in the International Hay and Grain Exposition at Chicago last fall.—H.

PROSPECTS IN WEXFORD COUNTY.

AGRICULTURAL prospects in Wexford county are excellent, reports W. F. Johnston, county agricultural agent who has just completed a field study. More labor is available this year and farm work is advanced much further than usual at this time. A large amount of seeding has been done. Rye and wheat have come through the winter in fine shape. Some farmers will not plant potatoes this year, while others will take advantage of the cheap seed and will plant a large acreage.—M.

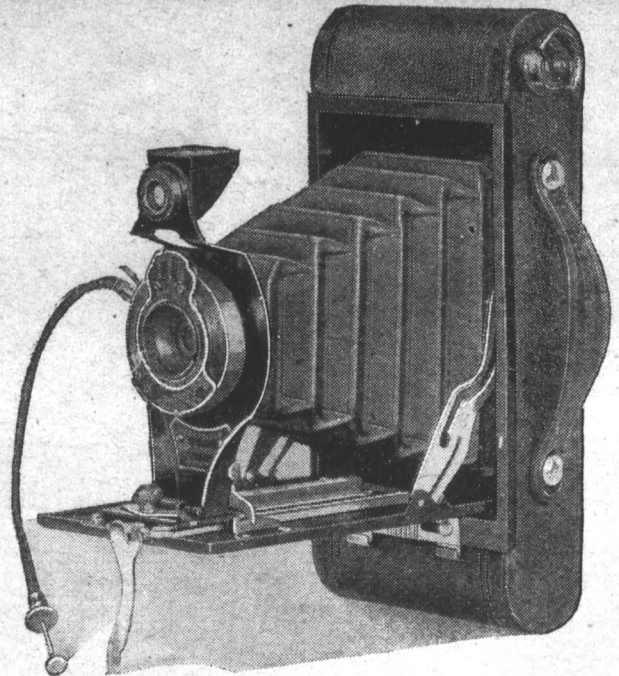


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It is Kodak Made.

The No. 2A Folding BROWNIE

\$10.00



Honest workmanship has become a habit in the Kodak factories, and it is in those factories, in the skilled hands of Kodak workmen and under Kodak superintendence, that the Brownie cameras are made.

The 2A Folding Brownie gives a happy combination of real convenience and efficiency with genuine economy. The pictures are $2\frac{1}{2} \times 4\frac{1}{4}$ inches, a really satisfactory size, yet not so large as to make the film and printing costs high. The folding feature makes it convenient to carry; the excellent finish is both durable and pleasing.

The Kodak Ball Bearing shutter, with which this camera is fitted, is quiet and certain in action. It has snap-shot speeds of $1/25$, $1/50$ and $1/100$ of a second and the usual "time" features.

The Meniscus Achromatic lens is of excellent quality and each one is carefully tested.

Like all Kodaks and Folding Brownies, the No. 2A is autographic—provides the means for dating and titling the negatives at the time the exposure is made. This camera has two tripod sockets, a finder and an accurate focusing scale.

The price, ten dollars, includes the excise war tax and the films are but thirty cents for six exposures. Picture taking with a Brownie camera is very simple and is less expensive than you think.

Catalogue of Kodaks and Brownies free at your dealer's or by mail.

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



Instantly Dissolving

No cakes to smash or lumps to break up. Just pure, flaky salt that dissolves instantly. Saves time, and money too—you don't use as much of it. Look for this name on every bag—

COLONIAL SPECIAL FARMER'S SALT

If your dealer doesn't have it, send us his name.

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WHEN not plowing, cultivating or harvesting, put some of your time into clearing land. Every acre cleared adds to your farm profits. The crop from newly cleared acres often pays clearing costs and there's a profit besides. Put your idle acres to work by using



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—especially made for land-clearing. Red Cross Dynamite has maintained its leadership because it gives the best results per dollar spent for explosives—and every "stick" is uniform in quality.

See your dealer for Du Pont Dynamite and blasting accessories.

Write for free book—"Farmers' Handbook of Explosives."

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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.

OFFER No. 305.

Michigan Farmer, one year.....\$1.00
McCall's Magazine, one year 1.50
Youth's Companion, one year.... 2.50

Total value\$5.00
All for \$3.75.

OFFER No. 306.

Michigan Farmer, one year.....\$1.00
Woman's World, one year50
Little Folks Magazine, one year 2.00

Total value\$3.50
All for \$2.30.

OFFER No. 307.

Michigan Farmer, one year.....\$1.00
Today's Housewife, one year.... 1.00
Young People's Weekly, one year .85

Total value\$2.85
All for \$2.15.

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

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Free Roofing Book

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LOW PRICED GARAGES

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

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Horticulture

THIN OUT GARDEN PLANTS.

DO not allow your plants to grow too large before thinning them, is the advice of Purdue University horticulturists. Nearly all home gardeners plant more seed than necessary, in order to get a full stand of plants. As soon as these are large enough to handle easily, all excess plants should be pulled out, leaving enough space between each plant remaining for the vegetables to develop properly. If this practice is not followed, not only do the crowded conditions cause a tall, spindly, unhealthy growth, but the excess plants act as weeds, using up the plant food and moisture that should be available for the crop.

The distances that plants should stand in the row in order to have enough room for proper growth varies with the different crops and with the different varieties of each vegetable. In general, plants of Bush beans should be three or four inches apart; beets, carrots and salsify, two to four inches; endive, eight to twelve inches; kale, eighteen to twenty inches; kohlrabi, four to six inches; leaf lettuce, six to eight inches; parsley, three to six inches; parsnips, three to four inches; radish, one inch; spinach, three to four inches, and turnips three to four inches.

Leaf lettuce is generally thinned several times. The first thinning is not done until the plants are of such size that a few removed here and there may be used as salad and will give room for those remaining to grow larger. Later a second and third thinning takes place, again giving room for further growth. By this method a great deal larger crop may be obtained from a limited space than if the small plants were given maximum distance at the first thinning.

Radishes and carrots are ordinarily not thinned until some are large enough to use—unless, of course, the seed has been sown exceptionally thick. Thinning of spinach, too, is delayed until the small plants removed are large enough to use as "greens."

TENT CATERPILLARS.

ABOUT the time the leaves are unfolding in the spring the tiny eggs of the tent caterpillar begin to hatch and the young larvae escape and go in search of some nice tender foliage. The previous fall the mother moth was considerate enough to place these eggs close to the food supply. She selected a small twig on a wild cherry, apple, or some other convenient tree and around this she laid her several eggs, cementing them over with a waxy preparation in order to protect them against the weather. The larvae, after hatching, select a convenient fork in the branches, or on the trunk, in which to build their web, or tent, and from this they go out in the search for food. If these caterpillars are not controlled early in the season they will soon strip the foliage from the nearby limbs. If they are on a young tree it will be entirely defoliated by mid-summer.

As soon as the small nests are detected early in the season they should be destroyed to prevent further defoliation of the tree. If they are within convenient reach they can be torn out and the larvae crushed on the ground, or burned. Then an examination should be made to see if there are any larvae left on the tree near the old nests. These should be destroyed if possible. The use of a torch will be found to be a convenient instrument in destroying those nests beyond reach but care

must be exercised so as not to burn the bark, thus killing it and perhaps causing a permanent injury to the tree itself. Its use is safe on the smaller branches or twigs, but on the larger limbs it will be safer to destroy them by hand. A spray with arsenate of lead will keep them from extending their work. The regular sprays recommended for apples will also keep them controlled.—DON B. WHELAN.

CONTROLLING PLUM ROT.

Please inform me why the plums rotted on trees last fall after they were ripe. We sprayed our trees with arsenate of lead and water every two weeks until a short time before they ripened.

Gratiot Co.

Mrs. W. A. S.

The spray material you used last year for your plums was only for the control of insects, such as the plum curculio. Arsenate of lead is an insecticide only, and has no effect on fungous diseases such as the plum rot.

With your arsenate of lead use lime-sulphur as a fungicide. We would suggest that you use one gallon of commercial lime-sulphur and one and a half pounds of powdered arsenate of lead—or three pounds of paste arsenate of lead—to fifty gallons of water.

In order to get the best results for curculio, the spraying should be started shortly after the blossom petals have dropped, and then at intervals of about ten days or two weeks until within about three weeks of ripening time of the plums. This will usually control the rot as well as the curculio, although there are some varieties of plums that are more susceptible to rot than others.

There are also some seasons which are more favorable to the development of rot, which makes it harder to control. In such cases commercial growers sometimes use ammoniacal copper carbonate after the last spraying with lime-sulphur and arsenate of lead. The latter will stain the fruit if used within a month of ripening, while the copper carbonate will not.

This spray is made of three ounces of copper carbonate and five pounds of strong ammonia to fifty gallons of water. The ammonia should be diluted with three or four parts of water before mixing with the copper carbonate.

Besides spraying, one can do much in controlling the rot by gathering the rotted fruit hanging on the trees and on the ground after the crop has been harvested, as they hold over the rot spores from one season to another.

The sprays mentioned above can be used on all plum trees except those of the Japanese varieties. The foliage on the Japanese varieties is more tender than on the European varieties, and would be burned by the use of the regular lime-sulphur sprays. The self-boiled sulphur commonly used on peaches should be used instead. This is made by slaking eight pounds of lime, and throwing in upon the lime while slaking, eight pounds of flowers of sulphur. After the lime has ceased boiled lime-sulphur commonly used on take the heat out. If left hot too long, the lime-sulphur will unite, as in the regular commercial lime-sulphur.

Try out a new vegetable or two this year. Variety is the "Spice" of gardening.

Many gardens are through when the first crops are taken off. Planting the same vegetables ten days apart as long as possible will prolong the period for fresh green food from the garden.

Intercrop the space in your garden. Keep all the ground busy.



PAGEANT DEPICTING THE HISTORY OF MICHIGAN.

ON Tuesday and Wednesday evenings of commencement week the students of the Michigan Agricultural College will present their third annual pageant. This year the pageant will depict "The History of Michigan," and gives promise of being even more beautiful than "The Triumph of a Nation's Faith," presented last June.

Among the very interesting scenes and events to be shown are the founding of missions by Jesuit priests, the dances of Indian braves and maidens, the Indians acting as hosts to the first white men, the famous court dances of seventeenth century France, the first ship to sail the great lakes, and the founding of Detroit. LaSalle and Jean Nicolett are two of the old characters which will appear. The students will also present many novel dances, among them "The Dance of the Elements," "Order Out of Chaos," and "The Dance of the Fruits."

The pageant queen, who is to represent Michigan, has been chosen by a popular vote of the co-eds, while "Uncle Sam" was chosen in a like manner by the men students. Their identity will not be revealed by the committee until the first presentation of the pageant.—B. T.

MICHIGAN HAS OLDEST ALFALFA FIELD.

IT is generally thought that alfalfa is a comparatively new crop in this country, but right here in Michigan is a field that has been in alfalfa for fifty-one years. In the early sixties P. J. Schau emigrated to this country, bringing with him a large family. He settled on a homestead just north of Kalamazoo, and for several years he prospered there. In 1870 he went back to Germany for a quantity of what is now known as alfalfa seed. This he sowed in a field that was very rich in lime, although in those days lime did not mean as much to a farmer as it does now and undoubtedly it was an accident that he struck that particular field.

Since then the field of alfalfa has been mowed from two to four times each year, with the exception of two different years when it was reseeded. Andrew Schau, grandson and present owner of the old Schau homestead believes this to be the oldest alfalfa field in this state, if not in the country. The field is being plowed up again for reseeding, and with great difficulty due to the tough, long, interwoven roots. This should put to rout the often advanced theory that alfalfa will wear itself out in a few years if not plowed up and put to some other crop.

PAUL H. RUESS.

ROBUST SEED BEANS RECOMMENDED.

USE of certified Robust seed beans for planting is recommended to farmers of the state by the Michigan Crop Improvement Association. The Robust bean was originated by Prof. F. A. Spragg, of M. A. C., and in tests it is said to have shown itself to be disease-resisting and a heavy producer. Many failures with the bean crop may be directly traced to the use of inferior seed, according to Secretary A. L. Bibbins, of the M. A. C. farm crops department. Orders for the Robust bean may be placed with the farm bureau seed department, Lansing.—H.

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SAFEGUARD your grain crop while you have time, by ordering necessary time- and labor-saving harvesting equipment and genuine IHC repairs from your nearby International dealer. Place your reliance in machines bearing the time-tried, service-proved names—McCormick, Deering and Milwaukee. These are names your father and grandfather knew well—and trusted. The reputation of this Company assures you that they are today as ever worthy of your confidence.

*This Is Not a Year
for Twine Experiments—
Use Quality Twine*

THIS year it will not pay to take chances. It is not a safe season to do any experimenting with poor twine. Do not be satisfied with any but the best. Buy the twine that has long been considered standard and found completely satisfactory—the old reliable McCormick, Deering and International. These International Harvester twines have the efficient binding qualities woven into them. They will add much to the success of your harvest. Visit the International Dealer.

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\$9.95
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This price good only until July 31st

Guaranteed **6,000** Miles

Shipping Weight, 13 Pounds

Sent by parcel post within 150 miles of any of our five houses for 17c postage; within 300 miles for 30c postage; within 600 miles for 55c postage.

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RIVERSIDE TIRES are NOT Seconds. They are clean, factory firsts of the highest quality—guaranteed by us to be made as good as tires can be made.

Each tire has our trade-marked name—"Riverside." And the name "Riverside" stamped on a tire is as good as the name "Montgomery Ward & Co." written on a check.

An Absolute Guarantee By Montgomery Ward & Co.

We do not believe there is any firm from whom you buy tires that has an equally old, time-tried Guarantee of "Satisfaction or Your Money Back."

For over forty-nine years, Ward's has sold everything on a Guarantee basis. Millions of customers in that forty-nine years have bought hundreds of millions of dollars' worth of merchandise under that Guarantee.

So, no thinking person can have any doubt, any hesitancy ordering a Ward's Riverside Tire—with the full knowledge that our forty-nine-year-old reputation will be lived up to absolutely.

We guarantee Ward's Riverside Fabric Tires for 6,000 miles. We mean exactly that.

We guarantee Ward's Riverside Cord Tires for 10,000 miles. We mean exactly that.

There can be no risk whatsoever in your ordering a tire from Montgomery Ward & Co. We know that the prices we quote are very low. But the saving we offer is a real saving on the finest grade of clean factory firsts.

Save One-Third on YOUR Tires, TOO!

Read what we say here about prices: "The Plain Truth about these Low Prices"—and then send your order now.

With an absolute guarantee, backed by a house of unquestioned reliability—Why not at least try Ward's Riverside Tires? Why not save one-third on YOUR tires, too!

The Plain Truth about these Low Prices

First let us say that we believe you will *never again buy tires at such low prices*—unless there is some great discovery of a new way of making tires.

Just consider that before the war, rubber was 60 cents per pound and formerly it was \$1.10 per pound. During the war, rubber actually went down to 50 cents per pound.

Last spring the tire business was demoralized. Rubber went to 18 cents per pound. Cotton broke from 40 cents per pound to 12 cents. It is said that 40,000 people moved away from Akron—the great tire making city.

And there, with everything at the low mark, was the opportunity we are always looking for, with cash in hand, to secure a saving for our customers.

With some great change in making tires—some discovery—you may some time in the years to come buy tires cheaper. But otherwise, Ward's prices in this Summer Sale will be the lowest prices at which you ever bought standard, high grade, guaranteed factory firsts.

Do You Own a Buick, Packard, Cadillac, or Hudson?

We quote here our great Mid-Summer Sale Price on a 30 x 3½ tire for Overlands, Fords, Maxwells, Dorts, Chevrolets, etc.

But you who own Buicks, Packards and other cars, write for the book below, our July-August Sale Book. It offers you a saving of one-third on all sizes of Fabric Tires—and on Ward's Riverside Cord Tires—guaranteed for 10,000 Miles.

MONTGOMERY WARD & CO.

Chicago Fort Worth Kansas City St. Paul Portland, Ore.



This Great Sale Book is YOURS—FREE!

Ward's Great July-August Sale Book is ready. It quotes Ward's low prices on all sizes of tires—offering a saving of one-third. On tubes and many other automobile needs the saving is very large. But there are all kinds of merchandise in this great reduced price sale. Wearing apparel for women, men and children; woolens and silks and cotton goods at startling prices. Everything for the home, for the farm.

We have tried to make this book a complete offering of your Mid-Summer needs—at wonderfully low prices.

One book is Yours—FREE! Fill out now, this coupon, and send it to the one of our five houses that is nearest you.

MONTGOMERY WARD & CO. G37
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I enclose { check money order } for \$..... Please send me

NUMBER OF TIRES	SIZE	Riverside Fabric Tires	PRICE	POSTAGE	TOTAL
	30 x 3½		\$9.95		
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	30 x 3½		\$17.25		

Name.....

Address.....

IMPORTANT:—If you order from Portland, Ore., add 50c to cover the extra freight cost to us of shipping tires by the carload to Portland, Ore.

MONTGOMERY WARD & CO.

Chicago, Fort Worth, Kansas City, St. Paul, Portland, Ore.

Please send me free my copy of Ward's Great Mid-Summer Sale Booklet G37

Name.....

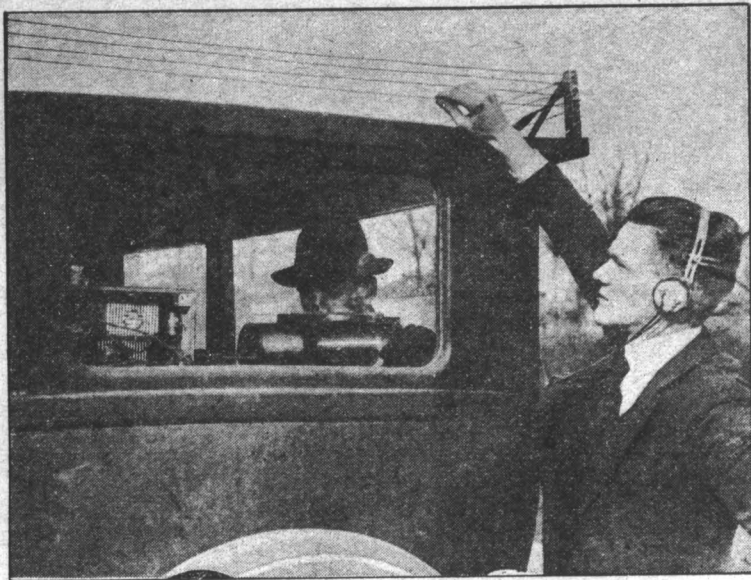
Address.....

IMPORTANT: Send this coupon to nearest one of our five houses given above

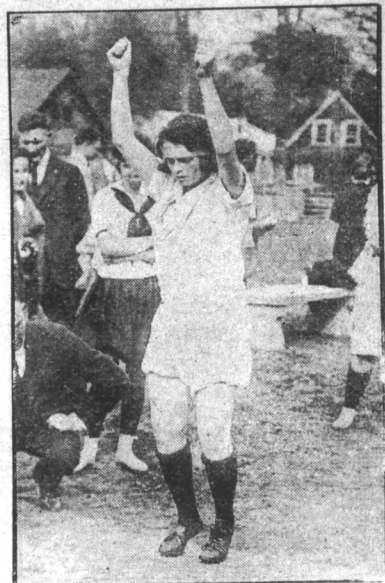
WORLD EVENTS IN PICTURES



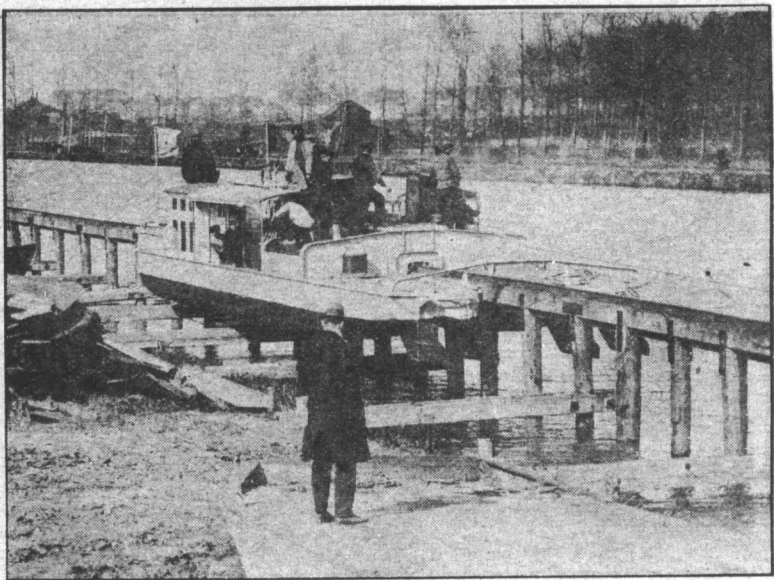
Carpentier, Dempsey's challenger, likes American well-water.



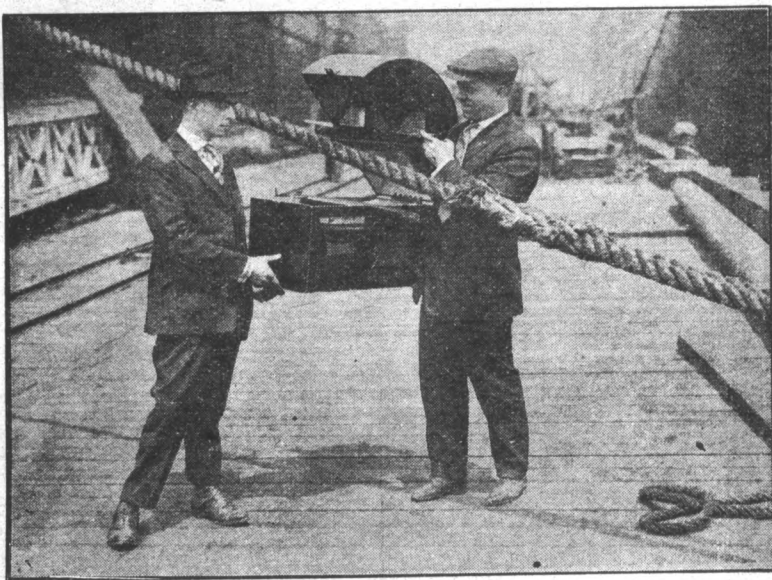
Wireless equipment for automobiles is of special value to doctors and others who wish to receive messages enroute.



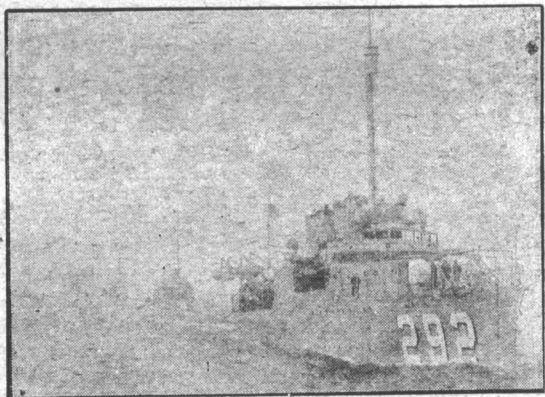
Student at girls' school "taking off" for broad jump.



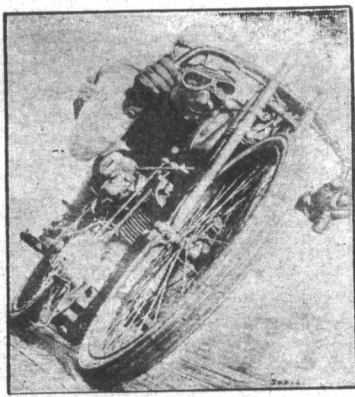
An "ambibious" boat travels under own power on mono-rail or in water. Built for use in rivers which have shallow spots.



The new hawser rat trap catches ship rats coming and going. Rats are often nuisances on large boats.



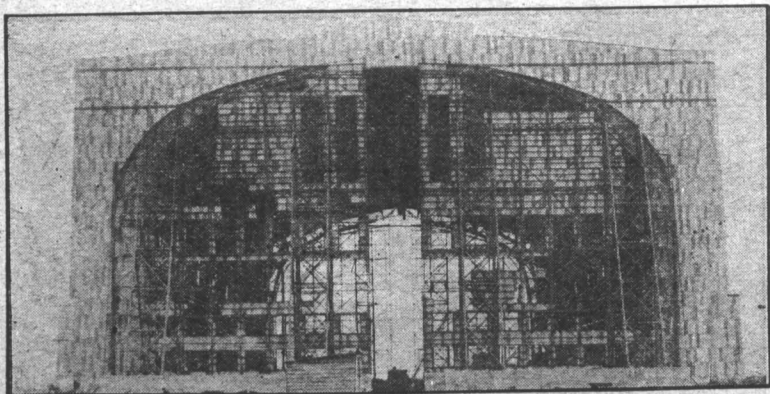
Over 70 U. S. Destroyers visit New York Harbor in week. Jackies take in Broadway.



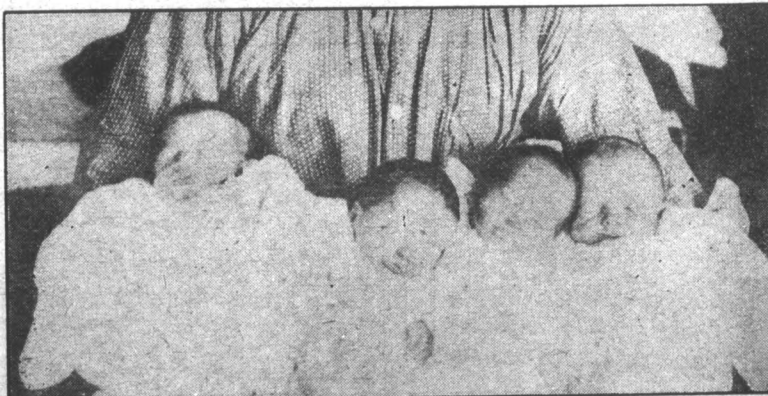
Camera quicker than eye. Motorcycle speeding 112 miles an hour.



The "snow baby," explorer Peary's daughter, born in Arctic regions, and her sons.



New navy hangar at Lakehurst, N. J., will house two U. S. dirigible balloons, including the large one made in Great Britain.



Quadruples, three boys and a girl, total weight is twenty pounds. This makes eleven children in nine years for poor parents.

THE CLAN CALL

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

Dale was on his way to the new siding the following morning, when he met Henderson Goff. Again Dale was forcibly reminded of stories he had heard and read of Mississippi River steamboat gamblers of the long ago. Goff stepped out of the trail, smiled and spoke with apparent good humor. Dale passed him without a word.

Then the shyster coal man called out, "Ready to sell yet?"

The Moreland Coal Company's general manager halted and faced about with a puckering of his brows.

"For a fair price, yes."

"Just what would you call a fair price?"

"Oh, somewhere between two and three hundred thousand," promptly.

Goff sniffed, and the corners of his mouth came down.

"You don't want much. You won't get it from me!"

"I don't want it from you."

Dale turned and went on. He was sorry that he had stopped to talk with the fellow.

That afternoon he again met Goff in the trail. The bare sight of the shyster made him very angry now, and his right hand fell upon the butt of the big revolver on his hip. Goff was about to sidestep in the laurels, when Dale caught him roughly by the arm.

"See here," he said sharply, "you've about cut your little swath. We've had enough of you. You can't get this coal at any price, and the sooner you get yourself out of this country the better and safer it will be for you. To be plain, I'm pretty apt to thrash you the very next time I see you. Now move on!"

Goff went off laughing wickedly. "Oh, all right, Dale; go ahead and build the little road for me!" he said.

Late that night every sleeper in the valley of the Doe was awakened by a great, rumbling explosion, which was followed almost immediately by another great, rumbling explosion. Before the reverberations had died away, Bill Dale had dressed himself and was standing on the vine-hung front porch, and he was only a few seconds ahead of John Moreland.

Then there came the tearing sound of a heavy explosion miles to the eastward.

"Do ye know what it is?" inquired the mountaineer.

"They've stolen our dynamite from the tobacco-barn, and blown up the office and supplies building and the commissary building; also they've blown up the big trestle near the siding," Dale answered.

"At's my guess, too," said Moreland.

Within the next half hour Dale and Hayes, Major Bradley, and the men-folk of the Morelands and the Littlefords had gathered around the wreck of the two big, unfinished frame buildings that Babe had seen from the crest of David Moreland's Mountain. Dale blamed himself much for having left the dynamite unguarded in the tobacco-barn but nobody else blamed him for it.

"It's time to let the law in," he said when he had viewed the jumbled mass of broken planks and timbers by the light of lanterns. He turned to stalwart Luke Moreland.

"You get on my horse and ride to

an general manager. The men were to take their rifles with them to work in the morning, but they were to fire no shot unless it was in defence of life or property. In the morning every available wagon in the valley was to be sent to the little sawmill that was in operation ten miles toward the lowland for more building material.

By Heck joined them then. He guessed just what had happened, plucked at Dale's sleeve and whispered:

"Sposen I takes a sneak or two towards them low-down, walnut-eyed, knock-kneed, dadblamed Balls and Torreys and finds out what I can find out; hey, Bill?"

The answer came readily: "Sure, you be detective. But be careful that

At a point near where the little stream that flowed past the Halfway Switch emptied into Doe River, where Doe River turned almost squarely to the left, Dale halted abruptly. He had seen a man dart behind a scrubby oak some thirty yards ahead of him; quite naturally, he concluded that the fellow meant to waylay him, and he, too, stepped behind a tree, a big hemlock.

A silent minute went by. Then Dale put his hat out on one side of the tree and peeped from the other side; it was an old trick that Grandpap Moreland had told him about. A rifle cracked promptly and sharply, and a bullet-hole appeared in the rim of his hat!

Following it, there came the coarse, bass voice of Black Adam Ball, the mountaineer Goliath:

"You can't fool me. I jest shot to put a hole in yore new hat and to show ye 'at I ain't no bad shot. You cain't hit my hat!"

Dale's temper, the temper that had always been so hard to keep under control, rose quickly. He tried to reason with himself, and couldn't; his passion mastered him. He snatched the big revolver from its holster and cocked it. With as steady a hand as ever held a weapon trained, he began to take aim at Ball's slouch hat, the half of which was in plain view at one side of the scrubby oak.

"I fooled you once, back there in the middle of the river," he cried hotly, "and now I'm going to fool you again!"

There was in his voice that old, old primitive rage, which frightened him, and puzzled him too, in his better moments.

He let down the bead until it was barely visible in the notch, and eased off the trigger. The revolver roared and spat forth a tiny tongue of flame and a little cloud of white smoke. Ball sprang erect, wheeled, and fell crashing to the leaves!

Dale dropped his weapon. He went as white as death, and his two hands clutched uncertainly at his throat. He was a murderer! No, he wasn't—his bullet had gone wild; it had struck Ball's head on the other side of the tree, by accident. But how could he prove that it had been an accident? Would any jury believe him? It was far from probable.

He stepped from behind the hemlock and went toward the writhing Goliath, whose legs only were visible now.

Then a third shot rang out on the morning stillness. It had been fired from a point some little distance away, and Dale's condition of mind at the moment was such that he didn't even

SHADOWS

By Edna N. Sumner

A mosaic dancing and darting
Before the bright rays of
the sun,

A, shrouded, dark figure im-
parting,

What the powers of sun-
light had done.

A rainbow of sweet hidden
shadows

In the depths of a deep,
blue, lake!

The flitting, glittering, shad-
ows

That only the sunshine can
make!

At first it seemed only a
phantom,

Of colors, deep down in the
sea;

And then a bright Japanese
lantern

Of lights, that were wond-
rous to see,

Again, in the depths of the
water

I looked, 'twas a shadow,
but faint,

What wonderful visions of
rapture—

The dreams of my fancy
can paint!

Cartersville for the sheriff. Tell him he can get the best posse in the world right here, if he needs one. It's the proper thing, isn't it, major?"

"Yes," said Major Bradley, "it's the proper thing. You've got a real grievance now. But I fancy Goff had nothing to do with this; he is shrewd enough to know that a thing like this would cook his goose. Goff has been playing a bluff game all along, you know. Some Balls or some Torreys, perhaps a mixture of both, have done this without Goff's knowing anything about it beforehand, I'm pretty sure. I'd have Sheriff Flowers arrest several of the Balls and several of the Torreys, and try to scare them into turning state's evidence to save themselves."

The major finished in a low tone, because of the probability for eavesdroppers, and in this he was wise.

"We'll do that," Dale decided.

He faced Hayes, his right-hand man, and began to give orders like a veter-

you don't lose anything for us, y'know, if you don't gain anything."

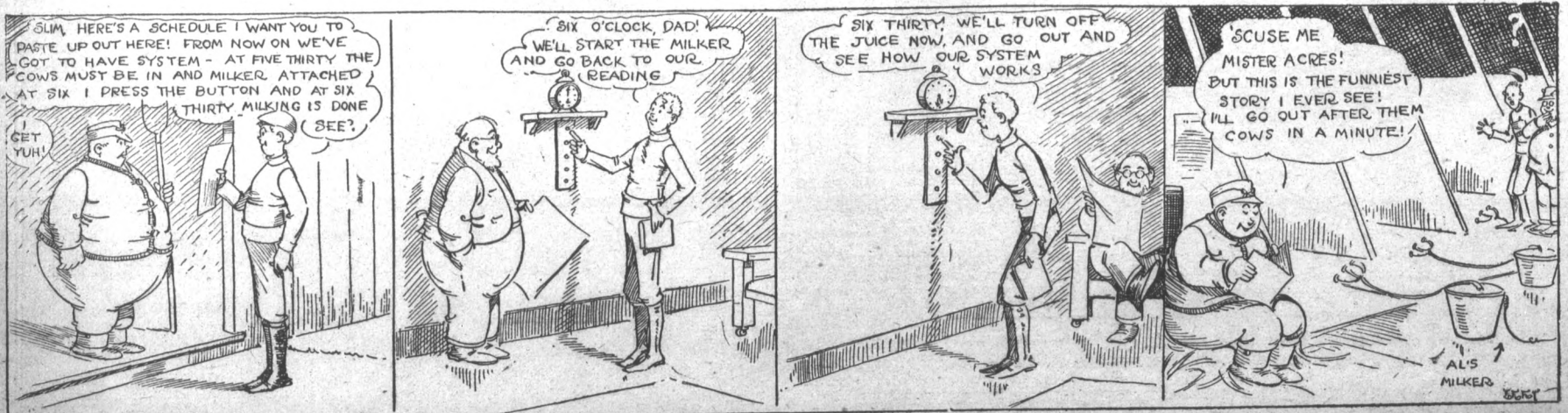
By Heck and his rifle disappeared in the darkness of the mountain night.

A little after work-time that day, Bill Dale started alone on the way of the narrow-gauge railroad for the siding. He wished to see for himself just what the damage had been to the trestle, and he hoped to meet Goff, or Ball, or a Torrey, and learn something that would be to his advantage.

Before he had covered two miles, he had seen two of the enemy skulking through the woods, and he recognized them for Torreys from Jerusalem Cove and Hatton's Hell; he knew it by their very swarthy skin, their high cheekbones and their coarse black hair, the outcroppings of the Cherokee Indian blood in them. They looked cunning and wicked. Dale loosened in its holster the big revolver that Major Bradley had persuaded him to carry for his own protection. John Moreland had taught him how to use firearms.

AL ACRES—Slim Must Have Been Reading "Peck's Bad Boy".

—By Frank R. Leet



note the direction from which the sound had come. He was unhurt, and he had not heard the whine of a bullet or the pattering of shot on the leaves. When he looked about him, he saw no one; neither did he see any telltale smoke. Perhaps, he thought dimly, it had been a squirrel-hunter that had fired that shot. He forgot about it very quickly for the time being, and went on toward Adam Ball, who now was lying perfectly still.

There was a bullet-hole through and through the great, shaggy head. The face behind the short, curly black beard was of the colorless hue of soapstone. The giant hillman was dead.

Bill Dale knelt there beside Black Adam. Again he clutched at his throat with his two shaking hands, and this time he tore his blue flannel shirt. All the agony and all the remorse in the universe seemed to be gathering there in his heart. Never before had he seen death. It's grim presence terrified him. That the deplorable thing had been an accident, due to his faulty marksmanship, mattered little. He had killed a man, and the blood-red brand of Cain was burning away on his brow; he was a man in a hell of his own making. And kneeling there Bill Dale sobbed a great sob that shook his broad shoulders as a violent ague would have shaken them.

He tried to look at the blue-edged hole in the shaggy head; at the cruel, brutish face that was of the colorless hue of soapstone. Merciful tears blinded him, and he couldn't see. It was a compensation, a pitifully beautiful compensation.

Five minutes passed, five minutes that were as five years to this man who had never been in the presence of death before. Then he realized that he was being surrounded by kinsmen of the dead mountaineer. He looked up into their ashen, angry faces, and they cursed him. Big and gripping brown hands were placed upon him; several rifles were turned upon him. He arose and spread out his arms, and offered his breast to the frowning muzzles. They could give him, at least, oblivion.

"Shoot, if you like," he said bitterly. "It was an accident, y'know, but—shoot, if you like."

"No," commanded Adam Ball's father, a slender and angular old man with a straggling iron-grey beard—"No, don't shoot. Shootin's too quick, by gonnies. And 'en, it ain't accordin' to law." (Queer how suddenly he respected the majesty of the law). "We'd a durned sight ruther see him hung by the neck ontel daid in the jailyard at Cartersville. Ye'uns put down them thar guns. Put down all o' them thar guns right now; hear me?"

He turned back to Dale. "Ye say it was a accident?" he sneered.

"Yes, it was an accident."

"Like the old devil!" roared Black Adam's father.

He stooped and picked up his son's black slouch hat and examined it. There were two bullet holes close together in the him—and one of them had been there for a long time.

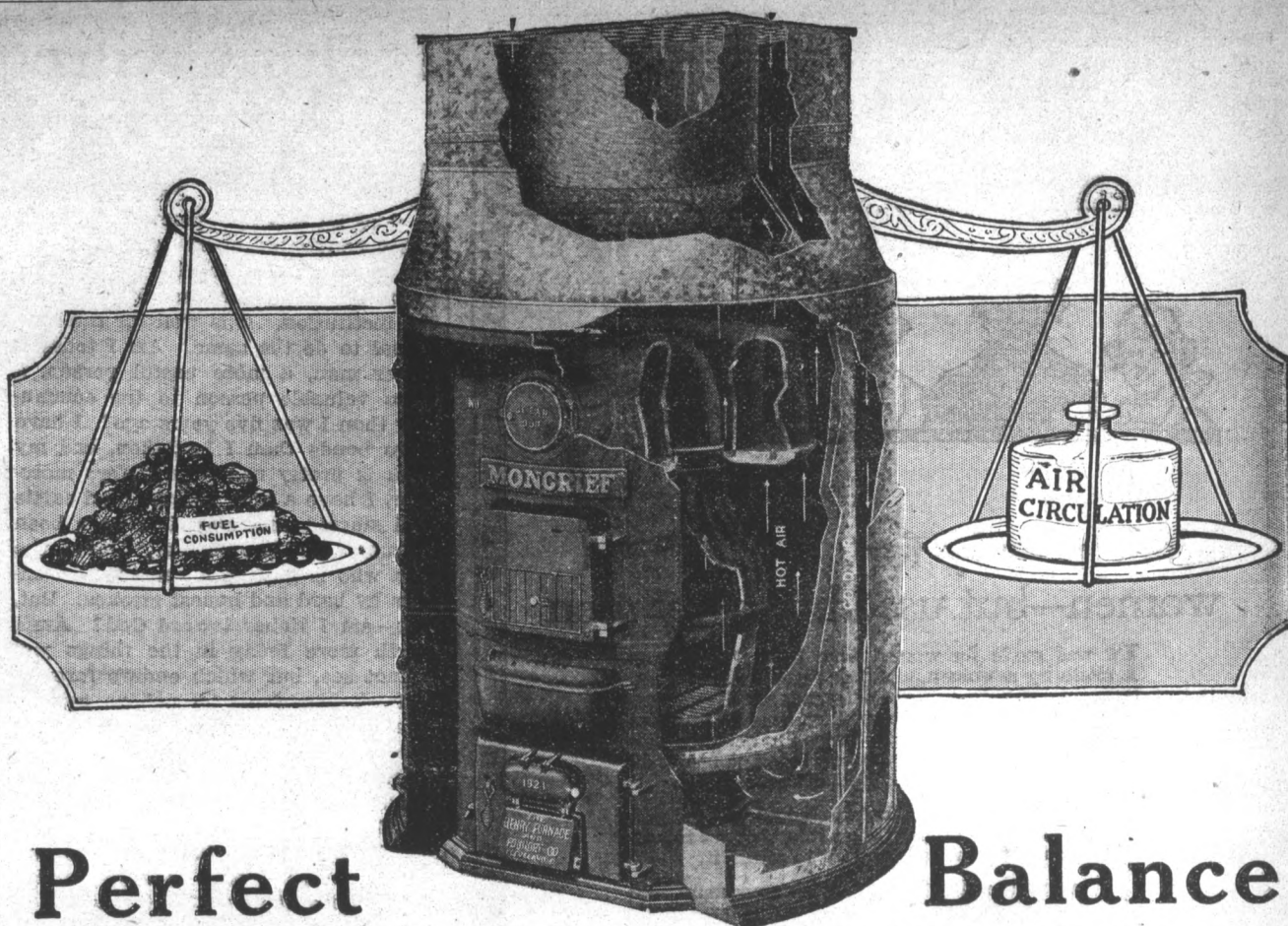
"John Moreland he's been a larnin' ye how to shoot," he said, "and you've shore larned purty well. It must ha' been yore third shot 'at got Adam."

"I fired only once," disagreed Dale. "Your son fired first; I fired second and somebody else, I haven't the slightest idea who, fired the other shot."

"Aw, shet up! Ye can tell it at the trial," growled old Ball. Then to his kinsmen.

"We'll hold Dale right here, boys, ontel the shuriff he's sent attar comes. And we'll not move Adam, which same is accordin' to law. I reckon Shuriff Tom Flowers'll find a different job from what he expected to find; won't he, boys? Say, I wisht one o' you fellers'd gi' me a good, big chaw o'—"

(Continued on page 697).



Perfect

Balance

The size of a furnace is not necessarily an indication of its heating capacity. A big firepot may be only a big fuel eater. If you want plenty of heat without having to burn lots of fuel, you must select a furnace having all parts rightly designed and well proportioned. And even more important, the volume of air circulating through the furnace casings and up into your rooms must be sufficient to absorb all the heat the furnace produces.

Air circulation must balance air consumption. Correct proportion means efficient heat production; perfect balance means efficient heat distribution.

MONCRIEF PIPELESS FURNACE

The oversize outer casing of the Moncrief Pipeless Furnace gently removes the cold air from floors and delivers it to the inner casing. Inside the roomy inner casing the air current is warmed by contact with the furnace. The firepot, feed section and radiator of the Moncrief Pipeless Furnaces are scientifically designed and proportioned to liberate all the available heat from the fuel and transfer it to the circulating air. The surfaces of these sections blend in a harmonious contour that allows the air current to move rapidly upward without hindrance.

On its way through the casings the air current passes over the large water pan where it becomes charged with moisture. Air of the right humidity is more healthful and more comfortable.

Wood, hard or soft coal, or coke, burn equally well in the Moncrief Pipeless Furnace. The extra large door admits chunks readily; special grate is provided for burning wood.

Ask your Moncrief dealer how the Moncrief Pipeless Furnace saves money, work and health. If you do not know the Moncrief dealer in your section, write us for his name.

Manufactured by

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Just send your name and address, giving size and color of skirt wanted, also size of waist wanted. We'll send both by parcel post prepaid. You pay the mailman when delivered. Money back if not pleased. Here is positively a big \$6.00 value for only \$2.98. Send NOW as the number of free waists is limited. Order by Number 426 B1002.

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Saw Mill Machinery Portable Mills for Farm-
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lumber. Send for new Catalog. HILL-CURTIS CO.,
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Trained American Fox Hounds Rabbit and Skunk
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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.

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Michigan Farmer, one year.....\$1.00
American Fruit Grower, one year 1.00
Corn Belt Farmer, one year..... .50
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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

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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

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OFFER No. 318.

Michigan Farmer, one year.....\$1.00
Power Farming, one year..... 1.00
Fruit Belt, one year..... .50

Total value\$2.50

All for \$1.75.

OFFER No. 319.

Michigan Farmer, one year.....\$1.00
Market Growers' Journal, one year 1.50
Poultry Keeper, one year..... 1.00

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.

OFFER No. 321.

Michigan Farmer, one year.....\$1.00
Modern Priscilla, one year..... 2.00
Toledo Weekly Blade, one year... .75

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All for \$2.85.



Lowe Brothers



Made mostly for women—but used by many men

IT was made for women from 14 to 74. It was made by a woman, and put together by a man. Its color is blue, because it stands for happiness. Its name is the Happy Happening, because it makes happiness happen. Makes it happen to homes, either inside or out. Among 98 other things, it has to do with Mother's kitchen and Father's automobile.

It costs you nothing, but its bound to save you much. It's one of those things it is best not to borrow, because you will never want to return it.

If you will send us 10 cents with your name and address, and just say: "Send the Happy Happening"; along will come one of your own by return mail.

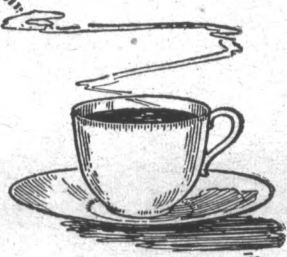
The Lowe Brothers Company

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Is Your Meal-time Drink Your Friend?



A good many people who like tea or coffee find that tea and coffee don't like them.

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POSTUM CEREAL

furnishes a satisfying cup—without irritating nerves or digestion. Thousands who have made the change keep on with Postum because it's better for them.

"There's a Reason"
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Is Our Civilization Christian?

Our Weekly Sermon—By N. A. McCune

IT is not a bad idea to take stock once in a while. Every merchant does so, the government takes stock of its population every ten years, and the church goes over its membership regularly, to see whether it is a growing institution. It is well for the individual to do the same. Am I today a better man, a more useful person, a more valuable person to the community than I was five years ago? I have more bonds than I had then, and my farm is pretty nearly paid for; moreover, I have a herd of pure-bred cattle well started, and two silos have been put up. That is splendid. Happy the man who is getting ahead in his business by hard and honest strokes. But, also—am I richer toward God? Am I worth more today in the things you cannot see, but which endure forever, and when perhaps an unborn generation is carrying off pieces of my tile silos as curious souvenirs?

Hence it is well to survey the nation's moral assets, and ask where it stands in the great Christian virtues. Put it down in red ink that there are people not a few who hope for the day when there shall not be a vestige of anything called Christian in America, and they are doing all in their power to hurry that day along. There is another group equally determined, that America shall be a nation really and not nominally a godly nation. Where do we stand now? It is not an easy question to answer. It is myriad-sided, and after you have looked at one side for a while you forget how the other side looked. But it is a question that is being written about more and more. In the words of a saint of long ago, we ask, "Is the Lord among us?"

THIRTY years ago, Justice Brewer, of the United States Supreme Court, rendered the decision of that court that this is a Christian nation. Here is part of the court's decision: "If we pass beyond these matters to a view of American life as expressed by its business, its customs and its society, we find everywhere a clear recognition of the same truth. Among these are the following: The form of oath universally prevailing, concluding with an appeal to the Almighty; the custom of opening sessions of all deliberative bodies with prayer; the prefatory words of all wills, 'In the name of God, amen'; the laws respecting the observance of the Sabbath, with a general cessation of all secular business, and the closing of courts, legislatures and other similar public assemblies on that day; the churches and church organizations which abound in every city, town and hamlet; the multitude of charitable organizations existing under church auspices everywhere; the gigantic missionary associations with general support in every quarter of the globe. These and many other matters which may be noticed add a volume of unofficial declarations to the mass of organic utterances that this is a Christian nation."

Much water has flowed under the bridge since 1891. The term "Christian" means more now than it did then. There are enemies now that were unknown then, and there are powerful friends who were not active at that time. It may be put this way: This is not a Christian nation, which is the answer of many premillennialists, who expect the world to grow worse and worse until the final crash. A large class of society who make pleasure their God, or who promote commercialized evils of various sorts, hope that Christianity will never make headway. And there is a third class of enlightened and militant Christians, who say, no, this is not a Christian

nation, but it is becoming one. It has not yet arrived. It is arriving. The fully Christian nation does not exist. It is yet to be. It is a problem in progress. As the poet puts it: "Progress, man's distinctive mark alone. Not God's, and not the beasts"; God is, they are, man partly is and wholly hopes to be."

THE fact is, Christian progress not only has to be contented with the present, but with the past. We inherit much that is not good. Pagan ideals cling to us. The love of military power we inherit from the Romans and the Teutons. The love of pleasure we receive from the Greeks. Neither power nor pleasure are Christian ideals. We spend more money for pleasure than for education or anything else. We spend more money for war than for peace. Out of every dollar, ninety-three cents for war, seven cents for peace! We teach our children and youth that success is the chief good in life, but Christ taught that service was the chief good. When we compare the ideals of the age with those of the New Testament it is easy to see where we fail.

Certain institutions have been much more fully Christianized than others. In other words, we are Christian in spots. The American family is one of these, and the teaching profession, the ministry, the medical profession, nursing and social service work are others. The idea of money-making does not enter into these professions as it does in some other lines of work. Many doctors, of course, do make large incomes. Yet the motive that leads a young man into medicine is not usually that of money, as I have been informed. The element of sacrifice, of service, of giving thousands of treatments free to those who are poor, all enters into the program of the physician. And no one but a fool would enter into teaching or preaching with the notion of making large money returns. Idealism, service, enters into these professions. In other words, they have a large degree of the Christian in them. And the more there is; the more efficient will be the teaching in the schools, the more powerful will be the influence of the churches.

ON the other hand, three vast areas of modern life have been touched in much smaller degree by Christian idealism. These are, business, politics, and international relations. In other words, when a man goes into business does he do so with the idea of sacrifice, or with the idea of making money? When he enters politics does he do it with the idea of toiling and being spent in service for his fellows? Now and then one does, no doubt. But he is the exception that proves the rule. It is difficult to consider business without considering politics, or of studying politics without including business. Lincoln Steffens, who made a long and exhaustive study of the corruption of politics in large cities says that almost invariably business interests were at the bottom of political corruption. Politics were bad because there was money in it. Big business has a way of getting around the law. There is a large element of lawlessness about it. It often defies the laws that are created to regulate it. And in defying the laws of men, it usually is defying the laws of God. To a large extent big business is not Christian.

(Concluded next week.)

An English scientist says that idiots may now serve a useful purpose. They should make ideal writers for scenarios for movie serials.

Mention The Michigan Farmer When Writing to Advertisers

The Clan Call

(Continued from Page 695)

backer. Be durned ef I don't. Adam's death, it has made me feel sort o' bad, by gonnies, and tobacker's allus a consolation—

"Bill Dale, you hain't got a chaw o' tobacker on ye, have ye—bought tobacker, store tobacker? It's a durned sight better'n home-made, I says. Ye say ye don't chew? Chew! Whyn't ye say 'chaw,' like a man! I allus knowed ye wasn't no 'count, no how. Nobody 'at don't chaw tobacker ain't no count. All right, Jim Ike," to his nephew, "I'll take a chaw o' yores, then. And I'll take a tol'ably big chaw, Jim Ike, 'cause Adam's death has made me feel sort o' bad, and tobacker's allus a consolation."

The sounds of the shooting had carried far, and it wasn't long until the scene of the tragedy was crowded with Balls and Torreys, Littlefords and Morelands. Major Bradley and Hayes, too, were there. Every man of them was armed; a very little thing might easily turn the place into a shambles. The major saw this, and he was afraid. He drew the leaders of the Morelands and the Littlefords aside, and finally prevailed upon them to do their utmost toward keeping peace until the coming of the sheriff.

At first John Moreland and Ben Littleford were for taking Bill Dale from the Balls and Torreys who guarded him, if they had to depopulate the whole Ball settlement, Jerusalem Cove and Hatton's Hell to accomplish it! Happily, the major's counsel prevailed.

Sheriff Tom Flowers was a tall and lithe, smooth-faced man. He arrived with Luke Moreland at noon, after hours of hard riding. He saw the high tension, and immediately steeled himself to handle the situation. After riding straight to the center of the gathering and there halting his horse, he said evenly:

"In order that I may know who to arrest, I must know something of the circumstances. Only one man must speak at a time. No playing bad with me; and remember that, gentlemen. I'll certainly drop the fellow who starts playing hoss with me, if it's the last move I make on earth. Now somebody gently use his powers of speech."

Major Bradley, more soldierlike than ever, went forward. He hadn't the opportunity of speaking privately with Dale, and he feared that Dale would say something damaging to his interests.

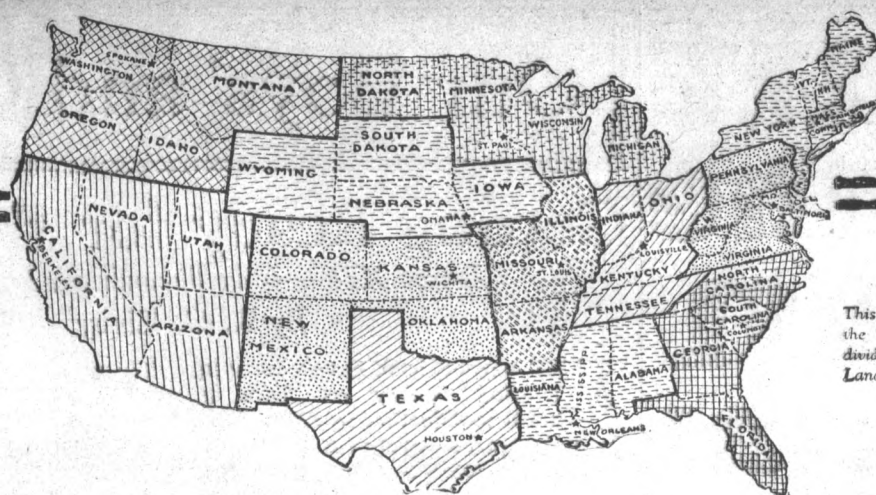
"As the attorney of Mr. Dale, who stands accused of killing Adam Ball," he said to the officer, "I beg leave to state that my client will do no talking at present."

Dale understood, and he did not open his mouth.

But old Ball had something to say, and he proceeded to say it:

"He killed my son, Adam," pointing to Dale, "in cold blood. Me and about a dozen o' my kin was on our way over to Long Ridge to look at a bee tree, when we heered three pistol shots. We was right up thar," pointing to the northward, "and we come a-runni' over here to see, by gonnies, what was the matter. Well, by gonnies, we found Bill Dale thar down on his knees aside o' my son, Adam, who was dead; and Bill Dale was a-sobbin' about it. And ef he never killed my son Adam, what was he a-sobbin' and a-sobbin' about, I ax you that? And my son Adam, he had a rifle, by gonnies, but he never shot none at all. He was with us up to a few minutes before, and he hadn't shot none all mornin'. Shuriff Flowers, I wisht ye'd gi' me a good, big chaw o' tobacker, by gonnies, 'cause my son Adam his death it has made me feel bad."

(Continued next week).



Wait for the Man with the Red River Special and Save Your thresh bill

He has the thresher that beats out the grain instead of waiting for it to drop out, as other makes do. The Big Cylinder, the "Man Behind the Gun," and the beating shakers save the Farmer's thresh bill.

Write for Circulars

Nichols & Shepard Co.
(In Continuous Business Since 1848)
Builders exclusively of Red River Special Threshers, Wind Stackers, Feeders, Steam and Oil-Gas Traction Engines.
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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.

NOW This 2 HP. WITTE Only \$39.95 F.O.B. K.C.

90-Day Test—Lifetime Guarantee
Big reduction all other sizes—3, 4, 6, 8, 12, 16, 22 and 30 H.P. You buy direct. Cash or easy payments. Liberty bonds face value. Any size or style outfit you want. Big Engine Book, FREE.
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WRITE GALLOWAY
TODAY OF WATERLOO
For new 1921 Catalog. Save \$25 to \$400 on Gasoline Engine, Manure Spreaders, Cream Separators, Tractors, Other Implements and Tools. Sold direct from factory. Our 300,000 satisfied customers prove merit of goods and direct selling system. Close shipping points. Mention machine interest. Write today.
Wm. Galloway Co., Box 187 Waterloo, Iowa

Mention The Michigan Farmer When Writing Advertisers

Our Boys' and Girls' Department

Getting Ready for the Flock

Lesson XIV—Why Records are Necessary

By R. G. Kirby

THE account book is necessary in keeping poultry as there is much satisfaction in knowing if the birds are managed at a profit or a loss. And if there is a loss the record book soon tells the story and the trouble can be located.

A small ten-cent note book is sufficient to keep the records of a small flock. One column can be devoted to expenses and the other to receipts. At the end of each month a little addition or subtraction and a comparison with

The growing of poultry for meat and eggs is a business. The farm boy is not expected to produce eggs for his city cousin at a loss. Nothing but the record can tell an accurate story. Without an account book the profits will either be overestimated or the hens will not receive proper credit for what they earn. The receipts come in a few dollars at a time and the feed money goes in varying amounts. It is impossible to be a success with poultry unless you know what you are doing.

A Word to Parents of Club Members

From R. A. Turner, State Club Leader

FATHERS and mothers, we are looking to you as one of the biggest factors in this big group of club boys and girls in Michigan, which numbers around 23,000 this year. We are looking to you as those who can do or undo the making of an efficient piece of work in the Boys' and Girls' Club work. It is you who say whether or not the boys and girls may enroll. It is you who give them permission to attend the monthly meetings for instruction. It is you who say whether they shall prepare their seed-beds well or whether they shall use pure-bred stock or standard-bred poultry, whether they shall care for their acres of corn, their gardens, their stock and their poultry, according to instructions, whether they shall keep correct records of their work, attend club rallies, short courses, or engage in judging contests. In short, fathers and mothers, it is you who say whether or not the boys and girls shall be good club members who stick to the end and finish the job.

We are looking to you because we know that you believe in your own boys and girls and that you are going to see to it that they take advantage of every opportunity for fitting themselves for the duties that lie before them. Club work will help fit them for these duties because it is built upon a sound basis and around the one great fundamental industry of this country. Club work is assuming a larger place each day in Michigan's program for educating boys and girls who live on the farm. We want to make it more efficient each year, and to do that we must have your hearty support.

feed and stock on hand will prove whether the month has proven profitable or not. With the small flock it is not necessary to make a special charge for labor if the work is done as a sideline for pleasure. The profits made can be called the wages for feeding and caring for the poultry.

On a farm the boys' and girls' poultry flocks will pick up considerable food on the range that will not need to be recorded. But all grain used for the hens should be placed in separate bins so that the amount of feed used can be charged correctly. Usually the record will simply consist of feed bills on one side and poultry and egg receipts in the other column. There need be nothing complicated about the accounts. It is just necessary to be careful and enter up sales the same day they occur. Keeping a record is easy when it gets to be a habit. It is rather a pleasure when it is done regularly so that the accounts are accurate and have a real value.

If you wish to trapnest that will make a very interesting record but a boy in school cannot give trapnests the proper attention. So it is best to just keep a record of the total number of eggs produced and then the yearly averages for the flock can be determined. This egg record will tell if the hens have been laying as well as profitable hens should lay. If their records are too poor it will be necessary to cull more rigidly the next year and possibly buy new blood from a bred-to-lay flock.

ing. So keep careful accounts and watch the business grow.

No special date is necessary for beginning to keep accounts if you are already in the business. The main thing is to start.

"ACHIEVEMENT DAY" OBSERVED BY JUVENILE CLUBS.

MEMBERS of Saginaw county's twenty-six boys' and girls' clubs gathered at the Saginaw Manual Training School on Saturday, April 23, to

celebrate "Achievement Day," an annual event that closes the winter work of handicraft, garment-making and hot lunch clubs. The day's fun began at ten o'clock in the morning with roll call, each club answering by songs, yells or stunts. The remainder of the morning was spent at games and contests, under direction of "Irish" Ramsey, athletic director of the west side schools. A cafeteria luncheon was served at noon from the school kitchen.

The afternoon program of entertainment consisted of recitations by Billy Beier, of Hemlock, and Donelda Reinhart, also of Hemlock; a song by Zilwaukee club girls; a playlet, "Sewing Circle," by Frankenmuth club girls; a duet by members of Orville hot lunch club; an address, "Achievement," by Miss Lydia Reithmeier, of Frankenmuth; an address by Miss Elba Robb, assistant state club leader; a playlet by the boys and girls of Freeland, and club songs.

A SUCCESSFUL PLAN TO KEEP YOUNG FOLKS INTERESTED.

THE question of keeping the boys and girls interested in the farm is an important one, and I believe it rests with the parents to a great extent as to whether or not our boys and girls become interested enough with life on the farm to take away the desire to leave it for the city.

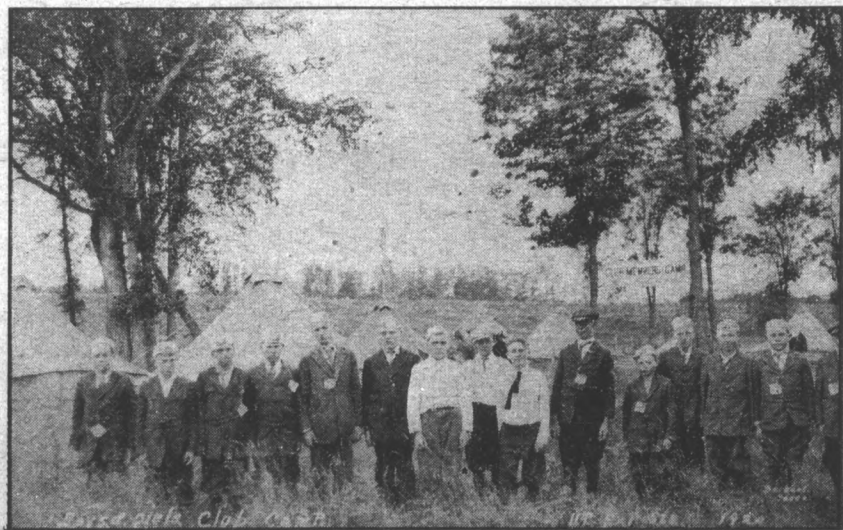
Perhaps the method used by the writer would be of interest to some, for it has worked out well for us.

Three years ago I said to one of my daughters, "Cora, I will give you your pick of one of our registered Jersey heifer calves. I will give you the calf with the understanding that when this calf grows up and has a calf, that calf is to be yours, and when you sell it you are to give me \$100 for its mother; the rest will be yours. I will have the cream the cow produces to pay for her keep, but you are to have all the increase in value except the \$100 to pay for the calf."

When her heifer freshened last November she was placed on test for the register of merit and will produce over five hundred pounds of butter as a two-year-old heifer.

Her bull calf was sold this fall for \$300, which gave Cora \$200 clean money, after paying \$100 for his mother.

Later I gave one to another one of my daughters, also one to my son, the same bargain was made as with the first. The interest these children take in Jerseys, is gratifying to me. They have something to think about. They study pedigrees, the correct type,



Camping time is coming and we're glad, because camping gives a fellow "pep". Besides, it's a lot of fun because it mixes work and play in just the right proportion. Many clubs are planning camping trips this year.

feeds, care, etc., and believe me, they are true Jersey scouts.

This plan will work out with any line of stock, only so the children get what they are promised. I believe that making your son or daughter owner of something good and helping them get results in dollars and cents, will go a very long way indeed in keeping them contented on the farm, and ultimately make them live wires for better farming.—ALVIN BALDEN.

GO AFTER THIS PRIZE.

HERE is a chance to win a real prize and we would like to see some Michigan boy or girl get it. It's a college education with all necessary expenses paid, which will be won by the boy or girl of high school grade who can write the best essay of five hundred words on the subject of "Good Roads and Highway Transport."

The contest is being conducted by the Highway and Highway Transport Education Committee, Willard Bldg., Washington, D. C. All essays should be sent to that address before June 15. The prize is the gift of Mr. Harvey S. Firestone, of Akron, Ohio.

There are two interesting features of this contest. One is the brevity demanded of the essays, which means short, crisp, and to-the-point writing. There will be no room for flowery words.

The other is the short time allowed to write the essays. There will be no chance to wait for inspiration, but it will mean getting down to hard facts as soon as possible.

In our May 7 issue we printed a short news item of the reception President Harding gave a pretty seventeen-year-old girl from Idaho. He handed her the prize for winning last year's contest.

Some Michigan boy or girl should be handed the prize this year, as our boys and girls ought to know a lot about good roads and the use of autos. And we know that Michigan boys and girls can write.

Let's all put on our thinking caps and get busy with the pen.

MANY FARM BOYS TO BE STATE FAIR GUESTS.

EVANGELINE G. TEFFT, county school commissioner of Saginaw county, has been informed by G. W. Dickinson, secretary-treasurer, that the State Fair this year will conduct its boys' state fair school upon a larger scale than ever before.

Competitive examinations will be held in every county of the state and the boys who show the greatest proficiency in agricultural studies will be given a trip to the fair at Detroit, at the expense of the fair association. At the fair they will be given instruction by the state's foremost agricultural experts on the best and most modern methods of agriculture. Entertainment also, will be provided for the boys.

The rules under which the free trip may be won specify that candidates must be between the ages of fourteen and eighteen years, September 1, 1921. They must write both in the regular eighth-grade examination and the special fair examination. The winner will be selected by the county school commissioner, board of examiners, or a special committee. An alternate from each county also will be selected.—M.

SHALL I BORROW TO LEARN?

A young man who was going in debt for his education, gave the following reason for doing so: "By the time I finish I shall be in debt \$800. To have waited until I earned this amount before going to school would have delayed me several years. I can pay it back in half the time after I am through college because of increased earning power. I, therefore, consider that I save at least a year in my life."



Ready when you are

AND ready for any test—ten hours, fifteen; twenty-four if need be.

It's a steady pull that counts—the ability to handle the work day after day through your heaviest rush season and when you need it most.

This is the thing that makes a tractor profitable.

There's one important requirement—proper lubrication with the right oil.

Texaco TRACTOIL is made for tractors.

It has the right body. The body which is different from a motor oil, because the work a tractor does at full speed and constant load demands

a different type of lubricant.

Use Texaco TRACTOIL. Use it right.

Also use Texaco Thuban Compound in the gear cases—Texaco Crater Compound for exposed gears—and grease with Texaco Grease and you have the lubrication combination that makes for real tractor performance.

Ask your dealer for Texaco TRACTOIL—and the grade you need, "B", "C" or "D". It is supplied in 33- or 55-gallon steel drums, in wooden barrels, or half barrels, or in 5-gallon sealed cans.

There's a Texaco lubricant for every purpose on the farm.

TEXACO Motor Oil

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

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Trojan-Erica and Blackbirds (Blackcaps) Herd Bulls
Imp. Echo of Harviestoun.
Imp. Edgardo of Dalmeny
Write for 1921 Sale List.
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CLOVERLY ANGUS

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

Reg. Aberdeen Angus

bulls and heifers of the very best of breeding, from 12 to 15 months of age. For next 30 days will price bulls at \$100.00. Real bargains. Inspection invited. RUSSELL BROS., Merrill, Mich.

REGISTERED Guernseys. Bull calf ready for light service—out of our old Foundation Cow—Primrose Bessie—and one of the best May Rose Bulls in the state. \$100 buys him. Never had a reactor—no abortion. Herd Fed. Tested. J. M. Williams, No. Adams, Mich.

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Bull calves for sale. Sired by Anton's May King that sold for \$7,000. Farmers' prices and guaranteed to please. GILMORE BROTHERS, Camden, Mich.

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

Guernsey 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.

For Sale 5 young imported Reg. Guernsey cows for \$2.50 each. Also May Rose herd bull; his 5 nearest dams average 725 lbs. fat. \$300. E. A. BLACK, Howard City, Mich.

Guernsey bulls, grandsons of Carrie of Hillhurst; 3rd A. A. Class Leader, and out of cows on test. Also a 2 yr. old out of a 3 1/2 yr. old with a 500 lb. record. Priced to sell. Federal tested. Satisfaction guaranteed. G. W. and H. G. RAY, Albion, Mich.

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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.

Blythefield Farms

Settle your Herd Sire problem now by getting a thirty pound record pure bred Holstein bull calf from Blythefield Farms. Address JOSEPH H. BREWER, Grand Rapids, Mich.

WinnWood Herd

Registered Holstein-Friesian Cattle

We breed them to sell. If you are looking for seed stock, we have it.

John H. Winn, [Inc.] Rochester, Mich.

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. OLARKE, Vassar, Mich.

Registered Holsteins—bulls, heifers or cows always for sale. Priced reasonable. Satisfaction guaranteed. Write or come. B. B. Reavey, Akron, Mich.

3 gddughters (2 yr. olds) of Maplecrest Korn. Heng bred to 32 lb. son of King Korn. Sadie Vale. T. B. tested, good size, good individuals. Terms \$150 a year. M. L. McLaulin, Redford, Mich.

Reg. Holsteins for sale at all times either sex. Bulls or heifers, prices reasonable. Write or come and see them. HENRY S. ROHLFS, E. I. Akron, Mich.

USE PURE-BRED SIRES!

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

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

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

The Michigan Holstein-Friesian Association

H. W. NORTON, Jr., Field Secretary, Old State Block, Lansing, Michigan

Our Consignment

of the Lansing Sale

May 23rd

consists of a 4 months old son of the State Champion Jr. 2 yr. old of Michigan for 1920. A 19 lb. 3 yr. old daughter of a 31 lb. cow. Two daughters of "Alcartra Pontiac Butter Boy" whose daughters are making such splendid records. A heifer calf sired by Judge Joh. Lyons.

SINDLINGER BROTHERS Lake Odessa, Mich.

Here Is a Good One

Born June 2nd. by Maplecrest De Kol Hengerveld, a sire having three sisters each having records of over 1200 pounds of butter in a year. Two of them former world champions, calf's dam by an own brother to Highland Hartog De Kol yearly record of 129.95 pounds. This combination of breeding will give results. HILLCREST FARM, Kalamazoo, Mich.

Additional Stock Ads on Page 706



The grandest of heroic deeds are often those which are performed within four walls and in domestic privacy.
—Jean Paul Richter.

Woman's Interests



A Little Flier in Poultry

DOES the "little dab" of agriculture taught in the high schools amount to anything? Ask M. O. Chapman, owner of the Hi-Land Poultry Farm at Plainwell, Michigan, erstwhile traveling man for a big hardware firm in Chicago. Five years ago Mr. Chapman belonged to the Tired Business Man class. Twenty years on the road, with good meals in big town hotels and poor, or indifferent meals in small towns; irregular hours, early rising and hurried dashes to trains, occasional week-end visits home with the wife and children, and all of the time bang, hustle, noise. That was

How One Family's Hobby Developed Into a Profitable Business

tion. She would take care of them. When the boy came back—mothers never said if in those days, it was always "When he comes back,"—he would need work and she would have his poultry business waiting for him. To be sure, she knew nothing about the science of poultry raising, but one can always learn. There are correspondence courses and books. She sent for reams of literature, including the

three. After five years, during which they have worked their flock up, they do not say "watched it grow up," from fifteen birds to one thousand, while the one house has expanded into four, with colony houses and three brooding pens, the owners of the Hi-Land Poultry Farm feel that they can allow the corners of their mouths to twitch a little. They haven't yet reached their goal, so they are saving their big laugh for that moment of triumph.

There were various changes in the birds kept, in fact, the changes are not yet all over. The Rhode Island Reds were discarded early because of their inclination to broodiness. For a time the flock consisted of White Leghorns from a show strain, but these were discarded for Barred Rocks because these birds are heavy layers. Last winter the flock consisted of from seven hundred and fifty to eight hundred Barred Rocks, but spring culling has reduced it to five hundred.

The Barred Rocks, however, are doomed. There are fashions in eggs as well as in clothes it seems, and just now white eggs are the fashion in New York and Detroit, the market for Hi-Land Farm. So the Rocks are going and White Leghorns are replacing them. These will be pure-breds of the Wyckoff strain.

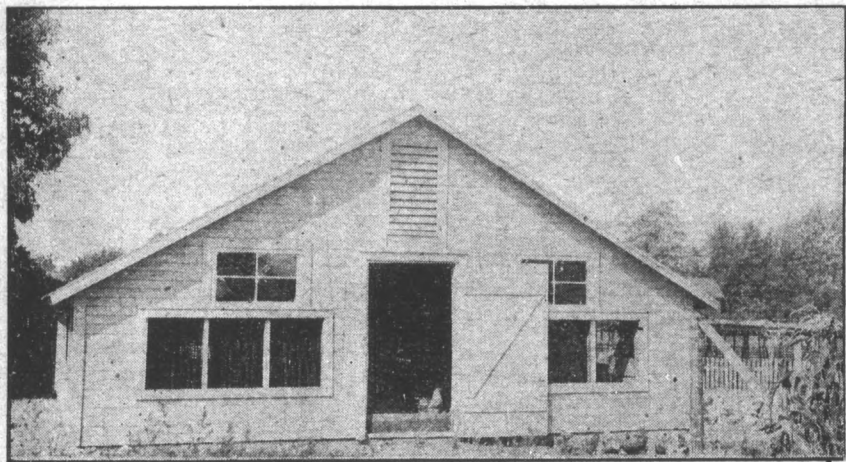
Studying the market has been a not inconsiderable factor in the success of this business. When a visit was made to the farm recently, the flock was being culled and non-layers shipped to the Detroit market.

"Eggs are down and chicken is up," was the explanation. "Why feed birds who have practically stopped laying, when we can only get thirty cents a

ing is followed rigidly. The most promising looking pullets are put in a trap-nest house in October and kept till April. Their records are then gone over and those which have laid less than fifteen eggs per month are sold, while the others are put in the breeding house. From one hundred and seventy-five to two hundred eggs per year is the standard for a good breeder.

Three styles of laying-houses are being tried out. The largest is the half-Monitor type, a house sixty by twenty feet, with a breeding pen at one end. There is one house after the plans of the Missouri State Agricultural College, twenty-two by twenty-eight, and two shed-roof houses, one fourteen by twenty-eight and the other sixteen by twenty-four. Of the three types Mr. Chapman prefers the Missouri type. This house will take care of one hundred and fifty heavy hens or two hundred Leghorns; the half-Monitor will house three hundred heavy hens, or four hundred Leghorns, and the shed-roof houses will take care of eighty-five heavy birds or one hundred and twenty-five Leghorns. This is another reason why the Barred Rocks are doomed. The present quarters will provide homes for one hundred and ninety more fowls, and with a difference of fifteen cents per dozen for their eggs, the increase in income will be considerable, with no outgo for increased building. Add to this the fact that Rocks consume ninety pounds of feed per year as against sixty-five for the lighter birds, and that the per cent of Leghorns hatching is from seventy to eighty, as against sixty for Rocks, and you can see why Leghorns are more desirable.

Water piped to the laying-houses, blue light to increase the length of winter days, the lights automatically switched on and off, are two features which mark the farm as progressive. All feed is bought, there isn't time,



The Missouri-type House is the Favorite on the Hi-Land Farm.

life for Mr. Chapman. It wasn't a very satisfactory life for any of the family, and the longer it continued the more the Chapmans, father and mother, began to long for a change.

A little more quiet, pure air, green fields and open spaces, how they appealed to these city folks. Not the open country, perhaps, but at least a small town, with a good high school. There were three children to educate. From wishing and talking the idea grew into action, and five years ago the plunge was made from the certainties of life in a city house to the "uncharted perils" of life in a new country. Seven acres on the edge of Plainwell offered sufficient field for exploration for three young folks, bred to city pavements, and as things developed it opened up a field of adventure for the parents, which was not in the plans when they moved.

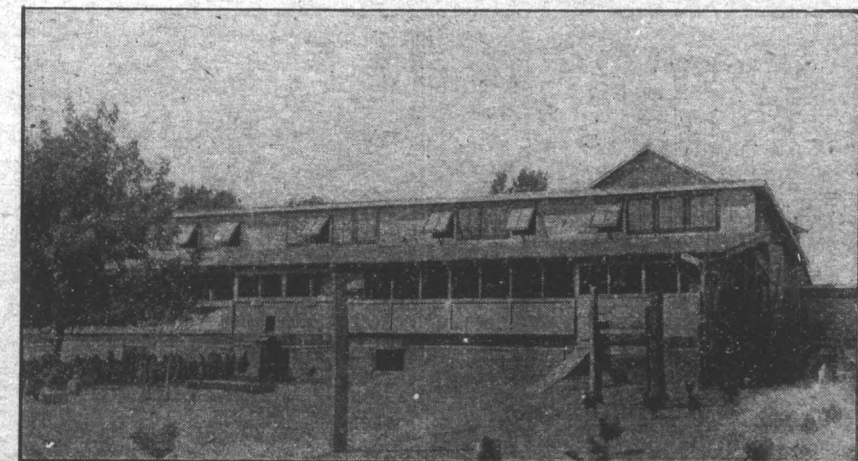
It all began when the boy started to study agriculture in the high school. Why study a subject if you don't try it out? He asked for permission to try raising chickens and started the present business with fifteen Rhode Island Reds. It was the boy's business, and the father and mother let him work it out. They were interested in the way all parents are interested in experiments of the children, but they had nothing to do with the chicken business.

Then came the war and the boy followed the colors to France. What should be done with his chickens? Mrs. Chapman, who was afraid of hens, had never touched one, and wasn't especially interested in the birds aside from using the eggs they produced, promptly settled the ques-

correspondence course, and set to work. If nothing ever did come of it, it would fill her mind, and goodness knows, mothers needed something to keep them busy while the boys were in France.

Right here Mrs. Chapman wants to go on record that a woman can't run a big poultry business alone. She must have help with good strong muscles. If she hasn't a partner in her husband or a brother, she will have to hire, for there is too much cleaning and lifting of crates for a woman to do alone. But Mrs. Chapman didn't keep the birds long alone. Back in his boyhood days Mr. Chapman had been the proud owner and manager of a fair-sized flock himself. He had always been interested in chickens, always read everything he came across about the poultry business. Now seemed to be the psychological moment to quit the road—that dream of every traveling man after a few years of it—and have his own business.

There were the usual chortles of mirth from business associates, the witty allusions to "life with the cows and chickens," croakers who pointed with alarm to the astonishing number who fail and the very, very few who make good, snickers at correspondence school farmers, and the amused tolerance of born-to-the-soil agriculturists of the methods employed by book farmers. However, the Chapmans had heard that old saw, "He laughs best who laughs last," and they had a lot of waiting power. They believed in the business, knew themselves, and were not afraid of long hours, hard work, nor discouragements. Any business worked to a success holds all



This Half-monitor House Holds Three Hundred and Fifty Rocks.

dozen for eggs and can get forty-five cents live weight for the hen? Day after tomorrow the Jews celebrate the feast of the Passover, when they eat nothing but the white meat of chickens. Do you see why we cull today?"

The policy of keeping only hens which lay when eggs are high, and selling them off when eggs go down in summer and the hens have quit lay-

even with two people working, to raise feed for one thousand birds. Green stuff is provided for winter days by sprouting oats in trays. The oats are soaked for twenty-four hours in warm water, then the trays are filled, and the oats watered every day until sprouts are high enough to use. The whole mass is lifted out of the tray, broken up and thrown to the hens. There is

always dry mash and water in the houses.

Scrupulous cleanliness is the Golden Rule. The houses are cleaned every few weeks, scrubbed and treated to a disinfectant. Fresh straw is put in at least every six weeks in warm weather, oftener in winter. The laying hens are kept in during the morning hours, then let out for a little exercise in the late afternoon. Growing stock is allowed on range.

Of course, on a book poultry farm, you look for the account book. It is there, religiously kept. For the six winter months the hens averaged a cost of \$217 per month. This included feed, straw for litter, egg cases, egg cartons, electric light bill, everything except labor. Mr. Chapman estimated that a half a cent a day would pay for the feed. The January sales from the flock amounted to around \$800. Eggs sold then at the door for eighty-eight cents per dozen, customers paying all express or parcel post charges.

There are many ways of realizing on the business aside from selling market eggs, however. Just now one incubator—the three incubators take care of one thousand three hundred and ten eggs—is filled with eggs brought by a customer who is to pay six cents per egg for hatching. Then there is a big demand for day-old chicks, such a demand at this farm that it can not be met. Others want the chicks after they have gone through the brooder stage. Then there is the call for hatching eggs; requests for breeding birds, and, of course, always the market for culled hens.

"How much of an income can one expect from one thousand birds," Mr. Chapman was asked.

"Well, I'd rather not say," he answered diffidently. "You see, this business isn't really going. I'm just getting a little start. The New Jersey Agricultural College says that the average one-man farm with from nine hundred to one thousand layers averages from \$3,000 to \$4,000 a year in that state. I can tell you more about incomes in two or three years.

"There is money in it for the man who stays right on the job," he continued. "But to make the money you have got to be at it day and night. There is no time for vacation. Someone must be on hand to feed, watch the markets for culling, start the incubators at the right moment for realizing on your baby chicks. Why, a difference of two weeks in hatching time might spoil your profits. If you think it is just a matter of hatching the baby chicks, throwing out the feed and then going out to gather the eggs, you'd better keep away from poultry. It is work, work, work, from morning till night, three hundred and sixty-five days in the year; and study when you are not working."

Market eggs are sold direct to customers in Detroit and Chicago, each dozen in its own neat carton. The market just "came." A Chicago acquaintance asked for eggs, and talked them up. A Detroit stopper at the door, and talked up a Detroit market. Surplus eggs are sold to a New York wholesale dealer.

SUMMER DRINKS.

Grace.—It is impossible to print the recipe you request. The following recipe for strawberry shrub makes a very fine summer drink. Any sort of berries may be substituted for strawberries. Currant shrub is also good.

Strawberry Shrubs.—Place twelve pounds of strawberries in a large crock and pour over them two quarts of water; let stand forty-eight hours, covered with a plate. Strain through a flannel bag, add one pint of sugar to every pint of juice, and let boil twenty minutes. Seal in hot sterilized cans or bottles, being sure to make air-tight. This may be diluted half or three-quarters water when served.

Raspberry Shrubs with Vinegar.—Pour one quart of pure vinegar over six quarts of red raspberries. Let it stand for forty-eight hours, then strain through a flannel bag, pressing out all juice. Allow one pint, or pound, of sugar for every quart of juice, and boil twenty minutes. Seal as the strawberry shrub. These shrubs may be used for ices as well as for drinks.

Iced milk to which fruit juices or chocolate sauce has been added makes a refreshing summer drink, especially if you can keep on hand carbonated water and add a dash of that. To prepare the drink use two-thirds of a cup of milk and one-third juice. A good chocolate sauce to use with the iced-milk is made as follows:

Chocolate Sauce.—Melt one ounce of chocolate over hot water and add one cup of sugar and one-fourth teaspoonful of salt, and, gradually, a cup and a half of boiling water. Cook, stirring five minutes after it begins to boil and then add a level teaspoonful of cornstarch, dissolved in cold water, and boil ten minutes longer. Flavor with vanilla, and chill before adding to milk.

Strawberryade and currantade are refreshing drinks. To make either, first prepare one quart of simple syrup by boiling two pounds of sugar—four cups and two quarts of water—eight cups—thirty-five minutes.

Strawberryade.—Add one pint of strawberry juice, obtained by crushing fresh berries and straining through a jelly bag, the juice of two lemons, and two quarts of iced water, to the quart of syrup.

Currantade.—Crush one quart of currants and one pint of raspberries and strain through the jelly bag. Add this juice and two quarts of water to the quart of simple syrup.

For a party, French punch is delicious. Grate one pineapple and boil with three cups of water twenty minutes. Strain through a jelly bag, pressing well. Let cool and add the juice of six lemons and a dozen oranges, one cup of freshly-made, strong black tea, one quart of any fruit juice you may have bottled, as grape, berry, cherry, currant, and one quart of syrup made as above. Make this early so that it can stand on ice several hours before serving. To serve pour over a cube of ice in the punch bowl, garnish with bits of orange, candied cherries, slices of banana, or mint leaves, and just before serving add one bottle of charged water.

HOME DEMONSTRATION AGENTS' ACTIVITIES.

Allegan County.—A home economics club was organized near Otsego, at the request of the women in the neighborhood who had no community life. The women elected officers from their number, and appointed a committee to arrange a program for the year. The agent, Miss Bernice Woodworth, with the cooperation of the county club leaders, county nurse, school commissioner, county agent and two dairymen, has planned a milk campaign for April. Twenty-five women have been trained to teach the making of dress forms, and the girls' club at Corning was given a demonstration of placket making.

Chippewa County.—The agent, Miss Helen Pratt, met with the Brimley garment-making club and taught the girls how to draft bungalow apron patterns and adapt them to other garments. In Rosedale community a meeting was held and club work planned. At a second meeting Miss Aurelia Potts, assistant state leader, and Miss Pratt, demonstrated remodeling garments.

If potatoes are boiled slowly instead of rapidly, they will not become crumbly, and will cook in less time. Before taking baked potatoes from the oven, prick with a fork to let the steam out. This will prevent them from becoming soggy.—M. A. P.

\$7.50

after 30 Days
FREE TRIAL

WE will send an Imported Melotte Cream Separator direct to your farm on a 30 days absolutely Free Trial—No deposits—No papers to sign—Use it as if it were your own separator. Compare it—test it in every way. You and you alone are the judge.

We don't want anybody to send us any money on the Melotte. We want to prove first that it is the best separator possible to buy anywhere in the world.

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Don't pay a cent until you are convinced the Melotte skims cleaner, turns easier, washes quicker, lasts longer than all others. Then you pay \$7.50 as first payment and small monthly payments of only \$7.50 until the separator is paid for.

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Invented by Jules Melotte, the Edison of Europe, this wonderful separator stands first in all dairy countries of Europe. Used on 90% of all Belgium Dairy Farms, where every penny must be saved. Special Act of Congress admits the Melotte Duty Free to save money for American farmers.

You pay no duty. Water freight is only \$1.75. Rock bottom price and easy payments!

Self Balancing Bowl

The Belgium Melotte is the only single-bearing bowl separator ever made. This patented bowl hangs from one frictionless ball bearing and spins like a top. It is self-balancing. It skims as perfectly after 15 years' use as when new. Positively can not ever get out of balance—cannot vibrate and thus cause cross currents which waste cream by remixing with the milk. The 600 lb. Melotte turns as easily as the 300 lb. machine of other makes. Spins for 25 minutes unless brake is applied. No other separator has or needs a brake. The Melotte bowl has solved the problem of perfect skimming.

Send This Coupon

Fill out and mail the coupon for New Melotte Catalog containing full description of this wonderful cream separator.

Don't buy any separator until you have found out all about the Melotte, its 15-year guarantee and our 30 Day Free Trial Offer.

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Order your Coffee from us and serve your guests and family delicious full flavored coffee made from our selected OLD COLONY Blend. The taste tells, so in order to become acquainted we offer you our fine OLD COLONY Blend Coffee, which is roasted in our modern plant daily, at 3 pounds for \$1.00, or 10 lbs. for \$3.20, insured parcel post prepaid to your door. State if you want coffee whole, or ground fine, medium, or coarse.

If you enjoy choice tea we can furnish you 5 lbs. of Black, Green or Mixed Tea or a special blend for Iced Tea, for \$2.50, or 1 lb. for 50c, if sent with coffee order.

Several hundred Michigan Farmer readers have compared the fine quality of OLD COLONY Blend bought at our wholesale price with other blends for which they paid much more, and are now our regular customers. Order today, and if not thoroughly pleased we will refund your money. Send check or Money Order.

John E. King Coffee Company,

Established 1889 Importers and Roasters
160 Jefferson Ave. E., Detroit, Mich.

MICHIGAN FARMER PATTERN SERVICE.

SPRING AND SUMMER CATALOG.

Send fifteen cents in silver or stamps for our up-to-date spring and summer 1921 catalog, containing over five hundred designs of ladies', misses and children's patterns, a concise and comprehensive article on dressmaking, also some points for the needle, (illustrating thirty of the various, simple stitches), all valuable to the home dressmaker.

No. 3545.—A Pretty Negligee. Cut in four sizes: Small 34-36; medium 38-40; large 42-44; extra large 46-48 inches bust measure. A medium size will require 3 3/4 yards of 44-inch material if cut without center back seams, if cut with seams, four yards of 36-inch material will be required. Price 12c.

No. 3557.—Ladies' Coat. Cut in six sizes, 34, 36, 38, 40, 42, and 44 inches bust measure. A 38-inch size will require 2 3/4 yards of 40-inch material. Price 12c.



No. 3537.—Ladies' "Work" or Home Dress. Cut in seven sizes, 34, 36, 38, 40, 42, 44 and 46 inches bust measure. A 38-inch size will require 5 3/4 yards of 36-inch material. The width at the foot is about 2 1/4 yards. Price 12c.



No. 3187.—An "Easy to Make" Apron. Cut in four sizes: Small 32-34; medium 36-38; large 40-42; and extra large 44-46 inches bust measure. A medium size will require five yards of 36-inch material. Price 12c.

Royal Baby Chicks



S. C. White and Brown Leghorns

\$10 Per 100 Postpaid for June Delivery

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

Royal Hatchery, R. 2, Zeeland, Mich.

CHICKS At Reduced Prices CHICKS

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



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

PRICES FOR JUNE AND JULY	Per 25	Per 50	Per 100	Per 500	Per 1000
S. C. White Leghorns	\$2.50	\$4.50	\$9.50	\$45.00	\$85.00
English W. Leghorns	2.75	5.00	10.00	47.00	90.00
S. C. Brown Leghorns	2.75	5.00	10.00	47.00	90.00
S. C. Anconas	3.00	5.75	11.00	52.00	100.00
Broiler Chicks	2.00	4.00	7.50	35.00	

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

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

WYNGARDEN HATCHERY, Box M, Zeeland, Mich.

Baby Chicks Pure Bred 800,000 in 1921

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



S. C. White Leg. } Barred Rocks }
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18c each

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

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

HUBER'S RELIABLE CHICKS---Special Summer Prices After June 1st

By Parcel Post Prepaid. Guarantee Live Delivery. Exhibition Quality at Utility Prices.

Don't fail to take advantage of these prices for they will include our (Number One Grade Chicks). Our stock is bred for quality and extra heavy egg production. Our twelve years experience, our large plant, besides thousands of Satisfied Customers is a guarantee of prompt delivery of chicks that are properly hatched and will make you money. Will ship any number from 25 on up.
S. C. White and Brown Leghorns and Odds and Ends at..... 10 cts.
S. C. Anconas; R. C. and S. C. Reds and Barred Rocks at..... 13 cts.
S. C. Buff Orpingtons; S. C. Blk. Minorcas and W. Wyandottes at 16 cts.
A hatch every Tuesday of 30,000 chicks. Order direct from this ad.
Attractive Catalog Free.

Huber's Reliable Hatchery, East High St., Fostoria, Ohio

SUPERIOR BABY CHICKS

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

Pure bred S. C. Amer. White Leghorns }
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Macatawa White Leghorn Co.
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Baby Chicks from fine stock, to produce eggs, at utility prices. Catalogue FREE.
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Our chicks are of the highest quality and our prices are within reach of everybody. We have S. C. W. Leghorns, S. C. Anconas, English White Leghorns, S. C. B. Leghorns, and Barred Rocks.

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The Farm Flock in June

By R. G. Kirby

SUCCESS with poultry is usually not because of good weather but in spite of bad weather. Suitable equipment, good rations and constant watchfulness help the poultryman to raise good young stock in the face of cold rains and winds. Even the best months of the year may bring storms to chill and drown the chicks if they lack proper protection.

Local markets in small towns seldom use many broilers. The buyers seem to prefer large hens which give the family a good Sunday dinner and some left-over parts for Monday. This means that the producer with many broilers for sale must make arrangements with a city dealer with plenty of customers that can afford broilers.

Make Advance Sale of Broilers.

Plan on selling broilers when they reach the weights most desired by the dealer. Some like two-pound broilers while others prefer the three-pound weight. If possible, have the birds practically sold before fattening begins. Cornmeal and sour milk are fine to fatten broilers. Increasing the rations and reducing the exercise helps to make the muscles tender and the birds fat.

A poultry crate or broody coop is useful in each hen house during the summer. Then the broody hens can be easily caught and penned up the first night found on the nest. About the fourth day liberate all hens in the pen and fasten up any that return to the nest. Free the hens about an hour before roosting time so that any which are not broken up will not spend another day on the nests.

The breaking up of broody hens is a very important work for owners of a couple of hundred or more of the heavy breeds. If the work is not given constant attention during the summer it will mean quite a loss in eggs. The longer a broody hen remains on the nest the longer the period before she will return to laying.

Keep Geese Separate.

Geese need a separate range from poultry if many geese are owned. The big birds are not particular where they dig their bills, but are sure to wash them off in the hens' drinking water or the crocks of sour milk. This means dirty water for the hens and the work of emptying and refilling the pails. If the hens are on a limited range they will need plenty of tender grass and geese need a lot of grass.

If geese are allowed to range where young chicks are growing the geese will take the growing mash and some of the scratch feed. This increases the cost per pound of producing goose meat and the profit in geese is due to the fact that they are largely grass eaters and can be raised on cheap feed.

Young chicks need a growing mash and either commercial or home-made mash will be satisfactory. This is of special importance when there are several hundred chicks on a limited range. The amount of worms and other feed that they get is often overestimated because the quantity of such material has to be divided among several hundred mouths and the number of bugs on any certain amount of range is limited.

Prevention Easier Than Cure.

Poultrymen always find that preventing disease is one of the secrets of a successful business. Some try neglecting their birds until they are sick, and then wish a quick cure to save the flock so that they can be neglected again. Such methods soon bring failure. However, a hen may die even under the best of management. Sometimes a hen might become sick under perfectly ideal management. Of course, birds are subject to a certain mortality

rate but the poultryman has to be his own chicken health officer and keep the losses down as low as possible.

Many cities have a low death rate because of the sanitary requirements, good water supply and common sense of their citizens. A poultry farm is a small chicken city filled with birds of a low order of intelligence. The owner is responsible for the sanitation and good water supply. He must furnish all of the common sense used in the management of his chicken city.

It is not too late to preserve eggs in waterglass solution. Eggs are now low in price but conditions always change in the fall. Only preserve clean fresh eggs with firm shells. The best results come from using infertile eggs. Furnishing eggs for waterglass preserving is often a chance to sell summer eggs at a slight premium. Consumers who have bought eggs from stores for preservation have found the danger of that practice. Now they want eggs from one producer who can guarantee all of them fit to save.

Sparrows Carry Disease.

Sparrows like to feed in front of the brood coops and colony houses. It is best to fight them in the spring before nesting begins and then keep a trap on one of the colony houses throughout the summer. Sparrows can carry various pests and chick diseases and if everyone would show a loss at the next census.

Whether a fire is needed in a brooder does not depend entirely on the age of the chicks. The climatic conditions and the feathering of the birds must be considered. Some chicks might be so well grown during six weeks of nice weather that they would need no more heat. Other chicks might be slow in feathering and the weather might be very cold. In that case keep the fires burning rather than allow the growing stock to huddle and develop colds. Watch the actions of the birds at night when they reach the time for weaning. You can soon tell when it is safe to let the brooder fire die out.

Soon after chicks are weaned from the brooder it pays to teach them to roost. The roosts can be sprayed to keep down mites and lice. The roosting birds do not crowd and become overheated. Early roosting might make a few crooked breasts but a few colds in the flock will cause much more worry than a few crooked breasts. If the stock are vigorous and well-fed they will make a normal development and few breasts will be deformed.

Keep Food Clean.

Chicks will acquire digestive troubles from eating mouldy bread or spoiled corn. They need food of good quality and nothing is gained by using up spoiled material by giving it to the chicks. Even sour milk is dangerous when given in dirty gummy dishes. Hot water and a corn cob for a scrub brush will clean up the sour milk dishes and help to serve the chicks with a healthy food in a clean manner.

When a chick first shows a sign of bowel trouble it can often be stopped by giving the chick a couple of drops of castor oil. A medicine dropper can be kept in a bottle of castor oil for that purpose. Administer the dose at the first sign of trouble as a chick that suffers long from bowel trouble becomes in bad condition and does not easily make a rapid growth.

Pullets that feather quickly are found to be the most vigorous and the best layers. They are early maturing and much more profitable than the occasional chicks which may feather slowly in spite of the best care. It is probably best to mark any late-feathering birds and cull them out when broiler size is reached.

RAISING YOUNG CHICKS.

We would be very glad if you could give us some information on raising young chicks. Two years ago we bought a new hot water incubator, 350-egg size, and a coal burning brooder. We had good success in hatching and got fine hearty chicks, but after about three days after transfer to brooder trouble began. Some seemed to have bowel trouble, others just seemed to droop and die without apparent cause. These conditions continue for about three weeks when the remaining chicks would begin to thrive and grow. We had the chickens on a cement floor covered with clean dry sand, with a half-inch of fine cut straw. The floors were cleaned twice a week. We tried a couple of brands of expensive chick foods, but we liked dry oatmeal, cornmeal (moist dry) bread crumbs, beef scrap and skim-milk better. Our losses were sixty to sixty-five per cent. Chickens were White Leghorns and Barred Plymouth Rocks. As soon as possible the chicks were allowed to go into screen-covered runs and housed in a cement building where chickens had never been kept, so there were no lice or mites to blame. My neighbors say the trouble comes from overheating. We had raised little chicks with hens for many years. If this is the trouble, could not someone make a brooder where the temperature might be adjusted to be exactly right? Any information you can give will be thankfully received, as we would like to do better this year.

Ottawa Co.

A. B.

One of the important causes of a high mortality rate among chicks is a lack of vitality in the breeding stock. Much of the loss may be avoided by only using eggs for hatching from mature hens which are of good laying type and strong and vigorous. Chicks hatched from pullet eggs are always the most apt to droop and die from the many ailments which afflict the young chicks. White diarrhea kills many of the chicks but this can largely be avoided by using hatching eggs from vigorous stock and feeding plenty of sour milk to the chicks.

Overheating or chilling in the brooder house increases the mortality rate. This can usually be prevented by keeping up a good fire in the stove brooder at all times. Then do not use any curtains around the deflector as this may make the temperature too hot under the brooder while it is too cold outside. In that case the chicks have no place where they can be comfortable. If the curtains are not used the chicks can find a place at some point where their instinct tells them that the temperature is right. In brooding with coal-burning brooder stoves we have found that young chicks have a wonderful instinct which enables them to select the amount of heat which they need. Often all of the chicks will sleep in a large ring around the brooder several inches outside of the metal deflector. If the stove cools slightly the chicks will not need to huddle up against the stove as this overcrowding is very dangerous. The temperatures for brooding are ninety-eight to one hundred degrees during the first week, ninety-four to ninety-six for the second, ninety to ninety-two for the third and around eighty-five for the fourth. Of course, it is difficult to keep the heat at exactly those points at all times of the day and night. When a good fire is maintained in the stove and the chicks are given a chance to use their instinct, some of the worries of brooding are eliminated. Experienced breeders can run their brooder stoves without a thermometer and only test the heat with the hand. The beginner can probably do the best by hanging a thermometer under the deflector and carefully watching the temperature until the regulation of the stove is thoroughly understood. It pays to place a strip of fine mesh wire around the brooder a foot or two from the deflector each night until the chicks learn the source of the heat. If this is not done some of the chicks may crowd into corners of the brooder house and be chilled.—R. G. K.



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Additional Poultry Ads. on Page 709



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Truck vs. Twenty Teams

By Earle W. Gage

IN Aroostook county, Maine, where more potatoes are produced than in any other like section of the world, the transportation of the large crop to market and warehouses is the big problem. F. O. Simeson, of Limestone, who has one hundred and sixty acres in potatoes, located seven and a half miles from the railroad, produced about one hundred and fifty barrels per acre, or a total crop of 24,000 barrels.

On account of a road grade between Mr. Simeson's farm and the potato storage house on the railroad, it was impossible for a team and wagon to haul more than twenty barrels of potatoes per load, which made an endless task of transporting the 24,000 barrels. Using one team it would have taken this farmer 1,200 working days. In order to get the crop to the storage house in the sixty days available between "digging and snow," it would demand twenty teams. If Mr. Simeson and every other farmer who hauled to this particular station had found it

for heavy hauling. Under these conditions the growers who live at any considerable distance from a shipping point are at a distinct disadvantage. They are unable to take advantage of a bulge in the market nor can they haul a very large proportion of their crop to an early season market, when prices bring most profit.

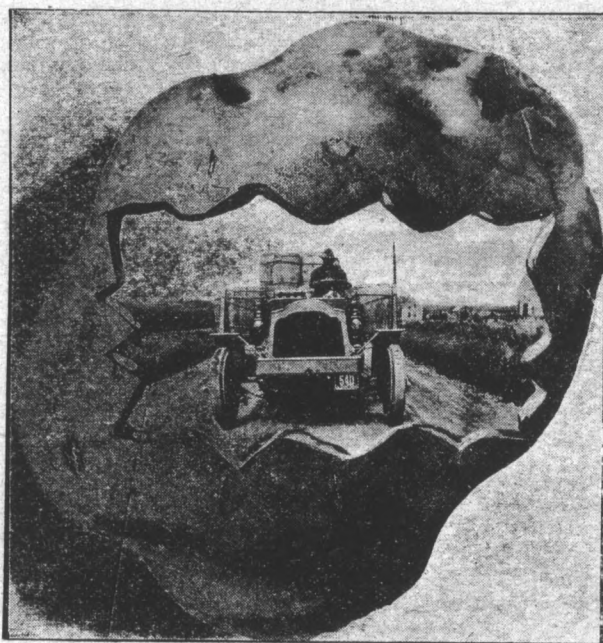
An appreciation of these disadvantages is causing a considerable number of the Aroostook growers to adopt motor trucks to solve their problem of delivering the crop. The trucks are likewise very profitable in hauling the large supplies of fertilizers used, thus giving the teams and men more time for the field work in seeding and harvesting the crop.

WHAT IS MEANT BY VISIBLE SUPPLY?

THE visible supply of grain is the amount in public and private elevators at the principal terminal mar-

kets and ports and in transit by water. The cities are Baltimore, Boston, Buffalo, Chicago, Detroit, Duluth, Galveston, Indianapolis, Kansas City, Milwaukee, Minneapolis, New Orleans, Newport News, New York, Omaha, Peoria, Philadelphia, St. Louis and Toledo. Amounts afloat at any of these points and in canals and rivers are included in the count. The quantities are reported and tabulated at the end of each week.

The size of the visible supply is only a rough index of the amount of grain



possible to secure twenty teams for the sixty days, it would have been impossible to handle that number at the unloading station. The haulage cost alone for this number of teams would have been more than \$6,000, while the total costs would have been enormous.

Mr. Simeson employed automobile engineers to solve his problem, who recommended a large motor truck of the proper design to transport potatoes. He started hauling forty-five barrels of potatoes per load with this truck, making six round trips each day. In addition frequent trips were made at night to get the potatoes in the storage house inside of seventy days. At the old rate of twenty-five cents per barrel for 24,000 barrels, the motor truck more than paid for itself in the one season.

Every one of the 6,000 farmers in Aroostook county is a potato farmer and every one of the 80,000 people who reside there is in some way dependent upon the potato crop for his livelihood. They are all potato specialists, and nothing is overlooked that can in any manner improve the quality or insure the certainty of the crop. They practice the most careful cultivation, make free use of fertilizers and utilize every machine that will reduce labor and transportation costs and increase efficiency in handling the crop. These are the reasons for Aroostook county's leadership in potatoes.

Hauling the crop to market has always been a slow and tedious process. Twenty barrels make a full load and if a grower lives ten miles from market one load a day is all that he can haul. If he lives five miles away he is limited to two loads a day with a single team, for twenty miles is a full day's work

available in the country. Naturally it increases during the period of heavy marketing following the harvest of the crop and is gradually drawn upon during the remainder of the crop year.

WESTERN MICHIGAN BOOSTERS ACTIVE.

SEVERAL active campaigns in the interests of western Michigan are planned by the Western Michigan Development Bureau. Among these will be intense campaigns for new settlers, land clearing, industrial work, cooperation, etc.

At its annual meeting, May 11, the bureau also decided on moving its offices from Traverse City to Grand Rapids. It will change its annual meeting to the last Wednesday in March and will also hold a semiannual membership meeting. The individual membership dues are to be twenty-five dollars.

It is planned to federate the Michigan Tourist and Resort Association with the Development Bureau with the view of increasing the efficiency of both by collective advertising. Although the organizations will have joint offices, they will retain their separate identity.

Mr. D. H. Day was re-elected president and W. P. Hartman was made secretary-manager, with H. J. Gray as his assistant. Over half of the directors who served on the board last year were re-elected. The members of the board are progressive men who stand high in their communities and want to see western Michigan progress.

"Every Acre Working," is the new slogan. It replaces the one popularized by the bureau in the past, "A Farmer for Every Forty."



Fighting the Crow

Suggestions on Controlling this Enemy of Corn Fields

By Allen C. Conger,

Zoological Department of the M. A. C.

THERE are probably no birds whose habits are wholly good or wholly bad from the standpoint of man's best interests. Many species are recognized as valuable assets contributing largely to human welfare; others show vices and virtues so nicely balanced as to make judgment difficult; while in a few species their numerous sins brand them as undeserving of protection. In spite of all that has been written in its defense, the crow belongs in popular mind to the last or outlawed group, for its destructiveness is attested by the farmer, the poultry raiser and the sportsman. Notwithstanding the abundance of the English sparrow in this state and the enormous losses due to its activities it would seem that the crow is considered as serious a pest, if one may judge by letters of inquiry which are received here at the college.

The economic status of any bird depends almost entirely upon what it eats. To be ranked as a beneficial species, it must either render valuable service by the destruction of animal pests (insects or rodents), or in the consumption of weed seeds.

Because of the gathering of the clans at the great crow roosts of more southern states, our winter population of crows is very much reduced and therefore the winter food plays little part in a consideration of the economic status of the species in Michigan.

In February the first of the returning host appears in the southern counties of the state, followed by an irregular migration tide during March and April. At this season of the year their food supply consists of carrion, waste grain, benumbed insects and cold-blooded vertebrates and meadow mice. If the crow is ever to be considered as beneficial it is during these months.

April, May and June are busy months in the crow's calendar. Nest-building, egg-laying and brooding, and finally the search of food for the nestlings are the duties which now devolve upon the birds. It is during this period that the crow commits the crimes which make it detested by the farmer and the bird-protectionist. Undoubtedly the most serious charge against it results from depredations in newly-planted corn fields. The extra work involved in replanting, and the short growing-season remaining for the replanted corn make the damage of unusual importance in this state. Fortunately, reports indicate that serious damage is not general, but depends rather upon local conditions. Where crows are numerous and corn fields few, the damage may be considerable.

The bird protectionist finds much to criticize in the crow's crimes against smaller birds. These species are put to flight and their nests robbed of eggs or nestlings. Many of the birds thus attacked are themselves decidedly beneficial to man and the damage done in their destruction is at once apparent.

So serious is this phase of the question that some of the leading ornithologists of this country declare the crow to be the most destructive native enemy of smaller birds.

The tastes acquired in the robbing of the nests of wild birds may account for another of the crow's vices, for during the summer months it is an accomplished chicken thief. So much stealth and cunning are displayed in

this pursuit that it often escapes notice and beneficial hawks bear much of the blame and often suffer the supreme penalty. In some of the cases reported, poultry-raising had become well-nigh impossible until the shotgun finally put an end to the crow's career.

In June adult May-beetles are eaten in large numbers, some caught alive, others picked up as carrion. During the late summer months grasshoppers form a considerable portion of the food supply. The destruction of these insects must be considered as beneficial, but it falls far short of atoning for the wholesale destruction of entire broods of beneficial birds. The crow always prefers hard-shelled insects and rarely eats caterpillars or soft larva of any kind. In the fall, corn becomes an important item in the diet and the loss may be considerable when crows gather in flocks preparatory to the fall migration.

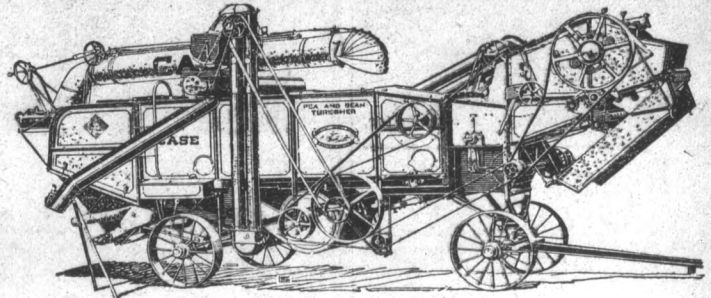
Total extermination would be inadvisable, but the sagacity and intelligence displayed by the crow give ample assurance that man's best efforts will still leave sufficient numbers for esthetic and ornamental purposes. It distrusts and avoids man, but soon learns how harmless are the scare-crows, bits of dangling tin and other devices used in an effort to frighten the birds from fields of grain.

The first step toward crow control on the farm must be the destruction of crow's nests. If the trees of the wood-lot shelter the nests of a half-dozen pairs of crows the farmer is sure to pay a heavy toll in the loss sustained in nearby corn fields and in the poultry yard. He is also robbed of the services of many smaller birds whose work is important in the control of plant pests. Where the crows have been allowed to nest undisturbed for several seasons, the farmer will usually find it time well spent to take an occasional hour in ridding the farm of nesting crows. Shooting through the nest, in the spring, with a shotgun will often kill the entire brood of young crows. The most serious damage will be done in the vicinity of the nest. Where cooperative measures are taken by large numbers of farmers to reduce the number of nesting crows the results are particularly gratifying.

For the protection of the corn crop there seems at present no better method than that of tarring the seed corn. The time and labor involved are about the same as in the formaldehyde treatment of grain and when properly done the results usually justify the additional item in the cost of production of the crop. Place the corn in a tub and cover with lukewarm water and stir so as to moisten the corn thoroughly. Drain immediately and stir in one tablespoonful of coal tar per bushel. Spread out to dry. It can then be used successfully in the corn planter.

HOW I TREAT CALVES FOR SCOURS.

HERE is how I handle calves which are troubled with scours. At the first appearance of trouble I feed the calf raw eggs.* I give one each night and morning in its feed of milk until the calf has recovered. One or two eggs will not be enough but several should be fed regularly twice each day until there is no further trace of the ailment.—Mrs. H. E. KRIZE.



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CASE Pea and Bean Threshers are, first of all, efficient hullers. The cylinder speed and spacing of the big, annealed-and-tempered steel teeth is such that peas and beans are removed from the dry hulls without cracking or breaking the kernels. The violent agitation of the long, balanced separating rack shakes every pea and bean from the threshed pods and vines. The noiseless, end-shake shoe, equipped with adjustable sieves, supplemented by a scientifically designed, full-width, underblast fan, cleans the threshed crop thoroughly. Finally, the pea-and-bean-saving wind-stacker saves any stray peas or beans that might, through faulty adjustment of thresher by operator, escape the shoe.

Case Pea and Bean Threshers, which are made in seven sizes—20x28, 22x36, 26x46, 28x50, 32x54, 36x58 and 40x62—are more than just pea and bean hullers. Each one of these machines can be quickly converted into a Case Grain or Grass Seed Thresher, at a very nominal extra cost. This enables the owner of one of these outfits to thresh not only peas and beans in his community, but to do general custom grain threshing as well, thereby securing the greatest possible profit return from his investment. Case Pea and Bean Threshers can be equipped to handle any kind of threshing.

Write for descriptive catalog. It's free.

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

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INDEMNIFIES Owners of Live Stock—Horses, Cattle, Sheep and Hogs
Against Death by Accident or Disease
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CATTLE

A Proven Blood Line

KING SEGIS transmitted to his sons the power to transmit to their daughters the greatest of production over long periods. It is his offspring that has recently made the greatest yearly production ever dreamed of 37,381.4 pounds of milk in a year. We have for sale at moderate prices. Beautiful individuals of show type KING SEGIS BULLS.

GRAND RIVER STOCK FARM,
315 N. East Ave., Jackson, Mich. C. J. Spencer, Owner,
Under State and Federal Supervision

"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 631.70 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 7 Days 100.1 lbs.
Butter 7 Days 65.3 lbs.
Butter 7 Days 26.31 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 33.02 lbs.

Milk 7 Days 607.3 lbs.

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

McPHERSON FARMS CO., Howell, Mich.
All herds under U. S. Supervision.

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.

Cluny Stock Farm

Offers

Cluny Konigen Colantha Silver 326205

Born May 29, 1920

A white bull with a few black spots.

His sire a 30 lb. son of King Segis Pontiac Konigen.

Sire's 7 nearest dams average 32.301 lbs. butter 624.1 lbs. milk in 7 days.

His dam has a Jr. 3 year old record of 17.683 lbs. butter from 418.7 lb. milk and is a granddaughter of Colantha Johanna Lad.

2nd dam—a 21 lb. cow that our barn records show milked over 145,000 lbs. in 14 milking periods producing 15 calves.

Pedigree on application.

Price \$250.00. Federal Accredited Herd.

R. Bruce McPherson, Howell, Mich.

Hatch Herd

(In Government Accredited List)

Ypsilanti, Michigan

Offers choice King Korndyke Sadie Vale yearling sire for \$250. F. O. B. Ypsilanti. Average dam, sire's dam and granddam over 33 lbs. and of 7 nearest dams over 28 lbs.

HEREFORDS

Cows with calves at side, open or bred heifers of popular breeding for sale. Also bulls not related.

Allen Bros. Paw Paw, Mich.

616 So. Westnadge Ave., Kalamazoo, Michigan

HEREFORDS

Two high class, registered bulls, nearly a year old, for sale. One double standard, and one with horns, good size, color, and markings. Both the making of show bulls.

COLE & GARDNER,
HUDSON, MICH.

Thumb Hereford Breeders Association now offering some excellent young males and females of choice breeding. Can furnish one or a carload. Priced right. Your inspection solicited. Jas. R. Campbell, Secretary, Bad Axe, Mich.

Registered Jersey bulls, some ready for Oxford's Champion Fox 16981, out of Oxford Daisy's Princess, Register of Merit record 831 lbs. milk; 468 lbs. butter with first calf, milked 50 lbs. per day with second calf. Sister to Sadie Crown Princess 16578 lbs. milk, 1031 lbs. butter in one year. The dams of these bulls are high producers, many of them are prize winners. Prices very low, quality considered. C. S. BASSETT, Kalamazoo, Mich.

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

The Wildwood Farm

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

Thorobred Jersey Bull Calves Hood Farm breeding State and Federal accredited list. \$25.00 each. Also one yearling bull ready for service. Pedigrees on request. I. W. JAYNE & BEN BRAWT, Fenton, Mich.

JERSEY BULLS Ready for Service. Raleigh—Oxford and—Majesty breeding. Meadowland Farm, Waterman & Waterman, Packard Rd., Ann Arbor, Mich.

Lillie Farmstead Jerseys Bull calves from R. of M. cows. COOLON C. LILLIE, Coopersville, Mich.

Registered Jersey Bulls ready for service from high producing dams. R. B. FOWLER, Hartford, Mich.

Jersey Bulls For Sale ready for service from R. of M. dams. T. B. tested. Will give time. SMITH & PARKER, R. 4, Howell, Mich.

Genesee County Breeders' Ass'n.

1st Sale, June 14th

Davison, Mich., at Fair Grounds

30 Head Registered Holsteins. All ages, both sexes. Good individuals. Tuberculin tested, subject to retest. For catalogs, write—

W. T. HILL,
R. 2, Davison, Mich.

Imp. Edgar of Dalmeny

The Sire Supreme

An exceptionally choice offering of members of the famous Wildwood Herd, which is headed by The World Famous Bull Edgar of Dalmeny. Katinka of Gwenmawr, 271450, Dam of the First Prize Senior Yearling Bull, Michigan State Fair, 1920, and has a splendid bull calf at foot by Edgar of Dalmeny.

Blackbird Lettie, 184473. Bull calf at foot by Edgar of Dalmeny.

Black Levina, 319751. A daughter of Edgar of Dalmeny.

Blackcap Lot. A daughter of Edgar of Dalmeny and full sister to Blackcap Eloquent which sold for the highest price at the Lansing sale on Jan. 14th, 1921.

Two very choice bulls, Black Laird of Wildwood and Black Hero of Wildwood, both sired by Edgar of Dalmeny.

At The Michigan August Sale
Mich. Agricultural College, Lansing, June 9



HOLSTEIN CATTLE

N. P. Hanson, Westbury, Minnesota, writes:

"Nine years ago I purchased my first purebred Holsteins, three young heifers and a bull. One of those heifers cost \$175 and now has five daughters, four granddaughters and four great granddaughters. For the whole family a conservative estimate of their value is \$15,000—not so bad for a \$175 investment nine years ago." Send for Free Booklets.

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

O. I. C. HOGS

all ages sired by Callaway Edd 1918 world's grand champ. boar and C. C. Schoolmaster 1919 world's grand champion also Wonder Big Type and Giant Buster. Write your wants, all stock shipped on approval.
CRANDELL'S PRIZE HOGS, Cass City, Mich.

Milking Shorthorns Young bulls with excellent pedigrees from best milkers. O. M. YORK, Millington, Mich.

Milking Shorthorns, bulls and heifers 5 mo. to 1 year old for sale at reduced prices to make room for younger stock. E. H. KURTZ, Mason, Mich.

BIDWELL SHORTHORNS
BUY A BULL

that will put weight on your dairy calves—the difference will soon pay for the bull. Now selling good Scotch and Scotch-topped yearlings, reasonably priced. We guarantee every animal to be a breeder. Federal Test. One hour from Toledo, Ohio, N. Y. C. R. R.

BIDWELL STOCK FARM,
Box D, Tecumseh, Michigan

Shorthorns. Bull calves for sale from the best milking blood obtainable. ROSEMARY FARMS, Williamston, Mich.

Richland Shorthorns

We offer a few choice Scotch heifers with calves at foot. This is good foundation stock and the calves are all from top sires. Prices reasonable. Write your wants and see the cattle.

C. H. PRESCOTT & SONS,
Office at Tawas City, Mich., Herd at Prescott, Mich.

The Maple's Shorthorns

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

J. V. WISE, Gobleville, Mich.

Reg. Red Polled cattle choice young bulls from 6 to 19 mo. old for sale. FRANK KEBLER, R. 1, Grand Ledge, Mich.

Huron County Shorthorn Breeders Ass'n. offer for sale Scotch and Scotch topped males and females of all ages. 300 head to select from. For information address Jas. R. Campbell, Secretary, Bad Axe, Michigan.

BUY SHORTHORNS of Central Michigan Breeders' Association at farmers' prices. Write for sale list to M. E. Miller, Sec'y, Greenville, Mich.

Shorthorn Bull 72472. Two yrs. old nice roan with star in forehead. Very gentle and a fine specimen of the breed. Price \$225.00. W. E. BARTLEY, Alma, Mich.

We now have

FIVE BRED HEIFERS that we will sell cheap if taken at once. Inquire about them or better come and see them. CARR BROS. & CO., Bad Axe, Mich.

Francisco Farm Shorthorns and BIG TYPE POLAND CHINAS. Now offering 3 heifers, 2 bulls, all Scotch. Sows to farrow in Aug. and Sept. Spring pigs, 60 head to choose from. POPE BROS. CO., Mt. Pleasant, Mich.

Shorthorns Imp. Royal Pioneer in service. Bred by J. Durno. J. A. BARNUM, Union City, Mich.

Reg. Red Polled cattle, herd headed by Famous R. Charmer 754 same blood as Charmer 1919 Int. Ch. Champion. Herd State and Fed. tested. No cattle for sale at present. Westbrook Bros., Ionia, Mich.

For Sale Brown Swiss Calves E. H. EISELE, Manchester, Mich.

HOGS

Place Orders NOW

for BERKSHIRE hogs or sows 6 to 8 weeks old Reg. and Trans. and delivered any where in Mich. for \$15. or a fine large bred sow at \$40.00. I also have an exceptionally fine 400 lb. boar for sale at \$40.00. He is a dandy and anybody in the market for him should never pass this up. He is a good one. C. H. WHITNEY, Merrill, Mich.

BILL TO INVESTIGATE AGRICULTURAL SITUATION.

HEARINGS on the concurrent resolution introduced in the house by Representative Strong, of Kansas, to appoint a congressional commission to investigate the nation-wide agricultural situation, have been held and the committee has reported favorably upon the resolution. It was the evident desire of the committee that the best possible investigation be made within the ninety days provided in the resolution, to the end that an effective remedy may be found and promptly applied. Gray Silver, representing the American Farm Bureau Federation, Charles S. Barrett and B. Morgan Shepard, representing the National Farmers' Union, spoke in favor of the resolution. Senator Lenroot, of Wisconsin, who introduced the resolution in the senate, said that the agricultural producers were entitled to know what congress can do and also the limitations of federal power. There are only three powers by which congress can regulate industry: Interstate commerce, taxation, and through the exercise of the banking powers.

COLLECTIVE BARGAINING MEASURE IN DANGER.

THE status of the Capper-Volstead farmers' collective bargaining bills is a source of anxiety to the farm organization representatives. The Volstead bill, which passed the house, was referred to the senate judiciary committee, and it is believed that this committee will not report favorably on the bill without the amendments which were so objectionable to farmers that were added to the former bill.

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.

Diseased Bone.—Over a year ago my cow was dehorned; since then the head festers. I. B., Chesaning, Mich.—The diseased bone must be scraped off, then head will heal.

Infested Udder.—We have cow that has udder trouble. First one teat became blocked, had it opened, soon another teat blocked, now two quarters are affected. Can we dry her, or what had better be done for or with her? Mrs. C. B. M., Fenton, Mich.—If your veterinarian fails to save the two diseased quarters, then you had better feed her timothy and cease milking her regularly and she will soon go dry.

White Scours.—I would like to know if there is a remedy for white scours in calves? Our veterinarian gave them a shot in the neck and some tablets, but it failed. W. C., Caledonia, Mich.—Doubtless your veterinarian is doing all that can be done to save your calves. Unless you clean and thoroughly disinfect your cow and calf stables and keep them clean, you will fail to prevent young calves from suffering from scours.

Goitre.—I have a Holstein heifer calf with a bunch the size of one's fist on its neck. The calf had this bunch at birth, and I might add that this same cow's calf that she had last year was in the same condition. What is the remedy? J. B. H., Fenton, Mich.—Give calf five grains of potassium iodide at a dose daily until the bunch is gone. Perhaps her mother suffers from goitre, if so she should be treated for it.

Congestion.—We have lost two strong, fully developed lambs. They lie on their side and kick, neck stiffens, eyes are dim and they suffer for forty-eight hours then die. We hold them up to nurse, but they have poor control of body. They seem to be strong but have little use of body. C. D. W., Evart, Mich.—The writer has obtained fairly good results by bathing the lamb in warm water, then keeping it in warm room that was well supplied with fresh air. Give olive oil to move the bowels.

Dairy Items for June

A LITTLE fly dope to spray on cows saves them a lot of pestering. But it is even of greater value to the dairyman and his hired man. Their morale on hot summer nights is never improved by being kicked and switched by fly-bitten cows. One cow with a tail like a bundle of wire can make a milker extremely disgusted with life.

The cows need salt in the summer as well as any season and the large salt blocks are very handy to have in the lane or pasture. It gives every cow a chance each day to obtain some salt and the blocks do not break up easily so that bits of salt can be picked up by poultry.

Prepotency is the power which gives a bull or cow the ability to stamp its own characteristics on its offspring. The value of the pure-bred bull on the grade herd rests in this ability to mark the calves and make them both better lookers and better producers than their mothers.

The gestation period of the cow is nine and one-half months, or two hundred and eighty days. Sometimes a breeder figures it as nine months to the day, and then worries because it seems to run over a couple of weeks and the calf is not born when supposedly due. For example, a cow bred on January 1 would be due about October 7 and not October 1. A cow bred on February 1 would be due about November 8, not on November 1. The date of calving is found by counting forward the two hundred and eighty days from the date of service.

Weakness in breeding stock is often laid to inbreeding, but facts prove that the greatest progress in producing fine cows has been by skilled men who have used inbreeding. But such breeders have known the blood lines of their stock and they are thus able to mate so that strong points will be made stronger instead of weak points made weaker, as is often the case when breeding methods are careless.

An argument for fall freshening of cows is the fact that summer is a busy season on the farm and it is difficult to give cows the best and most regular attention about harvest time. If the milking work is reduced when the work with crops is heaviest it is a great help on the farm. Then the cows can freshen in the fall when the weather is cooler and the field work less heavy.

Sometimes dealers do not like to handle dairy butter in crocks but prefer the pound packages of uniform quality put up in neat wrapping paper. Then there are no crocks to return and they do not have butter of various shades and some crocks which are too salty and others not salty enough. When the producer has a local trade with private customers it is soon possible to find what they like best and make the butter accordingly.

Teach the young stock to lead at an early age and it will save many stubborn contests later in life when the animals are strong. If each heifer has a halter she will be easier to handle in the pasture lot and soon learn that a tug on the halter means to follow.

If a farmer needs his skim-milk and lives in a section where farmers are selling milk, he can often build up a good butter trade in his own neighborhood. There are a lot of farmers that buy all their butter and it is true that many farmers owning herds of cows really eat butter instead of oleo. This gives the butter producer a lot of skim-milk for poultry and stock feeding and a nearby outlet for the butter.

Cows that freshen in the fall show a great increase in milk flow in the spring when placed on pasture. This helps to keep up production until time for the cows to dry up. Cows that freshen in the spring are more difficult

to handle profitably in the fall when pastures are often dry and conditions are less favorable to keeping up the milk flow.

When veal is cheap and feeds are cheap it ought to pay to keep the best heifer calves on the chance that cows will be good property a couple of years from now. It is easy to say that cows are cheap and there are lots for sale, but when you start out looking for those cows you find that the farmers are keeping the best ones and some of the cows for sale cheap are not much good.

During hot weather young calves are sometimes staked along the road with an inadequate water supply. It pays to remember that water is always the cheapest element in an animal's ration and yet is one of the most important elements in making animals grow.

In grading up a herd of cows it is, of course, necessary to use a sire of the same breed for each cross. Otherwise you are developing mongrels instead of progressing closer and closer to pure-breds of one breed. Many sections are handicapped in developing high-producing herds because of the long distance that must be traveled to obtain high-quality bulls. In such sections it will surely pay to own a good bull cooperatively.—R. G. KIRBY.

COST AND VALUE OF LIMESTONE.

HERE are some interesting figures on the cost and value of limestone for agricultural purposes gathered from a number of Michigan farmers who have used lime:

The highest cost reported paid for limestone delivered on car at destination was \$6.80 and the lowest \$3.10, with the average for all those reporting at \$4.01 per ton.

The length of haul varied from one mile to seven miles, with the average at two and two-tenths miles. The average cost per ton to unload was \$1.69, the highest cost being \$3.00 and the lowest fifty cents. The lowest amount applied per acre was one ton and the highest amount was three tons, a little over two tons was the average applied by those reporting.

When all costs were figured it was found that \$18.60 was the maximum price paid to lime an acre and \$7.30 the lowest, with the average at \$12.39.

The most valuable crop grown brought \$135 per acre on ground that had received limestone, while the most valuable crop on unlimed ground was \$54. The lowest valued crop on limed soil was \$22.50, while the poorest crop on unlimed soil was a complete failure. The average value of crops taken from the limed fields was \$58.40, while of those from the unlimed fields was \$24.55.

One farmer reported that the net profit from an acre where limestone was used amounted to \$81, while another had only \$2.25 for his trouble; the average for the whole lot being, however, \$29.99.

The average return on each dollar invested in limestone was \$2.29, the lowest being twelve cents and the highest \$5.00.

MORE BEET ACREAGE FOR MT. PLEASANT PLANT.

THE Mt. Pleasant plant of the Columbia Sugar Company announced May 12 that it had contracted with farmers of Isabella county for 7,500 acres of beets. Last year's acreage was six thousand. The company has experienced no difficulty in securing all the labor needed for field work, sixty families having been brought in from Cleveland to work in the fields.

Milk is the nation's food—or its poison.—King.

89 cents a day—

A FARMER of Mound Valley, Kansas, recently replaced his old cream separator with a De Laval. Immediately, with the same amount of milk, his cream checks jumped from \$1.37 to \$2.26 per day—89c a day gain, or \$324.85 a year.

This is only one instance of thousands where a De Laval has checked waste and added to its owner's profits. You may be losing even more than this; you may be paying for a De Laval and not getting it by using a cream-wasting separator or by hand skimming.

There never was a time when a De Laval Separator would pay for itself sooner, or when it would make you more money, than now. There are over 2,500,000 De Laval Separators in use the world over, because they save the most cream and serve the longest time.

See your De Laval agent now about getting a new De Laval—or write us for full information. The De Laval Milk, like the De Laval Separator, is a quality product. Send for full information.

The De Laval Separator Company

NEW YORK CHICAGO SAN FRANCISCO
165 Broadway 29 E. Madison St. 61 Beale Street



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



Berkshire Berd Sows and Gilts \$50 and up, for April, May and June farrow. Have a few good fall pigs at reasonable prices for sale. M. G. MOSHER & SONS, Osseo, Mich.

Berkshires spring pigs. A few bred gilts and sows. A few young boars. After May 1st Duck eggs \$1.50, setting postpaid. Chase Stock Farm, Marlette, Mich.

Chester Whites fall and spring pigs mostly sired by Chickens' Ace, a real boar. Let me know what you need. ALBERT DORR, Clinton, Mich.

Brookwater Duroc Jerseys

FALL BOARS OPEN GILTS

All of the right type and the best of breeding. Prices reasonable. Mail orders a Specialty. Satisfaction guaranteed. BROOKWATER FARM, Ann Arbor, Mich. H. W. Mumford, Owner J. B. Andrews, Mgr.

DUROC JERSEYS: A few choice bred gilts for sale. CAREY U. EDMONDS, Hastings, Mich.

For Sale Reg. Duroc pigs sired by U. S. Orion the Second, write for prices. FRED J. BROWN, Quincy, Mich.

DUROC JERSEYS Bred gilts, service boars and fall boar pigs at Bargain prices. Your correspondence or personal inspection is cordially invited. RUSH BROS., Oakwood Farm, Romeo, Mich.

Duroc Boars at bargain prices large growthy hogs 15 months old at \$60. Will send C. O. D. and register in the buyers name. Orders booked for Apr. pigs to deliver June 1st. W. E. Bartley, Alma, Mich.

Write Me at once I have just what you want heavy bone registered Duroc Jersey boars ready for service. W. H. MAYES, L. B. 505, Durand, Mich.

DUROC Jerseys. Boars for spring service, heavy boned type, from the most popular blood lines at reasonable prices. Partridge Rock eggs from best laying strain \$2 per doz. Drott & Berns, Monroe, Mich.

DUROCS WITH QUALITY

Spring pigs by Walt's Orion, First Sr. Yearling Detroit, Jackson, Gd. Rapids and Saginaw 1919

Phillips Bros., Riga, Mich.

Reg. Duroc Boars wt. 125 lbs. \$30.00. Fine stock exp. paid. J. R. HICKS, St. Johns, Mich.

Duroc Jersey Boars of all ages, big, heavy boned smooth kind, real herd boars and priced to sell. First check for \$50 gets a 400 lb. April yearling, a grandson of Panama Special. Write for pedigree or come and see. Visitors always welcome. Satisfaction guaranteed. Thos. Underhill & Son, Salem, Mich.

DUROC SOWS and gilts bred to Jacks Cherry Orion King No. 169259 Son of the \$10,000 boar owned by Longview Farm, Le Summit, Mo. also young boars ready for service out of good sows. Apply THE JENNINGS FARM, Bailey, Mich.

Buy good hogs now, from one of the largest herds of registered Durocs in the state. Open fall gilts at \$25. Sows and gilts bred for summer and fall farrow. Booking orders for spring pigs. Will accept a few sows to be bred to good sons of Great Orion Sensation and Duration. Michigana Farm, Pavilion, Mich.

DUROCS Bred sows all sold. A few choice fall boars for sale. W. C. TAYLOR, Milan, Mich.

Duroc Jerseys Am booking orders for spring pigs. Few fall gilts. E. D. HEYDENBERG, Wayland, Mich.

DUROCS A few choice, ready for service, boars for sale. HARRY FOWLER, Sturgis, Mich.

O. I. C's. Last fall gilts bred to farrow in Aug. boars for service, also spring pigs for sale. MILO H. PETERSON, Ionia, R. 2, Mich. Elmhurst Farm.

O. I. C's Choice gilts for April and May farrow, also fall pigs. Booking orders for spring pigs. A. J. BARKER & SON, Belmont, Mich.

O. I. C. Swine Strictly Big Type with quality. A few gilts bred for last of April, and May farrow. A few Sept. and Oct. fall pigs either sex. Extra good ones. Of our State Fair prize winning blood lines. Will ship C. O. D. and record them free. NEWMAN'S STOCK FARM, R. 1, Marlette, Mich.

Write for Prices On O. I. C. pigs of March and April farrow. Both sexes, Sire C. C. Callway Boy. Good long ones the kind that fill the Pork bbls. Some good Jersey bull calves of the Albertas Jubilee kind. All stock reg. in buyer's name. VILLAGE STOCK FARM, Jeddo, Mich.

O. I. C's. last fall service boars. 12 last fall gilts bred for next fall farrow also this spring pigs not akin. 1/2 mile west of Depot. Citizens phone. OTTO B. SCHULZE, Nashville, Mich.

O. I. C's. 2 sows for May farrow. Orders booked for March pigs. J. C. THOMPSON, Rockford, Mich.

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

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

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

O. I. C. Big type serviceable boars, weigh from 150 to 250 lbs. Gilts bred for May and June farrow. Write for prices. G. P. Andrews, Mason, Mich.

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

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

O. I. C. GILTS Bred for June and July farrow. H. W. MANN, Dansville, Mich.



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

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

Additional Stock Ads. on Page 709

LATEST MARKET REPORTS

GRAIN QUOTATIONS

Tuesday, May 31.

Wheat.

Detroit.—Cash No. 2 red \$1.55; July \$1.30; No. 2 white and No. 2 mixed \$1.50.

Chicago.—No. 1, \$1.77@1.78; No. 2 hard \$1.69¼.

Corn.

Detroit.—Cash No. 2 yellow 66c; No. 3 yellow 65c.

Chicago.—No. 2 mixed 64¼@65½c; No. 2 yellow 65@66c.

Oats.

Detroit.—Cash No. 2 white 44½c; No. 3 white 43c; No. 4 white 40c.

Chicago.—No. 2 white 40½@41½c.

Beans.

Detroit.—Immediate and prompt are lower at \$3.70 per cwt.

Chicago.—Market is steady and demand good. Hand-picked Michigan beans choice to fancy at \$4.20@4.50; red kidney beans \$9@9.25.

New York.—The market is steady. Choice pea \$4.50@4.60; do medium at \$4.75; red kidney \$11@11.25.

Rye.

Detroit.—Cash No. 2 rye is lower at \$1.50.

Seeds.

Detroit.—Prime red clover, cash at \$13.50; alsike \$14; timothy \$3.15.

Hay.

No. 1 timothy \$20@21; standard and light mixed \$19@20; No. 2 timothy \$18@19; No. 1 clover mixed \$15@16; No. 1 clover \$14@15; rye straw \$13.50@14; wheat and oat straw \$12.50@13 per ton in carlots at Detroit.

WHEAT

Wheat prices continued sharply upward during most of the past week but exhibited signs of a collapse toward the close. Crop damage reports from private sources, combined with a peculiar strained situation in wheat for May delivery were the causes. The pronounced scarcity of wheat in terminal markets made it next to impossible for the "short sellers" of May wheat to deliver on their contracts. The situation is not likely to be of great benefit to producers and so far as it influenced the cash market, its effect is practically over. Growers who have held wheat all winter have been given an opportunity to unload at a good-sized advance.

Winter wheat undoubtedly has deteriorated considerably during the past few weeks. States west of the Mississippi river will show considerable reduction in estimated yields as the full effect of April freezes and recent drought show up. Demand for wheat from mills has been checked by the advance. New export sales have been made even at higher prices but are for July and August shipment from the new crop. There is no suggestion of excessive world production in the coming year. India may import 30,000,000 bushels as she has only two-thirds of a crop whereas she usually exports, and Russia has recently bought wheat from Liverpool.

CORN

Cash corn sales to terminal markets during the past week amounted to around 5,000,000 bushels, marking the start of the after-planting run. Chicago handlers sold large amounts to the domestic eastern trade and to seaboard exporters so that the grain was readily absorbed and with wheat prices moving upward, moderate advances occurred in corn. The export business which was thought to be practically over for the season, suddenly came to life and large amounts were taken. Stocks at terminals may increase at first, but shipments will soon reduce them again. Best prices were paid for fresh-shelled grain and exporters offered a premium for corn testing around 13 per cent of moisture. Bulk of receipts were of grade No. 1 and 2.

OATS

Producers have been selling oats freely and receipts are increasing but domestic demand has also broadened and prices average higher. The oat crop has deteriorated along with wheat in some parts of the central west as a result of recent hot dry weather which followed heavy rains. Relief has come through rains during the past week but it is still feared that a rather large acreage will head out on short straw.

SEEDS

Purchases of clover and grass seed are very slight and interest centers mostly in new crop prospects. Prices show little change. If the present crop outlook continues, cash prices on clover may trend downward during the summer while timothy may chart the other course.

FEEDS

Feed markets have shown marked irregularity during the past week with St. Louis and Milwaukee showing declines while Minneapolis and Kansas City advanced on wheat feeds. Feeds from new wheat will be available soon and marked advances from the present level are not expected. Linseed oil meal and cottonseed meal are on doubtful ground.

HAY

New alfalfa hay is being offered from Oklahoma for shipment in two to four weeks at prices materially lower than quotations on old hay. This influence forecasts a decline in alfalfa prices and also those upon other kinds of hay. Last year hay placed in storage by large operators lost them considerable money and they will be slow to take hold this year except at low prices. A temporary reduction of twenty-five per cent in freight rates on hay from Colorado to Missouri and Illinois points will go into effect on June 1.

BEANS

The holding policy on the part of Michigan bean growers has caused a further advance early in the past week but prices broke sharply when offerings increased. Demand at the moment is good as prices at retail are attractive. During hot weather, however, it invariably shrinks decidedly.

Prices at the top of the advance were \$4.15@4.25 f. o. b. Michigan points for choice hand-picked stock but declined to \$3.85 at the close of the week. Prices to growers for beans in the dirt range from \$3.25@3.40.

POTATOES

Prices of new potatoes have been reduced sharply during the past week as a result of an increase in shipments

particularly from the South Carolina points. Old stock declined also. Northern sacked round whites, U. S. Grade No. 1 are quoted at 75@85c per cwt., wholesale, in the consuming markets, while prices at shipping points are 30@50c, leaving little for the grower after sacks and loading expenses are paid for. New stock Bliss Triumphs, No. 1's are quoted at \$2.35@2.50 and Irish Cobbler at \$5.75@6 per barrel.

EGGS AND POULTRY

Although prices show little change, the undertone of the egg market is not strong. Hot weather during the past week caused many shipments to arrive in a heated condition with deterioration apparent. Receipts at the four leading markets are now running below those of the corresponding week a year ago so that the excess of storage holdings over those of the same period a year ago is becoming less marked. Live poultry markets are starting through the usual decline at this season of the year. Since prices have held at a rather high level, the readjustment like that in butter and eggs is apt to be rather violent.

Latest quotations are: Detroit.—Eggs, fresh current receipts 22¼c. Poultry, broilers 45c; heavy hens 26@28c; roosters 15c; geese 15c; ducks 25c; turkeys 30c.

BUTTER

The butter markets have advanced slightly and are holding within a comparatively narrow range. Hot weather injured the quality of many shipments but the general run of receipts consist of full grass butter of good quality suitable for storage. Buying on storage account has been increasing at Chicago and to a lesser extent at New York. Receipts at four markets were slightly smaller than during the preceding week but a strike of teamsters in New York City caused a diversion of many shipments to Chicago which normally would have gone east. It is the prevalent belief that prices will hold around 27@28c for extras and standards at Chicago. No Danish butter is being offered below 30c and the tariff measure now in the hands of the President raises the duty from 2½@6c

per pound. Prices for 92-score fresh butter as quoted by the bureau of markets on May 28 were: Chicago 28½c; New York 29c. Fresh creameries in tubs at Detroit are quoted at 25¼c.

WOOL

Wool markets show a slightly improved undertone and advances of one cent per pound as a result of the passage of the tariff bill. Manufacturers although operating at about seventy-five per cent of capacity compared with around 50 per cent three months ago, are buying only comfortable supplies of raw wool ahead. Buying of western wools is increasing but most producers are holding in hope of an advance and a moderate one may be obtained. Foreign markets are firm. At the government's auction of South American wools, about 3,000,000 lbs. were sold, some scoured quarter-bloods going at 20@26c.

CHEESE

Cheese markets display a waiting attitude although the undertone is firm. Moderate buying of twins and some other styles for storage has been under way. Inquiries are numerous. Prices are believed to be on rock bottom and as soon as the quality of arrivals becomes satisfactory, large purchases are expected. Hot weather last week was responsible for many shipments arriving out of condition. At the first meeting of the new Plymouth Wisconsin board, the prices established were higher than those of the old board, although this was partly due to the difference in freight charges. These quotations affected sentiment favorably. Prices for No. 1 American cheese as quoted by the bureau of markets on May 28 were: Flats 14@15c; daisies 14½@15c; twins 14½c; brick 15½@16c.

HORSES

The demand for horses has been decreasing for several weeks and at the present time is at the lowest point of the entire year. Receipts have not been unusually heavy but even a light supply is difficult to dispose of without sharp cuts in prices. Ice concerns are purchasing a few at Chicago but the eastern demand has been extremely light, partly as a result of renewed stagnation in industrial affairs. Prices are as follows:

Chicago.—Good and choice heavy drafters \$175@240; common and medium drafters \$125@150; farm mares \$90@145; farm chunks at \$100@150; wagon horses \$125@175.

APPLES

While the supply of barreled and boxed apples is gradually decreasing, shipments are larger than usual at this season. Prices on barreled stock lost some of their recent advance and are selling at \$6@6.50 for A 2½ Baldwins in midwestern consuming markets.

NEWS OF THE WEEK.

(Continued from page 680).

structed to cut next year's estimates twenty per cent.—Six hundred Shropshire coal miners return to work under temporary wage agreement with British colliery owners.—Judge K. M. Landis, of Chicago, declares nine out of every ten violators of the liquor laws are foreigners.

Tuesday, May 31.

UNITED STATES Senator Heflin, of Alabama, urges that cotton exchanges be abolished if they cannot be controlled by law.—Twenty thousand Detroiters march in parade to show devotion to warrior dead.—Upper Silesian warfare breaks out anew after five hours oral truce.—Tommy Middleton wins international sweepstakes auto race at Indianapolis. He establishes a new record by traveling the five hundred miles at an average of 89.62 miles per hour.

The man with more money than brains, whose zeal and enthusiasm cause him to overdo his duty toward his animals, is one of the greatest enemies to improved stock. When animals become so refined in type, and pleasing to the eye, that outdoor exercise and sunshine are denied them, disease and degeneration will soon follow.

Live Stock Market Service

Wednesday, June 1.

DETROIT

Cattle.

Bulls and heavy cows are 25c lower; others are very dull.

Best heavy steers	\$ 7.75@ 8.00
Best handy wt bu steers	7.50@ 8.00
Mixed steers and heifers	6.50@ 7.50
Light butchers	6.00@ 7.00
Best cows	5.00@ 5.50
Butcher cows	4.25@ 5.00
Common cows	3.50@
Canners	2.50@ 3.00
Best light weight bulls	5.00@ 5.25
Bologna bulls	4.50@ 5.00
Stock bulls	4.50@ 5.25
Feeders	6.50@ 7.50
Stockers	6.00@ 7.00
Milkers and springers	\$ 40@ 80

Veal Calves.

Market steady.

Best	\$10.00@10.50
Others	5.50@ 8.00

Hogs.

Market steady.

Mixed hogs	\$8.00
Pigs	8.35
Heavy	7.75

Sheep and Lambs.

Market is slow and quality common; heavy sheep are very dull.

Best lambs	\$ 10.00
Fair lambs	7.00@ 8.50
Light to common	5.00@ 7.00
Spring lambs	12.00@12.5
Culls and common	1.50@ 2.5
Fair to good sheep	4.50@ 5.00

CHICAGO

Hogs.

Estimated receipts today are 17,000; holdover 10,223. Market slow, mostly steady. Bulk of sales at \$7.80@8.10; tops (early) \$8.20; heavy 250 lbs up medium, good and choice \$7.75@8; medium 200 to 250 lbs medium, good and choice \$7.90@8.10; light 150 to 200 lbs common, medium, good and choice at

\$7.95@8.15; light lights 130 to 150 lbs common, medium, good and choice at \$7.90@8.15; heavy packing sows 250 lbs up smooth at \$7.10@7.70; packing sows 200 lbs up rough \$6.40@7.10.

Cattle.

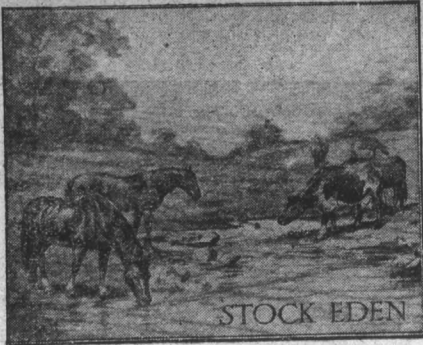
Estimated receipts today are 11,000. Market slow and steady to 15c lower; calves are 25c higher. Beef steers medium and heavy weight 1100 lbs up choice and prime \$8.65@9.40; do medium and good \$7.75@8.65; do common \$7@7.75; light weight 1100 lbs down good and choice \$8.40@9.25; do common and medium \$6.75@8.40; butcher cattle heifers common, medium, good and choice \$5@8.75; cows common, medium, good and choice \$4.50@7.40; bulls bologna and beef \$4@6.25; canners and cutters cows and heifers at \$2.25@4.50; do canner steers \$3@4.50; veal calves light and handyweight medium, good and choice at \$7.50@9.25; feeder steers common, medium, good and choice \$7@8.25; stocker steers, common, medium, good and choice at \$5.50@8; stocker cows and heifers common, medium, good and choice at \$3.75@6.25.

Sheep and Lambs.

Estimated receipts today are 14,000. Market steady. Lambs \$4 lbs down, medium, good, choice and prime \$9.50@12.25; do 85 lbs up medium, good choice and prime \$8.75@12; do culls and common \$6@9; feeder lambs medium, good and choice \$10.75@13.40; spring lambs medium, good, choice and prime \$6.75@10.50; ewes medium, good and choice \$3@4.25; ewes cull and common \$1@2.75.

BUFFALO

Today spring lambs were steady at \$13@14; yearlings \$10@11; heavy hogs \$8@8.25; pigs at \$8.75; shipping steers brought \$8.50@8.75; best handy steers \$8.25@8.50; light Michigan butchering heifers \$7.50@7.75.



STOCK EDEN

A pleasant smelling, non-poisonous, non-irritating
SURE EXPELLER
FOR FLIES, LICE, MITES, ETC.,

Applied with a spray. It is very lasting in effect, overcoming the necessity of constant spraying. Contains the best antiseptic known. It is agreeable to the stock and they enjoy its application.

"Stock Eden" makes it possible for your cattle to eat and digest their food properly and in comfort, thereby allowing them to produce their maximum. Think what it means to you to have contented cattle both in pasture and barn.

Send \$1.50 for a gallon and prove what we claim. Try it once and you will never be without it.

Attractive proposition open to dealers.

THE RICHARDSON SPECIALTIES CO.
Detroit, 644 Catherine St., Michigan

Farms and Farm Lands

**\$2800 Secures 320 Acres with
39 Cows, Horses, Crops**

Machinery, tools, harnesses, vehicles, equipment included; rare opportunity splendid prosperous section, close RR. town, advantages; productive lean tillage cuts 50 tons hay; 40-cow spring-watered pasture; estimated 200,000 ft. timber, vast quantity wood; fine orchard 40 apple trees, pears, plums, cherries, berries; sugar maples, good 10-room house, spring water, delightful shade, wonderful view, 3 big barns, garage, etc.; quick sale price \$7800, with \$2800 down, easy terms. Details page 29 Illus. Catalog 1100 Bargains. FREE. STROUT FARM AGENCY, 814 BC Ford Bldg., Detroit, Mich.

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

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

WANTED To hear from owner of land for sale.
O. K. HAWLEY, Baldwin, Wis.

POULTRY

PULLETS!

LEGHORNS—ANCONAS
8 week — 85c; 10 week — \$1.05. Selected stock.
ZEELAND PULLET FARMS, Zeeland, Mich.

WHITTAKER'S R. I. REDS
Both Combs. Michigan's Greatest Color and Egg Strain. We are offering some unusual bargains in Chicks and Hatching eggs for June and early July. Write for Free Catalog. INTERLAKES FARM, Box 39, Lawrence, Mich.

Baby Chicks and eggs for hatching. Reduced prices after May 25th. Leghorns 11 cents. Rocks and Reds 16 cents for May and 15 cents for June and July. Get your order in early at these prices. Hatch every Tuesday. Interesting catalogue free. Brummer's Poultry Farm, R. 8, Holland, Mich.

Barred Rocks 8 to 12 week pullets, cockerels, hens and cock birds. Leading pen at M. A. G. for December averaging 22 eggs each. 1 pullet laid 27 eggs in both Dec. and January. 1 pullet laid 80 eggs in 21 days, winners at largest shows in state. Write for price list. G. Caball, R. 4, Hudsonville, Mich.

Baby Chix—12,000 Standard Quality every Tues. at greatly reduced prices; Mottled Anconas, English and American White Leghorns, Brown Leghorns and Barred Rocks; all single comb. Parcel Post paid, safe arrival guar. Knoll's Hatchery, R. 8, Holland, Mich.

CHICKS Single Comb White Leghorns \$12.00 prepaid. Order today.
ROY L. DRUKKER, R. 6, Grand Rapids, Mich.

CHICKS Barron strain W. Leghorns 10c; Parks Central B. Rocks 15c; prepaid. Best strains in the world for eggs. Robt. Christophel, R. 4, Holland, Mich.

Reduced prices on Barrons S. O. W. Leghorns and R. Sheppard's Ancona chicks for May and June. Send your order now for 8 week old pullets and cockerels. Byron Center Poultry Farm, Byron Center, Mich.

Chicks At Reduced Prices for June and July. S. C. Leghorns \$12.00 per 100. Barred Rocks \$15.00 per 100. Parcel post paid 100% safe arrival. Circular. SUNNYBROOK POULTRY FARM, Hillsdale, Mich.

RHODE ISLAND WHITES win over all breeds at the egg laying contest. 30 eggs \$1.50; 50 eggs \$2.50; 100 eggs \$4.50. Some chicks. H. H. JUMP, R. 5, Jackson, Mich.

S. C. Brown Leghorns Barron S. C. White Leghorns, 252-278 strain. Eggs 15-21 20/30. \$1.20; 50-55 25; 100-50, prepaid. V. Fulton, Gullipolis, O.

S. C. Black incoera cockerels exhibition and utility. S. C. Northrup strain exclusively. hatching eggs single settings or quantity. O. J. Deedrick, Vassar, Mich.

Quality Chicks Black Minorca, Light Brahma, 25c each, Barred Rock, R. 1 Red, 18c each. Tyrone Poultry Farm, Ponton, Mich.

White and Brown Leghorn Chicks from selected flocks 10c each for delivery June 1st and every Wed. thereafter. Other breeds 12 cts. Order from this ad. DERR & ADAMS, Litchfield, Mich.

White Wyandottes: 207 egg average. Hatching eggs, \$2.00 per 15. Baby chicks 25 cents each. Cockerels, hens and pullets. FRANK DeLONG, R. 3, Three Rivers, Mich.

White Wyando'te and Barred Rock eggs, half price balance of season. HOWARD GRANT, Marshall, Mich.

Wanted one hundred (100) Barred Rock chicks between five and eight weeks old. State price and strain. PAUL BOCK, Pinckney, Mich.

Pullets S. C. W. Leghorns for June, July and August 8 to 10 weeks old \$1 each. HENRY WATERWAY, R. 4, Holland, Mich.

THE WOOL SITUATION.

THE American Farm Bureau Federation is making preparations to present a strong case for the truth-in-fabric bill during the hearings before the Senate Interstate Commerce committee beginning June 1. Many letters have already been received in reply to the official questionnaire sent out by the American Farm Bureau Federation indicating that this referendum will be one of the most successful projects ever considered by the federation.

Wool Pool Sales.

The American Farm Bureau Federation is looking closely after the wool market situation. C. J. Fawcett, of the federation's wool marketing department, reports that from April 23 to the middle of May a total of 2,283,339 pounds of wool were moved from Chicago pools, and 256,578 pounds from Michigan pools, at rates indicating a little sagging of the market. The prices have been as follows: Michigan fine clothing, twenty-three cents; Michigan half-blood clothing, twenty-one cents; Michigan quarter-blood combing, twenty-six cents; Michigan three-eighths combing, twenty-seven cents; Michigan delaine, twenty-eight cents; Michigan three-quarter clothing, twenty-one cents; Michigan half-staple, twenty-five and a half cents. The Ohio pool is practically sold out of the 1920 wools and is now receiving 1921 consignments. It is estimated that there is in sight at this time in the United States, including the 1921 clip, between 900,000,000 and 1,000,000,000 pounds of wool, which represents a large surplus, estimated at an eighteen months' supply. It is estimated that eighty per cent of the usual number of spindles are working. This indicates a freer buying movement by the cloth dealers.

Buying Below Normal.

The buying movement of domestic wools, both in fleece and territory sections, is greatly below normal for this time of year, and values that would indicate no risk of ownership to buyers. A year ago, in Utah, the Jerico clip of 1920, consisting of 600,000 pounds, largely of fine grades, was sold in competition bids, at seventy one and a half cents. Recently the same clip was offered for competitive bids, and only two were received, the highest being sixteen and five-eighths cents a pound. The general feeling in the wool trade is that the bottom has been reached and at last a basis of trading has been established. This would indicate that this, of all years, is the time to pool wool, says Mr. Fawcett, and indications are that a fair portion of wool will be again consigned to the pools.

COMING LIVE STOCK SALES.

Guernseys.—October 19, Michigan State Sale, Lansing, Mich. F. E. Fox, Watkesha, Wis., Sales Manager.

Aberdeen-Angus.—June 9, Michigan Aberdeen-Angus Breeders' Association Sale, East Lansing, Michigan. Ward Hathaway, Ovid, Mich, Secretary.

Holsteins and Shorthorns.—June 14, Genesee County Breeders' Association, Davison Fair Grounds, W. T. Hill, Manager, Davison, Mich.

Aberdeen-Angus.—June 22, Ohio Aberdeen-Angus Breeders' Association Sale, Fair Grounds, Columbus, Ohio. C. D. Littleton, Kenton, Ohio, Secretary.

Aberdeen-Angus.—September 23, Eastern Aberdeen-Angus Breeders' Association Sale, Eastern States Exposition, Springfield, Mass. F. W. Burnham, Greenfield, Mass., Secretary.

Aberdeen-Angus.—October 12, Indiana Aberdeen-Angus Breeders' Association Sale, Indianapolis, Ind. Prof. C. F. Gobble, Lafayette, Indiana, Secretary.

One of the most valuable features of rye as a forage for the pigs is that it furnishes a supply of green food during the seasons when the ordinary crops and pastures are of little value.



**ROOFING
—AND—
SHINGLES**

Reg
U.S. Pat Office

WHEREVER you find this trade mark you'll find the best stock of roofing, lumber and building material obtainable.

The Lehon Company

MANUFACTURERS

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

Eggs

Our trade on fancy poultry farm eggs is increasing daily. Therefore we are in a position to pay liberal premiums above the Chicago market for fine new laid stock.

Special premium for whites. We solicit your shipments. Ship via Express.
AMERICAN BUTTER & CHEESE COMPANY,
2034 Howard St., Detroit, Mich.

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

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

Wanted single man for grain and dairy farm in Oakland County, must be clean, steady, good milker and willing worker. Work is steady, beginning at \$40.00 per mo. with board. Address Box G-64, care of Michigan Farmer, Detroit, Mich.

HOGS
SPOTTED POLAND CHINAS

Our herd boars Rio Grand Giant, a litter mate to the \$21000 Marshall Giant boar, his dam Arb Osa, the largest sow of the Spotted breed. King Onward known as one of the greatest back and color breeders. English Back Builder, a wonderful breeder. 50 Last spring gilts bred for July and August farrow. \$50 per head while they last. Fall pigs either sex, \$35. Will take orders for spring pigs for June shipment, either sex, \$25. Cholera immunized Satisfaction guaranteed. SAMUEL GERBER, R. 4, Bluffton, Ind.

Big Type Polands. Some very choice fall boars, ready for spring service for sale. They are sired by The Clansman; dam, the \$125 Miss Columbia, a littermate to the \$40,000 The Yankee. Also a few choice boars by The Clansman, son of The Clansman. WESLEY HILE, Ionia, Mich.

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

Choice spring boar pigs \$15 each when 8 weeks, sired by Clansman Buster and their dam being a prize winner at the State Fair. Also gilts bred for Sept. Farrow for \$40 and up. Guarantee Satisfaction.
DORUS HOVER, Akron, Mich.

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

Leonard Farm BIG TYPE P. C. boar pigs at weaning time, \$25 from Mich. Champion herd. Satisfaction guaranteed. Call or write. E. R. LEONARD, R. 3, St. Louis, Mich.

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

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

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

Sows bred for spring litters all sold. Have some choice gilts bred for Aug. litters, also some Sept. boars for sale. Clyde Fisher, R. 5, St. Louis, Mich.

L. T. P. C. few choice bred gilts sired by T's Clansman L. Mich's 1920 Gd. Cham. bred to Smooth Buster 1st Jr. yearling 1920 A. A. Feldkamp, Manchester, Mich.

Hampshire bred gilts now ready for Aug. and Sept. farrow; spring and fall boar pigs at a bargain. JOHN W. SNYDER, R. 4, St. Johns, Mich.

Hampshires
1914 1921

A few choice boars of this spring farrow that sure will improve your herd if used for herd boars. They are bred right and are right, and will produce right. Write for description and prices. We are glad to answer inquiries.

Steuben's Hampshire Farm,
Angola, R. 3, Ind.

Pine Grove Hampshires
Bred sows all sold. We are offering 100 spring pigs of excellent breeding and quality. Either sex, order early.
GEO. COUPAR & SONS, Marietta, Mich.

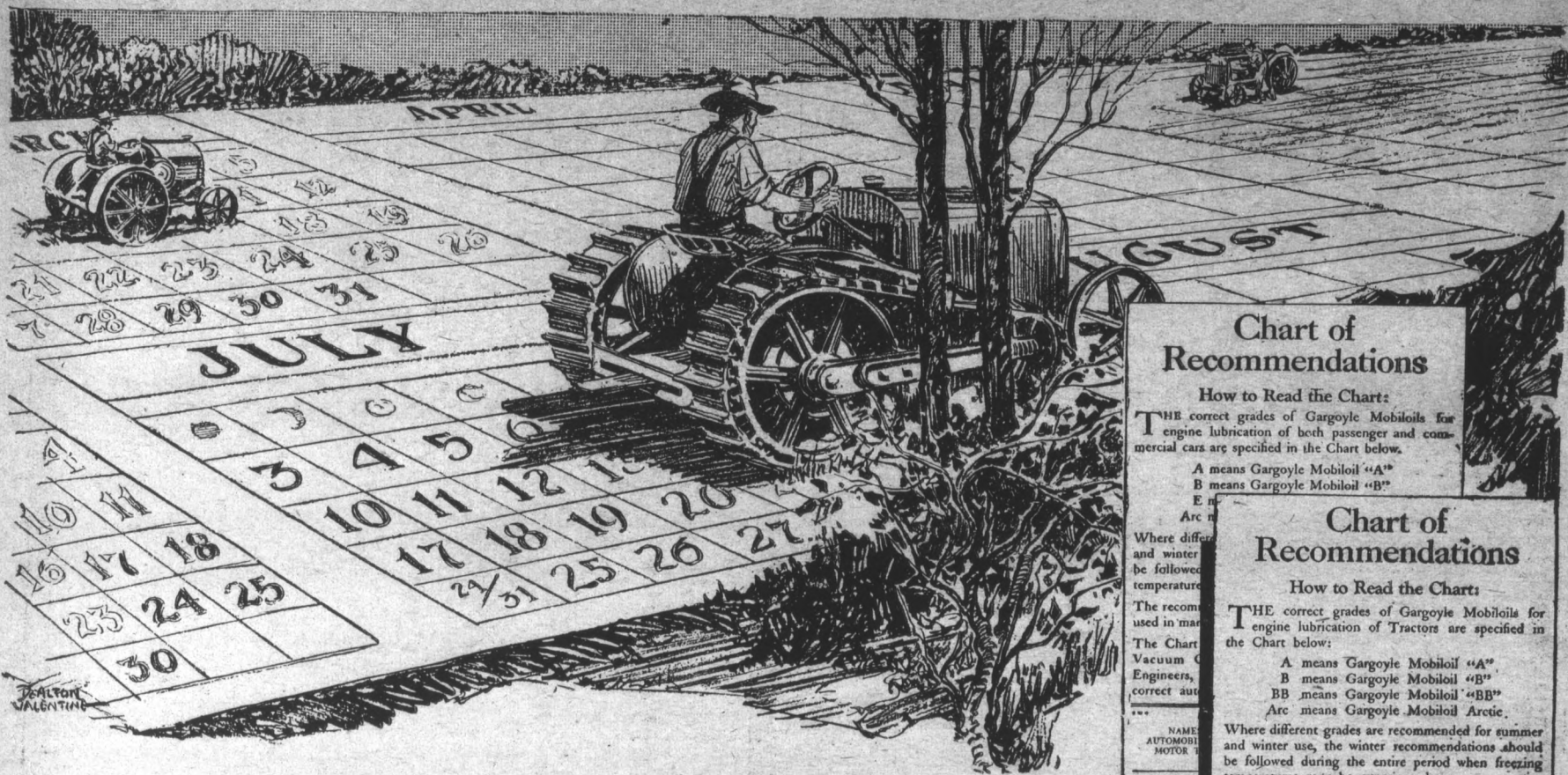
"BLUE HOG"
Large, growthy and prolific. Actually "BLUE" in color. Greatest Show HOG in America. Write for booklet. Mention this paper. THE BLUE HOG BREEDING CO., Wilmington, Mass.

HORSES
For Sale Belgian Stallion imported August 1912 wt. 1900. Sound and gentle to handle.
B. B. SMITH, Howell, Mich.

CATTLE
For Sale—Registered Jersey bull, between three and four years old, excellent pedigree. Good condition. Price reasonable.
H. A. Hoover, R. 1, Farmington, Mich., Telephone.

A Good Combination
OFFER No. 322.
Michigan Farmer, one year.....\$1.00
People's Home Journal, one year 1.25
Woman's Home Companion, 1 yr 2.00

Total value\$4.25
All for \$3.30.



LOST: 6½ Priceless Days

New light
on the high cost of cheap lubrication

HERE are facts taken from a recent government investigation made among tractor owners:

The average tractor works 54 days in the year. During that time it must work continuously and at full capacity. Breakdowns at the height of the season mean a big difference in the year's earnings.

Forty-eight per cent of the tractor owners questioned in this government survey reported no breakdowns during the working season. Fifty-two per cent of these tractor owners lost an average of 6½ days because tractors broke down. These owners reported repair bills ranging from a few cents to over \$100.

What makes this difference in tractor troubles?

Prominent engineers agree that over 50% of all repairs on tractors are caused by incorrect lubrication.

Correct Lubrication is your best insurance against valuable time lost by breakdowns, costly repairs to your tractor and undue depreciation through wear.

IN hundreds of tests Gargoyle Mobiloils have shown savings ranging from 17% to 25% in fuel, and from 50% to 70% in oil consumption.

The use of Gargoyle Mobiloils as specified in our Chart of Recommendations will show a decided difference in the operating expense of your tractor, truck and automobile.

Gargoyle Mobiloils are put up in 1- and 5-gallon sealed cans, in 15- 30- and 55-gallon steel drums and in wood half-barrels and barrels.

Write for "Correct Lubrication," a booklet containing complete automobile and tractor charts and other valuable data.



Mobiloils

A grade for each type of motor

In buying Gargoyle Mobiloils from your dealer, it is safest to purchase in original packages. Look for the red Gargoyle on the container.

DOMESTIC BRANCHES: New York (Main Office) Philadelphia Detroit Minneapolis Boston
Kansas City, Kan. Pittsburgh Chicago Indianapolis Des Moines

Chart of Recommendations

How to Read the Chart:

THE correct grades of Gargoyle Mobiloils for engine lubrication of both passenger and commercial cars are specified in the Chart below.

A means Gargoyle Mobiloil "A"

B means Gargoyle Mobiloil "B"

E means Gargoyle Mobiloil "E"

Arc means Gargoyle Mobiloil Arctic

Where different grades are recommended for summer and winter use, the winter recommendations should be followed during the entire period when freezing temperatures may be experienced.

The recommendations for prominent makes of engines used in many Tractors are listed separately for convenience.

The Chart of Recommendations is compiled by the Vacuum Oil Company's Board of Automotive Engineers, and represents our professional advice on correct tractor lubrication.

NAME OF TRACTOR

See (Newark, O.)

Alco

American Six

Apperson (4 cyl.)

All Other

Auburn (6 cyl.)

(6-10) (11-12) (13-14) (15-16) (17-18) (19-20) (21-22) (23-24) (25-26) (27-28) (29-30) (31-32) (33-34) (35-36) (37-38) (39-40) (41-42) (43-44) (45-46) (47-48) (49-50) (51-52) (53-54) (55-56) (57-58) (59-60) (61-62) (63-64) (65-66) (67-68) (69-70) (71-72) (73-74) (75-76) (77-78) (79-80) (81-82) (83-84) (85-86) (87-88) (89-90) (91-92) (93-94) (95-96) (97-98) (99-100)

Bour Davis

Brown

Buck

Callahan

Case

Chalmers

Chandler Six

Chevrolet (8 cyl.)

(10-12) (13-14) (15-16) (17-18) (19-20) (21-22) (23-24) (25-26) (27-28) (29-30) (31-32) (33-34) (35-36) (37-38) (39-40) (41-42) (43-44) (45-46) (47-48) (49-50) (51-52) (53-54) (55-56) (57-58) (59-60) (61-62) (63-64) (65-66) (67-68) (69-70) (71-72) (73-74) (75-76) (77-78) (79-80) (81-82) (83-84) (85-86) (87-88) (89-90) (91-92) (93-94) (95-96) (97-98) (99-100)

Cleveland

Cummins

Curtis (1 ton)

All Other

Crow-Elliott

Cunningham

Dodge Brothers

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Chart of Recommendations

How to Read the Chart:

THE correct grades of Gargoyle Mobiloils for engine lubrication of Tractors are specified in the Chart below:

A means Gargoyle Mobiloil "A"

B means Gargoyle Mobiloil "B"

BB means Gargoyle Mobiloil "BB"

Arc means Gargoyle Mobiloil Arctic

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