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VOLUME CLVIII NUMBER SIX

DETROIT, FEBRUARY 11, 1922

CURRENT COMMENT

The Capper-Volstead Bill

THE needs of agriculture in the way of national legislation are receiving more consideration in the congress of the United States at the present time than ever before. This is true because of the fact that there are more real statesmen in that body who recognize the premise that agriculture is a basic industry, the prosperity of which is essential to the prosperity of the country at large and its many commercial industries.

Of all the so-called farmer legislation which is under consideration in congress at the present time, the Capper-Volstead marketing bill is undoubtedly of the greatest interest and importance to the farmers of the country at the present time. This bill has been strongly indorsed by every farmers' organization in the country, as it was by the Agricultural Conference recently held at Washington, where the aim and object of this measure was also approved by President Harding in his address before the conference.

In this connection Michigan Farmer readers will be interested in a resume of the explanation and discussion of this bill in the senate, by its co-author, Senator Capper, which will be found in another column of this page.

Farmers' Week is a Success

ONCE more our agricultural college has scored. The 1922 Farmers' Week was a triumph. The number of people present, the arrangement and execution of the various programs, the general interest manifested and the information and inspiration imparted, marks this as one of the most successful round-ups ever held at the Michigan Agricultural College.

Visitors who recently have been present at big farm meetings in other states declared the one at East Lansing to be by far the best they had attended this year and in several years and that the farmers of Michigan seemed to be in far better mood than are tillers of the soil in any other part of the country. It is apparent that Michigan farmers are getting down to business and putting brains into their farm work, whether in lines of production, marketing or living.

The week at the college was packed full of good things. Throughout the

sessions we had seven correspondents present on the grounds gathering information of interest to farmers and their families. Much of what they found appears in this issue while other features of the big week will be published next week and in later numbers. We are pleased to be able to make this vast fund of information available to the thousands of Michigan farm folks who read these columns.

Unfair Freight Rates

IN another column of this issue appears a report of the address of Governor Groesbeck in which he declared that Michigan farmers are being discriminated against in the matter of freight rates. Maximum increases made during the past eight years are being charged by railroads in the lower pe-

ninsula and the freight payers of the state are now contributing more to the coffers of the companies than are the patrons in any comparable territory.

These high rates are charged off the products which the farmers sell and added to those which he buys. While with this handicap the generally favorable home and nearby markets still give the farmers of the state an advantage over other sections of the country, it is not just and this artificial "tariff" wall established around the state to the economic disadvantage of both producers and consumers, should be removed.

Every person affected should work to have this unjust discrimination corrected. To this end readers should address letters and petitions to the Interstate Commerce Commission and to congressmen and senators.

The Farmers' Marketing Bill

By Our Washington Correspondent

SPEAKING on the Capper-Volstead cooperative marketing bill in the senate on February 2, Senator Arthur Capper, of Kansas, said in part that "the cooperative marketing bill as it was offered in both the senate and house seeks simply to make definite the law relating to cooperative associations of farmers and to establish a basis on which these organizations may be legally formed. Its purpose is to give to the farmer the same right to bargain collectively that is already enjoyed by corporations. The bill is designed to make affirmative and unquestioned the right which already is generally admitted, but which, in view of the Sherman law, is subject to nullifying interpretation by those whose interests are not identical with those of the farmer, and who for one reason or another may be in position to obtain an interpretation advantageous to themselves and embarrassing or detrimental to the members of cooperative organizations.

"The original bill authorizes and validates cooperative associations of producers regardless of technical form, limited only by certain test requirements as to cooperative character; permits them to develop their activities to a natural extent, which involves a tendency toward great commodity organizations, and safeguards the public against any possible abuse by such cooperative marketing associations by appeal to and action by the department of agriculture.

The amendment offered by Senator Walsh for the judiciary committee strikes out practically all of the original bill and substitutes therefore a declaration with no regulatory features, but with direct prohibition of monopolies and direct privilege of handling the products of outsiders and direct inclusion of the terms of the Federal Trade Commission act."

In opposing the Walsh amendment, Senator Capper said: "I hope the substitute offered by the committee on the judiciary will not be agreed to. Whatever differences of opinion there may be as to the merits of the proposed legislation, congress should not say to the farmers, as it does in Section 1, 'You may combine to market your products,' and then by proviso say, 'You must not combine,' which would be the effect of the amendment offered by the senator from Montana.

"It is evident that this proviso nullifies the act, as no association can efficiently operate that does not control and handle a substantial part of a given commodity in the locality where it operates. Middlemen allege that farmers in selling their products individually are competitors with each other, and that by combining into associations to market collectively such com-

petition is eliminated and the farmers thereby undertake to form a monopoly. Though it is conceded that the inevitable effect of cooperative marketing is to lessen competition between farmers, it nevertheless remains that farmers must market collectively or, in the most correct sense, they cannot market at all, but they must usually turn over their products to a non-competitive buyer who operates the only elevator or milk station accessible to the farmers of the locality.

"Middlemen who buy farm products act collectively as stockholders in corporations owning the business and through their representatives buy of farmers, and if farmers must continue to sell individually to these large aggregations of men who control the avenues and agencies through and by which farm products reach the consuming market, then farmers must for all time remain at the mercy of the buyers. In so doing they are not in the most accurate sense marketing their products at all, but are forced by conditions to turn over such marketing to powerful associations of middlemen.

"With the legal status of their organizations clearly defined, farmers can do something to cut down the spread between the prices they now receive and those paid by consumers. * * * The bill as it passed the house, and which I hope will have the approval of the senate, gives to consumers a protection which they do not now have as against middlemen, in that if such farmers' marketing associations unduly enhance prices an adequate remedy is provided in Section 2. If such association unduly enhances prices, the secretary of agriculture may order it to cease and desist from monopolizing and restraining trade and commerce.

"The Capper-Volstead bill, so-called, was designed simply to give to the growers or the farmers the same opportunity for successful organization and distribution of their products that the great corporations of America have enjoyed for many years. More and more it has become evident that the growers must have an opportunity to merchandise their products in an orderly way, instead of being compelled to dump them on a glutted market at prices below cost of production.

"Every statesman looks forward to a condition as ideal when the whole country will be dotted with small farms, each operated by its owner. Every statesman deprecates the spread of tenantry and insists that best citizenship can be developed only upon the individual system of farm production. Because of this peculiar characteristic of agriculture, the growers have never been able to adopt a cor-

porate form of organization; they have therefore, gradually fitted into the cooperative form of organization, which maintains individuality of production but enables them to unite for marketing purposes.

"Marketing is always a group problem. No man can intelligently distribute without knowing what the markets will absorb; the amount of that particular commodity grown in this and other countries; competition of other commodities of similar use or character; conditions of transportation; possibilities of storage and credits.

Individual growers can not begin to handle marketing problems on an intelligent basis, because these problems are essentially group problems. The individual farmer has no more chance of selling his production fairly and intelligently over a long period of time than has the individual shoemaker in a great shoe factory of selling his particular share of manufactured product distinct and separate from the whole of the products of his fellow workmen. Therefore the cooperative marketing associations have developed (Continued on page 148).

Wound Up at Round-up

LAST week I put on my new shoes what squeak like a dry buggy wheel, a nice white collar and the red tie my mother-in-law bought me, and got rounded-up at the Farmers' College at Lansing with the rest of the aspiring farmers of the state of Michigan.

The college is a nice place with lots of buildings bigger 'en Smith's barn and a nice big front yard where budding youth is pursuin' knowledge with earnest endeavor.

Seems like knowledge is hard to ketch 'cause they is always chasin' it.

Anyhow, there was what they say was perfectly normal young men, in the buildin' called Jim, what look like they started to get dressed but forgot about it right after they got started and was runnin' around and makin' a lot of noise about nothin' in particular.

And in another place there's a lot of girls what is said to come from perfectly good families who likewise forgot to get dressed, but didn't forget so soon, makin' noise about the same thing. Getting educashun must be a occupashun what needs a lot of muscle and a voice what can holler good.

Some of the boys said the young ladies come from a big buildin' what they called "The Hen Coop." Bein' as I was always interested in chickens I went over and looked the coop over. I say those boys ain't got that buildin' named right. It should be called "The Pullet Palace" 'cause the inhabitants thereof ain't old enough to be hens even if they know how to cook eggs all right.

The round-up part of this week of outin' was a lot of meetin's all at once every day. It took me so long to find out which one I wanted to go to that I didn't get to none.

I looked in on some of them and saw lots of folks listinin' to some man of extinction talkin' on "The Problems of Producshun," "Operatin' on Cooperashun," or such like.

I wasn't asked my opinion of these things, so I didn't stay. Anyhow, I knew I could read all about 'em in the papers, whereas the aforesaid subjects of interest ain't never mentioned.

Looks like the Round-up is where you get wound-up so you can run all season on your learnin' what and what not to do. HY SYCKLE.



Fills Its Silos with Sunflowers

Sunflowers are a Good Substitute for Corn in Silos

By Walter N. Burns

SUNFLOWERS are today one of the most important silage crops in Western Canada, and one in which northern Michigan farmers are rapidly becoming interested. The rise of this once despised weed to a position of recognized value in the economics of a nation has been one of the most interesting agricultural developments of recent years.

Only a little while ago, one perhaps might have seen in Western Canada a few tall sunflowers nodding their big blossoms in some neglected fence corner where they had escaped the reaper or mower. Now on hundreds of prairie farms every summer broad fields of sunflowers make the landscape gorgeous with their masses of yellow blooms.

Sunflowers have greatly increased the number of silos. Since they have become a cultivated crop, the prairies are becoming dotted with silos. Every prosperous farmer has a silo or is planning to build one.

Time was when Western Canada was divided between wheat and cattle. The cattle pastured on the open range, the wheat was almost an exclusive crop. These were the days of the cattle king and the wheat baron. They were bonanza days when big farmers scored a fortune or a failure in a year.

Today is the day of the small farmer and diversified farming in Western Canada. The settlers are raising not only wheat but other field crops and all kinds of live stock. Their prosperity is based on a diversity of farm products.

This era of diversified farming has helped the sunflower to its new place in agriculture. Silage is necessary as a winter feed for live stock and sun-

flowers have solved the silage problem for many farmers. There is a race between corn fodder and sunflowers for supremacy as a silage crop and sunflowers are gradually forging to the front.

"A conclusive test as to the relative merits of sunflowers, corn, oats and pea silage was recently made on a Canadian government experiment farm," said DeWitt Foster, superintendent of the industrial and resources department of the Canadian National Railways. "A herd of Holsteins was fed on each of the three silages two

weeks at a time, each cow being given thirty pounds daily. On sunflower silage, each cow produced 27.24 pounds of milk daily of 3.6 per cent butter-fat content and gained two pounds in weight per day; on peas and oats, 25.88 pounds of milk of 3.5 per cent butter-fat and gained one pound per day; on corn, 26.4 pounds of milk of 3.4 per cent butter-fat and gained 1.85 per day."

Two great advantages sunflowers have over corn as a silage crop. They cost much less to grow and their yield is very much heavier. On good land

thirty tons of sunflowers may be grown to the acre. Corn is a hardy crop but sunflowers are hardier. They will thrive on dry land where corn would be a failure. They flourish under soil and climatic conditions that would kill other crops. Twenty tons to the acre on poor land is not unusual. As for the cost of turning sunflowers into silage, one farmer who has been feeding his cattle sunflower silage for several years, estimates that it costs him \$1.50 a ton to pack the sunflowers into the silo. Last year he fed his cows thirty pounds of sunflower silage a day and they averaged from forty to fifty pounds of milk a day.

The palatability of sunflower silage was a question at first which led some farmers to doubt its value. This is no longer a problem. It is sometimes a matter of a little difficulty to wean cows from corn silage when they have grown used to it and accustom them to sunflower silage. Corn perhaps has a daintier flavor to the bovine palate than sunflowers. But the question is solved quickly by feeding the cattle a mixture of corn and sunflower silage and gradually changing to an exclusive sunflower diet. When they have once acquired the taste for sunflower silage, it is said cattle seem to prefer it to corn silage. At least they eat it with equal appetite and with equal physical benefits.

By making silage cheap and abundant, sunflowers have aided the farmers of Western Canada in a very material way. Silos practically double the stock supporting capacity of land, and sunflower silage enables a farmer almost to double his dairy or beef herd without adding to the acreage of his farm.



A Field of Silage Sunflowers.

Maple Sugar and Syrup Profits

A Properly Handled "Sugar Bush" Will Pay Good Dividends

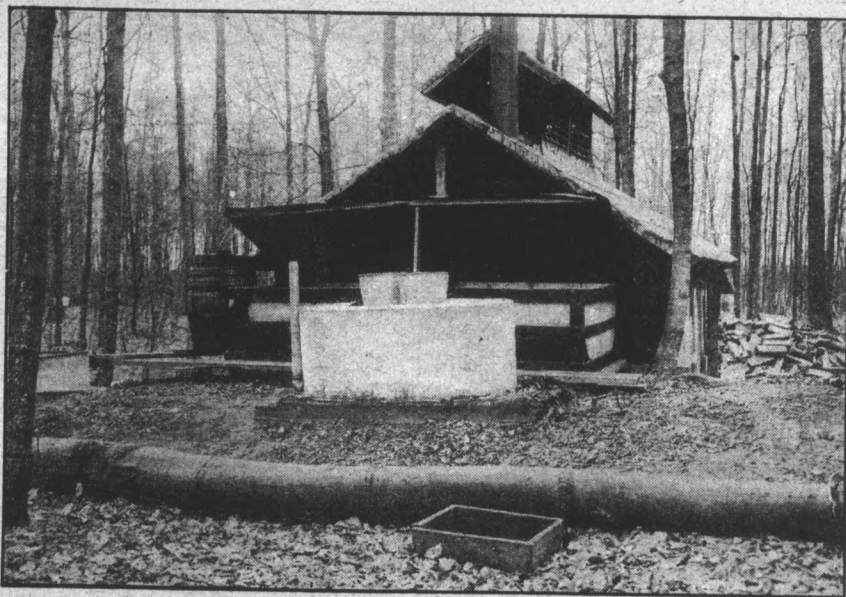
By E. A. Williams

THE making of maple sugar and syrup has become but a memory to too many farmers where wood lots have given place to cultivated fields and pastures. Upon hundreds of farms are found the best kind of a sugar bush, yet the farmer is not equipped to collect nature's liquid sunshine and convert it into one of the most delicious market products, for which there is an unanswerable demand at profitable prices. This, too, in view of the fact, that one season's good run would pay for the outfit, leaving a dozen years' clear profit for the future.

On many farms the sugar bush is simply the woodlot that has been preserved to supply fuel for the household, to afford a bit of beauty and shelter in the midst of a wind-swept country and to provide an annual crop of sugar and syrup to be used as a delicacy or sold to regular customers at a high price. Such bushes usually contain trees of several varieties, but the maples are the last to be taken.

It is not from these small mixed groves that the great marketable supply is secured but rather from the more rugged areas where the plow and the harvester are not so easily operated. The groves as found in the principal sugar sections are chiefly maple trees, the other kinds having been removed for fuel or for the saw. This is the condition that obtains in many sections.

The production of sap of a sugar-



A Well-equipped Sugar Shanty Makes High Quality Products More Certain.

making quality depends on a large leaf area. From this it follows that the number of trees per acre must be consistent with the greatest crown development of each tree in the grove. A maple tree, which is a forest species, growing under this condition will produce a good length of trunk and this is necessary to a productive yield because the elaborated sugar is stored in the trunk of the tree for use during

the next season; thus the trunk becomes a storage tank. The typical tree for sugar making is a tree with ample root system to supply an abundant amount of crude sap; a broad, spreading top with big leaf surface to elaborate the sap and a big, long body in which the sap may be stored.

A sugar vroye requires some attention to keep it in good condition. Apart from the maintaining of roadways to

facilitate collecting of sap, thinning out may be necessary from time to time. In a usual mixture the trees of species other than maple may be gradually removed and the reproduction of the maple encouraged. In making such a thinning, the work should be done gradually, the trees which crowd the best maples being taken out first, a few trees from a place at a time so as not to suddenly expose the largest maples to danger from wind storms. If the maples themselves stand too thickly those with small crowns or unsoundness should be removed. The promising saplings should be given every opportunity for growth.

Unfortunately the stripping of even our rocky lands of their trees has gone on to an unprofitable degree. A maple tree that will cut two cords of wood is worth on the stump for that purpose about \$6.00 at the present price of wood. The annual interest on this sum is thirty cents. The tree is left to grow into considerable value for itself will yield an average of three pounds of sugar worth anywhere from forty cents to \$1.00, according to the intelligence of the maker. To clear off the maple timber from stony land unsuitable for farming purposes is like killing the goose that lays the golden egg.

Sap as it comes from the maple tree is a very dilute solution containing from ninety-five to ninety-eight per cent of water and about three per cent (Continued on page 170).

LATE AGRICULTURAL NEWS

STATE FARM BUREAU OFFICERS FOR 1922.

THE new board of directors of the Michigan State Farm Bureau met immediately after the annual meeting of the delegates and elected the following officers: James Nicol, South Haven, president; M. L. Noon, Jackson, vice-president; Clark L. Brody, secretary-manager, and Fred Van Nordsall, treasurer. The secretary and treasurer are hired by the board to perform the duties calling to their respective offices. The next meeting of the board will be held February 15 at Lansing.

POTATO GROWERS HOLD ANNUAL MEETING.

THE Michigan Potato Producers' Association held their annual meeting at East Lansing on January 31 and February 1. The principal speakers on the program were Dean R. S. Shaw, of the Michigan Agricultural College; Professor J. G. Milward, of the Wisconsin University, Madison, Wis.; Mr. J. W. Nicolson and Mr. C. F. Barnum, of the Michigan State Farm Bureau. The meetings were well attended and much interest was shown in all of the speeches and discussions.

Professor Milward, in speaking about seed potato improvement work in Wisconsin, emphasized the importance of potato inspection and certification service in helping to better the standards of the potato industry. The growers in southern states are dependent upon the northern potato growing states for seed potatoes, and it is essential that this seed be free from varietal mixtures and serious diseases. Special stress was placed on the importance of testing out different strains of potatoes so that the weak, poor-yielding ones can be eliminated, while those of merit can be increased for distribution to the growers of the inspected certified seed.

Mr. Nicolson gave the results that had been secured in selling the 1921 crop of certified seed potatoes through the seed department of the Michigan State Farm Bureau. He brought out very forcibly the fact that the success of the certified seed potato work in Michigan is dependent upon the production and selling of high quality seed. To produce the best quality seed the rules governing the inspection work must be kept at a high standard and growers must conform to the rules.

Mr. Barnum explained that the growers having certified seed for sale should keep the seed department of the farm bureau notified as to the amount of stock that they have for sale and the price of same. He stated that seed stock must be free from disease and be of high-yielding, vigorous strains and furthermore, that it must present a good appearance when it reaches the consumer. The potatoes must be in new bags and the tubers must be free from dirt, fork punctures, etc.

The following officers were elected: President, Thomas Buell, Elmira; vice-president, A. B. Large, Cadillac; secretary-treasurer, H. C. Moore, East Lansing. J. C. Redpath, Kalamazoo, and O. S. Wood, Barryton, were elected members of the executive committee.

In connection with the meetings the Michigan Potato Producers' Association cooperated with the college in putting on a potato exhibit.

Sixty-eight peck samples of potatoes were exhibited in competition. Prizes were given by the Michigan Potato Growers' Exchange and the Michigan Potato Producers' Association to those growers having the best exhibits.

One important feature of the potato show was the exhibit of Michigan potatoes that won the sweepstake prize at the International Potato Show, at Duluth, Minn., in November, 1921. The potatoes shown in this exhibit were grown by Mr. Lee E. Sneathen, Charlevoix county; W. C. Mallory, Frank Ford, Caddick Brothers, Anthony & Son, J. George Brudy, Wm. Brown and W. L. Thomas, of Cheboygan county.

An educational exhibit showing the most important potato diseases attracted much attention. Tipburn or hopperburn, one of the most serious troubles with which potato growers have to contend, was the dominating feature of the potato disease exhibit. The life history of the leaf hopper which is the insect that causes hopperburn, was shown graphically by means of a mechanical device. Spraying the vines with Bordeaux mixture was recommended for controlling this pest. Pictures and figures giving the results secured last summer in Emmet county with the Bordeaux spray, were convincing proof of the value of this spray in combating the leaf hopper. The potato disease exhibit was arranged by J. E. Kotila, of the botanical department.

MICHIGAN FARMER DISCRIMINATED AGAINST.

IN his address at the Agricultural College Farmers' Week, Governor Groesbeck, after reviewing the tax situation in this state pointed out how Michigan farmers and other shippers were discriminated against by the railroads with the full consent of the Interstate Commerce Commission. He said:

"Distance considered, and in consideration of what are or should be the natural markets for Michigan's farm products, the rates paid by Michigan

farmers are actually and relatively higher than can be found in any other comparable section of the United States.

"To illustrate: Waupaca, Wisconsin, is the price-basing market for Wisconsin potato shippers. The distance from Waupaca to Chicago is 221 miles and the rate is twenty-five cents per hundred pounds. The distance from Hart, Michigan, to Chicago, is 234 miles and the rate on potatoes is thirty-six cents per hundred pounds, a disadvantage of thirteen miles in distance and thirteen cents per hundred pounds in freight charges. To Toledo, Ohio, the distance from Waupaca, Wis., is 409 miles and the rate is thirty-five and one-half cents. From Hart, Michigan, the distance is 266 miles and the rate is thirty-five and one-fourth cents. In this instance, Hart has an advantage of 143 miles in distance but no advantage in freight.

"To Pittsburgh, Pa., one of the most important markets, the distance from Waupaca, Wis., is 651 miles and the freight rate forty-four cents. From Cadillac, Michigan, the distance is 470 miles, or 181 miles less than from Waupaca, and the freight rate is forty-two and one-half cents. In this instance an advantage in distance of 181 miles yields an advantage in freight rate of only one and one-half cents per hundred pounds. In the Pittsburgh market an advantage to Cadillac of 181 miles in distance gives Cadillac only one and one-half cents advantage in freight rate over Waupaca, Wis.

Fault of Zone System.

"The principal reason why rates on farm products from Michigan points to all competitive markets are so much higher than are the rates from points in other states, such as Wisconsin, notwithstanding the much shorter hauls from Michigan points, is that, without exception, class rates, and principally

the fifth-class rates, are applied to Michigan shipments; whereas, from all other and competing agricultural states, special and specific commodity rates, much lower than would be their class rates, are applied. The only exception is with respect to rates on grain.

"Because of representations made by Michigan railroads the Interstate Commerce Commission has permitted the carriers to divide the lower peninsula of Michigan into several rate zones, with the result that the rates from Michigan points to all points outside Michigan progressively and substantially increase as the distance from Michigan-Ohio-Indiana state line increases, but without regard to the actual distance. That has the effect of practically annihilating differences in distance of from fifty to 200 miles that should be favorable to Michigan points.

"In other words, the zone system greatly inflates the entire Michigan rate adjustment and completely disregards whatever natural advantages of location Michigan farmers may have with respect to the important market for the product. It is of equal importance that this maladjustment of Michigan freight rates not only affects the outbound shipment of Michigan products, but also affects everything the farmer buys. Every piece of farm machinery and everything that he uses which comes to him from manufacturing points in other states pays a rate that greatly exceeds what would be charged for hauling the same shipment an equal or greater distance in any other direction."

THE FARMERS' MARKETING BILL.

(Continued from page 146).

along commodity lines and tend to dominate their respective lines of industries.

After pointing out the helplessness of both producers and consumers under the present individualistic system, and referring to the success of such California citrus fruit growers have attempted, Senator Capper said:

"We can never again become a truly contented, normal and prosperous people except through bettering the condition of American agriculture. The situation today is critical. It is dangerous. American agriculture has never reached so low an ebb as it has today.

"In an organized world of business and industry we must put our \$80,000,000,000 farming industry on an equal footing and a permanent basis or be prepared to see it die through economic inanition and suffer more and more disastrously from evil times when we should be enjoying good times. * * *

"I sincerely believe that we shall never again enjoy true prosperity in the United States until one of two things shall happen: Either manufactured goods must be more nearly and permanently on a parity with farm products, so far as the farmer is concerned, or farm products must be more nearly on a parity with manufactured products.

"The best way, the only feasible way, to bring this parity about, it seems to me, is to increase the producer's profit by shortening the road to market. The way to accomplish this is through cooperative marketing, which eliminates the unessential and speculative middleman, and which gives the producer and the consumer their due. A bushel of wheat, a bale of cotton, or a pound of pork or beef must in future buy more goods for the farmer, or farmers will continue to desert the farms in search of something that will."



Wednesday, February 1.

CHINA accepts Japan's offer to return Shantung and the five great naval powers agree on naval limitation.—Elizabeth Hill, a Chicago waitress receives \$10,000 and a thousand acres of Nebraska's best grazing land from an old rancher because she refused to accept tips.

Thursday, February 2.

STRIKE riots were renewed in the Newport, Kentucky, rolling mill zone.—Senator W. S. Kenyon has accepted a judgeship in the federal circuit court.—Charles M. Schwab urges America to keep the tariff up to prevent the country being flooded by foreign goods.—Tolstoy, son of the famous Russian writer, says the red rule in Russia has failed.

Friday, February 3.

THE worst blizzard in years is reported raging in South Dakota.—Reports from Russia say that the starving are eating the dead.—The Peace Conference at Washington will give eight treaties to the world to seven of which the United States will be party.—Prince Yamagata, noted Japanese statesman, dies in his eighty-fourth year.

Saturday, February 4.

SOLEMN rites mark the opening of the conclave in Rome which is to elect the new Pope.—Congress is considering Ford's Muscle Shoals propos-

al.—Twenty-five are killed in a coal mine explosion near Birmingham, Ala.

—Scientists claim to have found a rust-proof steel.—Sarah Bernhardt, the great French actress, will appear in American movies.

Sunday, February 5.

THE Pope electors are still in a deadlock.—Director of Budget Dawes decries the waste going on in various government departments.—General deWet, famous chief of the Boer forces in the war of 1899, died at his home at Dewetsdorp.—Henry Ford buys the Lincoln Motors Company at a receiver's sale for \$8,000,000.

Monday, February 6.

THE chewing of cigar crumbs caused the death of Harry Renson, a five-year-old boy.—The man with the shortest name in the world has been found in Chicago; his name is Wm. O.—A prominent literary authority says America has the only women poets of note.—Cardinal Achille Ratti has been elected Pope. He has taken the name of Pius XI.

Tuesday, February 7.

MANY tractor manufacturers are cutting the prices of their products.—A merger of the Citizens' Telephone Company with the Michigan State Telephone Company has been agreed upon.—One hundred and ten workers die in Japan when an avalanche buries a train.

At the Farmers' Round-up

Large Crowds at M. A. C. Hear Big Problems Discussed

THE spirit of expectance seemed ever present among the big crowds as they moved about the M. A. C. campus and listened to the Farmers' Week programs. These farm folks who came to the college from near and far carried in their hearts, it at least seemed so to a sympathetic observer, a yearning for something, they knew not what. Nor did the agricultural leaders and teachers walk with the firm and confident step that characterized their meanderings in other years. And in the addresses and discussions on the economic phases of the great agricultural industry thoughts, for the most part, were expressed in rather vague and general terms. The learned and the layman alike appeared to be looking for a Moses to come and help them out of the wilderness. As President Burton, of the University of Michigan, said in his masterly address, we need a Lincoln to make clear to the common folks the tremendous issues with which we are confronted.

A conservative policy was advocated by our commissioner of agriculture, Hon. H. H. Halladay, in his address before the Tuesday afternoon audience. The taxation burden does not warrant the undertaking of new governmental projects and demands effi-

ciency in every public service department and bureau now established.

The commissioner reviewed the economic phases of the control of diseases among the flocks and herds of Michigan and cited the progress made in stamping out hog cholera and in eradicating tuberculosis from our dairy herds. This rapid progress is due to the fact that many agencies have been cooperating. The federal government, the state, local veterinarians, county agents, farm bureaus and the farmers themselves have all been putting their shoulders to the problem and the results show what success has followed.

In the field of marketing the commissioner holds that advancement will come more satisfactorily by giving increased attention to quality rather than to quantity production. To this end our local and state fairs are in a position to render an important educational service. The more careful censoring of the entertainment features of these fairs to make room for a wider development of agricultural ideals was urged by the speaker in closing.

Creelman Speaks.

A ray of light was flashed across the minds of anxious listeners when Dr. G. C. Creelman, former president of the Ontario Agricultural College, told of the farmer movement in that

province. The present control of government across the border was not gained in a day. It was rather the product of over a generation of effort in the development of agricultural leadership.

The good work began in 1874 when the grange, then flourishing in the states, was introduced and established in the rural districts of Canada. Early progress largely came to naught because the necessary attention was not given to developing the younger generation. The activities of the organization did provoke more thinking on the part of the farmer folks which resulted in the breaking down of political party lines and made possible the election to office of a higher class of men. The grange also ended the old credit system and encouraged cash trading, besides awakened the public conscience to the necessity of protecting and conserving public resources. Rural mail was established as a result of grange agitation and a railroad commission was secured for the Province.

In 1890, the Patrons of Industry arose to champion the farmer's cause and this organization was responsible for electing seventeen members to the following parliament. The outlook seemed so promising that internal dissension developed over leadership and the next session only one member was returned. Not long after the Farmers' Association was launched with the object of securing and promoting the farmer's interests through legislation and otherwise. A bill was enacted to require railroads to build cattle guards at crossings and another to oblige the railway companies to construct adequate drainage across their right-of-way. Of all of these attempts the grange has been the only organization to survive.

Next came the United Farmers of Ontario. Their program was modest. It was to give the farmers a knowledge of public questions. As the movement has developed the sphere of activity has broadened and now a three-phase line of work is under way. These lines are organization, education and cooperative selling and buying. The important thing emphasized all through Mr. Creelman's address that the farmers must stick. If they stick they will get somewhere. If they do not hang together then their attempts are bound to be futile. He is convinced that twenty men by holding themselves together on a definite policy can transform a community.

But to make this a go they must not fail to include the second phase of work—education. We must think

more, read more, and work more intelligently. Farm homes have too few books. Farmers are as well informed as any class, yet they lack in knowledge of the things with which their life is tied up so closely.

Finally if the farmers can organize and stick and if they work with an open mind to secure the facts, then they are getting themselves in shape to proceed with intelligent cooperation. Three years ago the farmers sent their representatives to Toronto to see what could be done to improve the conditions for marketing their live stock. They secured a cut from around \$100 to \$16 for handling carloads of stock and obtained permission to use one small corner of the yards for selling stock shipped in by cooperative organizations. Now the farmers control five-sixths of the entire yards. Substantial progress has also been made in the marketing of fruit. He has faith that these movements are well founded and that the work is going forward and will accomplish much for the farmer and for the country.

While this movement started with the idea of informing the farmer on public questions, it was little dreamed that he would early be learning his lessons through actual experience. However, it was little more than a fortnight before the farmers had a majority in the house of parliament and were called upon to form a cabinet. Not a single member had ever had legislative experience, nevertheless they proceeded and the results have been so satisfactory that the whole province and dominion have developed confidence in the farmer's ability to do for the good of the whole people.

Grange Accomplishments.

In the absence of A. B. Cook, master of the State Grange, who was in attendance at the Washington conference, and who was to have told of what the grange had done and hoped to do, Mrs. Dora Stockman, lecturer of the State Grange, and member of the State Board of Agriculture, was called to fill the place on the program. She gave an inspiring address and in her recital of the many big things which have been accomplished for agriculture and the country by this organization during the past half century, she impressed the audience with the saneness of the grange program, with its comprehensiveness, and with the true democratic spirit in which the work has been carried on. The grange has always lived with the people because it has been of the people—its work has been right on the same level where folks live.

Talks on Better Farm Crops

INCREASED efficiency in crop production through a greater use of quality seed was the keynote of the program at Wednesday's meeting of the Michigan Crop Improvement Association, held at M. A. C. in connection with Farmers' Week.

"Quality seed of high-yielding varieties adapted to the conditions under which they are grown will bring a safer, a more dependable, and a more profitable crops production," said Professor A. C. Arny, head of the Farm Crops Department of the University of Minnesota and main speaker at the morning's meeting.

Professor Arny believed that Michigan farmers who used the inspected seed of the Crop Improvement Association were eliminating much of this loss through using seed of known purity, adaptability and vitality.

Both Professor Arny and Professor J. F. Cox, of the Farm Crops Department of the Michigan Agricultural College, emphasized the importance of diversified agriculture, particularly in times when staple products were low-priced as they are today.

"In diversity there is strength," said Professor Cox, and he quoted figures which showed the staple crops of wheat, corn and oats to be selling below the average for the ten-year period of 1911-1920 while beans, potatoes and hay which give Michigan her diversity were selling at prices substantially above that ten-year average. Because of this diversity Michigan is in better shape agriculturally today than any state in the Union, with the possible exception of California.

In speaking of crops adjustments Professor Cox urged a greater increase in the acreage of leguminous crops, particularly alfalfa. He stressed the importance of lime in this connection and also the use of native northern-grown seed, particularly of the Grimm variety. Michigan farmers today can be assured of a safe source of that seed from their Farm Bureau Seed Department, which has available 800,000 pounds of certified Grimm alfalfa seed and between two and three mil-

lion pounds of northern common.

Professor Cox also pointed out the opportunities for profit in seed production in Michigan. Members of the Crop Improvement Association the past two years have found a ready market for their seed despite the depression and the demand this year for Michigan pedigreed seed will far exceed the supply.

That Italian clover seed is not adapted to Michigan conditions was brought out by C. R. Megee, Assistant Professor of Farm Crops at M. A. C. In tests at the Michigan station, he said, "Michigan-grown seed gave ninety per cent of a stand, whereas Italian grown seed gave only five per cent of a stand. He also called attention to large supplies of Michigan-grown winter vetch, sweet clover, and soy-beans, assuring Michigan farmers of a plentiful supply of safe seed of these valuable legumes.

Professor Spragg, plant breeder, told of the origin of the New Hardigan alfalfa. In tests at the station, thus far, it has yielded at least fully as well as Grimm and other hardy varieties while for seed production it has produced about three times as well. This variety promises to take an important place in Michigan agriculture by enabling farmers of this state to profitably produce their own seed.

Other speakers were E. E. Down, assistant plant breeder, who outlined the work being done at M. A. C. in the development of sugar beet seed production for Michigan, and J. R. Duncan, who has been working with corn at the station and has three strains of corn, improvements of the Duncan and Golden Glow varieties, and a new variety, the M. A. C. Yellow Dent, which are results of ear-to-row breeding work and will be released this spring through the Michigan Crop Improvement Association and the Farm Bureau Seed Department.

Over five hundred farmers attended the meeting, indicating the greatly increased interest which the producers of Michigan are showing in this improved seed movement.—H. C. R.

Women's Session Interesting

THE farm women of Michigan who have been wondering as to causes of the depression through which we are passing, were told one reason at the Wednesday morning session of the housewives' congress in East Lansing, by Miss Edna N. White, director of the Merrill-Palmer School of Detroit. Miss White has recently returned from a survey of health conditions among the children of Europe, and she had no hesitation in laying the blame for our business depression to conditions existing in Central Europe. Half the population of Budapest are barefoot, boys go about with no clothing above the waist, and little girls with a dress and no underclothing, or with underclothes and no dress, and the wages of professional people are less than fifteen dollars a month.

It follows that little can be done in the way of buying American goods. Miss White told of families of six and seven herded into one room, absolutely dependent on the work of the American Relief Commission or of the Quakers, in many cases the mother dying of tuberculosis and the father unable to work, even if there were work to be done. So long as so much misery exists in Europe, America must expect to feel the reaction, according to Miss White.

Miss White visited England, Denmark, Germany and Austria. The English people realize that the children must be cared for and have established infant clinics and nursery schools for children from two to five years, and are watching the school children as well. She found little suffering in

Denmark, where the dairy interests insure plenty of milk and butter, and not so much in Germany as in Austria. The Quakers have established one thousand feeding stations in Germany where one million children who suffer from malnutrition are fed daily.

Mrs. Barbara H. Bartlett, Director of Public Health Nursing in the University of Michigan, spoke on Health Problems in the Rural Home. She blamed as menaces to health in rural districts the lack of clinics, free dispensaries, public health nurses, sufficient physicians to care for the population, lack of telephones, lack of facilities to care for the sick, lack of pure water, lack of sanitary toilets and sanitary drainage, scarcity of household help, irregular hours for mothers, decayed teeth, and complications resulting from child birth. She called attention to the high maternal mortality—23,000 mothers died in the United States in 1920—and made a plea for cooperative hospitals. These, she said, might be erected by groups of counties and stock bought by farmers.

Nearly two thousand women are in attendance at the meetings. A departure in arranging the programs from the method of other years has been tried. A general meeting is held in the morning in the Peoples' Church, with lectures by prominent speakers. Then from four to five o'clock conference groups meet in various classrooms where problems of nutrition, clothing, household decoration and allied subjects are discussed and demonstrations given. In this way each woman may find help for her own particular puzzlement. Home dyeing was discussed and demonstrated Tuesday by Miss Martha J. Phillips. Dean Mary Sweeney welcomed the guests, while Mrs. Dora Stockman presided. During the afternoon Miss Helen Arms gave a demonstration of children's clothing and Professor Gibbons discussed nutrition problems. On Wednesday afternoon the home demonstration agents and students showed how to make a dress form.

The health of children occupied the attention of the Housewives' Congress

on Thursday morning. Dr. Helen S. Mitchell, of Battle Creek Sanitarium, spoke on "What we Learned Concerning the Diet of Children." She paid particular attention to the need of vitamins, illustrating her talk with charts showing the food in which vitamins are found. Dr. Mitchell continued her subject at a conference in the afternoon, when opportunity for questions was given the visitors.

The need for dental inspection of school children was stressed by Dr. R. W. Bunting, secretary of the Dental College, University of Michigan, and president of the State Dental Association. Dr. Bunting declared that dental inspection in city schools revealed large numbers of children with infected mouths and decayed and abscessed teeth, which directly affect the health of the child. Many children have never been taught to use a tooth brush until taught in school, he declared, and dental care shows an increased ability to do good work in school. He urged dental inspection for rural schools.

Miss Helen D. Grimes, of the Physi-

cal Training Department, gave a demonstration of exercises to rest the feet and keep them in a healthy condition.

During the afternoon of Thursday, Professor Garrison conducted a millinery demonstration; the home demonstration agents and students made a dress form; Professor Tucker demonstrated household tests for textiles, and Miss Helen Arms exhibited model clothes for children.

A welcome feature for parents is the day nursery where young children may be "checked" from 8:30 a. m. until 6:00 p. m., leaving the parents free to attend lectures and visit exhibits. The nursery is in charge of a nurse, aided by students. Toys and games keep the youngsters busy, and comfortable beds give an opportunity for rest. The parlors of the women's building are at the disposal of visitors, and in the basement of the women's building a society room has been given up as a rest-room, for those who wish to lie down. During the afternoon tea is served in the parlors of the women's building.

OUR SERVICE DEPARTMENT

TRANSFER IN FRAUD OF CREDITORS.

Father owned a farm of forty acres and to make business matters safe he deeded the farm to myself and mother. In the year 1907 father died. Later we sold the farm and mother told me to take the money and buy again and take a warranty deed fully in my own name. I have a good legal warranty deed and free from all incumbrances. In case of an attack from my sister in a lawsuit, am I safe.—M. A. C.

Only creditors can complain of transfers made to defraud them. The grantor and his heirs can not.—J. R. R.

TESTS FOR MARL.

Please tell me how to test marl to find its quality as fertilizer.—T. A. P.

One of the best simple tests for the purity of marl is to dissolve a small amount in strong vinegar, muriatic acid or other common acid. The lime will dissolve, leaving a residue of soil particles and organic matter. The less of this foreign material left, the more pure the marl.—A. H. J.

CULL BEANS FOR HORSES.

I would like to know if good sound cooked cull beans would be all right for horses, providing they eat them?—Subscriber.

An extensive horse breeder in this immediate locality is feeding cooked cull beans to young horses. He is mixing them with bran. One bushel of bran with twenty-four quarts of cull beans and feeding that mixture twice daily. He advises against feeding cull beans in the raw state and says that there is nothing gained in feeding cull beans to horses at the present price of oats and corn.—R. S. H.

SWEET CLOVER.

I want to plant Hubam sweet clover to grow seed on a field of clay loam soil. It is alsike clover sod, fall-plowed, and has never had any lime applied. Hydrated lime is the only kind we can get here. I would like to know how much lime I ought to apply per acre.—O. E. O.

The amount of lime will depend upon how acid or sour your soil is. I would advise you to have a sample of the soil tested for acidity by your county agricultural agent or the soils department of the Agricultural College at East Lansing. About one or one and a half tons of hydrate per acre is generally applied on quite acid soils. A lime spreader is the best method of applying. I would put it on the plow-

ed ground and drag it under when fitting your seed-bed. It is best not to sow lime and fertilizer with the same drill. Acid phosphate or a 0-12-12 or similar fertilizer formula generally give the best results in cases such as yours.

Best general results with alfalfa seem to be obtained when sown without a nurse crop. Sweet clover and alfalfa have the same nitrogen organism on their roots so that if your sweet clover was well noduled it will not likely be necessary to inoculate the alfalfa.—J.

PURCHASE ON INSTALLMENTS.

If A should buy an article of furniture on the installment plan from a mail order house, secured only by the assurance of a friend of A's honesty, then A should move away and sell it to B, claiming it all paid for, then the mail order house find him and later the article at B's home, can they take it from B?—T. M. L.

Such contracts usually provide the title shall not pass until full price is paid, in which case the property belongs to the seller, and he may take it where he can find it.—J. R. R.

VALUE OF SILAGE.

What proportion of value, is silage to clover hay? I am about to purchase some hay.—H. B. H.

One pound of hay is usually allowed for each three pounds of silage in the dairy cow's ration. Silage is usually figured at one-third the price of mixed hay on the farm, or hay about three times the value of silage.—J. W.

CANADA FIELD PEAS.

I sowed some Canada field peas last year with oats, sowing thirty pounds of peas to one and a half bushels of oats per acre. I cut and threshed same as other grain, but the peas didn't grow over twenty-four inches high, or make a very luxuriant growth. Neither did the oats, for that matter, as the season was not favorable. These peas ripened a week or ten days ahead of the oats, and consequently shattered badly in cutting. I sowed 100 pounds of sixteen per cent acid phosphate per acre. Would this cause peas to ripen ahead of the oats? My oats are a fairly early strain. What variety would be best to grow with oats for seed purposes and what amount should be sown per acre? I prepared my seed-bed last spring with the disc harrow. Should the ground be plowed?—R. H.

When Canada field peas are sown for grain it is customary to drill in from two to two and one-half bushels of seed per acre alone. When used for

forage purposes such as hay or for hogging off, it is customary to use a mixture of oats and peas.

Different varieties of peas, as well as oats, have quite a range of maturity. In our tests we have found that the Wolverine oats, the French June and Chang field peas mature about the same time and give excellent results for hay.

If the Marrowfat field pea is to be grown it will take a very late variety of oats; however, the Marrowfat is more frequently used for grain purposes.

The use of acid phosphate would tend to hasten the maturity of both the oats and the peas.

Most of the field pea seed that is produced in Michigan is grown in the Thumb or in the northern part of the state.

Owing to the presence of the weevil and the fact that warm weather comes on quite early in your section, it is not likely that you will find the production of field pea seed very profitable.—C. R. M.

TESTAMENTARY CAPACITY.

If the doctors judge a man's mind sane, can he make a will that is legal if he is over eighty years of age?—H. F. S.

The fact that the doctors, or even the probate court, has determined a man insane, is not conclusive that he can make no will. Testamentary capacity depends on the capacity at the time of making the instrument, not his condition before or after. Even unsoundness of mind is not enough to render the will void unless the nature of the disposition appears to have been affected thereby.—J. R. R.

A DAIRY RATION.

What is your opinion of a dairy ration consisting of 600 pounds of ground oats, 300 pounds of corn, 300 pounds of buckwheat middlings, and 300 pounds of bran? For roughage I am feeding good corn silage and shock corn that has but very few ears in the stalks with a very small amount of clover hay once a day. What kind of feed could I leave out of this ration and get equally good results? Later on in the winter I will be feeding corn stalks and clover hay. How would I change the feed at that time for the best results?—O. P.

The grain mixture you are feeding is a good one. It is lower in protein, however, than is usually fed with silage, shocked corn and one small feed of clover hay daily. It contains about

15.5 per cent total protein. A ration of approximately twenty per cent total protein will ordinarily give better results with this kind of roughage. You might decrease the oats and bran somewhat and use a little cottonseed meal in the ration as follows: Corn meal, 300 pounds; ground oats, 200 pounds; buckwheat middlings, (without the bran), 400 pounds; wheat bran, 200 pounds, and cottonseed meal, 150 pounds.

This mixture contains 20.5 per cent total protein. Six pounds of this mixture will supply the same amount of protein that eight pounds of your mixture, and while one pound will cost a fraction of a cent more, the daily grain requirement for a cow producing 2.5 pounds of milk when using this mixture will cost from one to two cents less. It is also sufficiently bulky and palatable and when fed with silage sufficiently laxative.

The same mixture may be used with cornstalks and clover hay without silage, except that 200 pounds of linseed oil meal should be substituted for the 150 pounds of cottonseed meal.—W.

TRESPASS BY STOCK.

A and B own adjoining farms. B raises small fruits and truck. A does general farming and poultry raising. What can B do as to A's chickens trespassing on his crops where they cause as much as \$25 damages for the year? A line fence would do little good as they roam as far and a quarter of a mile from A's home.—D. H. P.

In the absence of sufficient line fence, at least on the part to be maintained by the party whose stock trespasses, he is bound at his peril to keep the stock at home, and is liable for all damage it does by trespassing.—J. R.

ERECTING BUILDING ON THE LAND OF ANOTHER.

If wife owns the land and husband erects a brick building on same property away from house and wooden buildings against house, to whom do buildings belong? Can he remove them?—L. M. P.

Buildings erected on land belonging to the owner thereof, and if erected with knowledge of such ownership and without contract (such as a lease) giving direct or implied consent to erect and remove, cannot be removed by the party who put them there, nor any compensation be recovered for the expense of building. I think there would be no implied consent by wife that husband might remove buildings put on her land by him.—J. R. R.

Francisco Farm Notes

By P. P. Pope

WHEN the mercury hovers around zero for a few days and the weather is fair, we begin to think of the ice harvest. The crop is beautifully blue this year and a foot thick. We do not need it now, to be sure, but when we look ahead we know there will be hot days next summer, and then is when we will appreciate the delicious coolness of it. Then is when it keeps the butter from running. It cools the drink, and freezes the ice cream. It is indeed refreshing in many ways, and it is then that we appreciate having it handy.

There are seven families less than a half mile from our corner, and just one good roomy ice house. It isn't exactly a community ice house, for it belongs to Jack Doris across the corner, but "Uncle Jack" is a good old scout, so it is a case of all "ante" now and all "take" next summer. Everybody that plays now is still in the game next summer, and we are sure to win if we don't weaken.

Down on the river a mile and a half away a couple of the boys have an ice plow and other convenient tools for cutting ice rapidly. They make it a business each winter to cut up ice for a dozen or more ice houses in the community. They are able to make reasonably good wages at three cents a cake—less when the ice is thinner—and we get our supply from them. It makes a very convenient arrangement all around and mighty satisfying when the hot days come.

Delousing.

Now don't get excited friends, we are still discussing the hogs and cattle. Perhaps we should be slow to admit that we sometimes have lice to fight on our pure-bred hogs and cattle. It seems to be a fact, however, that blue blood tastes just as good to a louse as scrub blood, and only constant attention will prevent them from taking their toll. In years past when we used to buy feeder cattle from many different sources the lice were as sure to be with us as the horns, and both had to be eliminated. We have been able to keep the pure-bred stock comparatively free from the blood-sucking parasites most of the year, but with the return of each winter, when they must be withdrawn from their natural habitat, and kept much of the time in confinement, out of the sunshine and out of the rain, the little parasitic insects appear from somewhere and like Mike Flannery's "dago pigs," they multiply very rapidly. If allowed to have their own way, the toll they take is enormous. The profiteering middleman has nothing on them. It is not a difficult matter, however, to keep them in check, but it is one of the details in the live stock game that must be attended to. They are like the weeds in the corn, the longer they remain the worse the robbery.

We like best to give the cattle, one at a time, a good scrubbing with a sixty per cent solution of a good coal tar dip, using water with the chill taken off, and tar soap. The operator is subject to a good dipping also, but it is perfectly harmless and he will survive. This treatment is very healthful, leaving the skin and coat clean and comfortable, but it is somewhat out of place in extreme weather. Care should

be taken that the animal does not chill and take cold when the wet treatment is used in the winter.

A practice that has been used in this community for many years is simple, safe, efficient, and fairly satisfactory. It consists in applying in a dust form, a mixture of equal parts of fine dairy salt and flours of sulphur to which is added about ten per cent of any good insect powder. In applying this we take an empty tin coffee can, punch the bottom of it full of holes with a nail, and use it for a shaker. With this in one hand and an open-back currycomb in the other, the dope can be sifted down through the hair to the skin, over the rump, back, neck, and shoulders where the robbers like to congregate. They are easily suffocated by this method. The sulphur and insect powder doing the choking act, while the salt acts as a carrier. This method is not so clean or so thorough as the dip, but it is much easier and more quickly applied and it keeps the lice in check. A couple of applications ten days or two weeks apart are sufficient for any one season with either method.

With the hogs there are many ways of destroying the lice which are sure to be present wherever hogs are, unless some effective measure is adopted to prevent. We used to think that if we could once eliminate them entirely we would be free from them ever after but the job of eliminating is still going on. I sometimes think they may be a blessing in disguise, for in the process of destroying or preventing them, the hog's body and his bed gets a renovating that, in the absence of such an instigator, might be neglected. It matters little the method one uses, just so he gets the lice. I have tried the dipping tank, and found it effective but almost impossible to get the hogs through it after the first experience. I have seen dozens of patent hog oilers in operation, and where one of them has been giving service the other eleven have been dry. Some people fix a rubbing post and wrap it with gunny sacks which are saturated from time to time with dip or oil. I find an ordinary watering pot with the holes in the nozzle enlarged with a small nail, and a can of a good coal tar dip handy to the water supply about the easiest and surest method. One can do a thorough job in a good-sized herd of hogs in less time and with less effort than it would take to put one willful pig into the dip tank, or clean up and reload one patent hog oiler. I like to go over the shoats while at the trough, or in a close pen. The big heavy hogs will flop down to rub themselves when the dip begins to bite and give one a good opportunity to do a thorough job.

THE AGE OF CATTLE.

BUYING cows for production and breeding purposes is an important item in the annual business of the farmers of the state. Age is a factor which enters into the determination of animals being bargained for. But it is harder to tell the age of a cow than it is of a horse. The cow's horns and teeth furnish means of age determination. On the horns, count the "annual rings" and add two. In the mouth, one pair of permanent teeth, upper and lower, indicates eighteen months of age; two pairs, twenty-seven months; three pairs, thirty-six months, and four pairs, forty-five months. It will be noted that each pair of permanent teeth comes nine months after the other.



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A Seed Producing State

THAT Michigan holds an enviable place in the production and certification of quality seed was made evident when Dean G. I. Christie of Purdue University, general manager of the International Grain & Hay Show, stated that Indiana, Illinois, New York and many other states were looking to Michigan for guaranteed seed and that this state had assumed the leadership in organization for the maintenance of seed standards that are doing so much to place crop production on a more stable and profitable basis.

He emphasized the importance of standardization and quality for more efficient production and cited the notable example of Rosen rye and Red Rock wheat in Michigan and corn in Indiana to show that quality and profitable yields went hand in hand. Corn from the Indiana grower who won first at the 1920 International was tested along with several other strains and was found not only to be free of disease but was the best producer of all those tested, a seventeen-acre field yielding 109 bushels per acre.

Dean Christie took sharp issue with those who are promoting a campaign to lower the corn acreage in the United States. "We have absolutely no power to control the output," he said. "This year people are crying great overproduction in corn because 108,000,000 acres have produced over 3,000,000,000 bushels, but in 1909 with the same acreage there was produced only slightly more than 2,000,000,000 bushels, which would mean a shortage."

"Farmers can not be jumpers," he continued, "there is too much tendency to jump in and then jump out again with the result that the 'jumping in' usually comes when prices go down and 'jumping out' when they go back up again. With nine dollar hogs or with the present dairy market one still can make money by feeding thirty per cent corn."

He believes this to be an excellent time to balance up the cropping system for permanent agriculture that will maintain the soil fertility and lay a foundation for the years to come.

L. Whitney Watkins, member of the State Board of Agriculture, and president of the association, told of the progress of the work by this, the pioneer organization in crop improvement and stressed the necessity of continuing on a bigger and broader scale than ever, that the work of the college for better crop production might continue to be effective.

It was his belief that the leadership Michigan had assumed along lines of agricultural organization was due to the splendid calibre of the men and women on her farms. "The Farmers' Bloc," he said, "is a recognition by men other than farmers, that agriculture must have opportunity for growth and development equal to that of any other industry if America is to continue to produce her own food supply."

J. W. Nicolson, manager of the Farm Bureau Seed Department, told of the greatly increased demand for Michigan pedigreed seeds in other states, particularly New York, and also at home. Eighty per cent of the department's business within the state is through cooperative organizations and this is a most effective way of bringing about beneficial standardization of varieties in large areas.

Fred Mock, assistant manager of the seed department, urged the production of cleaner seed on the farm if Michigan is to maintain her reputation for quality. "Cleaning machinery can only take out a small percentage of many weed seeds," he said, "and only by utmost care in production can we be assured of a quality of seed that will bring the best price."

A new office, Supervisor of Introductions and Inspections was created and G. W. Putnam placed in charge. He outlined plans for increasing the efficiency of this work and maintaining quality by a system where certain growers each year would be designated as a source of parent seed from which others whose product was of lesser quality might renew their stock from time to time.

The association went on record as favoring a tariff of three cents a pound on all imported clover seed and further favored the enactment of a law requiring that all imported seed be labeled as to its country of origin. This action was taken because the clover seed producing areas in Michigan, Wisconsin and other states, can readily be extended and this seed is much superior to foreign seed for use in this country.

H. C. Rather, who recently succeeded A. L. Bibbins as secretary-treasurer urged an increase in the acreage of pedigreed seed for certification. Over 15,000 bushels of certified seed oats were sold for seed purposes in 1921, while the season of 1922 found an even greater demand with only about half as much seed available. "We are just beginning to scratch the surface," he said, "for last year's record business amounted to less than one per cent of the grain seed used in Michigan."

The board of directors was increased to include six members and officers elected for the ensuing year were:

President, L. Whitney Watkins, of Manchester; vice-president, A. B. Cook, Owosso; directors, Garfield Farley, of Albion; F. F. Cornair, of Chesaning; Ralph Arbogast, of Newberry; George Starr, of Grass Lake; Earl C. McCarty, of Bad Axe.

J. F. Cox, Professor of Farm Crops; F. A. Spragg, Plant Breeder, and J. W. Nicolson, Manager of the Farm Bureau Seed Department, sit with the board of directors by virtue of their position.

The board of directors was authorized to fill by appointment the positions of secretary-treasurer, superintendent of introductions and inspections, and clerk, and these are now taken care of respectively by Howard C. Rather and G. W. Putnam, extension specialists in farm crops, and Mrs. Catherine Clark.—H. C. R.

THE FARM CROPS EXHIBITS.

THE farm crops exhibit placed in the pavilion of the Agricultural Building at M. A. C. just as it appeared at the International Grain & Hay Show at Chicago last fall, was probably one of the most striking exhibits seen at the college during Farmers' Week. The slogan which has been adopted of "Better Crops" and "Better Live Stock," was written across the green background in big letters. A picture of two M. A. C. girls holding two Belgian horses was shown mounted besides sheaves of wheat and other crops products, making a very picturesque display.

The central part of the pavilion was taken up by the competitive grain samples sent in by producers on which premiums were awarded. Staple crops such as corn, winter wheat, rye, oats and barley took up the greater part of the space.—T.

When Uncle Oren Hall asked Alvy which side to milk a cow on, Alvy said he thought it would work best on the outside. But Alvy set the pail under the cow and tried to work her tail like a pump handle to get the milk, which proves he didn't know much about the dairy business.

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M. A. C. Horticultural Show

THE show of horticultural goods in the college armory at M. A. C. this week was distinctly representative of Michigan endeavor along this line. With exception of exhibits from eight other agricultural institutions which were sent in exchange for similar exhibits sent away, all the fruits which were shown were grown in the state.

Apples were sent here from eleven counties in the state. These counties are Benzie, Mason, Oceana, Calhoun, Berrien, Antrim, Cass, Charlevoix, Ionia, Van Buren and Eaton. These counties are all located in the fruit-producing regions and the products which came from there were representative of the products which Michigan puts on the market.

One of the two largest exhibits, and a fair representation of what can be done in agriculture by cooperation, was the one which was sent from Benzie county. Here all the exhibitors who sent their produce to the college got together under the leadership of County Agent James L. Kraker and placed their apples in one bunch under the name of the Benzie County Farm Bureau. This is something worthy of note and the promoters of the hort show are hoping that more counties will adopt this plan in the future.

Mr. Benton Gebhart, of Hart, Michigan, was one of the leading exhibitors, his display being so large and of such quality that it rivaled the exhibit made by the Berrien County Farm Bureau. Other men who had exceptional exhibits were: Stuart Acres, Marshall; Ryder Brothers, Hart; E. P. McKenzie, Marcellus; A. L. Hopkins, Bear Lake; Pickford Brothers, Doster, and F. H. and F. M. Hemstreet, Bellaire.

The exhibits so far described and seemingly complete for a horticultural show, did not stop at that point even. Still another spot in the armory was given over to the showing of a model library in which could be found general horticultural and agricultural books. These books were systematically arranged and a complete index system was used for locating any special book. Not only was this exhibit interesting to the people who wanted to look up certain information in the volumes placed on the shelves, but it was also interesting from the librarian's standpoint because of the working out of the library system.

It is of considerable interest to note that this show was planned, collected and carried out solely by students in the horticultural division of the agricultural college. It was given under the auspices of the M. A. C. Horticultural Club, an organization of "hort" students who are deeply and seriously interested in their subject. Dean Wilson, a senior was in charge of the general arrangements, and F. M. Haxel was in charge of the exhibits.

The "Hort Show" is an annual event which is staged especially for Farmers' Week. Its value to the farmers and fruit men is probably greater than many surmise. Here the men have a chance, if in no other place, to compare the efforts of leaders in the fruit production industry with their own efforts and thus they may draw conclusions as to methods which they should follow in perfecting their own product. Its value to the student is equally important. Here is afforded an opportunity to work out pet plans and cooperate in carrying out a project that is really big and really amounts to something. The practical experience which is gained does much in rounding out the education of these men, and this is a thing which should interest every man in the state because men may have a great influence on the fruit industry when they graduate with this

combination of "book knowledge" and practical experience.

In cooperation with the movement to forward Boys' and Girls' Club work in the state, competitive exhibits of some twenty Boys' and Girls' Clubs were displayed. The work of some of the youngsters who brought their fruit was indeed remarkable and is thought by some to be representative of what can be accomplished in the way of interesting the boy and girl in the old farm so that they will want to stay there throughout their life.

The Michigan Potato Producers, an organization which is doing much for the potato industry in Michigan, also had an exhibit in the armory with the other horticultural products. The college bacteriology department put on an exhibit to show the different diseases of fruits and their effects on canning. In demonstrating these diseases and possible methods of control to the farmers of the state, the bacteriology department is rendering a real service. Inquiries come in every year asking for methods of exterminating diseases. In addition the department demonstrated the effect that the fruit diseases have on canning.

Another section was given over to the Michigan State Department of Agriculture which put out an exhibit explaining the apple grading law. Grading is one of the most important factors to be regarded in the handling of apples and the demonstration drew the attention of many of the fruit belt men who are interested in the grading of their product. Specimens were shown with model labels.

Men who find that they are having great trouble in protecting their orchards against the inroads of insects and diseases were extremely interested in the exhibit put on by the entomology department. Representative insects that at times have caused such depletions of fine orchards and their products were shown and methods of control were suggested.—T.

THE GEOLOGY EXHIBIT.

THE farmer visitors at the college this week were confronted with an exhibit of economic minerals as they passed through the stock judging pavilion where farm crops and many other exhibits were shown. The college department of geology prepared this exhibit to show the relation of some of the more common minerals to the soil and to the farmer. One series demonstrated the relation of felspar to clay and shale and the relation of clay to brick. Some of the products of Michigan mines such as copper, coal, gypsum and salt, were put out for inspection, giving the passersby an opportunity to see these substances in the condition in which they are obtained.

An attempt was made to rectify mistakes that many rural people make in believing that rocks containing minerals of yellow color and metallic luster contain gold or silver or some other very important metal. These rocks are sometimes picked up by the farmer and they often lead him to the erroneous belief that he has made his fortune—a conclusion quite easily arrived at when the rocks are judged by an experienced man. An exhibit of phlogopite and pyrite, two of the forms most commonly mistaken, did much to demonstrate how much mistakes are made.—T.

POINT.

Teacher—William, what is income tax?
Willie—It is when you sit on a tack.
Teacher—No. I'm afraid you don't see the point.
Willie—You don't, sir, you feel it.—Boys' Life.

THE ROUND-UP FARM MECHANICS' EXHIBIT.

A MODEL farm showing all of the buildings and surroundings in miniature composed the main exhibit set up by the farm mechanics department of M. A. C. for inspection by Farmers' Week guests who have been coming and going there since Monday.

This exhibit was twenty feet long, and deep enough to include all the miniature structures in their proper positions. Every necessary building is included in the layout. From the snug little house and picturesque out-buildings to the last little shrub in the yard, this presentation of an ideal rural home seemed to coincide with the general conception of the visitors as to what it should be, and while the ladies turned their attention to the house and its conveniences the men viewed the other buildings and the expanse of land back of them, which was shown by a picture set up behind the table, with great admiration.

The farm mechanics laboratory itself presented an exhibit of gas engines and other farm conveniences, such as pumps, water systems and farm lighting systems that rivaled its main set-up in the interest that it attracted. One of the most interesting features was the frame full-sized house equipped with a modern water system, a bath, and electric lights. The cellar of this structure contained the water supply tank and force pump as well as a gasoline engine and the lighting plant. A shaft with pulleys near the ceiling of the cellar permitted the operator to hook up the engine with that and thus perform several operations, such as running a washing machine and grindstone all at the same time.

A great many types of gasoline engines were displayed about the laboratory. In addition an acetylene gas lighting plant was shown. Opposite this lighting plant was displayed an ideal little water supply outfit which was operated by a hand force pump with a faucet in place of the spout. If the faucet were opened the pump would draw cold water from the well; if it were closed it would draw hot water from the hot water tank.

The tractor laboratory where the four weeks' tractor school was in progress was also open for inspection by visitors. Many farmers came to this place during the week and looked over the group of tractors which included twelve to fifteen up-to-date machines of the makes in most common use.

The farm mechanics department was represented in the big, all-college parade by all of the equipment owned and in use by the department, including everything from the eleven-ton road roller down to the baby tractor.—T.

EXHIBIT OF FRIENDLY ENEMIES.

MANY farmers are killing their best friends, namely the snakes which rid the farm of injurious animals, and birds such as certain species of hawks which do good instead of harm. Personal likes and dislikes, coupled with erroneous beliefs that since one snake is harmful all are harmful, and that a hawk is a hawk and should be killed, are some of the reasons why these animals are killed. The exhibit of harmful and helpful birds, snakes, etc., was placed in the pavilion of the Agricultural Building during Farmers' Week at M. A. C., to show visitors which animals were harmful and which were helpful to the interests of the farmer.—T.

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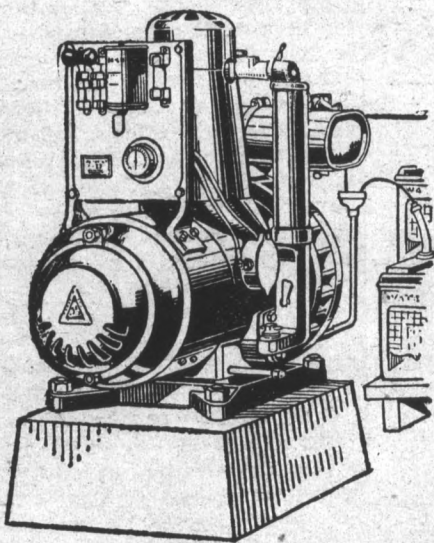
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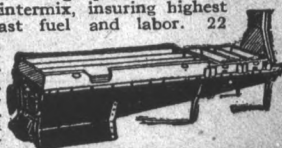
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State Farm Bureau

Holds Annual Meeting at M. A. C.

THE fourth annual meeting of the Michigan State Farm Bureau finds that organization getting its full stride in the great work of aiding in the restoration of Michigan agriculture to a place of dignity among the other industries of the state. Every county in the state save one had authorized delegates present at this session, a total of 119 delegates responding to roll call. Interest was keen throughout, and occasionally issues were hotly contested. However, the delegates showed a solid united front on all important matters coming up for their consideration and the outlook is most encouraging for the building of a great farmers' service institution.

Following the usual order of business, General Manager Clark L. Brody presented his annual report. Mr. Brody pointed out that the past year had been used in preserving and adapting the organization to the problems of the membership. During the year substantial progress had been made in organization building. The various departments have been placed on an efficient economic basis, while commodity marketing organizations have been recognized and promoted and their various interests are being harmonized into one large federation of interest.

The harmonious relationship existing between the big commodity organizations in the state and the experience of the past demonstrate that the plan now being followed is sound and should be made the permanent policy of the organization. Mr. Brody stated that the welding of these big organizations made up largely of farm bureau members removes all imminent danger of the splitting off of any of these large blocks of farm bureau members and assures the great fundamental object for which the organization was created—one that will represent and speak for all the farmers of Michigan.

An important feature of the year's work has been the working out of economies. During the year payroll and expense accounts have been reduced at least \$35,000, while at the same time Mr. Brody reported that the net worth of the organization has risen from a net deficit of \$15,215 to a net worth of \$111,545. He stated that a much better showing could have been made had membership dues been more closely paid up. Several causes seemed responsible for this condition: The stringent financial situation of the farmer; poor methods of collection; propaganda of opposing interests; lack of accurate information on the work of the bureau and the inefficiency of some of the departments. Improvement has been made, however, in this work and the outlook is most hopeful.

The future membership activities, the work on traffic problems, the legislative program of the past year, the study of the taxation question, the accomplishments of the seed department and other organization plans were explained by the manager who believes that the Michigan farmers are now building an organization that is not being equaled in any other state in the Union.

\$260,753.74 and for 1921, \$166,404.63.

Constitution Amended.

A number of amendments to the constitution were made to conform the organization to modern business principles and to adapt it to the new plan of commodity organization. A board of eleven directors will now manage the affairs of the organization. The members will be elected by the board of delegates in annual meeting. Each commodity organization shall select one nomination to be voted upon by the board of delegates, while the remaining directors shall be elected at large. Their election shall be for a period of one year. Meetings of the board shall be held every two months or on special call and a majority of the board shall constitute a quorum.

The directors shall execute the policies of the association as determined by the board of delegates and manage the affairs, disperse funds, judge qualifications of membership and appoint and employ the agents necessary to carry on the work. Vacancies are to be filled by the board of directors provided that in case a member representing a commodity organization is to be selected then that organization will nominate and the board of directors approve the selection.

The changes also provide that the officers of the State Farm Bureau shall be elected by the board of directors. These officers are: President, vice-president, treasurer and secretary. Members of the board of directors may be recalled at any special or regular meeting of the board of delegates upon proper notification. No official may hold any public elective or appointive office, except in the management or control of educational, administrative or regulatory institutions having to do primarily with agriculture. This last proviso was debated on the floor, but was overwhelmingly adopted by a vote of 102 to sixteen.

Directors for 1922.

The following constitutes the board of directors at large and for the various commodity organizations for the ensuing year: James Nicol, of South Haven; L. Whitney Watkins, Manchester; George Friday, Coloma; E. E. McCarty, Bad Axe; Melvin B. McPherson, Lowell; Mrs. Edith M. Wagar, Carleton; A. T. Depue, Faithorn; Michigan Elevator Exchange, W. E. Phillips, Decatur; Michigan Potato Growers' Exchange, Fred Smith, Elk Rapids; Michigan Live Stock Association, Elmer A. Beamer, Blissfield; Michigan Milk Producers' Association, M. L. Noon, Jackson.

Taxation Recommendations.

Michigan's taxation system has been given careful study by the state's farm organizations. The State Farm Bureau appointed a committee consisting of Melvin B. McPherson, John C. Near, T. G. Meggison and Gifford Patch. This committee prepared a report which was laid before the taxation investigation committee on February 1, when farmers were given a hearing. A committee of the State Grange, consisting of N. P. Hull, C. D. Bramble and James N. McBride submitted a similar report from that organization. The Gleaners of Michigan were also represented by N. P. Simpson. The following recommendations growing out of the study made by the farm organization committees were adopted by the delegates of the State Farm Bureau and recommended to the consideration of the state's citizenship and to her legislature:

The Michigan State Farm Bureau, through its committee on Taxation, respectfully presents the following suggestions and changes in our present (Continued on page 171).

Treasurer's Report.

The report of the accounting department shows that during the past year the total receipts of the State Farm Bureau amounted to \$247,621.32, while the disbursements totaled \$245,022.34, leaving a balance on hand January 31, 1922, of \$2,598.98. In a condensed statement the total assets of the organization outside of dues receivable, were \$335,485.88 and the total net worth is given as \$111,545.10. The total operating expenses for 1920 were

PROSPECTS IN AN AGRICULTURAL COMMUNITY.

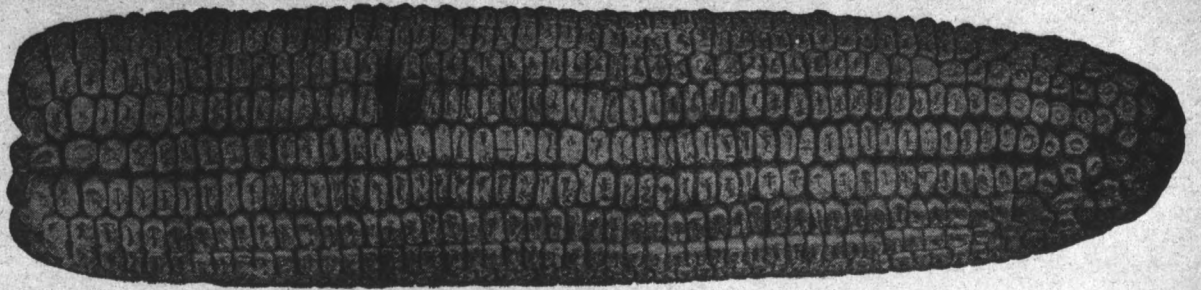
VAN BUREN county may be said to be strictly rural. And not only is Van Buren an agricultural county, it is a county of greatly diversified agriculture. While leading the state in grape production there are only three shipping points in the county that are really grape centers and even around these centers not more than ten per cent of the land is in vineyards while the county over not more than two per cent of the cultivated land is set to grapes. The same may be said of apples, pears, peaches or other fruit. Not more than ten per cent of the county is set to fruit and not more than twenty per cent of the farmers are growing fruit on a commercial scale. This relatively small acreage and relative small number of growers make the "Fruit Belt" known far and wide, but as a matter of fact, the average farmer is growing corn, wheat, oats, rye and potatoes, the cream can is the greatest agency for meeting the grocery bill, and a few hogs at tax time are largely depended upon to meet this obligation. In addition to her staple crops and productions there are about three thousand acres set to peppermint and spearmint and these low grounds also produce celery, onions, and cabbage in large amounts. Van Buren county has a large number of poultry specialists and some apiaries.

Now a county with agricultural resources so varied is never influenced by failures and overproduction to the extent that communities with a single staple crop are. This year the bee men had the best year ever known, apple orchards paid a big profit, grapes paid expenses, as did also small fruit, pickle growers had a record year, but peaches were almost a total failure, mint growers lost heavily, while the stock and grain farmers, the eighty per cent, were hard hit and are in need of ready money.

The tendency of all of us is to judge the future by the immediate past and the farmers who made money this year are inclined to be optimistic while the great majority who had a bad year do not look for big things in 1922.

In spite, however, of these conditions, more or less adverse, there are indications that are hopeful and point to better days on the farm and a better year in 1922. There were few auctions this fall, which goes to show that the farmer is looking for better times and is holding on. Better methods in agriculture are being worked out. During the war grain farming was promoted by the government and more grain has been produced the last few years than ever before. Such a system has been hard on the fertility of the soil and this year was not profitable. The farmers are turning to the dairy cow and alfalfa. A nine-day, seventy-two meeting program along this line has just been completed by the farm bureau and extension service of the agricultural college and was largely attended.

A system of "corn, clover, cow" farming builds up the soil and produces a product for which there is always a demand. Other favorable indications are seen in better types of farm stock and in standardization of farm products. Cooperative associations have made great advances during the past year. Farm homes are steadily being improved and made modern. Agents for lighting plants, both electric and gas, have done a big business in the county in spite of hard times. More farm boys and girls are in high schools and colleges than ever before, all of which goes to show that down deep in his heart the average farmer believes that 1922 will be a year of greater returns for honest effort and certainly a better year in which to live.



The Perfect Ear of Corn

Notice the good sound kernels from end to end and the well filled cob from butt to tip. And most of all—notice closely, the big heavy ear and hard flinty corn.

This is the kind of corn that won the prize at Purdue University for Mr. J. A. Warren, of Grasmere Farms.

One hundred and twenty-seven bushels per acre—on five acres—is the yield that took the Gold Medal and set a near corn record for the world.

Mr. Warren doubtless feels proud of the

medal which he won on his corn and the congratulations he received on this excellent crop.

Yet—his success as a corn grower is not mysterious—but a result of mixing brains with labor and the liberal use of Federal Fertilizer.

Like Mr. Warren—the farmers of your community can make the extra bushels that pay the profit by applying these crop growing elements found in every bag of Federal Complete Fertilizer.

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To insure sound kernels and hard flinty corn

SOLUBLE POTASH—

For a big yield and a big paying crop

And Federal Fertilizer is a winner on every field—corn, oats, truck crop or tobacco—furnishing you in all the largest amount of actual available plant food for the least amount of money. If your dealer can not furnish you Federal Ferti-

lizers—Globe, Fox, Daybreak, O-K or First-Prize Brands—that produce banner crops, write us for prices and terms. Mention this paper and we will send you FREE, Corn Champion Warren's great book on Profitable Crops.

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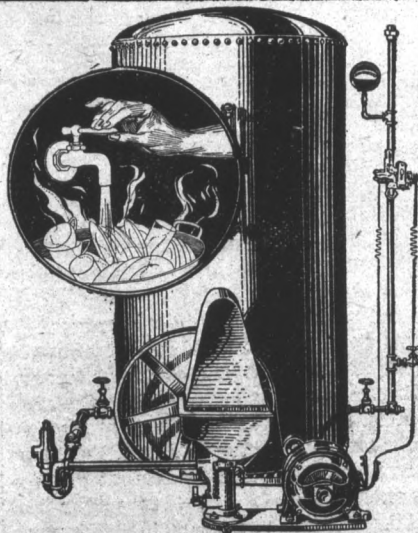
Don't continue to pump and carry water by hand when you can equip your home with a water system for a very nominal sum. Every hour in the day, and every day in the year you can use running water, under pressure.

HOOSIER Water Service

equipment, in addition to providing the water used in your home will enable you to pipe water into your barn for watering stock, or on the lawn for sprinkling and fire protection. Hoosier equipment may be installed in any home. No need to remodel or rebuild. Uses any power. Electric installations are automatic and need no personal supervision.

Write today for illustrated catalogue showing many complete outfits suitable for your home. Complete plans furnished free.

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Low steel wheels (plain or grooved wide tires) make loading and hauling easier. Steel wheels to fit any axle; carry any load. Make any wagon good as new. Reduced prices Catalog Free. EMPIRE Mfg. Co., Box 389 Quincy, Ill.



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From ground planted secured by use of The KEYSTONE POTATO PLANTER than by any other method of planting. Work perfectly accurate. A simple, strong, durable machine. Write for CATALOG, price, etc. A. J. PLATT, MFR. BOX J STERLING, ILL.

PROTECTION from RAIN

Every farm should be equipped with covers for trucks, wagons, horses, machinery, etc. A most profitable investment. Buy from manufacturer. Send for samples and prices. Anchor Supply Co. Dept. F. Evansville, Ind. Tents, Covers, Awnings, Canvas Goods.

500 Ferrets For Sale

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Please Mention The Michigan Farmer When Writing to Advertisers

News From Cloverland

By L. A. Chase

FOR A FORESTRY EXPERIMENT STATION.

A BILL has been introduced into congress for the establishment of a forest experiment station in either Michigan, Wisconsin or Minnesota for the purpose of studying forest problems peculiar to this region.

LAND-CLEARING MEETINGS.

THE series of land-clearing meetings which is being put on in the upper peninsula by the Michigan Agricultural College, will reach Baraga county on March 12, it is announced. Films will be used to illustrate the lectures.

TUBERCULOSIS ERADICATION.

GOGEBIC county, through its board of supervisors, plans a campaign to eradicate tuberculosis from the cattle herds of the county. Farmers are being asked to sign agreements that they will submit to the slaughter of their cattle if tuberculosis is discovered, and it is proposed that the county employ a veterinarian in March or April to make the necessary examinations. School teachers of the county are cooperating in the circulation of these agreements.

A NEW FISH HATCHERY.

IT is announced that the new state fish hatchery, located at Thompson, Schoolcraft county, will be finished before the construction of new hatcheries is attempted. This hatchery will provide both game and commercial fish spawn. That this district will have three additional hatcheries is stated by the State Department of Conservation. These will be located in Marquette county, the copper country and iron country between Iron Mountain and Watersmeet, it is stated. Good sites for hatcheries are not as readily secured as some suppose. For one thing, it is important to have a pure source for the water supply.

POWER SAW TESTED.

A NEW power-driven saw for felling trees was recently demonstrated near Sidnaw, southern Houghton county. It is stated that it felled a tree in thirty seconds, thirty inches in diameter. The saw is operated by two men and was introduced from Sweden.

MENOMINEE A PACKING CENTER.

MENOMINEE is developing a meat packing industry. Its plant, last year, produced 729,000 pounds of sausage, and its total sales of this and other products are reported to have amounted to some \$300,000, while it paid out to farmers for cattle, sheep and hogs some \$200,000. The animals slaughtered at the plant included 1,201 cattle, 2,215 calves, 2,668 hogs, and 291 sheep. Ham, bacon and lard are important products. The local market for live stock is regarded as of importance to the farmers of the territory.

AN AGRICULTURAL AND INDUSTRIAL CONFERENCE.

THE industrial and agricultural conference held under the auspices of the Upper Peninsula Development Bureau at Escanaba, January 25, was an unusually successful affair. All portions of the peninsula were represented at the meeting and a program of great interest and value was presented. Of this program, those portions which were particularly related

to agriculture included talks on land-clearing by L. F. Livingston, land-clearing expert of the Michigan Agricultural College, on the work of the State Farm Bureau by Mike Noon, vice-president of the Michigan State Farm Bureau, on community work in relation to leisure hour activities, by H. H. Hughes, director of the Delta County Industrial Relations Association, on the Roosevelt Highway, by A. W. Tracy, secretary of the Roosevelt International Highway Association, Duluth, and on Bee-keeping, by B. F. Kindig, of the State Department of Agriculture. These talks were all to the point, and constructive. They were listened to with close attention.

THE ROOSEVELT HIGHWAY.

MR. A. W. TRACY, of Duluth, reports that all but sixteen miles of Michigan's section of the Roosevelt International Highway are now completed. The uncompleted section is in the eastern counties, chiefly Mackinac. This is the highway now known in the upper peninsula as the Cloverland Trail, running from Ironwood, through the southern part of the peninsula, to St. Ignace. An alternative northern route is in the process of construction from Sault Ste. Marie, by way of Marquette and the copper country, but will not be completed for two or three years yet. Mr. Tracy made plain, however, that the southern route would be the true "Roosevelt Highway."

FOR CONSERVING WILD LIFE.

MR. E. C. VOGHT, of Escanaba, president of the Northern Michigan Sportsmen's Association, dwelt on the importance of conserving our remaining wild life, if we are to have any at all. He thought that the partridge season should be made to conform to the open deer season, so as to keep hunters out of the woods until the deer season has opened. He pronounced the one-buck law a success, and this seems to be the consensus of upper peninsula opinion. He had investigated many reports of does being shot and left in the woods and had found nearly all of them unfounded. He thought that, in making game laws, the upper peninsula, which has most of the wild game, had not been duly consulted by the legislature, and it was the purpose of the Northern Michigan Sportsmen's Association to secure adequate attention to this section in future legislation on the subject of game. He was certain of full cooperation on the part of real sportsmen in the lower peninsula.

WILD ANIMAL HUNTERS.

THIRTY-FIVE predatory animal hunters are to be placed in the upper peninsula to clean up wolves and other noxious animals, says the Iron Mountain Daily News. The expense is to be paid out of the proceeds from the sales of deer licenses—\$1.00 out of the \$2.50 charged for every resident license, and \$15 out of the \$50 charged for each non-resident license going for this purpose. While the new system of dealing with predatory animals has been criticized, Mr. David R. Jones of the State Department of Conservation, points out that under the old bounty system over \$300,000 were paid out in bounties in a single year, and he states that there is good evidence that hides of coyotes were shipped into the state from the west to get the bounty, instancing the presentation of claims for \$3,000 on the part of two trappers for a single season's operations.



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Dec. 1, 1914
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LOOK to the comfort and welfare of your horses and mules if for no other reason than that they may work harder—pull more willingly and steadily. Have a Tapatco Stuffed Collar Pad for every work horse and mule you own. Its use will serve to safeguard their shoulders against galls, chafes or bruises.

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TAPATCO Stuffed Collar Pads, filled with a specially prepared Composite Stuffing, are soft, absorbent, cushion-like—features not found in unstuffed pads. And they guarantee the greatest degree of protection and make possible the use of badly worn horse

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A grade wood baskets, Waxlined paper baskets, and 16 qt. crates. Send for price list.

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WORLD EVENTS IN PICTURES



Chas. Jewtraw, the new national amateur champion skater.



Mitzi Jeritza, Viennese soprano, who makes hit in New York.



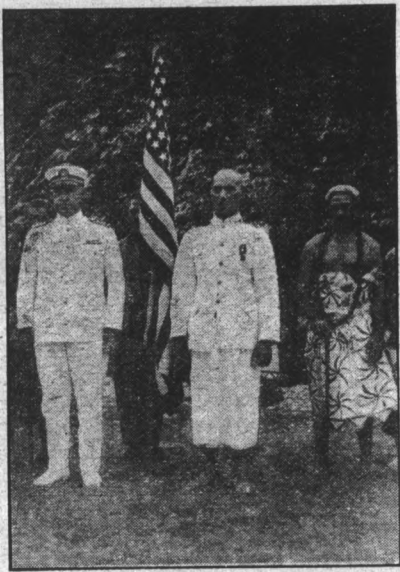
"Kid" Wedge, ex-hobo, saluting statue of founder of Harvard University.



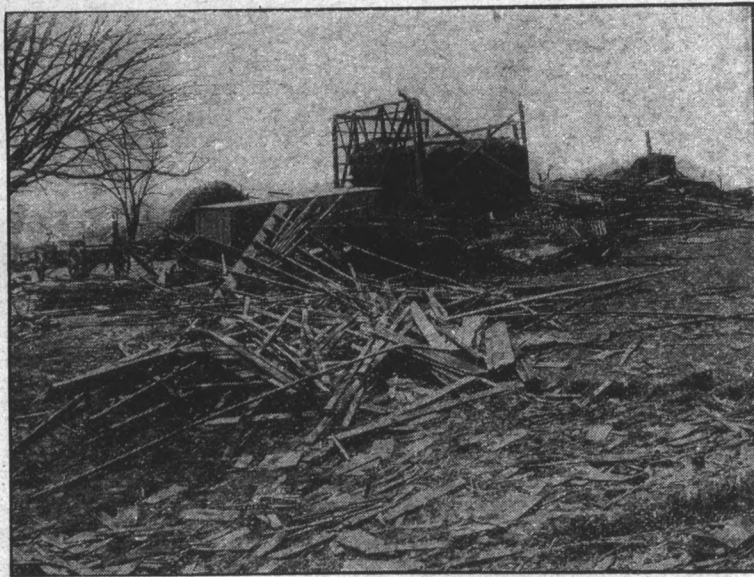
Crude agricultural methods are still in use in Mexico. This is the way they harvest oats.



Seven states and Cuba are represented in this class of opera singers, coached by Herbert Witherspoon.



Gov. Evans, of American Samoa, and High Chief of Manua.



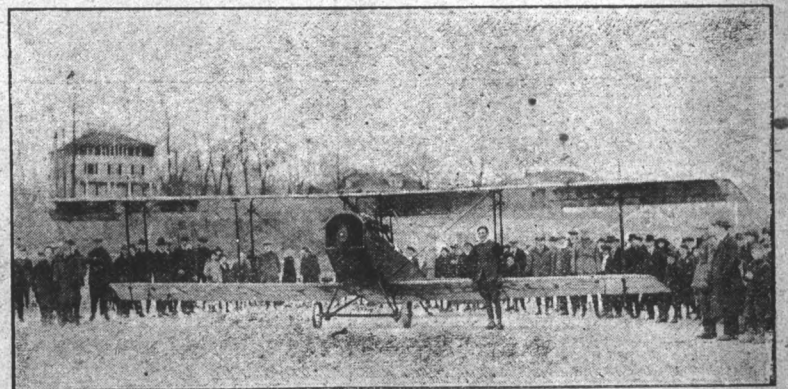
For the speedy tearing down of buildings nothing equals the cyclone. This happened in Barry county.



A rare king vulture imported from South America.



Miss Bonnie McLeary at work on "The Young Amazon," which symbolizes the fighting spirit of woman through the ages.



This airplane ran wild among the skaters at Red Bank, N. J., killing a woman and injuring several others.

THE BLIND MAN'S EYES

By William MacHarg and Edwin Balmer

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She pushed the letters away, then, and sat thinking. Mr. Warden, who appeared to have known more about Eaton than any one else, had taken Eaton's side; it was because he had been going to help Eaton that Mr. Warden had been killed. Would not her father be ready to help Eaton, then, if he knew as much about him as Mr. Warden had known? But Mr. Warden, apparently, had kept what he knew even from his own wife; and Eaton was now keeping it from every one—her father included. She felt that her father had understood and appreciated all this long before herself—that it was the reason for his attitude toward Eaton on the train and, in part, the cause of his considerate treatment of him all through. She sensed for the first time how great her father's perplexity must be; but she felt, too, how terrible the injustice must have been that Eaton had suffered, since he himself did not dare to tell it even to her father and since, to hide it, other men did not stop short of double murder.

So, instead of being estranged by Eaton's manner to her father, she felt an impulse of feeling toward him flooding her, a feeling which she tried to explain to herself as sympathy. But it was not just sympathy; she would not say even to herself what it was.

She got up suddenly and went to the door and looked into the hall; a servant came to her.

"Is Mr. Avery still with Mr. Santoine?" she asked.

"No, Miss Santoine; he has gone out."

"How long ago?"

"About ten minutes."

"Thank you."

She went back, and bundling the correspondence together as it had been before, she removed the books from a shelf to the left of the door, slid back another panel and revealed the second wall-safe corresponding to the one to the right of the door from which she had taken the papers. The combination of this second safe was known only to her father and herself. She put the envelopes into it, closed it, and replaced the books. Then she went to her father's desk, took from a drawer a long typewritten report of which he had asked her to prepare a digest, and read it through; consciously concentrating, she began her work. The servant came at one to tell her luncheon was served, but—immersed now—she ordered her luncheon brought to the study. At three she heard Avery's motor, and went to the study door and looked out as he entered the hall.

"What have you found out, Don?" she inquired.

"Nothing yet, Harry."

"You got no trace of them?"

"No; too many motors pass on the road for the car to be recalled particu-

larly. I've started what inquiries are possible and arranged to have the road watched in case they come back this way."

He went past her and up to her father. She returned to the study and put away her work; she called the stables on the house telephone and ordered her saddle-horse; and going to her rooms and changing to her riding-habit she rode till five. Returning, she dressed for dinner, and going down at seven, she found Eaton, Avery and Blatchford awaiting her.

The meal was served in the great Jacobean dining-room, with walls pan-

Before Eaton's entrance into her life she had supposed that some time, as a matter of course, she was going to marry Donald. In spite of this, she had never thought of herself as apart from her father; when she thought of marrying, it had been always with the idea that her duty to her husband must be secondary to that to her father; she knew now that she had accepted Donald Avery not because he had become necessary to her but because he had seemed essential to her father and her marrying Donald would permit her life to go on much as it was. Till recently, Avery's complaisance, his certainty



eled to the high ceiling, logs blazing in the big stone fireplace. As they seated themselves, she noted that Avery seemed moody and uncommunicative; something, clearly, had irritated and disturbed him; and as the meal progressed, he vented his irritation upon Eaton by affronting him more openly by word and look than he had ever done before in her presence. She was the more surprised at his doing this now, because she knew that Donald must have received from her father the same instructions as had been given herself to learn whatever was possible of Eaton's former position in life. Eaton, with his customary self-control, met Avery's offensiveness with an equanimity which almost disarmed it. Instinctively she tried to help him in this. But now she found that he met and put aside her assistance in the same way.

The change in his attitude toward her which she had noted first during their walk that morning had not diminished since his talk with her father but, plainly, had increased. He was almost openly now including her among those who opposed him. As that feeling which she called sympathy had come to her when she realized that what he himself had suffered must be the reason for his attitude toward her father, so now it only came more strongly when she saw him take the same attitude toward herself; and as she felt it, she found she was feeling more and more away from Donald Avery. Donald's manner toward Eaton was forcing her to invoice exactly her companionship with Donald.

that it must be only a matter of time before he would win her, had been the most definite—almost the only definable—fault she had found with her father's confidential agent; now her sense of many other faults in him only marked the distance she had drawn away from him. If Harriet Santoine could define her own present estimate of Avery, it was that he did not differ in any essential particular from those men whose correspondence had so horrified her that afternoon.

Donald had social position and a certain amount of wealth and power; now suddenly she was feeling that he had nothing but those things, that his own unconscious admission was that to be worth while he must have them, that to retain and increase them was his only object in life. She had the feeling that these were the only things he would fight for; but that for these he would fight—fairly, perhaps, if he could—but, if he must, unfairly, despicably.

She had finished dinner, but she hesitated to rise and leave the men alone; after-dinner cigars and the fiction of a masculine conversation about the table were insisted on by Blatchford. As she delayed, looking across the table at Eaton, his eyes met hers; reassured, she rose at once; the three rose with her and stood while she went out. She went upstairs and looked in upon her father; he wanted nothing, and after a conversation with him as short as she could make it, she came down again. No further disagreement between the two men, apparently, had happened after she left the table. Av-

ery now was not visible. Eaton and Blatchford were in the music-room; as she went to them, she saw that Eaton had some sheets of music in his hand. So now, with a repugnance against her father's orders which she had never felt before, she began to carry out the instructions her father had given her.

"You play, Mr. Eaton?" she asked.

"I'm afraid not," he smiled.

"Really don't you?"

"Only drum a little sometimes, Miss Santoine? Won't you play?"

She saw that they were songs which he had been examining. "Oh, you sing!"

He could not effectively deny it. She sat down at her piano and ran over the songs and selections from the new opera. He followed her with the delight of a music-lover long away from an instrument. He sang with her a couple of songs; he had a good, unassuming tone. And as she went through the music, she noticed that he was familiar with almost everything she had liked which had been written or was current up to five years before; all later music was strange to him. To this extent he had been of her world, plainly, up to five years before; then he had gone out of it.

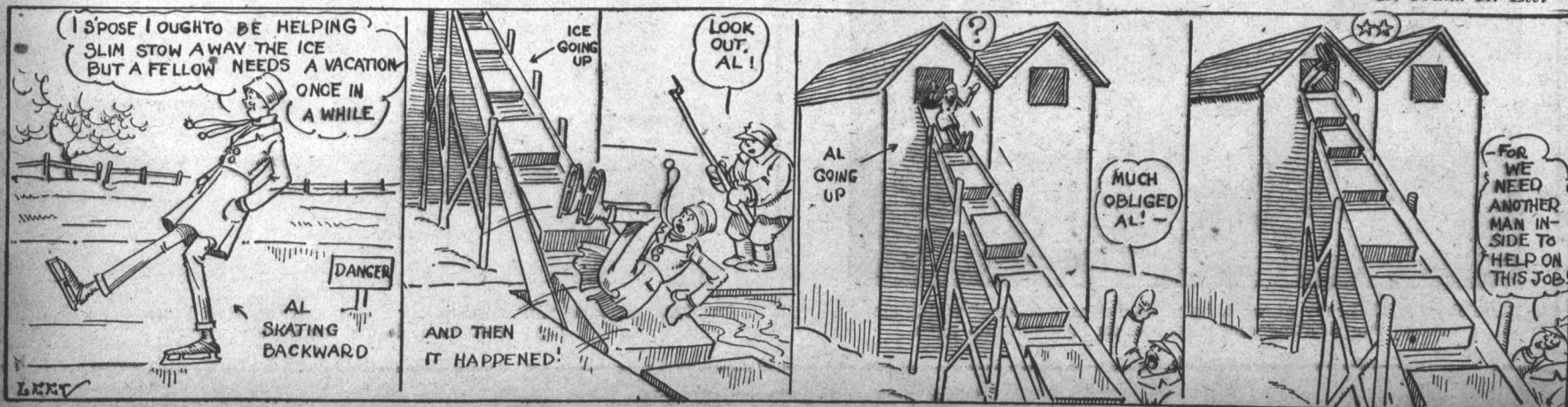
She realized this only as something which she was to report to her father; yet she felt a keener, more personal interest in it than that. Harriet Santoine knew enough of the world to know that few men break completely all social connections without some link of either fact or memory still holding them, and that this link most often is a woman. So now, instinctively, she found, she was selecting among the music on the racks arias of lost, disappointed or unhappy love. But she saw that Eaton's interest in these songs appeared no different from his interest in others; it was, so far as she could tell, for their music he cared for them—not because they recalled to him any personal recollection. So far as her music could assure her, then, there was—and had been—no woman in Eaton's life whose memory made poignant his break with his world.

Presently she desisted and turned to other sorts of music. Toward ten o'clock, after she had stopped playing, he excused himself and went to his rooms. She sat for a time, idly talking with Blatchford; then, as a servant passed through the hall and she mistook momentarily his footsteps for those of Avery, she got up suddenly and went upstairs. It was only after reaching her own rooms that she appreciated that the meaning of this action was that she shrank from seeing Avery again that night. But she had been in her rooms only a few minutes when her house telephone buzzed, and

(Continued on page 172).

AL ACRES—Al Is Elevated to a Nice Cool Job.

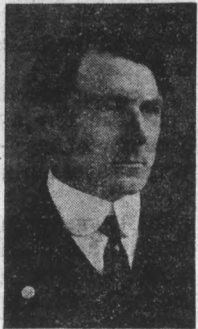
—By Frank R. Leet



Was Lincoln a Prohibitionist?

Our Weekly Sermon—By N. A. McCune

LINCOLN'S birthday is on us once more. It means more to the nation each passing year, because the more we think of Lincoln, and the more we observe other men, the greater does the Civil War president appear. And, who would have thought it? Here comes a brand new book, called "Lincoln and Prohibition," written by the political news editor of the New York Tribune, Charles T. White. Personally, I would not have thought there was enough material on the subject to fill a book of two hundred odd pages. And it is full of interest from cover to cover. There is small com-



fort in it for the men who are fighting the eighteenth amendment. For instance, there is the ancient story that Lincoln kept a grocery store, and sold whiskey over the counter, as was the custom in those days. Lincoln's partner was a Mr. Berry.

Berry's idea was that, as honey catches flies, whiskey would catch customers. But Lincoln opposed this, and when the whiskey barrel came in, Lincoln stepped out of the partnership. Leonard Swett, a close friend of Lincoln, and a fellow-lawyer, states that Lincoln told him a year before his election as president, that he had never tasted liquor. "What!" said Swett, "do you mean to say that you never tasted it?" "Yes," said Lincoln, "I never tasted it." When thirty-three years of age, he delivered a long speech on prohibition, in the Second Presbyterian Church, of Springfield, Illinois. One paragraph reads thus: "And when the victory shall be complete, when there shall be neither a slave nor a drunkard on the earth, how proud the title of that land, which may truly claim to be the birth-place and the cradle of both those revolutions that shall have ended in that victory!"

IN 1863, President Lincoln was waited on by a deputation of the Sons of Temperance in behalf of suppressing the drink evil in the army, and to the committee he said: "If I were better known than I am, you would not need to be told that in the advocacy of the cause of temperance you have a friend and sympathizer in me. When I was a young man—long before the Sons of Temperance as an organization had an existence—I, in a humble way, made temperance speeches, and I think I may say that to this day I have never, by my example, belied what I then said. I think that the reasonable people of the world have long since agreed that intemperance is one of the greatest, if not the very greatest, of all evils of mankind." A prohibition law was introduced into the Illinois legislature in 1855, and Lincoln went about speaking for it. On one occasion, he walked six miles into the country to speak at a small schoolhouse.

A still more interesting event is connected with Mr. Lincoln's notification of his nomination for the presidency. When the committee had been at his home a little while, Lincoln said: "Mrs. Lincoln will be pleased to see you in the other room, gentlemen. You will be thirsty after your long journey. You will find something refreshing in the library." The committee lost no time in arriving in the library. But the only drink at their disposal was a pitcher of cold water, to the immense disappointment of some of the

men, whose mouths were all set for something stronger. The night before the committee came, friends of the rail-splitter said to him that he would require some wines or liquors for his distinguished guests. "I haven't any in the house," said Lincoln. "We will furnish them," said the neighbors. "Gentlemen, I cannot allow you to do what I will not do myself." This was not all. Other generous friends sent over some baskets of champagne. Mr. Lincoln sent them back, with thanks for their intended kindness.

WHEN Lincoln became president, he sent a man, Merwin by name, into the army, with a special passport, to go and speak on temperance. Mr. Merwin was heartily welcomed by Generals Scott, Butler and others. According to General L. C. Baker, provost marshal of the war department, and afterward chief of the United States Secret Service, there were three thousand seven hundred places where liquor was sold near Washington in the summer of 1863. On the eve of an important battle, it was necessary to get one hundred wagons to the front at once, but scarcely five government teamsters were found to be sober enough to do their work. The battle of Chancellorsville, which was a defeat of the Union Army when there was every seeming chance of victory, was a fearful blow to the north. Secretary of the Navy Welles states in his diary, that, "Whiskey is said by Sumner to have done the work." He refers to Senator Sumner, of Massachusetts. The president seemed stunned by the defeat. His face turned ashen gray and he cried, "My God! My God! what will the country say?" He never felt easy again as to the outcome of the war, until the great victory at Gettysburg.

It has often been stated that President Lincoln signed the internal revenue bill which remained in power until 1913, and it is true that he did so. It seemed at the time an absolutely necessary war measure. The government was embarrassed for want of money, war is an expensive business, and the war was at its height. Senator Henry Wilson, the son of a drunkard, fought the passage of the bill with all his might, as did several other senators. But under the pressure of the times the bill finally passed. Had Lincoln lived, there is every probability that the bill would have been repealed after the war.

MR. LINCOLN'S last statement concerning the liquor traffic seems to have been made to Chaplain Merwin. It was the day he was assassinated. "Merwin, we have cleaned up a colossal job. Slavery is abolished. After reconstruction, the next great question will be the overthrow and abolition of the liquor traffic; and you know, Merwin, that my head and my heart and hand and my purse will go into that work. Less than a quarter of a century ago, I predicted that the time would come when there would be neither a slave nor a drunkard in the land. I have lived to see, thank God, one of those prophecies fulfilled. I hope to see the other realized."

It is well known that the gang who brought about the death of the president, and who plotted to kill a number of other government officials at the same time, was a drinking set. Mrs. Mary-Surratt, who was hanged, kept a country tavern frequented by Confederate spies, near Washington. John Wilkes Booth, the assassin, filled up with liquor before going to the theatre to fire the fatal shot. The rest of the gang was of the same moral stripe.

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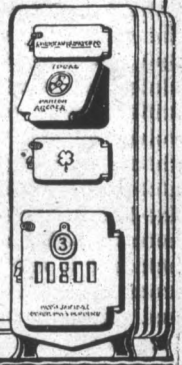
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Woman's Interests



Making New Hats Out of Old

By Cecile Van Steenberg

NOTHING makes us more discouraged with our wardrobe than to have a shabby looking hat. Many hats which are a bit dingy looking and slightly worn can be made to last a long time by care and renovation.

Nothing prolongs the lifetime of a hat more than good care. Hats should be brushed after each wearing, and if worn at irregular intervals, should be covered with tissue paper and kept in boxes away from dust, dampness, and strong light. In traveling, they should be protected by paper bags. For brushing velvet hats, use a fine bristle cloth brush, or piece of velvet, as a whisk broom leaves marks on the velvet. Always brush velvet in the direction of the nap. Wipe dust from satin, taffeta, or georgette hats with a clean cloth, and brush milans, leghorns, and stiffer straws with a whisk broom. A velvet or silk hat wet by a shower should be hung over a stove or radiator to dry, care being taken to keep the hat in shape. If a velvet hat has become badly spotted from the rain, hold for a few minutes in the steam from the spout of a teakettle, let dry and brush thoroughly. Remove stains from satin, taffeta and georgette while fresh, with some suitable cleaning agent. Trimmings which have become loosened by the wind or wear should be tacked into place at once.

Most of us own a velvet hat which has become shabby looking before the material is badly worn. It should first be thoroughly brushed; if black or dark colored it can be cleaned by sponging with chloroform, ether, or benzine, the former two being preferable, because they evaporate rapidly. Pour a few drops of the cleaning fluid on a sponge and rub carefully over the velvet, going in the direction of the nap. As soon as the sponge becomes dry, pour on a few drops and proceed as before. This work should be done out of doors or in a room which is well ventilated, as the fumes produced by rapid evaporation of any of these cleaning compounds are overpowering. Care should be taken not to work near a stove, or flame on account of the high inflammability of cleaning fluids.

When the hat is thoroughly dry, it should be steamed by moving it back and forth in the steam from the spout of a teakettle. Steam used for renovating purposes is what is known as dry steam, that is, there is considerable heat, and very little moisture.

Black or dark colored beaver hats may be cleaned by the same methods used for cleaning velvet ones. White or light colored plush or beaver may be cleaned with a mixture of gasoline or cornstarch. Mix two tablespoons of cornstarch with one pint of gasoline in a bowl, set bowl in a pan of warm water, as warm gasoline cleans more readily than cold. Rub beaver with mixture, and when dry, brush out the flour. To raise the nap on plush or beaver, steam quickly with dry steam, and beat with a small stick; beaver has a certain amount of glue or sizing which causes the nap to mat when wet; therefore this process is

used to loosen the nap and cause it to stand erect.

Felt hats, which are practical for all seasons, may be cleaned in a number of ways. Art gum removes spots which are not of long standing. To clean stiff felt hats which are badly soiled, rub with a small block of wood wrapped with sandpaper, beginning at the center of the top of the crown, and moving always in the same direction. When the hat has been cleaned, stretch a piece of old velvet over the block, rub with a hot flat iron, and then over a cake of paraffin wax. The wax will melt and adhere to the pile of the velvet. Rub the hat in the same manner as when sandpapering to produce a polished surface on the felt.

If felt hats are too badly soiled to be cleaned by the method just described, brush thoroughly to remove all the dust; then soak for a few minutes in a pan of gasoline or benzine, and scrub

with a stiff brush dipped in a soap solution. Rinse in clean gasoline or benzine and hang up to dry. If the felt is badly creased or dented, hold over dry steam and rub into shape.

Satin, taffeta, and other fabric hats, which are suitable for all times of the year, can be cleaned most satisfactorily with chloroform or ether. In using them, rub spots with a circular motion, and sponge the hat uniformly to prevent formation of rings.

If the material has been ripped from satin or taffeta hats, clean by soaking for an hour in gasoline; let dry and press on the wrong side with a moderately hot iron. Badly soiled satin can also be cleaned by stretching the satin on top of the ironing board and rubbing with a weak solution of borax, made by dissolving one tablespoon of borax in a quart of water. Rub with the grain of the satin, and when it has dried, iron it on the wrong side.

Crochet Chatelaine Bag

By Gracia Shull

USE any desired size crochet cord or cotton, plain or silk finished, white or colors. The pattern makes up especially well in ecru or black.

Front of Bag:—Wind the cotton around the end of finger 20 times, fasten, into the ring thus formed double crochet (dc), 45 times, fasten with 1 slip stitch (sl st), in first dc in ring.

Second Row:—Ch 2, dc 1 in second dc over ring, chain (ch), 4, dc 2 in same place. This forms a shell. Skip 4, form shell in next stitch (st). Repeat around row until 9 shells are formed.

Third Row:—Fasten last st and ch 3 in center of first shell. Treble crochet (trc), 2 in same place. In making the trebles, tr c 1, take off two,

tr c 1, take off 2, then, take off all sts on the hook thus forming a point, or petal. Ch 4, repeat until there are 3 petals and 2 chains of 4 sts in each of the 9 shells in preceding row.

Fourth Row:—Single crochet (sc), 4 over ch of 4, ch 4 to form a picot, sc 4 over next half of ch; sc 4 over first half of second ch, ch 4, form picot, repeat around row.

Fifth Row:—Form 3 petals in first picot with ch of 5 st between. Ch 6, form 3 petals in next picot same as in preceding picot, ch 6 and repeat all the way round.

Sixth Row:—Ch 7, sc 1 in center of ch of 5 in preceding row, ch 7, sc 1 over next ch and repeat around row.

Seventh Row:—Same as 6th row ex-

cept that there are 8 stitches in each ch around entire row.

Eighth Row:—Repeat as for 7th row with 8 sts in each ch.

Ninth Row:—Sc 1 in center of ch of 8 in previous row, ch 5, sc 1 in same place, ch 9, sc 1 in center of next ch, ch 5, sc 1 in same place, repeat around row.

Tenth and Eleventh Rows:—Repeat as in 9th row with 10 stitches in ch of 10th row and 11 sts in ch of 11th row.

Twelfth Row:—Form 3 petals over ch of 11 with 5 sts between, ch 8, sc 1 over center of next ch, ch 8, repeat around row with petals in alternate spaces.

Thirteenth Row:—Ch 6, turn and sc 1 in 1st space over ch of 5, ch 6, repeat three-quarters around row.

Fourteenth Row:—Ch 3, tr c 1 over first loop, ch 2, trc 2 in same place, trc 2 over next ch, ch 2, tr c 2 in same place. Repeat three-quarters around ring.

Fifteenth Row:—Ch 6, turn and sc 1 over ch of 2 in preceding row, ch 6, repeat to end of trebles around three-quarters of edge. This completes the front part of bag.

Back of Bag:—Proceed as in center of front with 45 st over ring.

Second Row:—Ch 6, skip 4, sc 1 in next st. Repeat until there are 9 loops around the ring of doubles.

Third Row:—Ch 8, sc 1 in center of ch of previous row, ch 8 and repeat around ring.

Fourth Row:—Ch 10, sc 1 in center of ch of previous row, ch 10 and repeat around ring.

Fifth Row:—Form 3 petals over ch of 10 with 5 sts between petals, ch 6, repeat petals over next ch, ch 6 and repeat around ring.

Sixth Row:—Ch 7, sc 1 in center of loop in preceding row, ch 7 and repeat around ring.

Seventh and Eighth Row:—Ch 8, sc 1 in center of ch in preceding row, ch 8 and repeat around row.

Ninth, Tenth and Eleventh Rows:—Ch 9 in 9th, 10 in 10th and 11 in 11th and sc 1 in center of ch in preceding rows as in 8th row.

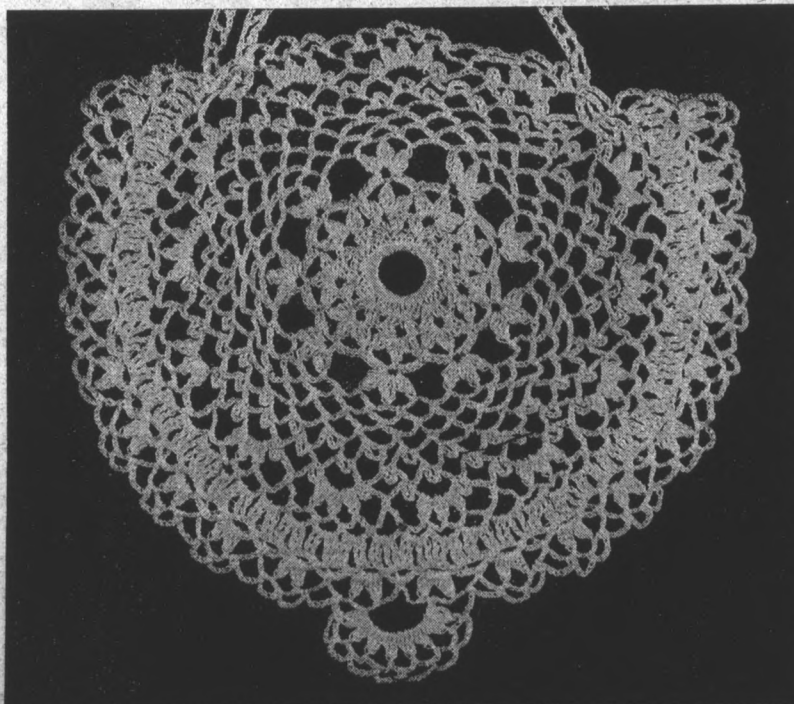
Twelfth Row:—Ch 12, tr c 1 over first ch of 11 sts, ch 9, tr c 1 in next space, ch 10 and repeat around ring.

Thirteenth Row:—Ch 10, sc 1 in center of first space, ch 10 and repeat around three-quarters of the ring. There should be 40 of these loops (or chains) in this row. This completes the back of bag.

To join front and back of bag pin together in the center with the three-quarter rows matching. Over the double loops ch 4 and form 2 petals with 5 sts between the petals, ch 5, sc 1 in next double loop, ch 5, repeat petals in next loop, ch 5 and sc 1 in next loop, repeat to end of row.

Second Row of Border:—Ch 5, turn, sc 1 in first space, ch 5, sc 1 in next space, repeat to end of row, finish top of bag in same way as lower edge. The half wheel at bottom of bag is formed by a ch of 12 stitches with 8 petals formed over the ch with ch of 5 sts between petals.

To make the tape or drawstring,



chain to the length desired, turn and dc 1 in 6th st from hook, ch 2, skip 2, dc 1 in next st in ch. Repeat to end of ch.

To finish end of chain make a ring of 8 sts, form 4 petals in the ring, with 5 sts between the petals. Turn and form 2 petals in first space, ch 5, sc 1 in center of next space, ch 5, form 2 petals in next space, ch 1 turn. Sc 8 over first ch, form 1 petal over next,

ch 10, form another petal in same place, sc 8 over next ch, fasten thread with 1 slip stitch as the ornament is complete.

This crochet tape may be used at upper edge of bag as a drawstring, or may be used as handles carrying the bag flat. Very fine, silk covered hat wire may be used in top of bag if desired. It requires one ball of crochet cotton to make this bag.

Household Exhibits at Farmers' Round-up

MY goodness, they have everything here haven't they?" This was the remark that Mrs. Billings made to the lady at her elbow when she visited the Home Economics exhibit in the Woman's Building at the Michigan Agricultural College during Farmers' Week. There was good reason for this remark, for the exhibit covered nearly all of the details taken up in the Home Economics course.

One of the most interesting features was the showing of a complete wardrobe for small boys and girls. This was prepared by a clothing class of M. A. C. girls using two East Lansing youngsters as models. Commercial patterns were selected with regard to fit, clearness of directions, accuracy in stating the amount of cloth necessary, cost and simplicity. The cloth was tested by the clothing class to determine shrinking, crocking and fading percentages. Even the finest details were worked out, such as the best methods of fastening and the best kind of sleeves to use.

To solve the ever-present question of clothes for the high school girl was the purpose of the little play which was given Wednesday afternoon. It was written by Miss Marian L. Tucker, textiles expert at M. A. C., and was designed purposely to demonstrate the solution of the problem just mentioned.

The proper care and methods of cleaning clothing was also very efficiently shown in another exhibit. Different kinds of coat hangers, shoetrees, etc., were shown, along with the various cleaning compounds.

In another place the proper clothing for the different types of women was shown, and in still another place could be found an exhibit of kitchen utensils. Miss Martha J. Phillips, of the American Dye Corporation, was also in the Woman's Building with an exhibit of methods of home dyeing.

One feature which attracted attention was the exhibit of white rats on which nutrition experts, Miss Muriel Hopkins and Miss Rebecca Gibbons, have experimented. One pair of rats was fed a diet consisting of meat, po-

tatoes, bread, corn meal, beets, turnips, peas and beans ground up finely and mixed well together; the other pair was fed the same ration but with a little milk added. The rats which had been fed the ration containing the milk were from one-third to one-half larger than the ones that were given no milk in their diet.

In another cage containing baby rats a mixture consisting of milk, bread and orange juice was fed and the others were fed bread and infant food, such as Nestle's, Mellen's, etc. The ones receiving the whole milk and bread far outgrew the ones fed the baby food and bread. This experiment seems to prove quite conclusively that commercial baby food which has been widely advertised cannot take the place of milk in the diet of the infant. It would be far better, according to Miss Gibbons and Miss Hopkins, to buy milk sugar at a much lower price to use as a milk substitute. The nutrition experts further state that the baby would grow better on plain bread than on bread and baby food.

The exhibition of how M. A. C. co-eds can handle a cafeteria was probably the crowning feature of the whole Home Economics program. Meals were served every day by the girls in the cooking class. Every detail from the technique of cooking to the last detail of buying and handling of the seating, etc., was carried out by the girls in such a way as to win high commendation from all the visitors.

Many mothers took advantage of the opportunity that was offered by the department to check babies in there under the care of the college class in child culture. This was an exhibit in itself inasmuch as it demonstrated the things that the Aggie co-eds had learned along this line.

The high standard of co-education given at M. A. C. is fully established by all these exhibits. In addition the program arranged for the congress of housewives took up many of the troublesome little questions about which the country woman usually frets and showed the ways in which they could be handled well.—T.

The Pathfinders

Watchful Waiting

By Alta L. Littell

IF recording angels have a sense of humor (and, oh, don't you hope they have?), the angels who looked after the Allen household must have had a great deal of amusement those next few weeks after Father Allen opened Milly's letter, and Bob surprised Milly in the act of planning poultry houses which she had not told him she intended to build.

Father Allen watched Milly for signs of suspicion, Mother Allen watched Father Allen for signs of guilt, Milly watched Bob for signs of contrition, and Bob watched Milly for signs of a thaw.

If Father Allen had been more widely read he would have philosophized on, "Oh, what a tangled web we weave when first we practice to deceive." As

it was he merely called himself a "gosh-darn old snoop," and berated himself for prying into what was none of his business. For Father Allen was not such a bad sort; he was simply possessed with an insatiable curiosity, which in a broader field would have made him a wonderful investigator, but which, when applied to private life, made him a family nuisance.

Mother Allen knew him as well as did that angel before mentioned, yes, even better, for the angel had only to keep an eye on him and jot down a few things, while she had to live with him. She knew as well as if she had watched him do it that he had opened Milly's letter, not with a malicious intent, but to gratify his curiosity. She

(Continued on page 167).

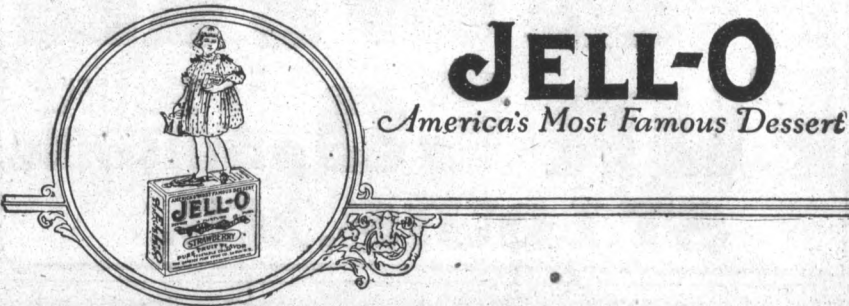


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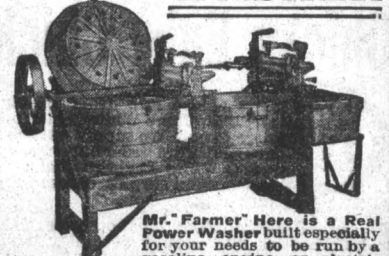


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You will like particularly the White, Brown and Buff Leghorns of this breeding; they give the eggs. Also Barred and White Rocks; Reds; Wyandottes; Orpingtons; Anconas.

STATE FARMS ASSOCIATION
B3, Kalamazoo, Mich.

Chicks Baby Chicks

Order your baby chicks now from Michigan's largest practical Single Comb White Leghorn Egg, pullet and broiler farm. We supply all the eggs that go into our incubators from our own strain of Bred-to-lay S. C. White Leghorns hens [2000] and have a few thousand surplus chicks to spare at certain periods of the season.

We turned away orders for thousands of chicks last spring as our supply is limited and we absolutely refuse to sell anything but our own stock. So order early and avoid disappointment.

We guarantee satisfaction in every way.
Prices on application.

Macatawa White Leghorn Co., Inc.
R. F. D. 1, Holland, Mich.

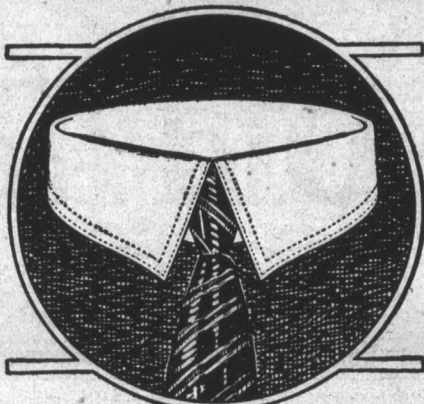
Baby Chicks

We have 5 Varieties. S. C. W. Leghorns, English W. Leghorns, Anconas, Brown Leghorns and Barred Rocks. Quality and prices are right. 97% guaranteed alive upon delivery. We never have booked so many orders at this early date as this season. Most all are repeated orders. We advise you to order early to avoid disappointment. Our first hatch will be of March 15. We ask you to give us a trial, we are sure to please you.

City Limits Hatchery,
R. 5, Box 11, Holland, Mich.

Choice S. C. White Leghorn cockerels line bred at \$5.00 each while they last. They are the big thrifty kind that beget persistent producers. MACALWHITE POULTRY YARDS, Caro, Mich.

Additional Poultry Ads on Page 165



SPENCER

The much favored, new, square point model in—

SLIDEWELL COLLARS

Made by Troy's Master Craftsmen, with the two exclusive patented Comfort Features that Save Your Tie, Time and Temper.

Your dealer has Spencer or can easily obtain it.

HALL, HARTWELL & CO., Makers, Troy, N. Y.

You'll Smile Too when you know the Comfort and Easy Stretch



of **Nu-Way** or **EXCELLO** RUBBERLESS SUSPENDERS

Guaranteed One Year—Price 75¢

Always insist on NU-WAY or EXCELLO. Guaranteed Suspenders, Garters and Hose Supporters.

Ask Your Dealer If he hasn't them, send direct, giving dealer's name. Accept no substitutes—look for name on buckles. Nu-Way Stretch-Suspender Co., Mfrs., Adrian, Mich.



BOOK ON DOG DISEASES And How to Feed

Mailed free to any address by the Author

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

Our Boys' and Girls' Page

Young Folks Hear Wallace

Sec'y of Agriculture Gives Interesting Talk to Chicago Visitors

THE recent National Rally of the champion Boy and Girl Club members of the United States was favored by the following address by Secretary of Agriculture Wallace, who was their guest of honor for the week. Five hundred and fifty boys, girls and leaders were present from twenty-six states and the Dominion of Canada to attend the rally, study the live stock at the great International Live Stock Exposition and see the sights at Chicago, the greatest agricultural city in the world. Secretary Wallace said:

Let me tell you briefly something about the department and how it is organized. I am anxious that you should have a working knowledge of

so helpful to practical agriculture.

This sort of work is intensely interesting, indeed it is fascinating. Our people you know discovered how the Texas cattle fever was transmitted. They found that it was passed from one animal to another by the cattle tick which carried the disease germs. This was the original discovery of the transmission of disease by parasites. Once this was known the way to stop the spread of Texas cattle fever was very clear. All that was necessary was to get rid of the ticks by dipping.

The pine trees in New England were attacked by what is known as the blister rust. The first thing to learn was how it was spread. The scientists found a very curious thing. The rust does not spread from one pine tree to another. It is spread from the infected pine tree to the wild gooseberry and currant bushes and from them it goes back to another pine tree. A part of its life must be passed on either currant or gooseberry bushes, and if there are none such in the neighborhood then the disease is stopped. Therefore, the people who own the forests have men at work taking out the currant and gooseberry bushes.

I could tell you of many interesting discoveries not only in connection with diseases of plants and animals but relating to agricultural methods. Our scientists are at work all the time studying better ways of growing crops, better methods of feeding animals, better methods of breeding both animals and crops, and the results of their discoveries are made known in bulletins and similar publications.

Then another field of work is what we call the extension work, of which you are an important part. The extension work means taking the discoveries of the scientists to people who need most to know about them. The Boys' and Girls' Club work occupies a very important place in this extension program. In some ways more than almost any other part of it, and, if I had time, I would like to speak at some length about this.

A third part of our work is what we call service work. To illustrate, our weather bureau keeps people informed concerning weather conditions. It gives forecasts of storms and thus aids the farmer, the railroad people, the shipping, and practically everybody else. In this service work we collect statistics concerning crops, the acreage planted, the growing condition and the final yield. We are studying better ways of standardizing our grains and our live stock. We have



A Future Club Member Enjoying Ride in Late Model Conveyance.

it because I know very well that there are boys and girls in this audience who within the next fifteen or twenty years will be actively at work in the Federal Department of Agriculture. I shall not be there at that time but I know that many of you will be. We have some 18,500 people with the department, about 4,500 of them in Washington and the others scattered all over the United States. We have four principal lines of work—first, the scientific research which is the work upon which all of the activities of the department are built. That means seeking for scientific knowledge concerning agriculture and the things related to it, inquiring into everything, hunting for new things. There are more than 2,000 men and women in the department primarily engaged in this scientific research and from these people come the discoveries which are



Miss Lois Barlow, of Missouri, and Her Prize Aberdeen Angus Heifer Calf. The Calf Won the Grand Championship of Northwest Missouri in 1920, and weighed 1,100 Pounds. Miss Barlow was Awarded a Gold Swiss Wrist Watch by the American Aberdeen Angus Breeders' Association.

inspectors who help growers of fruit and vegetables market their crops effectively, and we do a great many other things which are intended to help the farmer not only on the farm but in the marketing of his crops all along the way from the farm to the final consumer.

Then we have what we call regulatory work. Uncle Sam has asked us to administer some twenty or thirty different regulatory laws. For example, we inspect all the meat which passes from one state to another, and make sure that it is in healthful condition. We inspect the foods and drugs. We have control of the laws which protect migratory birds. We supervise the packers, stockyards and commission merchants. We administer the law which deals with the grain exchanges or boards of trade as they are commonly called upon which our grains are sold both for immediate and for future delivery.

As I have been speaking to you of the way the department is organized and its various fields of work, it has just occurred to me that it might be a good thing for each one of you to consider whether your own life might not well be organized in the same general way. For example, our work in scientific research corresponds to your work in acquiring an education, not only a school education but the sort of an education you are getting in your club work, and the sort of an education you get in reading helpful books and helpful papers.

And our extension work might be compared to the use you make of the education you get in these different ways, applying it to your life work.

Our service work corresponds to the unselfish work you do in passing on your knowledge to others and in helping others as you come in contact with them. One of the fine things about knowledge is that you can share it with others without losing any of it yourself, and the more helpful you are to others the better it is for you.

And finally, our regulatory work might well be compared to the regulatory work which each individual imposes upon himself through the building up of good habits and the avoidance of bad habits by which he keeps fit both mentally and physically.

I believe every young person who

will organize his life on this general plan will come much more nearly measuring up to a one hundred per cent man or woman.

NATURE NOTES.

"The love of nature leads us along the paths that lead to happy tomorrows."

What does the robin's insect food consist of?—Alice B.

Robins obtain most of their insect food on the ground. It consists of cutworms, wireworms, ground beetles, earthworms, caterpillars of all kinds, spiders, grasshoppers, crickets, slugs and the white-winged fly which does so much damage to grasslands. The click beetle, the parent of the wireworm, is also included in Robin's diet. Every farm should encourage Robin guests. If boys are handy with tools they can make a Robin shelf for the Robin family to nest upon. It proves a safer nesting site than the crotches of trees.

How many species of birch trees are found in this country?—A. L.

There are, I believe, fifteen or sixteen species of birch in this country. All the birch trees are masterpieces in tree creation. The cut leaf birch of our yards, is especially beautiful, and all the birches may well be termed, "Dear lady of the woods." The various species of birch are known as: The canoe or paper white birch, gray, blue, red, Alaska, heart leaved, western, western red, Piper's, Utah, river, Sandberg's, cherry, yellow birch, southern yellow birch, black or sweet, and the European white birch.

On what trees or bushes must I look for the polyphemus moth cocoon?—R.

The polyphemus cocoon drops to the ground soon after it is made. It is spun among leaves, indicating that it is a good specimen of caterpillar ingenuity. Inasmuch as the caterpillar of the polyphemus feeds upon various kinds of trees and bushes; you will be sure to find some of these cocoons if you walk about in the early fall, when the leaves just begin to fall, among the elms, hickory, linden, maple, chestnut, sycamore, beech and other trees as well as bushes.—Pauline Ward.

The state average of potatoes was 78.0 bushels per acre. Potato club acre.

My Poultry Project Work

By Irvin Norris

ON April 26, 1921, at our handicraft round-up, we organized our poultry and gardening club. We elected officers in a haphazard way, (I being the only one who knew how to vote), and finally decided on Oliver Phelps for president; Norman Norris, vice-president, and myself as secretary-treasurer. At our second meeting, we learned to vote right, and everything went nicely after that. We had our meetings regularly every two weeks, and every one was a success.

My pullets started laying January 13, an unlucky day in number, but not in fact. On February 9 I bought a high strain rooster. He was a pretty good rooster, but he brought lice, mites and roup to my flock, and on account of these three things, my layers did not have a fair chance to show what they could do. I set 175 eggs from my own flock, and most all of them were fertile, but only seventy-five hatched out and five of these were weak and crowded under the first few cold nights. I kept the peeping youngsters in a box behind the stove until they developed wing feathers, and flew over. I then got busy and built an annex on my chicken coop, making it half monitor style. It is now a 10x12 coop. My little fellows grew fast except for a few sickly ones, and are now about full grown.

I was first demonstrator on the poultry demonstration team that went to the State Fair on September 7. I had a fine time, and learned many things while I was there that will help me raise better poultry next year. While I was there, the Michigan Farmer gave us a sight-seeing trip through the city and out to Belle Isle Park.

Chickens seem to me to be more than egg producers or a feathered piece of meat for Sunday dinner, and when I look at those shiny eyes, they seem to be almost human. This is one reason why poultry raising is a pleasure rather than labor. They are an unfailing source of income, a delightful pleasure, and a grand old teacher.

Club work is a fine thing for boys and girls, and I will highly recommend it to any wideawake boy and guarantee that it will make life worth living if taken the right way. Club work is the joy of my life. It has given me a large amount of pleasure, a constant supply of spending money, and a brain full of experience.

As our poultry project is finished, I have already joined a handicraft club for this winter, and although I intend to do the best work I can with the hammer and nails, I will still keep my poultry and start in again next year with more determination than I have ever used before.

Added Warmth and Comfort that Cost No More

MEN and women who want warmth and comfort in a shoe, as well as style and fit, find real satisfaction in Wobst Felt Shoes—satisfaction that is doubly appreciated because it costs no more.

Wobst Shoes are warmer because they contain only the finest wool-felt—more comfortable because they are so carefully made. In fact, due to better materials and workmanship throughout, Wobst Shoes offer more per dollar in wear than can be secured from any other shoes on the market—felt or leather.



Men's No. 751

Extremely durable and very comfortable. 9" Blucher style, with heavy black felt upper. Grey felt lined; combination felt and leather sole; rubber heel. Sizes, 6 to 11.

But the buyer pays no more for Wobst Felt Shoes than for common felt shoes. He is given every saving made possible by the mammoth production facilities of the Wobst Shoe Company—the largest exclusive manufacturer of felt shoes in America.

The Wobst line includes both men's and women's plain felt, leather foxed and full vamp shoes—either unlined, grey felt or wool-fleeced lined—with choice of felt, combination felt and leather, and all leather soles. If no store near you carries Wobst Shoes send us the name of your shoe dealer and we will see that you are supplied.

WOBST SHOE CO.

413-415 Vliet Street, Milwaukee, Wisconsin.

Our 100% Guarantee

Only the best of materials and workmanship go into Wobst Felt Shoes. Any buyer who finds a defect in a pair of Wobst Shoes may return them to his dealer who is authorized to refund the full purchase price of the shoes.

Look for this label sewed on the inside of the tongue of every genuine Wobst Felt Shoe.



WISCONSIN



Wisconsin Colony Brooders are the "last word" in brooder construction. Compare our prices and see if you can get (for the same money), a Wickless Colony Brooder like the Wisconsin which has automatic Oil Control—can't go out—won't overflow—has no wicks—burns a steady, gas-like flame that stays just where you put it, day and night—no valves to set—no wicks to trim—no danger from fire—no smoke. Guaranteed—30 days trial—money back if not satisfied. Our prices express prepaid anywhere East of Rockies.

Why Pay More?

22 in. Canopy, 100 chick, only \$10.25
32 in. Canopy, 300 chick, only 13.75
42 in. Canopy, 500 chick, only 16.75

Order from this ad send for Incubator Catalog. WISCONSIN INCUBATOR CO., Box 92A Racine, Wis.

POULTRY

JUST-RITE LOOK!

Baby Chicks 11-2 MILLION chicks for 1922. POSTAGE PAID. 95% live arrival guaranteed. MONTH'S FEED FREE with each order. A hatch EVERY week all year. 40 breeds chicks, 4 breeds ducklings, Select and Exhibition grades. Catalogue free, stamps appreciated. Nabob Hatcheries, Dept. 15, Gambier, Ohio

CHICKS FOR 1922

Prices reasonable. Selected and Culled S. C. Eng. Whites and Brown Leghorns, Anconas and Pure Bred Barred Rocks. Also eggs for hatching after Feb. 1. 100% Guaranteed. Postage prepaid. Catalogue free. FAIRVIEW HATCHERY, Zeeland, Mich., R. 2, John Bos & Son, Prop.

BABY CHICKS

Price List. Prepaid to You. Purebred Stock.

	100	50	25
Wh. & Brown Leghorns	15.00	8.00	4.25
Buff & Bl. Leghorns	16.00	8.50	4.50
Ancona & Minorcas	17.00	9.00	4.75
S. C. & R. C. Reds	17.00	9.00	4.75
Barred Rocks	17.00	9.00	4.75
Buff & Wh. Rocks	18.00	9.50	5.00
Wh. & SL Wyandotte	19.00	10.00	5.25
Buff Orpington	19.00	10.00	5.25
Brahmas	21.00	11.00	6.00

Start the season right with chicks that can be depended upon to produce profitable heavy egg producing hens. Farm at Hudson, O. Mail orders to J. KREJCI, 2165 East 86th St., Cleveland, O.

CHICKS S. C. W. LEGHORNS AND B. P. ROCKS. 10 Leghorn pullets averaged 222 eggs in official test. Rated best flock in Michigan by M. A. C. Breeding pens headed by pedigreed males. Free catalog tells story. **OTTAWA FARMS** Big bargains now. 21 ROSE STREET, GRAND RAPIDS, MICH. **EGGS**

CHICKS and EGGS

of S. C. White Leghorn Barron Strain and Shepherd's Anconas. Pure bred stock, the kind that grows fast and makes the best layers. Safe delivery guaranteed. Parcel Post Prepaid. Catalogue free. Custom hatching in season \$3 per 100 eggs, chicks 14 cents. Byron Center Poultry Farm, G. C. Keizer, Byron Center, Mich.

CHICKS

We have bred our flocks for heavy egg production for many years. We now have the finest flocks in this vicinity. Buy chicks from the largest chick producing center in the world. Leading varieties—Leghorns and Anconas. Send for catalog. JAMESTOWN HATCHERY, Jamestown, Mich.

5 to 6 Lb. White Leghorns

Larger hens, better winter layers. Free catalog describes them, tells a new way to cull hens, feeding methods, how to make a mash hopper that won't waste feed or clog, and other information. A. WAUCHEK, Gobleville, Mich.

CHICKS, Have shipped thousands each season since 1904. Let us send our prepaid prices. Freeport Hatchery, Box 12, Freeport, Mich.

DAY OLD CHICKS

Order your Baby Chicks now from selected heavy laying strain. Single Comb White Leghorns, English strain Brown Leghorns, Anconas, Reds. Send for price list. Hillcrest Hatchery, R. 2, Holland, Mich.

Baby Chicks and Hatching Eggs

From genuine farm raised poultry, utility bred. Farmer prices. Rocks, Reds, Wyandottes, Leghorns. Price list free. GORET BROS., Corunna, Mich.

CHICKS. Eng. White Leghorns, S. C. Brown Leghorns, Anconas, Barred Rocks, from heavy egg producing stock on free range, 100% live arrival guaranteed, send for prices. Bakers Hatchery, Jamestown, Mich.

CHICKS from trap-nested hens. English S. C. White Leghorns and Barred Rocks. Every hen on our ranch trap-nested. Pullets in season. Also few cockerels. Catalogue free. Hudsonville S. C. White Leghorn Ranch, Hudsonville, Mich.

Whittaker's R. I. Reds Both combs. Greatest Color and Egg Strain. Free, by blood test, from bacillary white diarrhea. If you are interested in breeding Stock, Day Old Chicks or Hatching Eggs write for our Twelfth Annual Catalog. It is free. INTERLAKES FARM, Box 39, Lawrence, Mich.

Barred Rocks, winners laying contests M. A. C. averaged 245. Chicks, eggs, cks. Write for catalogue. G. CABALL, Hudsonville, Mich.

Barred Rocks Exclusively cockerels bred from show, \$3 and up. Rosemary Farms, Williamstown, Mich.

Barred Rocks, W. Wyandottes, R. I. Red stock. HOWARD GRANT, Marshall, Mich.

Barred Rocks egg contest winners, eggs from strain with records to 250 a year. \$2.00 per setting prepaid by P. P. Circular free. FRED ASTLING, Constantine, Mich.

Reduced Prices on Ringlet Barred Rock cockerels. ROBERT MARTIN, Woodland, Mich.

Barred Plymouth Rock Cockerels, large birds from prize-winning heavy-laying strain \$5.00 each. J. A. Barnum, Union City, Mich.

Barred Rock Cockerels Bred from great layers W. O. COFFMAN, R. 3, Benton Harbor, Mich.

Additional Poultry Ads. on Page 166

BUY HUBER'S

RELIABLE CHICKS

Our 13th Year

700,000 for 1922

By Parcel Post Prepaid—100% Live Delivery. Our Request is: Give us your order for some of our (Reliable Chicks) and we will prove that we will give you better chicks for the money than you can get elsewhere. Combination offers. Order Early. Write for Prices and Free Illustrated Catalog.

HUBER'S RELIABLE HATCHERY,
EAST HIGH STREET, FOSTORIA, OHIO



SURPRISE!

We Have A Surprise For You In

BABY CHICKS

All information free.

Get the facts on our WORLD FAMOUS TOM BARRON ENGLISH WHITE LEGHORNS, BROWN LEGHORNS AND ANCONAS.

Simply write your name and address on a card or in a letter and we will do the rest. WRITE TODAY.

Don't buy chicks till you get this wonderful offer. We can save you money.

Superior Poultry Farms & Hatchery,
Box 2053, 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.

We Ship By Parcels Post and Pay the Postage to Your Door. Catalog free. WYNGARDEN HATCHERY, Box M, Zeeland, Mich.

BABY CHICKS Pure Bred for 1922



Bred-To-Lay from flocks selected for standard quality and production. We offer Exceptional values in following varieties: Leghorns, Rocks, Reds, W. Wyandottes, Orpingtons, Minorcas and Anconas. Our prices are right when quality is in consideration as this should be the main point in view. Get our big catalogue of Baby Chicks, Brooders & How to Care for Your Chicks after you have them, it is FREE, for the asking. Write today.

Wolf Hatching & Breeding Co., Dept. 10, Gibsonburg, Ohio

ROYAL
BABY CHICKS

S. C. White Leghorns } 14c postpaid.
S. C. Brown Leghorns } 14c postpaid.
500 or more 13c postpaid.

Ours chicks are from heavy laying selected breeding stock and will give satisfaction. Customers report hens laying all winter. 100% live delivery guaranteed. Order now for March and April delivery. Catalog free.

Royal Hatchery, R.2, Zeeland, Mich.

Baby Chicks and Hatching Eggs

Thorough-Bred English White Leghorns, S. C. Reds, Barred Rocks. Big sturdy chicks, the kind that live and grow into fine producers, from the best laying strains obtainable. Priced right. 100 per cent delivery guaranteed. 1922 mating list and catalogue ready. Importer. Brummers Poultry Farm, Holland, Mich.

Baby Chicks \$15.00 per 100 and up
Hatching eggs, \$1.50 per setting to \$15.00 per 100. We are listing 17 varieties of pure bred fowls; Chickens, Geese, Ducks & Guineas, also breeding stock. Send for prices and circular. Booking now for early delivery. CLINTON HATCHERY & POULTRY FARMS, Wilmington, Ohio.

Baby Chicks English White Leghorn and Anconas. From the best flocks in Michigan. Order now for spring delivery. Catalog free. SILVERWARD HATCHERY, Zeeland, Mich.

BARRED Rock Cockerels. Hill's heavy laying strain. Deep, narrow barring. Large birds \$4 and \$5 each. Lucian Hill, R. 3, Tekonsha, Mich.

Northrup or Papes Strain. 100 S. C. Giant Black Minorcas cockerels 6 mo. old \$2.25 each. M. SCHAEFER, R. 1, Essexville, Mich.

RHODE ISLAND WHITES win over all breeds at the egg laying contest. 30 eggs \$5; 50 \$8; 100 \$15 order from this ad. Some chicks. H. H. JUMP, R. 5, Jackson, Mich.

Original Dr. Heasley S. C. Buff Leghorn flock. Egg Basket Strain. Officially Certified Eggs bred. Winners at Chicago, Cincinnati, etc. Cockerels breeding hens and chicks, at bargain prices. Also bred to lay English Strain S. C. White Leghorn chicks for 1922. Discount on Early Orders. Hillside Hatchery Farm, R.3, Holland, Mich. Successor to Henry DePree

EVERLAY BROWN LEGHORNS
The beautiful business hen! Wonderful winter layers. Big white eggs. World Record layers American Egg Contest! Greatest winners New York, Chicago, Hardy, vigorous money makers. Stock Eggs, Chicks, shipped safely. Catalog free. EVERLAY FARM Box 6 Portland, Ind.

BABY CHICKS

Finest strain Barron White Leghorns, Barred Rocks, R. I. Reds. Northern grown, free range, rugged stock. Low prices. Safe delivery. Catalog. Book early.

MICHIGAN HATCHERY, Holland, Mich.
Member Ottawa County Hatcher's Association



All standard varieties.

Our free catalog tells all about them.

STILLWATER HATCHERY
Box G, Covington, Ohio

BABY CHICKS
We furnish Pure Bred Chicks of the finest quality from high egg-producing stock. Flocks built directly from laying contest winners. We have 17 breeds. Write for free illustrated catalog and price list. J.W. OSSEGE HATCHERY, Dept. 99 Glandorf, O.

CHICKS

Seven varieties, from excellent pure-bred stock, 100% live delivery guaranteed. Parcel Post Prepaid. None better. Catalogue Free.

Lee's Poultry Farm & Hatchery,
Edison, O.

Day Old Chicks
Let us book your order for an early hatch. Catalogue and price list now ready. H. H. Pierce, Jerome, Mich.

BABY CHICKS White and Buff Plymouth Rocks, Buff Plymouth Rocks, White Plymouth Rocks, Rhode Island Reds and White Wyandottes, 25 for \$5.25, 50 for \$10.00, 100 for \$18.00. FENTON CHICKEN HATCHERY, Box 244, Fenton, Michigan

BABY CHICKS. All popular varieties from selected flocks at living prices. Write for circular and price list. DERR & ADAMS, Litchfield, Mich.

Buy Baby Chicks Now. Don't wait! Order March and April chicks now so as not to be disappointed. My hatcheries are located in the heart of the best poultry country. My flocks have been culled. Get heavy egg producers. White and Brown Leghorns and Anconas. Safe arrival guaranteed. Write for prices. Herman J. Cook, 133 W. Main St., Zeeland, Mich.

Farm Poultry

WINTER FEED FOR TURKEYS.

WHATEVER the winter ration for turkeys may be, it is best that it should not consist of too much fat-producing food. In late winter turkeys take on flesh rapidly and especial care should be taken, as the breeding season approaches, to keep down the weights as much as possible. A fat turkey is often a failure as a breeder and is more subject to disease than one just in good condition.

I feed more of oats than any other grain and have found the following to be a very good ration for winter:

Whole oats for the morning feed, (just what they will clean up quickly). Sometimes wheat or barley is added for variety.

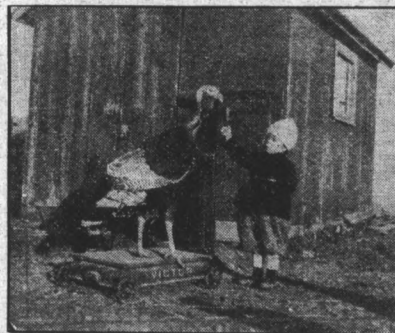
During the early part, or middle of the day, a dry mash is given. This consists of one-half ground oats and

banging of doors. Hatching eggs are injured by vibration and unnecessary jars.

The machine should not be located near a stove as this may cause too high a temperature during the day, followed by a chilling at night. The fresh air from the outside must be constantly passing through an incubator so the temperature of the machine is always influenced by the amount of heat in the room where it is operated. Some breeders have managed machines in large kitchens by using a small oil stove for cooking instead of operating a cooking stove during the period of incubation. In such cases the machine is handy and can be given regular attention without running up and down stairs from the cellar.

An incubator should be placed on a level floor. Often a kitchen floor will not be level near the wall, but the machine can be properly regulated by the use of old shingles. Place a spirit level on top of the machine and shove shingles under the short legs until the machine is level and on a firm foundation where it cannot slip.

It is not best to operate an incubator in a living-room that must be used all day. The fumes from the machine and the burning of the large lamp help to exhaust the air. In a kitchen that is not used more than a few hours a day the machine will not cause serious inconvenience. It does not pay to try and do without an incubator just because the conditions for running it are not absolutely ideal.



Keep the Weights Down.

one-half bran (by bulk), adding granulated charcoal in proportion of one pint to six quarts. As much of this is placed in troughs or boxes as you find they will clean up thoroughly in a few hours.

Corn is fed at night but they should never be allowed to have all they will eat of it and it should be of the best quality. During the latter part of the winter, substitute barley for corn.

The turkeys should have a plentiful supply of grit, charcoal and oyster shell at all times.

I believe that much of the winter bowel trouble results from feeding too much corn in severe cold weather when the birds are inactive and when the ground is frozen or covered with snow, so preventing them from finding the required grinding material. I have a supply of coarse sand or fine gravel stored up each year for winter use and when this is put out daily, on boards or in boxes, the turkeys will rush up and eat it as though it were grain.

They should have plenty of good, clean water and not have to depend on the snow for drink. Sour milk given now and then is greatly relished and is beneficial.

Above all, see that the bowels are kept clean and active. Give epsom salts occasionally in milk or water and give it, if possible, in the morning on days when the weather is mild.

A spell of stormy or continued severe weather, some ginger and charcoal given in a moist mash will aid digestion and help to keep them in good condition.

N. EVALYN RAMSDELL.

LOCATING AN INCUBATOR.

THE ideal place for the incubator is in the cellar. But some poultry breeders do not have a cellar suited for an incubator. In such cases they may try to do without the machine. By experience and observation we have found that many fine hatches can be brought off in upstairs rooms. It means some cooperation from the family to prevent careless walking or the

HOME-MADE BROODERS.

What is a good way to make a home-made brooder, one that will accommodate about 400 day-old chicks?—W. P.

If you have four hundred chicks to brood it will pay you best to buy a coal burning brooder stove and not try to make a home-made brooder. In the light of our present experience it would not be fair to give plans or make suggestions about building one of the old-fashioned box-like home-made brooders. They were too often chicken killers. In order to obtain enough heat it was often necessary to cut down ventilation and injure the vitality of the chicks. The use of an oil lamp with the home-made brooder increased the fire risk when the lamp had to be turned high to produce enough heat.

CARE OF DUCKS.

One of my breeding ducks refuses to eat and is getting very weak. I have had young ducks do the same thing and they always die. They drink plenty of water and run with the rest of the flock, acting perfectly natural until they finally fall from sheer weakness. What can I do for them? Where can I get a paper or book on the subject of duck raising?—Mrs. G. F.

Ducks sometimes have lung trouble and it might be caused by exposure, too close housing, a lack of vitality or lack of a balanced ration which undetermined the health of the bird.

Young ducklings sometimes die because they do not have the right ration for a healthy rapid growth. Try a mash of wheat bran held together with low-grade flour. Then add about fifteen per cent corn meal, ten per cent beef scrap, and five per cent sand. Mix this with green feed, such as rye, clover or chopped cull vegetables.

Our best book on ducks is entitled, "Duck Culture," by James Rankin. A. D. Hosterman Co., Publishers, Springfield, Ohio. Price 75 cents.

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Made of Genuine California Redwood, galvanized iron covering, triple walls, asbestos lining, deep chick nursery, hot water heat, copper tank and boiler, self regulating. Shipped complete with fixtures, set up, ready to use. The biggest bargain on the market. 30 days' trial—money back if not satisfied. Absolutely no risk when you buy Ironclad. Or we will ship you this

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Poultry Book Latest and best yet: 144 hatching, rearing, feeding and disease information. Describes busy Poultry Farm handling 63 pure-bred varieties and **BABY CHICKS**. Tells how to choose fowls, eggs, incubators, sprouters. Mailed for 10 cents. **Berry's Poultry Farm, Box 136 Clarinda, Iowa**

H. Armstrong Roberts, published by David McKay, Washington Square, Philadelphia, contains a very interesting chapter on duck culture.

THE PATHFINDERS.

(Continued from page 163).

understood now why all the doors had been locked when she got back from Milly's the day Abbie Brown came, and why the bedroom window was up. He had got the letter ready to mail that day, and gone through the window to take it to the letter carrier, so they couldn't see him from the other house.

She intended to bring him to account, too, when the right time came. Therefore she watched for the psychological moment. If he hadn't tried to lay his guilt on Tommy she might have spared him, but the idea of a grown man laying his misdeeds off on a child was impossible; and when the child happened to be her own baby and the apple of her eye, let the man beware, even if he did happen to be her own husband.

Father Allen, knowing his guilt, saw detection on every hand. He quavered from inward fear when Milly was around, for at any minute she might charge him with his sin. And when she was out of sight he trembled lest she discover evidence of his criminality. When she spoke to him he started guiltily, and when she simply looked at him he was sure that her clear gaze was ferreting out his mean little act. He noticed, but without relief, that she no longer asked Tommy to do errands for her; probably she thought him a chip off the old block. Mother Allen noticed, too, this lack of confidence, and bided her time.

More unhappy, because less experienced, were Bob and Milly. Being thoroughly modern folks they had not entered marriage with the idea that there would never be any disagreements. They expected to have differences, even hoped to have an occasional spat to break the monotony of daily existence. But a quarrel to look back upon and to laugh over is one thing, and the same quarrel while it is being lived through is quite another.

Not that they quarreled, and indulged in bitter remarks. Far from that, they never mentioned the subject again. But they were polite, icily polite, painfully polite to one another. Bob deferred to Milly's wishes in little things, such as washing his hands clean before he used the towel, and Milly seasoned the apple pie with nutmeg, though she usually insisted on cinnamon. But they weren't a bit chummy. Bob missed having his hair rumpled up just after he'd carefully brushed it, and Milly missed having her apron untied and a cold stream of water trickled down her neck when Bob came to get a drink.

So these humans blundered along, while the recording angels smiled and sharpened their pencils.

BRIGHT VALENTINE.

BY RUTH RAYMOND.

Daisies are hiding away 'neath the ground,
Pansies are folded in sleep,
Not a wee flower in the garden is found,
Snow in the valley lies deep;
Yet a fond bird from the Southland returned
Sings to his mate 'neath the vine,
And lover who long for his sweet-heart has yearned
Woes her with a bright valentine.

Spring sends a message to mountain and vale,
"Call your gay blossoms to rise,
No more shall the winds of the North King prevail
And darken the earth and the skies,
No more shall the rivers be bound by his chains;
Love's pledges have ever been mine,
As queen I am called by this token to reign,
Fair maid has a bright valentine."

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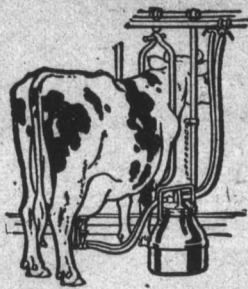
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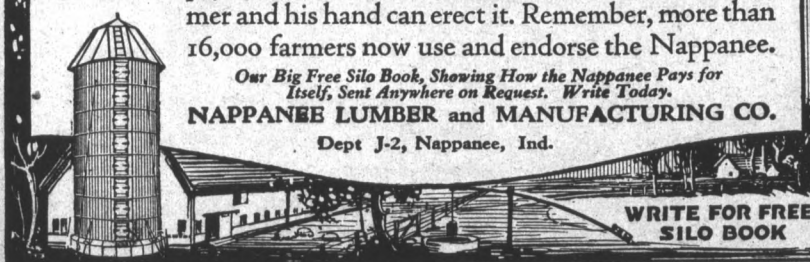
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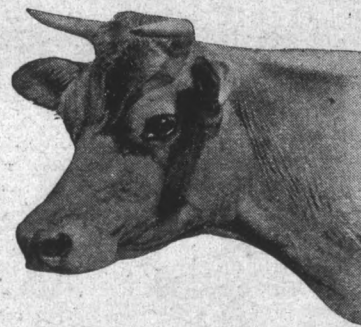
Winter Dairying Profitable

By Leo C. Reynolds

WINTER dairying is profitable when conditions are favorable for the herd to achieve maximum returns for the feed consumed and the labor involved. The winter season, at best, is a trying period in the management of the dairy herd. Conditions that encourage uniform milk production can be supplied much easier during the spring and summer months than during the cold variable weather. However, under favorable conditions the dairy herd can be depended upon to produce a uniform flow of milk at a profit, besides returning to the soil a large amount of valuable manure.

Many dairymen plan to have their cows come fresh in the fall or early winter months preparatory for winter

Winter dairying without a silo to supply a large portion of the roughage ration would result unprofitably. Silage is beyond all question the cheapest, most palatable and nutritive roughage feed for the dairy cow. However, to sustain the dairy herd in good condition and to encourage a strong uniform milk flow some dry roughage of a proteinous nature should be fed along with the silage. Clover and alfalfa hay or bean pods are excellent dry roughages and can be fed profitably along with silage. On account of the dry weather the past season many dairymen find themselves short on some kinds of dry feed, and especially clover hay. We have always had plenty of good clover hay to feed our milch cows during the winter, but this year we are short on this kind of feed. We have never grown alfalfa to any great extent as we have always considered the clover crop best adapted to our system of crop rotation. Shredded corn stover, bean pods and oat straw mixed equal amounts makes a very good dry roughage feed for the dairy cow when clover hay and alfalfa can not be had. I know some dairymen claim oat straw is worthless feed for cows giving a heavy flow of milk, but I find that even when I have fed plenty of good clover hay to my cows they still relish a feed of oat straw.



The dairy herd, to do its best work during the cold winter months, must be comfortably housed. Too close stabling in poorly lighted and ventilated barns is not only detrimental to the health of the dairy herd, but also lowers its efficiency to convert feed into profitable returns. To keep the dairy herd in good working condition the stable should be well lighted. Some stables, however, are quite difficult to light on account of north exposure, such stables can be greatly improved by whitewashing or painting some light color. Where the basement is low and dark it is advisable to arrange the stable around the outside so that the cows may have the benefit of the light as much as possible. It is better to arrange to have a feed room in the dark portion of the stable than to have stock. I find that in my stable a large feed room is invaluable and affords an arrangement whereby my stock has plenty of sunlight.

Dairymen this winter find themselves in a somewhat perplexed position relative to feeding their cows a well balanced grain ration. The present market prices of dairy products hardly warrant the purchasing of large quantities of high-priced dairy feeds. While perhaps most dairy feeds are considerably lower in price than a year ago, yet I think the average dairyman feels the margin of profit is too small to admit of feeding liberally on highly concentrated dairy feeds. However, every dairyman realizes that in order to secure anywhere near satisfactory results from winter dairying the cows must be well fed. I believe dairymen in general are coming to think that in order to make dairying most profitable, year in and year out, that more variety and large quantities of feed for feeding the dairy herd must be grown upon the farm. I am of the opinion that the day is near at hand when the average dairyman will grow all his feed, except perhaps, purchasing a limited quantity of oil meal and wheat bran. No dairyman should make it a practice to sell his farm-grown grains and purchase dairy feeds. This practice has been done to more or less extent in the past. Farm-grown grain properly ground and compounded make the most highly nutritive and economic ration for the dairy cows within the reach of the average dairyman.

How much outdoor exercise should the dairy herd have during the winter months? Some dairymen confine their herds to the stable almost continuously throughout the winter months, while others carry out the reverse extreme by keeping their cows out in the yard all day. Both practices are extremes, and both incalculably impair the productive efficiency of the dairy herd. Good judgment is necessary in handling dairy cows in winter in order to obtain best results. The average dairyman follows the practice of turning his cows into the yard to water and exercise. I have followed both methods of water in the stable and in the yard. If the weather is cold and severe I water in the stable. I believe, however, that it is best for the dairy herd to have daily exercise during the winter when the weather is favorable. I do not think it a good practice to allow the cows to stay out in the yard until they become chilled, as this impairs large yields of milk and increases the cost of production.

The foremost question of the day in

all lines of business appears to be the one of financial success. Be it right or wrong, this is a money-getting age, and not a step behind his commercial or professional brother stands the man who produces the foodstuffs for all mankind, equally as anxious to get his share of worldly goods. The man who keeps abreast in the race for business nowadays must study every detail of his work to eliminate waste, to centralize effort and to promote efficiency. Profit in the dairy business depends in no small measure upon the dairyman himself. This is a day of close competition. The dairyman has his competitors. Too many cows are being handled at a loss. Let us, as dairymen, apply the test of good methods to our business, cut down waste, increase annual production, thereby insuring a greater profit.

ERADICATION OF TUBERCULOSIS PROGRESSING.

ULTIMATE eradication of tuberculosis among animals in the United States becomes very hopeful when a comparison is made with what has been done in the eradication of the cattle tick in the south, says the United States Department of Agriculture. It is estimated that in order to get rid of tuberculosis in a reasonable time it would be necessary for the state of Illinois, for instance, to employ 168 veterinarians, and to spend for the work and for indemnity about \$11,000,000. The annual loss to the farmers of the state due to the ravages of the plague is thought to be at least \$2,000,000, and the total value of the cattle, according to the last census, was \$182,000,000. To this last figure might be added \$90,000,000, which was the January 1 estimate of the value of Illinois hogs.

This furnishes comparisons with Alabama which has been practically rid of the cattle tick, the cause of Texas fever. In that state the counties, state and federal government have spent \$1,457,633 in the fight against this enemy of the live stock industry. This is considerably less than the estimated cost of cleaning out tuberculosis from Illinois herds, but there is a great difference in the value of the cattle, Alabama's beef and dairy herds being worth, at the time of the last census taking, \$32,078,763, and her swine a little more than \$15,000,000.

Tuberculosis is not only a disease that is undermining the live stock industry in many states, but is seriously jeopardizing the lives of the people, especially the children. Already it has been demonstrated in various counties in nine states that it is possible to have all the herds within certain boundaries absolutely free of the disease. This can be done in the nation.

WEIGHT OF SILAGE.

CAREFUL experiments have shown that well-settled silage on the average weighs forty pounds to the cubic foot, that nearer the bottom of the silo is probably packed sufficiently so that it will weigh a trifle more to the cubic foot than that near the top of the silo, but approximately, this is correct. Therefore, ascertain the number of cubic feet of silage in your silo and multiply this by forty and this will give you the number of pounds of silage.

The only way one can give the price of silage is to compare it with other food products of a similar nature, that is, similar so far as food nutrients are concerned. Ensilage is not bought and sold on the market like hay or grain, and consequently no market price can be fixed. However, feeding experiments show that three tons of good corn silage are worth in feeding value approximately the same as one ton of timothy hay and the analysis is very similar.

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MELOTTE, the Edison of Europe, manufacturer of the greatest Cream Separator the world has ever known, announces a sweeping reduction in prices. Labor conditions in general together with tremendous re-building and re-organizing efforts put forth by this big man of Belgium has resulted in cutting production costs to the bone. And right now at this particular time exchange rates are extremely favorable. Take advantage of this condition while it lasts. Get the most for your American dollar. Buy now and save money.

Before buying any separator find out how the Melotte has won 264 Grand and International prizes and how, for efficiency of skimming, ease of turning, convenience of Operation and Durability—the Great Belgium Melotte has won every important European Contest. Find out why 500,000 Melotte Separators are in continuous use today.

Self Balancing Bowl

The Belgium Melotte is the only single-bearing-bowl separator 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 re-mixing 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.

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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. Satisfy yourself that the porcelain bowl is as easy to clean as a china plate. Compare it—test it in every way.

When you are convinced the Melotte skims cleaner, turns easier, washes quicker, has one-half less tinware to clean, lasts longer than all others, then pay \$7.50 as first payment and balance in small monthly payments until the separator is paid for.

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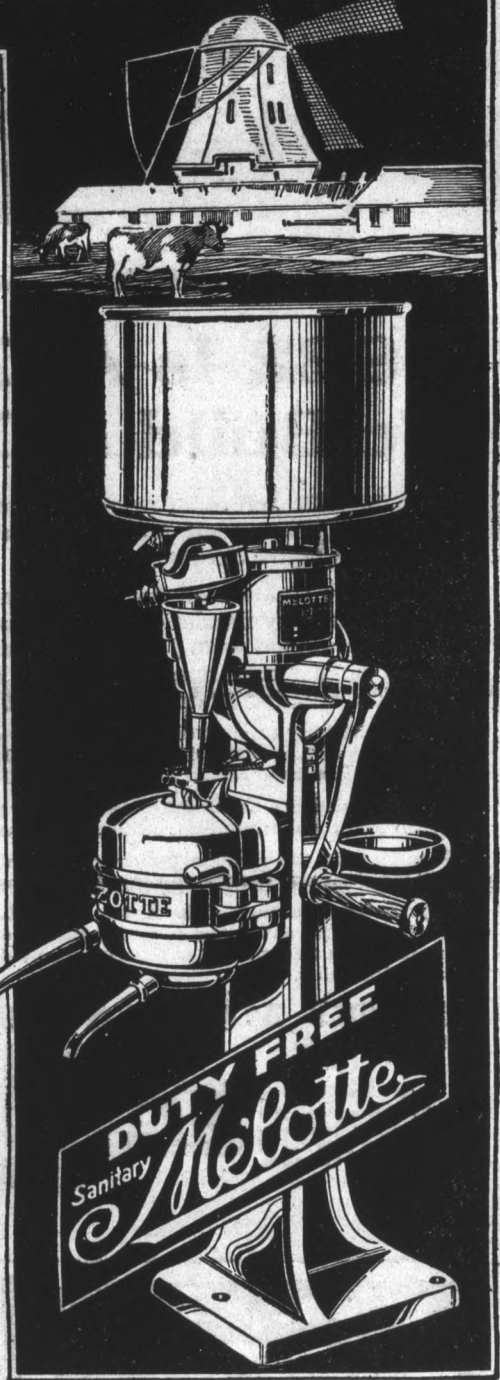
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Mail coupon for catalog giving full description of this wonderful cream separator. Read about the porcelain lined bowl. Easy to clean as a china plate. One half less tinware to clean. An exclusive Melotte feature. Other exclusive Melotte features described in full. Don't buy any separator until you have investigated the Melotte. Take advantage of the 30 day free trial which Mr. Melotte has now authorized us to offer. Test the Melotte against all other separators and satisfy yourself as hundreds of American farmers have done that it is the world's greatest separator. The only separator that requires a brake. It is so easy to turn that it spins twenty-five minutes after you stop cranking. And remember it is guaranteed for 15 years. Don't wait—be sure to mail coupon TODAY!

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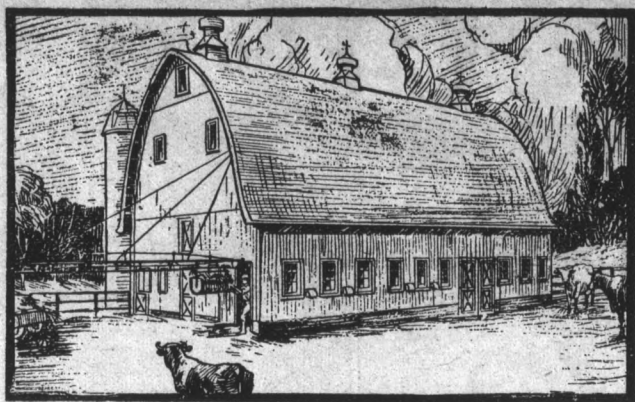
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Indeed, drinking cups alone may pay $\frac{1}{2}$ the cost of the entire barn. Tests in 28 herds proved that with milk at \$2.50 per 100 lbs. and labor at 25c an hour, Jamesway cups increased profits from each cow \$14.01 during the cold weather season.

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Use Bag Balm for Caked Bag and all abnormal conditions of the udder tissue. It penetrates quickly and restores healthy circulation. Valuable in treating Cow Pox and Bunches.

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Michigan Holstein Meeting

THE Michigan Holstein-Friesian Association held its annual banquet on the evening of January 10 at the Plymouth Congregational Church, at Lansing, and its annual meeting at the College at East Lansing on the following day.

M. W. Wentworth, of Battle Creek, acted as toastmaster at the banquet, and among those who responded to toasts were Austin Jennison and Norman Cove, of Lansing; Frank T. Price of the Holstein-Friesian World; James G. Hays, of Howell; W. H. Hill, Agricultural Agent of the New York Central Lines West, and D. D. Aitken, of Flint. Altogether it was a lively affair, and about a hundred people enjoyed the excellent meal which was served by the ladies of the church.

The annual meeting on the day following was presided over by Mr. Dudley E. Waters, of Grand Rapids, president of the Michigan Association, and one of the most progressive breeders of the state. The morning session was taken up with the regular business of the association and included the reading of reports by the officers for the year just closed, the distribution of prize ribbons for the leading A. R. O. cows reported during 1921, and the election of officers for the ensuing year.

The afternoon session was featured by several interesting talks and the large room was filled to capacity. Ex-Governor Frank O. Lowden, of Illinois, president of the Holstein-Friesian Association of America, gave a most interesting and instructive address, in the course of which he urged closer cooperation between the national, state and local organizations and the pushing of such activities as calf clubs, bull associations, cow-testing associations and the like. He called attention to the need for cooperation and organization among the farmers and breeders as a decisive factor in the country's economic readjustment and asserted that general prosperity will not return until the normal relationship between the prices of farm commodities and the prices of other commodities has been restored. Mr. Aitken followed with an exhortation to the farmers and breeders to concentrate on the working out of their own problems.

Mr. E. J. Leenhouts, assistant agricultural agent of the New York Central Lines, who was in direct charge of the Michigan Holstein-Friesian Association's part in the operation of the "Better Sire Trian" through northern Michigan, counties in August of last year, presented a resume of that undertaking. This train was put on in cooperation with the New York Central and Pennsylvania Railroads, the dairy department of the college, and the county agents and local commercial organizations, and resulted in the placing of sixty-eight pure-bred Holstein bulls in localities where the pure-bred business has not been greatly developed and in arousing a great deal of interest in better dairying.

The talk of Prof. O. E. Reed, head of the dairy industry department of the college, was a very practical discussion on developing dairy heifers and was accompanied by figures and charts from actual experimental work along that line. This was of direct interest to the breeders and was closely followed.

The resolutions adopted by the meeting had to do with the bill now before congress to provide for a tax on filled milk; the question of fixing the transfer fee by the national association so as to provide funds for extension and publicity work; the question of providing land for experimental research along dairy lines; and the protection of cattle exhibited at fairs with respect to tuberculosis.

The matter of the nomination of delegates to represent Michigan at the next convention of the national association was also considered by the meeting and it was decided to present the following names to the voters as the association's choice: D. D. Aitken, Flint, chairman; M. W. Wentworth, Battle Creek; John C. Buth, of Grand Rapids; H. D. Boardman, Jackson; Elwood M. Bayne, Detroit; H. W. Norton, Jr., East Lansing; Dudley E. Waters, Grand Rapids, and R. F. Sloan, Charlevoix.

MAPLE SUGAR AND SYRUP

(Continued from page 147).

of sugar and small quantities of mineral constituents. The making of maple syrup or sugar consists primarily of "boiling out" the water and skimming off the foreign matter. To make a good sugar or syrup it is necessary, therefore, to have an equipment which will allow for the least possible contamination of the product in all stages of manufacture. Not only must thorough cleanliness be observed but transformation of the new sap to the finished product must be direct and as speedy as possible.

The sugar house of a modern plant is not only for making and putting up the products but also for storing buckets, pails, spouts and other equipment from one season to the next. One farmer with a one-thousand-tree bush has a very satisfactory house. This is forty-two feet long by thirty feet wide. The walls are built of house siding and painted; the floor is of cement and the ceiling of shingles wood. It has a leanto twelve feet wide on the east side for protecting the storage tank. It is built on sloping ground so that the gathering tank empties by gravitation into the storage tank and from there into the evaporator.

It has been a long stride from the iron kettle, used in sugar making by our grandfathers, to the modern evaporator that is necessary for the making of a high-priced product. The modern evaporator is designed for rapid evaporation and economy of fuel. There are several makes in use but all are similar in principle. When purchasing an evaporator it is important to provide for expansion of the plant and the taking care of heavy runs of sap. An experienced maker believes in providing ten square feet of boiling surface for every one hundred trees tapped.

At the beginning of the season all the sugar utensils should be cleaned even though they were well washed, dried and stacked away at the close of the season previous for the dust which collected during the year would damage the first run. Having distributed the buckets and spouts the tapping is started. The sap is forced out by internal pressure, and a very small opening will relieve that pressure, causing the sap to flow as rapidly as from the larger opening. The three-eighths, seven-sixteenths and half-inch bit is used. The hole is bored in slightly upward about one and one-half inches in the medium-sized tree, and two inches in the large tree. The point of tapping should be about thirty inches above the ground where the bark has a healthy look.

We still find farmers who do not think that it pays to cover their sap buckets. But one neighborhood had such a good illustration of the value of covers recently, that nearly all the sugar makers there now have them. A heavy rain storm came on and a man with a thousand trees tapped, buckets covered, was able to make six hundred pounds of sugar, while across the line fence, the next farmer, without covers, passed through his bush and emptied the sappy water out.



"Nobody loved me"

"I HAD the thrush—neglect on the part of my first owner. After he sold me I was passed along like a bad penny until I met my friend, the man who owns me now.

"HE sized up my trouble at a glance and what's more knew the remedy.

"'BILL,' he said, 'Gombault's Caustic Balsam'll have you standin' on four good feet in a jiffy.' And it did!

"WHICH proves if there were more wise owners there'd be more good horses."

GOMBAULT'S CAUSTIC BALSAM does the work better than firing. Hair will positively grow back natural color.

Available remedy for Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Windpuffs, Skin Diseases, Thrush, Spavin, Ringbone, Throat and Bronchial Troubles. Will not scar or blemish. Supercedes all firing and cautery.

Sold by druggists, or sent by parcel post on receipt of price \$1.50 per bottle.

AS A HUMAN LINIMENT It is unsurpassed for muscular and inflammatory rheumatism, sprains, sore throat, burns, bruises, cuts, etc.

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**JIM
BROWN'S
CUT PRICE
CATALOG**

ANNUAL SESSION STATE FARM BUREAU.

(Continued from page 156).

tax law as a means of more equally distributing the tax burden, and as a means of reaching property now untaxed.

We urge the adoption of the proposed amendment to the constitution, submitted by the last legislature, with reference to the state income tax law, and recommend the passage by our next legislature of a state income tax law at such a rate that the income therefrom will be of sufficient volume to pay all state expenses and displace the general property tax for state purposes; and the surplus, if any, to be used to retire the soldiers' bonus bonds.

We recommend the immediate submission, by congress, to the states of an amendment to the federal constitution prohibiting the further issue of tax-exempt bonds.

We recommend that all real and personal property owned by a municipality and used or held for use as a public utility, lying outside the municipality so owning said utility, be placed on the tax roll on the same basis as other real and personal property in the township where the said utility is located.

We recommend that the stock of all trust companies, finance and mortgage companies, and building & loan associations be assessed and taxed on the same basis as the stock of state and national banks.

We recommend the repeal of the law known as the Covert road law.

We recommend that the law be amended so that all moneys received by the different counties from the state as state reward for road building shall be applied to the payment of road bonds, issued in said county, if any, otherwise that such state award moneys be turned into general highway funds of the county under the control of the board of supervisors.

We recommend a tax of one cent a gallon on all gasoline used within the state, the money received therefrom to be applied in the payment of the interest of state highway bonds and retirement of state highway bonds.

We recommend that all money paid by any rural school districts for tuitions of its students in high schools of the state, shall be refunded to said rural school district by the state out of the primary school fund, and that the constitution be amended so as to permit such refunding.

We recommend that that portion of the money received by the state for license of motor vehicles, and belonging to several counties, be turned into the highway fund of the several county treasurers and be subject to control and disposition of by the board of supervisors, and not by county road commissioners, as at present.

That we favor a reduction in the statutory limit of \$5.00 to \$3.00 per thousand for road repair and road improvement taxes. This applies to townships and villages.

We favor a transfer tax of one-half of one per cent, annual tax on intangible personal property.

We are opposed to the proposed amendment to the state constitution to eliminate the so-called moiety clause in the state constitution that would affect so many of our smaller counties in the state legislature.

We are also opposed to the proposed amendment to the state constitution providing for commission form of government for counties and we hereby pledge the Michigan State Farm Bureau to assist in the defeat of both the above named propositions.

We believe the Michigan State Farm Bureau through its executive committee should call a joint meeting of the Grange, Gleaners and Farmers' Clubs to conduct a systematic campaign to secure the adoption of such measures as will aid the property and welfare of the citizens of this great state of Michigan.

We believe that the state administrative board should be requested to suspend the issuing of any state highway bonds during the year of 1922.

The following committees were appointed by President Nicol:

Resolutions.—M. R. Shisler, Caledonia; J. C. Mullen, Menominee; W. W. Billings, Davison; George Friday, Coloma; J. D. Robinson, Levering.

Rules.—W. E. Phillips, Decatur; Burton S. Knapp, Marne; Jas. Hayes, Livingston.

Credentials.—R. G. Potts, Washington; D. P. Rosenburgh, Kalkaska; Geo. Mosey, Barryton.

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Use American fence. Big, heavily galvanized wires, springy, mechanically hinged joints, bull strong.

American fence and American or U. S. steel posts make the ideal combination for a life-time service. American and U. S. posts are driven like stakes and anchor themselves.

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We make heavy fences—fences made of large, substantial wires—because we believe in them; because we can stand back of them; because we know the years of service they will give to the farmer who buys them; because large wires will take a heavier coat of galvanizing and are thus better protected for years of service.

We also make light weight fences, of small gauge wires. Because the trade demands them. While our light weight fences are the best on the market—best in quality of steel and quality of galvanizing, we do not believe they will give as good service as the heavier fences.

Heavy, substantial fence is by far the cheapest in the long run.

Dealers everywhere. See them and get prices. They have a stock on hand for quick delivery. Get new catalogue illustrating many kinds of fences, gates and posts for every purpose.

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Cluny Konigen Pontiac Niobe No. 326201 Born March 22, 1920.

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Long distance records of his dam, dam's dam, and dam's sire's dam average 975.51 lbs. butter and 19,796.3 lbs. milk including his dam's 305 day record made at 2 yrs. 3 mos.

Evenly marked. Ready for heavy service.

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His dam is by a 30 lb. cow that milked 105 lbs. in one day, who is a full sister to a cow that milked 120 lbs. in one day and 811 lbs. in 7 days, and is by a sister to the only cow in the world with 800 lbs. Milk in 7 days having an 800 lb. daughter.

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His sire's two nearest dams average over 36 lb. Butter in 7 days.

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His dam at the tender age of 1 yr. 11 mos. 8 days gave 21.70 lbs. Butter from 411.8 lbs. Milk in 7 days; 51.11 lbs. Butter and 123.2 lbs. Milk in 21 Days, averaging 4.06% Butterfat.

He is handsomely marked, nearly half and half.

The greatest butterfat bull we have ever raised.

Improve your herd. Buy this bull. Only \$350.00 f. o. b. Howell.

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His get won first in Calf Herd, also first in get of sire, in a class of 13.

A son of either of these great bulls will help the individuality and production of your herd.

We have bulls at dairymen's prices, and we also have bulls at the breeder's price, from dams with records up to 38 lbs. of butter in seven days, and 1168 lbs of butter in one year.

Ask us about a real bull, a Maplecrest or an Ormsby. JOHN H. WINN, Inc., Rochester, Mich.

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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.

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5 yr. old son of Smithdale Alcatraz Pontiac from daughter of Pontiac Korndyke. Priced low. FERNWOOD FARM, Evart, Mich.

Ten reg. Holstein heifers, some fresh, others fresh soon. All tuberculin tested and guar. O.K. every way. Price \$100 to \$150 each. B. B. Reavey, Akron, Mich.

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HEREFORDS For Sale. Bulls, cows and heifers. RALPH CALHOON, Bronson, Mich.

The Blind Man's Eyes

By William MacHarg and Edwin Balmer

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(Continued from page 160).

answering it, she found that it was Donald speaking to her.

"Will you come down for a few minutes, please, Harry?"

She withheld her answer momentarily. Before Eaton had come into her life, Donald sometimes had called her like this—especially on those nights when he had worked late with her father—and she had gone down to visit with him for a few minutes as an ending for the day. She had never allowed these meetings to pass beyond mere companionship; but tonight she thought of that companionship without pleasure.

"Please, Harry!" he repeated.

Some strangeness in his tone perplexed her.

"Where are you?" she asked.

"In the study."

She went down at once. As he came to the study door to meet her, she saw that what had perplexed her in his tone was apparently only the remnant of that irritation he had showed at dinner. He took her hand and drew her into the study. The lights in the room turned full on and the opaque curtains drawn closely over the windows told that he had been working—or that he wished to appear to have been working—and papers scattered on one of the desks, and the wall safe to the right of the door standing open, confirmed this. But now he led her to the big chair, and guided her as she seated herself; then he lounged on the flat-topped desk in front of and close to her and bending over her.

"You don't mind my calling you down, Harry; it is so long since we had even a few minutes alone together," he pleaded.

"What is it you want, Don?" she asked.

"Only to see you, dear—Harry." He took her hand again; she resisted and withdrew it. "I can't do any more work tonight, Harry. I find the correspondence I expected to go over this evening isn't here; your father has it, I suppose."

"No; I have it, Don."

"You?"

"Yes; father didn't want you bothered by that work just now. Didn't he tell you?"

"He told me that, of course, Harry, and that he had asked you to relieve me as much as you could; he didn't say he had told you to take charge of the papers. Did he do that?"

"I thought that was implied. If you need them, I'll get them for you, Don. Do you want them?"

She got up and went toward the safe where she had put them; suddenly she stopped. What it was that she had felt under his tone and manner, she could not tell; it was probably only irritation at having important work taken out of his hands. But whatever it was, he was not openly expressing it—he was even being careful that it should not be expressed. And now suddenly, as he followed and came close behind her and her mind went swiftly to her father lying helpless upstairs, and her father's trust in her, she halted.

"We must ask father first," she said.

"Ask him!" he ejaculated. "Why?"

She faced him uncertainly, not answering.

"That's rather ridiculous, Harry, especially as it is too late to ask him tonight." His voice was suddenly rough in his irritation. "I have had

charge of those very things for years; they concern the matters in which your father particularly confides in me. It is impossible that he meant you to take them out of my hands like this. He must have meant only that you were to give me what help you could with them!"

She could not refute what he said; still, she hesitated.

"When did you find out those matters weren't in your safe, Don?" she asked.

"Just now."

"Didn't you find out this afternoon—before dinner?"

"That's what I said—just now this afternoon, when I came back to the house before dinner, as you say." Suddenly he seized both her hands, drawing her to him and holding her in front of him. "Harry, don't you see that you are putting me in a false position—wronging me? You are acting as though you didn't trust me!"

She drew away her hands. "I do trust you, Don; at least I have no reason to distrust you. I only say we must ask father."

"They're in your little safe?"

She nodded. "Yes."

"And you'll not give them to me?"

"No."

He stared angrily; then he shrugged and laughed and went back to his desk and began gathering up his scattered papers. She stood indecisively watching him. Suddenly he looked up, and she saw that he had quite conquered his irritation, or at least had concealed it; his concern now seemed to be only over his relations with herself.

"We've not quarreled, Harry?" he asked.

"Quarreled? Not at all, Don," she replied.

She moved toward the door; he followed and let her out, and she went back to her rooms.

(Continued next week).

FLOCK AT LAMBING TIME.

SHEEP dividends depend on the care given the flock at lambing time. A good winter ration for pregnant ewes is composed of good hay, clover or alfalfa, unthreshed pea straw, roots and silage. If thin, grain should be added. Salt and water should be supplied liberally and regularly. As the ewes approach lambing time reduce all feeds, especially roots and silage.

During the first twenty-four hours the feed should be light, after lambing. A warm drink with a light feed of pulped mangels and grain is good. Within three days the ewe may be brought back to the full ration, then fed milk, as well as hay and roots.

When the lambs are eight or ten days old they will nibble fine hay and grain, and thereafter should be provided with a separate trough and rack where they may learn to eat. No feeds for this purpose excel oats, bran, oil-cake and good fine clover hay. Make all changes gradually from winter quarters to pastures, both for ewes and lambs, avoiding scours, bloat and digestive troubles.

Ewes lambing in cold weather must have comfortable quarters. The floor must be dry, well bedded and level. It is often best to have individual lambing pens which may be made by the hinging together of two four-foot gates and adjusting in the corner and along the wall of the shed.—E. W. G.

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.

Worms.—Have a three-year-old colt that is troubled with worms. E. McC., Twin Lake, Mich.—Give him one dram of santolin and one dram of calomel in bran mash daily for three or four days, then give one dram of powdered sulphate of iron in feed twice a day.

Scabs on Legs.—Heifer 18 months old has scabs on hind legs and one scab on lip; also bull calf has scab on foreleg. C. H. S., Leslie, Mich.—Apply one part salicylic acid and four parts vaseline every day or two. If you have on hand tincture of iodine, paint scabs daily.

Thrush.—I have a horse that has been troubled with thrush for some time and we have been unable to cure him of this disease. Our local veterinary prescribed for his ailment, and besides we applied blue vitriol. Is thrush a contagious disease? A. S., Coldwater, Mich.—Keep the feet dry and clean and apply calomel to diseased parts once a day.

Exostosis.—Have a mare nine years old which stepped on a nail last winter, fetlock swelled, she rested all summer, was blistered, but she has hard bunch on pastern and fetlock, but is not much lame, walking. Exercise seems to relieve her lameness. What shall I do for her? D. E., Gladwin, Mich.—Clip off hair and apply one part red iodine of mercury and four parts fresh lard every two weeks.

Chronic Cough.—What shall I do for cows that cough? What is the cause? Is it a sign of tuberculosis? J. B., Rhodes, Mich.—Give her equine cough syrup. A cough is only a symptom of many ailments and due to many causes, but I am unable to tell what is causing your cattle to cough. Sometimes it is one of the symptoms of tuberculosis.

Sweeny.—Can you prescribe a treatment for curing sweeny on a horse that is about fifteen years of age? One of a heavy team and somewhat valuable. Sweeny is of recent origin and very pronounced. I would like to use him and I might add he is very thin, is well fed and not overworked. E. W. P., Topinabee, Mich.—Clip off hair, apply equal parts turpentine, tincture of cantharides, aqua ammonia and two parts raw linseed oil daily to atrophied parts. Feed him plenty of oats, wheat bran, mixed hay or alfalfa. Give him one-half ounce of ground gentian in feed two or three times a day.

Loss of Appetite—Effects of Purpura Hemorrhagica.—Calf born on October 16, 1921, seemed all right, but gradually he lost appetite. I gave him castor oil. I believe he needs a tonic medicine. My nine-year-old mare had an attack of purpura last summer, but seemingly recovered, now her legs stock, also some swelling under belly, but she is not sick. She runs in pasture one mile from my home. C. F. C., Marion, Mich.—If convenient, feed some ground oats with a tablespoonful of Fowler's solution in each feed. An animal of this kind should be stabled and well fed.

Bruised Udder.—I have a Guernsey heifer first calf which gives bloody milk. She was on a summer grass which follows rye stubble, when it came on. She is a staked cow and I can give no reason for her giving such milk. Bloody milk comes from two quarters of bag. G. H. D., Benton Harbor, Mich.—Rough milking is quite a common cause, careful milking is sometimes a remedy. If you stable her give her plenty of bedding, change feed, and remember that uncertain results follow the use of drugs in such cases.

Breeding Question—the Eating of Placenta.—Will I obtain good results by inbreeding my hogs once? Should a sow be allowed to eat the afterbirth after farrowing? Should a cow be allowed to eat the afterbirth after calving? C. O. B., Holloway, Mich.—A certain amount of inbreeding will usually prove profitable but don't forget the importance of line-breeding. Inbreeding generally reduces the vigor, although it concentrates whatever good points happen to be present. Be cautious, for inbreeding experiments are generally expensive, especially if in the hands of the amateur. If possible, prevent both sows and cows from eating the afterbirth. In many cases it may do no perceptible harm, but it is sometimes injurious.



Money IN HOGS

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Jersey Thoroughbreds

Few cows and bull calves. Best breeding line. Guaranteed. Tuberculin tested twice a year. If you have no money will take bankable note. E. W. Vasey, 509 Free Press Building, Detroit, Mich., Main 1267.

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Will sell half interest in 20 head of Jerseys on well equipped Michigan farm to some one with knowledge of dairy farming. J. B. MAHER, 7533 Normal Ave., Chicago, Ill.

Lillie Farmstead Jerseys Bull calves from E. of M. cows. COLON C. LILLIE, Coopersville, Mich.

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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.

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Now offering a choice lot of bull calves. Best of breeding. \$150 to \$250 will buy a real bull at present time. Write for particulars.

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SHORTHORNS. Two 4 mo. old bull calves of White, Shall Sultan Strain and a few young heifers. Priced very reasonable. J. A. WILK & Son, Alma, Mich.

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Bred Gilts for March and April farrow. Bred to Big Bone Giant Sertation, Panama Special 55th and Brookwater Demonstrator 26th. Write us for description and prices. Or come and see them.

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Duroc Jerseys A few extra good fall boars, and a choice lot of spring boars of the heavy boned type popular blood lines at reasonable prices. DROTT & BERNIS, Monroe, Mich.

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

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a great offering of bred Duroc sows and gilts March 4th. They are mostly bred to Orion Giant Col., son of Ohio Grand Champion. Get on mailing list for catalog. W. C. TAYLOR, Milan, Mich.

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WEST View Duroc Farm offers spring boars from Home Farm Tippy Orion and Pathfinder Prince, with big bone and type. Ready for service, sows, fall gilts and spring gilts with quality. Write or come and see them. ALBERT EBERSOLE, Plymouth, Mich.

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O. I. C's. 4 last spring boars and 15 gilts, wt. 250 to 300. Also last fall pigs, good thrifty stock. Registered free. 1/4 mile west of Depot, Clitz, Pine. OTTO B. SCHULZE, Nashville, Mich.

O. I. C's. choice gilts bred for March and April farrow. A. J. BARKER & SON, Belmont, Mich.

For Sale. O. I. C. Gilts bred for March and April farrow (at a reasonable price). H. W. MANN, Dansville, Mich.

O. I. C's A few bred gilts and fall pigs at farmers' prices. C. J. THOMPSON, Rockford, Mich.

LARGE TYPE P. C.

Largest herd of individuals in Mich. Come and see, compare, and be convinced, expenses paid if not as represented. Boars and early gilts all sold. A few late gilts, will sell open or hold and breed for late farrow. W. E. LIVINGSTON, Parma, Mich.

40 Sows. Granddaughters of the great Giant Buster, bred to a grandson of the Yankee, the \$40,000 sire. Where can you find any better Big Type breeding? Our prices are very low, \$30, \$40. Also 50 fall pigs. Why not buy a pig? JNO. C. BUTLER, Portland, Mich. Bell Phone.

LEONARD'S Big Type P. C. Herd headed by Leonard's Liberator 458,235, the tallest, longest and heaviest boned pig for his age in Mich. Call or write, stock in season. Fall pigs at Bargain Prices. E. R. LEONARD, 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.

L.T.P.C. \$15, \$20 & \$25

We have a fine lot of fall pigs sired by Harts Black Price and Right Kind Clan. HART, FULCHER and CLINE, address F. T. Hart, St. Louis, Mich.

Large Type Poland Chinas

Spring boars all sold. Fall pigs at bargain prices. Bred gilts held for public sale. A. A. FELDRAMP, R. 2, Manchester, Mich.

L. T. P. C.

Gilts bred Mo. Bob. 2 sons of Clansmans Image, Big Defender 2nd and High Joe, tracing back to Chief Price. H. O. SWARTZ, Schoolcraft, Mich.

BIG Type Poland-China and Holsteins. Two fall yearling gilts, sired by Hovers's Giant and bred to Clansman Buster for spring farrow at \$60 each. Our spring gilts are all sold. We are offering Reg. Holstein Bulls ready for service at \$60, sired by 29 lb. bull. DORUS HOVER, Akron, Mich.

BIG TYPE POLAND CHINAS

Bred gilts for sale. Choice individuals of rich breeding at prices within your reach. Come see them or write. WESLEY HILE, R. 6, Ionia, Mich.

L. T. P. C. Gilts bred to that Yearling Boar that stands 40" high, is 76" long, and walks on a 11" bone. Offering summer and fall pigs. Clyde Fisher, R. 3, St. Louis, Mich.

Big Type P. C. Sows bred to Big Bob Mastodon, his gilts bred to a son of Peter Pan, that sold for \$1,075 cash Jan. 5. C. E. GARNANT, Eaton Rapids, Mich.

L. T. P. C. April farrow. Come and see them, they will bear inspection. W. J. Hagelshaw, Augusta, Mich.

BIG TYPE Poland Chinas, leading strains at lowest prices. Both sex, all ages, and bred sows and gilts. G. A. BAUMGARDNER, R. 2, Middleville, Mich.

Poland China gilts sired by a 900 lb. two years old and bred to a son of Mich. 1921 Grand Champion. ROBERT MARTIN, R. 3, Woodland, Mich.

Hampshires Bred gilts now ready to ship with fall boar pig not akin. JOHN W. SNYDER, R. 4, St. Johns, Mich.

SHEEP

A Real Bargain at Kope Kon Farms

We offer 40 big healthy yearling Shropshire and Hampshire Rams all registered at \$25.00 each. Come or write while the picking is good. S. L. WING, Coldwater, Mich.

Registered Shropshire Rams Priced to sell. Dan Booher, R. 4, Ewart, Mich

Ten Aged Registered Delaine ewes and ten ewe lambs for sale. CALHOON BROS., Bronson, Mich

HORSES

FOR SALE 2 Reg. Percheron Stallions and a car of Grade Draft Cols. CHAS. BRAY, Okemos, Mich.

For Sale Percheron Stallion 4 years old, steel gray, registered. THOMAS MURPHY Jr., Gilford, Mich.

LATEST MARKET REPORTS

GRAIN QUOTATIONS

Tuesday, February 7.

Wheat.

Detroit.—Cash No. 2 red \$1.33; No. 2 mixed and No. 2 white \$1.30; May \$1.38.

Chicago.—No. 2 red \$1.27; No. 2 hard \$1.23@1.23½.

Toledo.—Cash \$1.33; May \$1.41.

Corn

Detroit.—Old Cash No. 2 yellow at 58½c; No. 3 yellow 56c.

Chicago.—No. 2 mixed 53@54c; No. 2 yellow 53@54c.

Oats.

Detroit.—Cash No. 2 white 40½c; No. 3 white 38c; No. 4, 33@36c.

Chicago.—No. 2 white 38½@39½c; No. 3 white 35½@38½c.

Beans.

Detroit.—Immediate and prompt shipment \$5.05 per cwt.

Chicago.—Choice to fancy hand-picked Michigan beans \$5.20@5.40; red kidney beans \$6.50@7.

New York.—The market is steady. Choice pea at \$5.50; red kidney \$6.60 @6.75.

Rye.

Detroit.—Cash No. 3 91c.

Chicago.—91½c.

Toledo.—91c.

Seeds.

Detroit.—Prime red clover, cash at \$14.35; alsike \$12; timothy \$3.35.

Toledo.—Prime red clover, cash at \$14.50; alsike \$12.05; timothy \$3.25.

Hay.

Detroit.—No. 1 timothy at \$19@20; standard and light mixed at \$18@19; No. 2 timothy \$16@18; No. 1 clover mixed \$16@17; rye straw \$13.50@14; wheat and oat straw \$12.50@13 per ton in carlots.

Feeds.

Detroit.—Bran \$30; standard middlings at \$29; fine middlings at \$30; cracked corn \$27.50; coarse cornmeal \$25.50; chop \$23 per ton in 100-pound sacks.

WHEAT

A profound change occurred in the wheat market in the last ten days. The Argentine market which has been declining and a cause of weakness in North American and European markets suddenly turned strong and led an advance in which all markets participated. Heavy European buying in the Argentine seems to have initiated the movement. Statistical summaries show that there is not much more than 50,000,000 bushels difference between the known import needs and the exportable surpluses of the various countries. This is a close adjustment of supply to demand and provides a balance so small that the outcome of the 1922 crop is a matter of great concern.

CORN

The movement of corn to terminal markets in January aggregated 55,000,000 bushels and was the largest on record. The sharp advance in wheat prices carried the corn market along last week to the highest point in several weeks although daily arrivals are setting a new record. Export buying is still liberal and clearances since November 1 have been about four times as large as in the same period a year ago. The disappearance of corn from primary markets into consumptive channels during the first quarter of the crop year amounted to 96,600,000 bushels, the largest for the corresponding period in the last dozen years.

OATS

The huge visible supply of oats is not fading away rapidly as receipts at primary markets are comparatively large in spite of private reports pointing to extremely low stocks on farms. The domestic demand has been rather slow. During the first half of the crop year the total disappearance of oats from primary markets into consumptive channels was 91,445,000 bushels. This is slightly larger than in the same period of last year, but shows a decrease of forty per cent when compared with the average of the preceding four years. It is believed, however, that eastern distributors have allowed their stocks to become very small and that they will need large shipments by spring.

SEEDS

Both clover and timothy seed markets show sustained strength and since the spring demand is on the horizon, advances in values are much more probable than declines. At Toledo receipts of clover for the season to date have been about 30 per cent more than the average of the preceding four years. Since the crop was light, this comparison suggests that stocks in surplus sections are small. Shipments from the same market have been only about one-half as large as the four-year average, indicating that distributors have not accumulated large supplies. Receipts of timothy seed at Toledo for the season have been only about 50 per cent of the four-year average.

FEEDS

Slashing \$3 to \$6 per ton from feed prices attracted buyers and restored a firm tone to the market. Prices are slightly higher with the exception of linseed oil meal. Large sales of bran and middlings have been made by the mills to jobbers for January and February shipment. Some cottonseed oil mills are closing already although as a rule the supply of seed is not entirely crushed until May.

HAY

Light receipts serve to maintain prices at most hay markets but Kansas City has just received the largest run in a number of months and prices were reduced. Low grades are relatively abundant and are difficult to move from distributing markets even at a big discount. Alfalfa hay remains at a high premium with prairie hay most difficult to sell.

POULTRY AND EGGS

Egg markets fluctuated rather violently last week although over a smaller range than in early January. The

weather conditions will continue as the dominating influence for several weeks. The supply of eggs during January at the four leading cities was 20 per cent larger than a year ago. Nevertheless, cold storage holdings at these four markets decreased much more rapidly than in January, 1921, due to extremely heavy consumption. Receipts of dressed poultry have fallen off in the last month and the addition to cold storage holdings in January was slightly smaller than in January, 1921.

Chicago.—Eggs fresh firsts 36½c; ordinaries 31@33c. Poultry hens 24c; roosters 18c; springers 25c; ducks at 28c; geese 20c; turkeys 35c.

Detroit.—Eggs fresh candled 38@39c; hens at 26@27c; ducks 28@30c; geese 18@20c; roosters 15c; turkeys 35c per pound.

BUTTER

After weeks of rapid fluctuation, the butter market became relatively stable during the past week. Consumptive demand has increased as a result of lower prices and supplies have been more closely cleaned up. Reports from producing sections indicate a decrease in the make but the quantities of butter arriving have decreased but little. Prices should hold somewhere near current levels until the flush season is nearer at hand.

Prices for 92-score fresh butter are: Chicago 37c; New York 37c. In Detroit fresh creamery in tubs brings 33½@34c.

BEANS

The bean market took another upward stride last week with the choice hand-picked beans quoted at \$5.20 per 100 pounds f. o. b. Michigan shipping points. Red Kidneys advanced to \$5.25. Growers are being offered \$4.60 for white beans in the dirt but are not selling which is a partial explanation of the advance. Wholesale growers

are buying briskly and are sending orders for prompt and rush shipment which indicate that their reserves are low and that beans are wanted to supply an urgent demand for immediate consumption.

POTATOES

Potato markets have been unsettled recently with the demand and movement at country shipping points relatively slow. Colorado and Idaho continue prominent as shippers with Maine in the lead at the present time and Minnesota a big factor. Northern sacked round whites f. o. b. shipping points are quoted at \$1.65@1.75 per 100 pounds. The Chicago carlot market is quoted at \$1.65@1.90 for round whites with most city wholesale markets at \$2.25@2.45.

WOOL

Wool prices at the government auction on February 2 showed an advance of 25 per cent over the sale early in January. The market became less active in the last week or two but developed life again owing to the outcome of the government sale. In the west the new clip is being contracted at prices as high as 33 cents. Mill consumption during December decreased slightly but was only about 10 per cent less than in October when manufacturing operations were at their height. The woolen goods market is fairly satisfactory and the American Woolen Company withdrew its lines of women's wear one week after the opening.

GRAND RAPIDS

Prices mainly unchanged. White beans were quoted 25 cents higher and the wool market was showing stronger tendencies. Prices as follows:

Vegetables.—Potatoes, the market is quiet; No. 1 white \$1@1.20 bu; leaf lettuce (hothouse) 16@18c lb; celery 1.50@2.50 box; dry onions \$6@7.50 per cwt.

Fruit.—Fancy winter apples \$3@4 bu; seconds \$2@3 bu.

Greenville.—Potatoes No. 1 white at \$1.30@1.50 cwt; beans, white \$4.15@4.25 cwt.

DETROIT CITY MARKET

The products in greatest demand in this market are apples, rhubarb, carrots, celery, parsnips and poultry. The trade in general was a little slow. Apples brought \$1.50@3 bu; cabbage, parsnips and carrots \$1.50@2; celery 35@50c per dozen; eggs 45@55c; poultry 23@35c lb; rhubarb 30@90c dozen bunches.

LIVE STOCK EXCHANGE TO HOLD ANNUAL MEETING.

The annual meeting of the Michigan Live Stock Exchange will be held in the Council Room of the City Hall, in Lansing, February 16, at 9:00 a. m., for the purpose of electing officers and transacting such other business as may come before the meeting.

This is one of the most important meetings called since the Exchange was organized. Owing to the fact that two preliminary meetings have been held with representatives from Ohio, Indiana and Michigan, with the view of establishing cooperative commission houses at Detroit, Buffalo, Pittsburgh, Cleveland and Toledo, it now becomes necessary for the different local cooperative associations to vote their preferences, and suggest ways and means of establishing these commission houses, in addition to what has already been done along this line.

Each association is entitled to one voting delegate, who should come instructed to vote on all questions that may come before the meeting.

All associations, whether belonging to the exchange or not, are requested to send representatives.—F. E. Compson, Secretary-Manager.

LIVE STOCK SALES.

Duroc-Jersey.—Feb. 14. J. C. Barney, Coldwater, Mich.

Poland-China.—Feb. 14. A. A. Feldkamp, Manchester, Mich.

Duroc-Jersey.—Feb. 15. Hillsdale Co. Duroc Breeders' Ass'n, at Hillsdale Fair Grounds.

Poland-China.—Feb. 16. E. J. Mathewson, Bun Oak, Mich.

Shorthorns.—May 10. Greenville Fair Grounds, Central Michigan Shorthorn Breeders' Association.

Live Stock Market Service

Wednesday, February 8.

DETROIT

Cattle.

Receipts 599. Market very dull and 50c lower than last week's close. Best heavy steers \$ 5.50 @ 6.00
Best handy wt. bu steers 6.00 @ 6.25
Mixed steers and heifers 5.25 @ 5.75
Handy light butchers.... 4.75 @ 5.00
Light butchers 4.25 @ 4.50
Best cows 4.50 @ 5.00
Butcher cows 3.25 @ 3.75
Common cows 3.00 @ 3.25
Canners 2.25 @ 3.00
Best light weight bulls .. 4.50 @ 5.00
Bologna bulls 4.00 @ 4.50
Stock bulls 3.50 @ 4.00
Feeders 5.00 @ 5.75
Stockers 4.50 @ 4.75
Milkers and springers.... \$ 40 @ 75

Veal Calves.

Receipts 730. Market dull and 75c @ \$1 lower.
Best \$12.50 @ 13.00
Others 6.00 @ 10.00

Hogs.

Receipts 1,947. Market 10c higher.
Mixed hogs \$ 10.50
Pigs 10.50
Roughs 7.50
Stags 4.50 @ 5.00

Sheep and Lambs.

Receipts 862. Lambs are 25c lower; sheep slow.
Best lambs \$ 14.00
Fair lambs 11.25 @ 11.75
Light to common 7.50 @ 8.75
Fair to good sheep..... 5.00 @ 6.50
Culls and common 2.00 @ 3.00

CHICAGO

Hogs.

Estimated receipts today are 18,000; holdover 8,168; market is slow and steady to 10c higher. Bulk of sales at \$9.20@9.75; tops \$10.05; heavy 250 lbs up \$9.15@9.40; medium 200 to 250 lbs \$9.35@9.90; light 150 to 200 lbs \$9.75@10.05; light lights at 130 to 150 lbs \$9.75@10.05; heavy packing sows 250 lbs up \$8.25@8.75; packing sows 200 lbs up \$8@8.40; pigs 130 lbs down at \$9.25@10.

Cattle.

Estimated receipts today are 7,000. Market steady to slow. Beef steers, medium and heavy weight 1100 lbs up choice and prime \$9@9.85; do medium and good \$7@9; do common \$6.10@7; light weight 1100 lbs down \$7.85@9.40; do common and medium \$5.85@7.85; butcher cattle heifers at \$4.35@7.75; cows \$4.10@6.25; bulls bologna and beef \$3.65@5.75; canners and cutters cows and heifers \$2.85@4.10; do canner steers \$3.50@4.35; veal calves light and handyweight at \$7.25@10.50; feeder steers \$5.15@7; stocker steers \$4.50@6.85; stocker cows and heifers \$3.40@5.

Sheep and Lambs.

Estimated receipts today are 10,000. Market strong to 25c higher. Lambs 84 lbs down \$12.50@14.50; do culls and common \$9.75@12.25; spring lambs at \$10@15.25; ewes \$5.25@8; ewes cull and common \$2.50@5; yearling wethers \$11@11.30.

BUFFALO

Cattle.

Receipts five cars. Market is slow; good to choice shipping steers \$7.50@8; light native yearlings, good quality \$8@8.50; best handy steers at \$6.50@7.50; handy steers and heifers \$6.25@6.75; western heifers \$6@6.50; light Michigan butchering heifers at \$5.25@5.50; best fat cows \$4.50@6; cutters \$3@3.50; canners at \$2.25@2.50; best heavy bulls \$4.50@5; heavy bologna bulls \$4.50@4.75; common bulls \$3.50@4; best feeders 700 to 800 pounds at \$5.50; best fat cows \$4.50@5; cutters stockers good \$4.50@5; light common \$3.50@4; best milkers and springers \$7.50@8.50; mediums \$30@40.

Calves, market is steady; tops at \$14.50; fair to good \$9@11; grassers \$4@5.

Hogs.

Receipts 15 cars. Market is strong. Medium and heavy \$10@10.50; yorkers and pigs \$10.50@10.85.

Sheep and Lambs.

Receipts two cars. Market strong. Top lambs \$15; yearlings \$11@12.75; wethers \$8@9; ewes \$6@7.25.

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Get your Kirstin Stump Puller now. Take a whole year to pay in small monthly payments. Earn as you pay by being our Demonstrator. Clear your land! Increase your income! Make your tax-eating stump fields pay big profits.

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Send me 4 fine quality white hemstitched pillow cases. Special Offer No. 511. Upon delivery, I will pay the postage 8¢ and the postage. If, on examination, I am not entirely satisfied with my bargain, I will return them to you and you will immediately refund my money and postage. I assume no obligations.

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OIL LIGHT BEATS ELECTRIC OR GAS

Burns 94% Air

A new oil lamp that gives an amazingly brilliant, soft, white light, even better than gas or electricity, has been tested by the U. S. Government and 35 leading universities and found to be superior to 10-ordinary oil lamps. It burns without odor, smoke or noise—no pumping up, is simple, clean, safe. Burns 94% air and 6% common kerosene (coal oil).

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New Winter Caught Herring 4c. Pickerel Round 6c. Headless and Dressed 7c. Tullibee Whitefish 7c. In boxes 120 lbs. net weight. Smaller quantities 4c lb. higher. 10 lbs. basket Smoked Blue-fins, 85c. 10 lb. Smoked Tullibee Whitefish \$1.50. Remit with order or write for our new price list.

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Special proposition. Earn your silo. **J. S. BARTON,** 327 Brown S. E., Grand Rapids, Mich.

RESOLUTIONS ADOPTED BY FARM BUREAU.

The following were submitted by the resolutions committee of State Farm Bureau and adopted by the delegates: Resolved, that the Michigan State Farm Bureau go on record as opposing the suggestion to change the name of the Michigan Agricultural College to Michigan State College.

Resolved, that we commend Manager Brody for his successful efforts to reduce the expenses of the State Farm Bureau and his efficient methods of conducting the same.

Resolved, that we heartily endorse the work of the American Farm Bureau Federation in the interest of agriculture and commend their stand regarding legislation necessary to the welfare of the nation, especially regarding transportation, finance, cooperative marketing, taxation, truth-in-fabrics, filled milk and Muscle Shoals nitrate plant.

Resolved, that we endorse the work of the State Farm Bureau in the method of developing commodity control in cooperative marketing, their friendly cooperation with the farmers' organizations and the general handling of the various departments during the past year.

Resolved, that we express our appreciation and approval of the recent favorable attitude taken by the federal administration toward the legalization and encouragement of farmer cooperation.

Resolved, that we unqualifiedly and heartily recommend and endorse the lakes to ocean waterway project as one which would result in nothing but ultimate good to the American people.

Resolved, that the present system of promiscuous seed distribution of the Federal Department of Agriculture be condemned.

Resolved, that the railroads should be required to keep their local offices open at least ten hours per day for the accommodation of the public.

Resolved, that the bureau favors the construction of good roads and a more economical and efficient handling of the work.

Resolved, that the zoning system in Michigan freight rates should be discontinued and that Michigan rates be placed on a par with transcontinental lines.

Resolved, that we approve and recommend that some adequate reforestation program be adopted by the state of Michigan and that immediate steps be taken to conserve the small amount of forest still remaining, the planting of nut, fruit and other useful trees along the highways.

Resolved, that we favor the publication and distribution of the Crop Reporter, the Market Reporter, the Weekly News Letter, and the National Weather and Crop Bulletin in such a manner and to such an extent as is consistent with sound economy and at the same time will afford the fullest dissemination to the farmer of the information they contain.

Resolved, that the Michigan State Farm Bureau and the National Farm Bureau Federation be urged to bend every effort to secure for the farmer adequate long and short term credit accommodations from all sources available, and to seek to discover an adequate practical remedy for the usurious rates of interest now charged farmers in many sections.

Resolved, that the board of directors investigated thoroughly the feasibility of establishing a marketing agency for produce in the city of Detroit and take such action in the matter as their study of the situation may lead them to advise.

Resolved, whereas the Michigan State Farm Bureau has gained a most valuable experience in the cooperative marketing of wool in the past two years, and

Whereas, this experience will lead to greater efficiency and rendering of improved service in the future, therefore

Be it resolved, that we commend the action of the executive committee, authorizing the general manager to develop plans for marketing the 1922 clip of wool, and that the wool pool for 1922 be continued under the management of the Michigan State Farm Bureau.

The Michigan State Farm Bureau in its annual meeting assembled do hereby go on record as strenuously opposing anything that in any way be little or tends to tear down the eighteenth amendment to our United States Constitution.

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Half blood combing 32c Three-eighths blood combing 30c
Quarter blood combing 30c Rejections 18 and 22c
Wool sacks furnished on request.

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No. 3 Skunk \$1.90 No. 4 Skunk \$1.00
Large Winter Muskrat \$2.30 Medium Winter Muskrat \$1.60
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60 Acres With 4 Horses
5 Cattle, hogs, poultry, vehicles, tools, fodder, etc. included; on main road, easy walk R.R. station, store, church, school, etc.; 30 acres rich loamy fields, pasture; fruit; good 2-story house overlooking village, practically new barn, poultry house, etc. To settle affairs only \$1300 with \$1000 cash, easy terms. See page 75 illus. Catalog 1100 Bargains. **FREE. STROUT FARM AGENCY, 814 BC Ford Bldg., Detroit, Mich.**

For Sale 420 Acres 100 cleared good clay loam. General purpose farm. House, barn, well, lake near house. Will sacrifice for quick sale. 30 acres new seeding \$20.00 acre. Might take small income property in exchange. Deal with owner **A. NEWELL, Burnips, Mich.**

MICHIGAN DAIRY FARM
240 acres level dark loam near Gladwin, Mich. Spring watered pastures, flowing well, two dwellings, plenty of other buildings, \$12,000 with \$3,000 cash down, balance long time 6%. No trades. Full description on application. **U. G. Reynolds, owner, Gladwin, Mich.**

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To Rent, 160 Acres dairy farm in Detroit milk area. Address Box 45, Hadley, Mich.

FOR SALE. Good farm. 60 Acres in Eaton Co. Write owner **BYRON SEMLER, Bellevue, Mich.**

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Stop this Lottery.

The cost is too high.

THE COSTLIEST HABIT in automobile America today is the careless buying of automobile engine oil.

It is safe to say that at least 50% of all automobile engine repairs are caused by "pick-up" lubrication.

Your best insurance of *engine results* is to ask for Gargoyle Mobiloil, being particular to specify the correct grade for your car.

When you buy unknown oils, peddled oils or by-product oils, you are admitting to yourself:

"Oh, I don't care who made the oil.

"I don't care how much carbon I get.

"I don't mind over-

heating, rapid depreciation, noise or repair bills."

Not a gasoline by-product

NINE OUT OF TEN lubricating oils on the market are simply by-products in the manufacture of gasoline.

Gargoyle Mobiloil is *not* a by-product.

It is produced by lubrication specialists who are recognized the world over as leaders in lubricating practice. Gargoyle Mobiloil is manufactured from crude oils chosen for their *lubricating* qualities—not for their gasoline content. It is manufactured by processes designed to bring out the highest *lubricating* value—not the greatest gallonage of gasoline.

This is one of the essential reasons for the superiority of Gargoyle Mobiloil.

Warning:

Don't be misled by some similar sounding name. Look on the container for the correct name *Mobiloil* (not *Mobile*) and for the red Gargoyle.



Mobiloil

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Chart of Automobile Recommendations

(Abbreviated Edition)

How to Read the Chart:

THE correct grades of Gargoyle Mobiloil 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"

BB means Gargoyle Mobiloil "BB"

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.

Chart of Tractor Recommendations

(Abbreviated Edition)

How to Read the Chart:

THE correct grades of Gargoyle Mobiloil 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

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.

NAMES OF TRACTORS:

Summer Winter Summer Winter Summer Winter Summer Winter

Alfa-Chalmers (General Purpose) A A A A A A A A

Alfa-Chalmers (11-20) A A A A A A A A

Alfa-Chalmers (21-30) A A A A A A A A

Alfa-Chalmers (31-40) A A A A A A A A

Alfa-Chalmers (41-50) A A A A A A A A

Alfa-Chalmers (51-60) A A A A A A A A

Alfa-Chalmers (61-70) A A A A A A A A

Alfa-Chalmers (71-80) A A A A A A A A

Alfa-Chalmers (81-90) A A A A A A A A

Alfa-Chalmers (91-100) A A A A A A A A

Alfa-Chalmers (101-110) A A A A A A A A

Alfa-Chalmers (111-120) A A A A A A A A

Alfa-Chalmers (121-130) A A A A A A A A

Alfa-Chalmers (131-140) A A A A A A A A

Alfa-Chalmers (141-150) A A A A A A A A

Alfa-Chalmers (151-160) A A A A A A A A

Alfa-Chalmers (161-170) A A A A A A A A

Alfa-Chalmers (171-180) A A A A A A A A

Alfa-Chalmers (181-190) A A A A A A A A

Alfa-Chalmers (191-200) A A A A A A A A

Alfa-Chalmers (201-210) A A A A A A A A

Alfa-Chalmers (211-220) A A A A A A A A

Alfa-Chalmers (221-230) A A A A A A A A

Alfa-Chalmers (231-240) A A A A A A A A

Alfa-Chalmers (241-250) A A A A A A A A

Alfa-Chalmers (251-260) A A A A A A A A

Alfa-Chalmers (261-270) A A A A A A A A

Alfa-Chalmers (271-280) A A A A A A A A

Alfa-Chalmers (281-290) A A A A A A A A

Alfa-Chalmers (291-300) A A A A A A A A

Alfa-Chalmers (301-310) A A A A A A A A

Alfa-Chalmers (311-320) A A A A A A A A

Alfa-Chalmers (321-330) A A A A A A A A

Alfa-Chalmers (331-340) A A A A A A A A

Alfa-Chalmers (341-350) A A A A A A A A

Alfa-Chalmers (351-360) A A A A A A A A

Alfa-Chalmers (361-370) A A A A A A A A

Alfa-Chalmers (371-380) A A A A A A A A

Alfa-Chalmers (381-390) A A A A A A A A

Alfa-Chalmers (391-400) A A A A A A A A

Alfa-Chalmers (401-410) A A A A A A A A

Alfa-Chalmers (411-420) A A A A A A A A

Alfa-Chalmers (421-430) A A A A A A A A

Alfa-Chalmers (431-440) A A A A A A A A

Alfa-Chalmers (441-450) A A A A A A A A

Alfa-Chalmers (451-460) A A A A A A A A

Alfa-Chalmers (461-470) A A A A A A A A

Alfa-Chalmers (471-480) A A A A A A A A

Alfa-Chalmers (481-490) A A A A A A A A

Alfa-Chalmers (491-500) A A A A A A A A

Alfa-Chalmers (501-510) A A A A A A A A

Alfa-Chalmers (511-520) A A A A A A A A

Alfa-Chalmers (521-530) A A A A A A A A

Alfa-Chalmers (531-540) A A A A A A A A

Alfa-Chalmers (541-550) A A A A A A A A

Alfa-Chalmers (551-560) A A A A A A A A

Alfa-Chalmers (561-570) A A A A A A A A

Alfa-Chalmers (571-580) A A A A A A A A

Alfa-Chalmers (581-590) A A A A A A A A

Alfa-Chalmers (591-600) A A A A A A A A