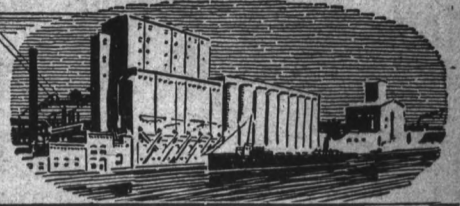


The Michigan
BUSINESS FARMER



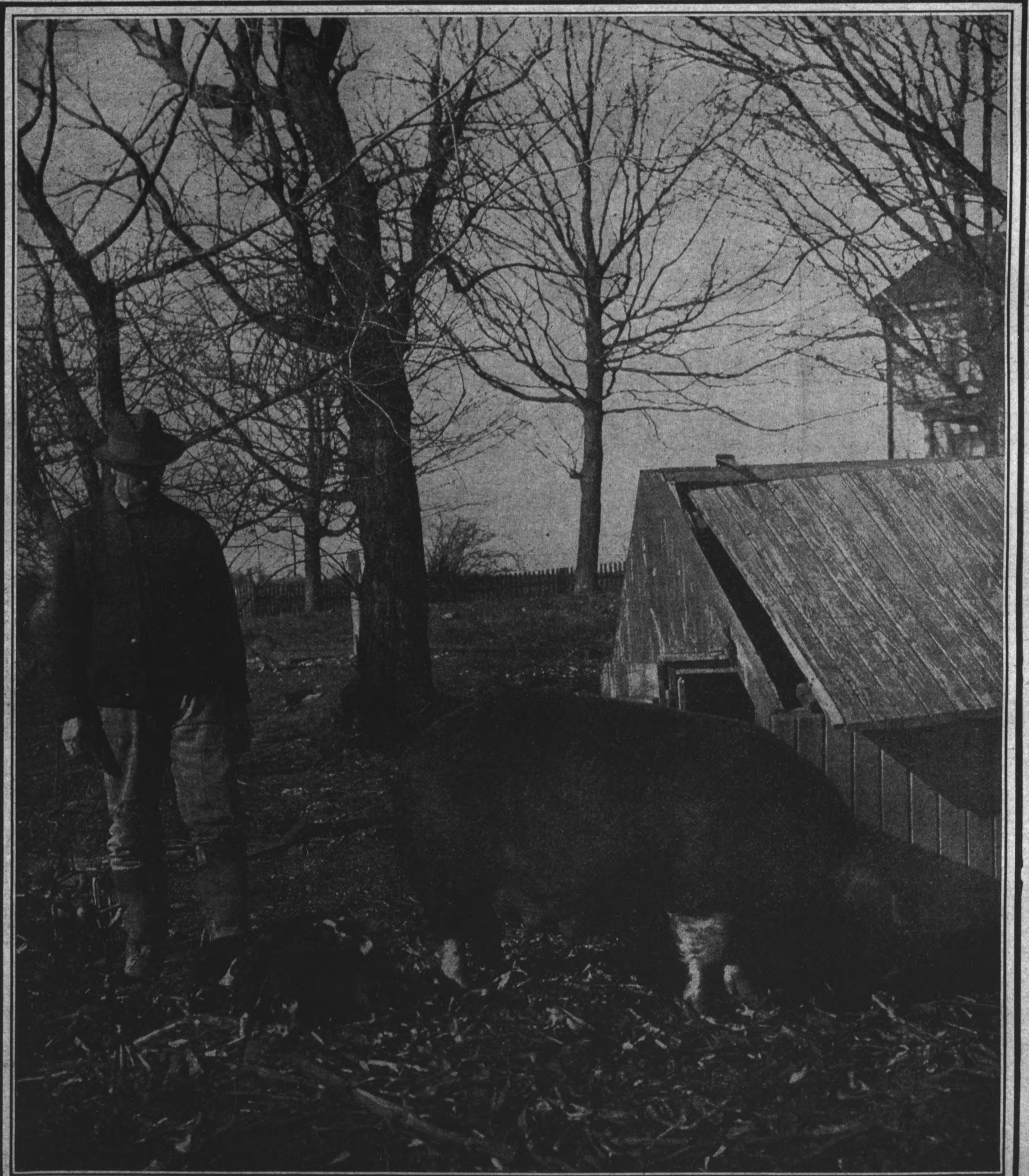
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\$1 PER YEAR



"Guess it will pay to raise 'em this year"

Department of Agriculture Tells How to Repair Fruit Trees Damaged by Ice Storm. (Page 4)

"MICHIGAN FRUIT GROWERS INC."

MICHIGAN co-operative fruit marketing organizations are fast rounding into shape. "The Michigan Fruit Growers, Inc.," which is to be the name of the state federation of fruit exchanges, a matter that was determined at Benton Harbor, Feb. 23, by representatives of the fruit growers who met with State Farm Bureau officials and members of the marketing department of the Michigan Agriculture College at the Third Fruit Conference.

The delegates to the meeting made Benton Harbor the permanent headquarters of the Michigan Fruit Growers, Inc. A capitalization of \$50,000 was authorized and the maximum indebtedness to be permitted the institution was set at \$100,000. A temporary board of eleven directors was elected. They shall arrange all details of the exchange and submit their work to the co-operative fruit marketing bodies interested in the exchange. Soon a permanent organization is to be effected and there will be a membership drive. The organization is interested in improving the distribution and marketing facilities for Michigan fruit.

Temporary directors elected were: Representing the grape interests, F. L. Bradford, St. Joseph, chairman; M. H. Pagsley, Paw Paw; S. C. Thornton, Lawton; M. D. Buskirk, Paw Paw; W. S. Seymour, Bridgman. Representing the peach and apple growers, George Friday, Coloma, chairman; James Nicol, South Haven; John Wilkinson, Hartford; M. Overton, Bangor; J. E. Barren, Ferrville. C. M. Hogue of Sodus represents the berry interests. Affairs of the institution will be in charge of a general board of delegates representing the co-operative fruit marketing associations, the number of delegates allowed an association to be based upon the amount of business it does.

CHEBOYGAN COUNTY FARM BUREAU NOTES

REALIZING that successful and profitable crop production depends upon the adoption of a systematic plan of crop rotation, and a scientific program of soil feeding, the board of directors of the Cheboygan County Farm Bureau have decided to conduct an extensive legume campaign in the county during the coming year, in an effort to increase the acreage of clover and alfalfa. Clover is the key of the successful crop rotation, and it is the secret of success in dairying and live stock raising.

Members will be encouraged and assisted in every way possible to increase the acreage of leguminous crops grown on their farms. Particular attention will be given to efforts to encourage the farmers to sow more sweet clover and alfalfa.

Either sweet clover or alfalfa can be grown successfully on almost any farm in Cheboygan county, provided the soil is carefully and properly prepared and high grade, adapted seed is sown.

Many of our farms may require an application of lime before either sweet clover or alfalfa can be grown successfully. Anticipating that need the County Farm Bureau is perfecting arrangements so as to be able to furnish pulverized limestone in car lots, at cost, and on short notice, to any member or group of members who want it.

A thousand dollars' worth of Farm Bureau brand grass seeds have been ordered from the State Farm Bureau this month. Doubtless the orders for spring delivery will greatly exceed that amount.

Though the Cheboygan County Farm Bureau is not organized on a strictly business basis, as a farmers purchasing organization, it has been, and for some time, at least, will continue to be the policy of the management to canvass for orders and purchase supplies for members. Whenever it is found that commodities that the farmers usually purchase in fairly large quantities can be handled advantageously through the association. Proceeding in that cautious manner, the association has been able to save the farmers of the county approximately eight thousand dollars during the past eighteen months, on purchases of coal, fertilizer, explosives, fencing, shovels,

Current Agricultural News

seeds, etc. The purchasing business has been entirely self-supporting.

After paying all expenses in connection with the membership drive, and taking care of all other necessary running expenses, the organization finished its first year, July 16, 1921, with a total balance, including inventory and accounts receivable, of \$730.20.—Leslie E. Perry, Secy-Treas. Cheboygan County Farm Bureau.

HOW THE SALES TAX WORKS IN CANADA

MICHIGAN congressmen are citing the Canadian sales tax on sugar as an indication of what might happen to American consumers if a sales tax were adopted to finance the proposed soldiers bonus. They claim that the Canadian tax is a vicious institution and is not only being passed on to the consumer, but is the excuse for exacting additional profits, according to published reports attributed to Congressmen Woodruff, Crampton, James and Ketcham.

The congressmen are not opposed to the bonus, but oppose the sales tax as a method of financing it, according to their statement.

Canadians produce their own beet sugar and do it at about the same cost of production that features Michigan sugar beet sugar production, say the congressmen. In addition Canada imports considerable cane sugar. Canada also has a sales tax on sugar. Last January when sugar was six cents in Michigan the Canadian consumers were declared to be paying ten cents a pound for theirs.

The situation is explained by a statement to the effect that when 100 pounds of sugar is sold in Canada the merchant collects from the consumer in addition to the 13 cents government tax \$3.83 as extra profit for himself, the jobber and the wholesaler, or about 21 times the amount of the tax. The Michigan congressmen fear similar abuses of the tax in America and say the tax itself is a heavy burden on the great mass of consumers least able to pay it.

It has been pointed out by the congressmen that the nation has

saved nearly enough by the budget and as a result of the arms limitation conference to nearly pay a bonus if it wishes to. Short term treasury certificates are seen as a means of bridging any deficit. Recently on an issue of treasury certificates for \$400,000,000 there were subscriptions amounting to \$1,200,000,000.

The various farm organizations continue to wage relentless war on a sales tax as a means of financing a bonus though not opposing the bonus, says the State Farm Bureau, which opposes the sales tax.

WHAT THE WOOL GROWER GETS

C. J. FAWCETT, director of the wool marketing department of the American Farm Bureau Federation, has figured out what portion of the suit buyer's dollar finally gets into the pocket of the wool grower. On a suit which retails for \$40, the grower's share is \$1.96. Hence the wool grower's part of the suit buyer's dollar is 4.9 cents. Mr. Fawcett says:

"The exceedingly low market value of domestic wool that has prevailed for almost two years, has seemingly had little effect on the retail values of articles manufactured therefrom. The adverse condition that the wool growing industry has been forced to meet since the war, has forced hundreds engaged therein out of business, and caused liquidation of breeding flocks in order to meet financial obligations. Strange as it may seem, no material benefit has been derived by the consuming public from a wool market so low as to spell ruin to many engaged in its production.

"In order to illustrate the value of raw material as compared to the finished product, the suit buyer's dollar is figured. The calculation is based on 9.8 pounds of wool in its original state of half-blood grade required to manufacture 3½ yards, cloth—the amount required for an average man's suit. The net price to the wool grower at 20 cents per pound is based on actual sales of the 1921 clip. This illustrates the extent that the cost of raw material

enters into the retail price of the finished suit of clothes. Very few realize just what this relation has been and it is the desire of the wool growers that their position be known to all.

"Through ignorance of actual conditions, the statement is frequently made that domestic wool is not suited for the manufacture of the better grades of men's wear. This is unfounded; domestic wool for all practical purposes is as valuable as foreign and in many instances preferable.

"The wool growers are not seeking through the tariff to impose an additional burden on the consuming public in the way of increased costs of finished products but are seeking to place their industry in a position whereby production can be maintained. Wool is one of the most needed commodities and one of which we produce approximately 45 per cent of our own consumption. For the 10-year period of 1910 to 1920 the domestic wool production of the United States has decreased 1,200,000 pounds annually.

"The principles upon which the wool pooling is founded are economy and efficiency in distribution, thus seeking to benefit both the producer and the consumer."

RAILROAD REDUCES RATES ON FEEDER CATTLE

REDUCED rate on inbound cattle and sheep for feeding and grazing to all points north of Bay City from Chicago become effective on the Michigan Central Railroad April 1st. A new blanket rate has been established which, with the present temporary reductions on farm products, gives a rate of 30 cents per hundred pounds on inbound livestock in carload lots. Farmers taking advantage of the new rate and the temporary reductions will be benefited by savings ranging from \$9.00 to \$20.00 per car on their grazing stock for the coming season.

Sheep in double deck cars will carry the same rate as cattle; sheep in single deck cars take, until June 30th, a 38 cents per cwt. rate.

Shipper using this rate must give a certificate to the effect that cattle and sheep so shipped are intended for feeding and not for slaughter.

The Michigan Central is taking this means of further aiding the development of the cattle industry in Northeastern Michigan.

GRAIN GROWERS' SALES COMPANY INCORPORATE

INCORPORATION of the U. S. Grain Growers Sales Company, a grain marketing subsidiary of the U. S. Grain Growers, Inc., which will immediately make arrangement to open its doors for business in the Chicago, Kansas City, Omaha, Indianapolis and Minneapolis markets, has been announced by the officers of the U. S. Grain Growers, Inc. The company expects to be in position to handle grain at a very early date, the officials said. The volume of business already contracted with the U. S. Grain Growers by its membership will make the subsidiary organization the largest grain selling firm in the world.

All grain contracted with the U. S. Grain Growers, Inc., by 50,000 farmers in the mid-west to date, representing a bushelage in excess of 110,000,000 to be marketed each year, will be handled through the subsidiary selling company. Moreover, the present rate of membership increase is around 2,000 additional farmer members each week, resulting from organization activities, thereby adding more than 4,000,000 bushels contracted with the farmers organization each six day period.

"The U. S. Grain Growers Sales Company will be able to engage in a general grain business and perform all the functions of grain firms in the terminal markets at the present time," according to a statement made by President C. H. Gustafson and Secretary Frank M. Meyers of the farmers' company, which accompanied the announcement. "The incorporation of the selling company sets up a separate and distinct legal entity and also provides for separate financial responsibility. The selling of grain will be done by expert grain salesmen."

Plant Corn in May or June for Best Results

NO gain is made in yield or maturity by planting corn before conditions of soil and atmosphere are right, in the opinion of the United States Department of Agriculture. Corn growers in localities with a long season have observed that early and late plantings of the same variety usually show wide difference in growth and number of days required to reach maturity. In general, corn which is seeded early requires a longer time to come up than that which is planted later. The plants also grow more slowly, are shorter, and bear their ears lower. Neither the extremely early nor the very late plantings are desirable.

The department investigations reviewed indicate that the best number of days from emergence to yields of grain may be expected from the early seedings and the most rapid development and greatest growth from the later seedings. These are commonly observed effects of the date of planting.

Studies recently have been made by the United States Department of Agriculture at the Arlington Experimental Farm near Washington, D. C., in order to obtain data which would supplement that obtained earlier at the various state experiment stations. Numerous experiments have been conducted by the state agricultural experiment stations to determine the influence of the different dates of planting on corn fields. The state experiments were directed more to a study of the effects upon growth and development than to determining the most desirable date of planting from the standpoint of yield. The results of these studies, which extended over a five-year period, are presented in Department Bulletin No. 1014, Effect of Date of Seeding on Germination, Growth, and Development of

Corn, by E. B. Brown and H. S. G. rison, which may be had upon application to the department.

The varieties of corn used in the experiments cover a wide range in the length of the growing season required. The data tabulated is limited to the characters that seem to have been consistently affected, although the points studied included ripening, the height of stalks, the number of ears per plant, the average weight of ears, the average yield per plant, and the number of suckers.

In all the experiments the germination of corn increased in rapidity as the date of seeding occurred later. When sown early the short-season northern varieties came up sooner than the varieties from the central and southern states. When sown later the differences in this respect were not usually apparent.

The total growth of stalk was greatest from the seedings in June and May. The total growth was least and rate of growth slowest from the April seedings. Development was more rapid in the later than in the earlier seedings.

The number of ears per stalk, the size of the ear, and the amount of suckering bore no consistent relation to the date of seeding. The pollen-shedding period was longer in plants from the early seedings than in those from the later seedings. Seedings earlier than normal resulted in slight gains in the date of silking.

These experiments corroborate the conclusions of the state experiment stations, that corn may be planted in the vicinity of Washington and other localities with a similar season, any time after May 1, without danger of the seed rotting. The best conditions of soil and atmosphere usually come between May 10 and May 20.

Sugar Companies Offer \$5 Per Ton for Beets

Owosso Concern First in the Field with 1922 Contracts at Lowest Price in Several Years

FIVE dollars per ton is the munificent offer of the Owosso Sugar Company for 1922 beets. This is the lowest beet price since 1914. The question is, "can the farmer and will the farmer grow beets for \$5 per ton?"

In all the beet growing districts farmers are saying, "no beets for me," but they have said that so many times before and then changed their minds 30 days before planting time that it is impossible to know if they are sincere this time. The acid test usually comes near the close of the contract season when the choice must be made between beets and some other crop.

The Owosso contract provides for the same increase in rates in case of higher sugar prices as in former contracts, that is the company reserves to itself \$1.50 or thereabouts of the increase and gives the farmer \$1.

The failure of Congress to settle the sugar tariff question has complicated the situation this year and made it well nigh impossible for either farmers or manufacturers to figure with any degree of certainty upon the coming season's operations. The \$5 minimum protects the manufacturer in any conceivable situation that may arise, and if the sugar tariff is fixed at 2 cents per pound it will insure very satisfactory profits for the manufacturers and perhaps make the farmers' loss a little less.

By their failure to sit down with the farmer and discuss the situation frankly and honestly the manufacturers are inviting disaster to themselves. In former years they have bluffed the farmers into signing contracts. But the farmers are wise to their tactics and need no encouragement now to turn to other crops. The factories cannot run without beets and it begins to look as if some of them will not operate the coming season. The factories could be assured of a fair acreage if they would only come down off their perch and accede to the farmers' demands for recognition and a 50-50 contract.

Upon the subject of the 1922 contract C. E. Ackerman of Durand writes the M. B. F. as follows:

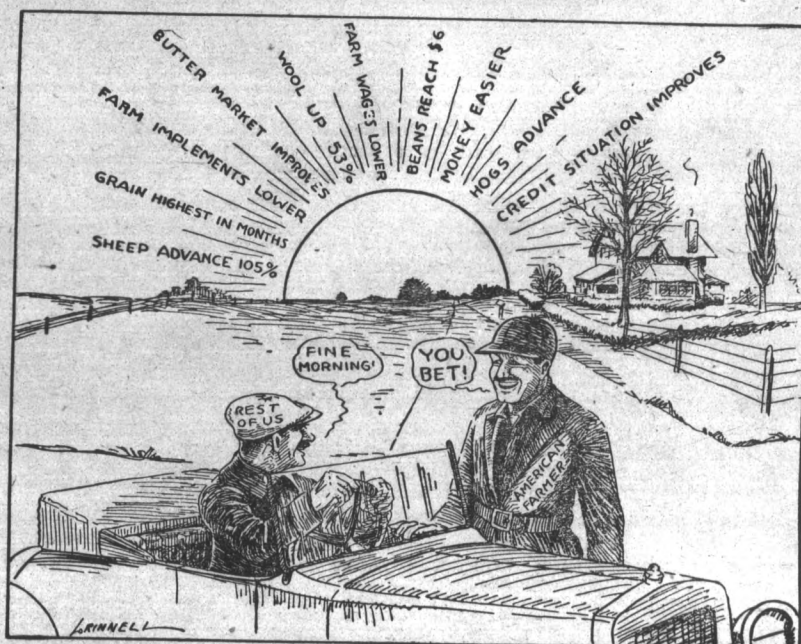
"As spring and the beet planting season approaches and the great readjustment continues on to its conclusion, the farmer and the beet-grower must soon decide on his plans for next year. The success or failure of himself and to a large extent that of all business will depend largely upon the wisdom of the plans of the farmer and it stands out as a plain fact that this year above all others the farmer and grower should determine his plans and policies and contracts and not leave these matters so entirely in the hands of those who speculate and handle his crops from producer to consumer. First the farmer has more invested per acre, per bushel, or per ton in crops sold than ever before especially before the war. Second, the farmer has more borrowed money than ever before (some authorities place it as high as an increase of 300 per cent more than before the war) and third, the cost of all materials, labor, farm supplies will be from 25 to 250 per cent higher than before the war. Taxes will be as high as last year if not higher. Therefore it must now be plain that this year the farmer and beet grower in making contracts for the sale and production of crops this year must not be bluffed into contracts and obligations where he takes 75 to 100 per cent of the chances

by promises of some rosy conditions in the future.

"Let us first consider the 1922 contract for beets. It is a demonstrated fact that the only contract that can be considered by either factory or grower is a fair sliding scale contract and on top of this the condition in the world at this time point clearly that all imported sugar must have a tariff of at least 2 cents per pound or the beet business in Michigan will become a dead thing in a very short time and when that time comes you can leave it to the importers of raw sugar to fix the price good and high for the American consumer. I only need to call attention to the demands of the Cuban producers (in which around a billion dollars is now invested) during the last war when they ran the price of raw up to 22 1/2 cents as a sample of what they will do when competition is killed or the opportunity presents itself. It seems to me that the interests of the farmer, the banker, the merchants of small towns, all manufacturers and especially all consumers of sugar demands that the domestic production of beet sugar be saved, and saved for this year 1922. To my mind there are two necessary things needed to save the industry. First, an adequate tariff and second and above all, a fair sliding scale contract from which

the farmer will receive 1-2 of the benefits of such tariff and profits from the price of sugar what ever they may be. Now we come to the point, what is a fair sliding scale contract for beets? Surely not the one offered by the Michigan factories in the past. If any grower will take his last year's contract it will be found that from 6 cent sugar to 7 cent sugar there is an advance of \$1.50 in the price paid for beets and from 8 cent sugar to 9 cent sugar there is an advance of only \$1.00 per ton. Here is where I base my contention that if there should be any benefits from a tariff and the price advances to where the grower could afford to raise beets the factories would grab off 75 to 80 per cent of such benefits and profits to themselves, and forms the basis for the contentions of those who are not in favor of a tariff that a tariff only takes the money out of the consumer's pockets and places it in the hands of the trust and not in the hands of the farmers who it must be conceded are now representing the 'infant' industry.

"In looking over the reports of the
(Continued on page 23)



THE SUN IS SHINING AGAIN

You Must Feed Your Land if You Want Your Land to Feed You

WEEDS are the only plants which will thrive on sour soil. Sour or acid soil can be sweetened by spreading lime. The practice of spreading lime has been recognized by authorities everywhere as extremely valuable in improving the soil and in increasing crop production.

Limestone also does more than correct sour soil conditions. It releases for the growing plant the plant food which would be otherwise held by the soil; it increases the availability of fertilizers such as phosphates, potash, nitrogen, manure; it also assists in holding and conserving moisture in the soil.

Although other fertilizing elements may be added to the soil, their value is worthless unless they are made available for the plants. Limestone, because of its chemical action, breaks down the compounds of ammonia, phosphorus and potassium of manures and commercial fertilizers and makes them available as plant food.

The production of maximum crops is dependent upon the presence in the soil of all the necessary plant foods. Lack of one vital element may render the presence of the other fertilizer useless as far as beneficial crop results are concerned.

Limestone has the peculiar nature of benefiting and making usable both heavy clay land, with its dense structure and sandy land with its loose structure.

The heavy clay soil, with its compact structure, shuts off the capillary action of the soil moisture and it does not reach the plants. Limestone breaks up this compact clay soil, permits greater air circulation and increases capillary action.

Sandy land is just the opposite. It is so loose that the soil particles are too far apart and the capillary water cannot traverse from one particle to the other. Limestone in sandy soil causes the decay of plant food, which in turn increases capillary action. Tests made at experimental stations have proven that in dry weather sandy soil to which limestone had been added carried the growing crops through the drought. Unlimed sandy soil had a complete crop failure.

One indication of the need for lime in the soil is the failure of clover, alfalfa and other legumes to grow. These crops cannot exist without lime. Every farmer knows that clover and alfalfa are valuable in order to inoculate the soil with nitrogen, therefore the first essential is a sweet soil, improved with lime in order to obtain these valuable crops.

Manure and commercial fertilizers will not restore sick, sour soil. The only crops this kind of soil will raise are sorrell, red top, plantain, sedge, mullen and Spanish needles. As said before, these crops are not profitable.

The most common, and usually the most in-

fallible test to denote a sour soil is the litmus paper test. Obtain from any drug store a few strips of blue litmus paper. Moisten the soil to be tested with some rain water. Roll the soil in a little ball and insert one of the strips of litmus paper. Be careful not to touch the paper with the hands if they are wet or moist with perspiration. After the strip of litmus paper is in the soil for ten minutes, remove it and observe the color of the paper. If it has turned red or pink, it denotes acidity and the soil needs lime.

Growing plants themselves give off acid substances from their roots. Sometimes this acid is given off in such quantities that it has a poisonous effect on the very plants from which they come, as well as are responsible for sourness. Proper drainage is necessary when these conditions exist, as well as the conditions of lime. Even after the excess water is drained from the soil, there remains a quantity of acid which must be neutralized by limestone.

The average increase of crops from liming is 84.3 per cent in certain districts. This is a return of \$2.29 for every dollar invested in the limestone used on the application. No farmer should pass up the benefits that accrue from spreading lime. It is easy to determine, by the litmus test, if the soil needs lime. The spreading of the lime can be accomplished with the aid of distributors which can be attached to any farm wagon by merely removing the end gate.

Trees Damaged By Ice Storms May Be Repaired

Department of Agriculture Gives some Timely Information on Rebuilding Injured Orchards

THE best thing to do with apple, cherry and other fruit trees which have their branches broken down or split and injured by snow and ice, is first, to give them a very careful pruning, and second to use, as far as possible, methods of tree surgery to enable them to repair and out-grow the injury. This damage being done just ahead of the spring pruning season gives an opportunity to do the pruning and repair work before the advent of warm weather and before the wood rot fungi can enter or seriously spread in the wounds and scars.

The pruning of an injured fruit tree with part of its branches broken out requires more cutting and more skillful pruning than an ordinary normal tree. Each tree presents more or less an individual problem, depending on how severely it is injured. When one side of the tree has been badly smashed, the other side may require more than normal heading back to attempt to balance the future top, at least eventually. Sometimes long, slender branches, have escaped, and these likewise require more heading back, and this may be needed a second and third year before the top of the tree can be shaped into anything like the normal. Water sprouts on the stubs of branches which in ordinary pruning would be removed, should be mostly left on an injured tree. Individual water sprouts properly located to form new branches may be selected, headed back slightly if too long, and encouraged to grow into new limbs. Stubs from six inches to a foot or more in length should not usually be sawed off on these crippled trees if they are in the right location for future framework branches. The ragged ends should be neatly sawed or smoothed with a knife and the stub left to throw a mass of sprouts, as it usually will do if the top has been pretty generally taken out or removed by breaking and pruning.

Dehorning or pruning the main branches back to stubs is often purposely practised by orchardists to renew the top, and essentially the same methods can be applied in part, even though the dehorning is forced in this case. Whenever there are any small spurs or branches on the remaining stubs, they should be left to get out new twig growth promptly.

While abnormally slender, high branches or extra long lateral branches may require heading in to balance up the tree, it is well to leave as much as possible of the top and not try to do all the balancing up and heading back in a single year. It will take at least three years to build a new head on a ten-year apple tree which has been badly broken up. In an apple tree with a badly smashed top, let all or nearly all the sprouts grow the first year so as to get out as

THE U. S. Department of Agriculture has again demonstrated its great usefulness to the farmers by issuing complete information on how to repair fruit and shade trees damaged in the great ice storm which wrecked many orchards in Michigan and Wisconsin the week before last. This information is given in the accompanying article. Orchardists who follow the instructions carefully will be able to repair a good deal of the damage which has been done.—Editor.

much new foliage as possible and properly feed the root system of the tree.

Such broken trees need special extra pruning for at least two or three years after the damage is done. A new head in part or whole has to be rebuilt on the tree. During the second year, certain sprouts properly located, and if possible the strongest should be selected for main framework limbs, headed back to a reasonable height to make them fork out and their near-by competitors either cut out entirely or temporarily headed back to a lower level perhaps to be removed later. The proper number of main framework branches is made, the trees are likely to grow too thick and bushy. In the same way the branches which were left after the original damage may be gradually cut back and thinned out until they fairly well balance up with the new branches.

TREE SURGERY METHODS SUGGESTED

Trees with split forks or large wounds made by branches being broken out, tearing and stripping of bark and wood from the main branch or main trunk, and trees with their tops smashed down beyond recovery present problems of tree surgery not covered by ordinary or extraordinary pruning. Each case requires more or less special treatment. A few types of repair work may be mentioned:

Young fruit trees under six years of age, or even older when they are not more than three or four inches in diameter, which have their whole top broken out and perhaps split at the main forks, can often be brought back into good shape by sawing off the trunk at the highest available point, at an angle of about 45 degrees, even though this leaves a trunk not more than six inches high, and the cut end painted. Apple trees, especially, will sprout very profusely if the root system and trunk are sound and all the sprouts should be allowed to grow until the longest are a foot or eighteen inches in height. In late spring one of the best located sprouts

should then be selected and the growing tips of all the others should be pinched or clipped off. A second pinching may be done a month later. A year later the sprout selected to form the new trunk may be headed back slightly at about the point where the new head is desired, and all the other sprouts trimmed off closely. At that time the stub should be re-cut beginning from one-half to an inch above the new stem and sloping downward at an angle of 45 degrees from it. This should then be painted and kept covered until it is healed. With the entire root system behind the new trunk, it will grow into a new tree at a surprisingly rapid rate.

Essentially the same principles may be applied to growing new branches from the stubs mentioned above in the top of the tree. A temporary cut is first made just below the branch and then after the first year's growth a permanent cut just beyond a twig which is to make a future framework limb. It is not often necessary in this case to do summer pinching and it may be desirable in the later pruning to leave some of the weaker lateral sprouts for future fruiting limbs instead of stripping them all off as described for training up a new trunk. Forks which have split down and even bent over so that the branches touch the ground, but with the wood and bark still intact and not too badly splintered, can be pulled up with ropes and bolted back into place, using one or more bolts inserted according to the usual tree surgery methods described in Farmers' Bulletin 1178, "Tree Surgery," which deals with the general problem of repairing forest, shade and ornamental trees. This bulletin can be obtained free on application to the Division of Publications, Department of Agriculture, Washington, D. C. It is especially desirable to prune back the tops more than normally of such supported branches for the first year or two, and usually that means balancing up the whole tree by pruning the top to correspond. Another precaution which will help greatly consists in supporting these branches by strong wires the size of ordinary fence or clothes line wires run across the inside of the tree and meeting in the center. The branches can be drawn together tightly and temporarily supported by ropes placed around them while working but the permanent wires should never pass around a branch. They should be inserted in screw eyes, screwed firmly into the wood on the inside of the branch with the eye left in a vertical position.

PROPER METHOD OF TREATING WOUNDS

If the branches are broken down beyond recovery, hanging only by splintered wood and bark, or in case of

(Continued on page 17)

Sudan Grass Valuable as a Temporary Pasture and Hay Crop

By C. R. MEGEE

Research Associate in Farm Crops, M. A. C.

Average Composition of Hay Made From Sudan and Other Grasses and Legumes and of Corn and Sorghum Fodder

Feed	Average Constituents					
	Ash	Protein	Crude Fiber	Nitrogen Free Extract	Ether Extract	
Hay						
Sudan grass	8.6	10.2	29.9	49.9	1.8	
Johnson grass	7.7	9.0	32.6	47.7	3.0	
Timothy	6.2	7.8	32.3	50.6	3.1	
Millet	8.8	9.8	30.1	48.3	3.0	
Alfalfa	9.7	17.4	29.6	40.5	2.8	
Red clover	7.9	15.6	27.7	44.9	3.9	
Cowpeas	14.3	19.4	22.7	40.5	3.1	
Fodder						
Corn	6.6	8.4	26.1	56.2	2.7	
Sorghum	10.1	10.1	28.4	49.4	2.0	

Will you let me know through your paper about Sudan grass? Could someone tell their experience with it? Am thinking about putting in 9 acres this summer but would like to know something about it, whether all stock will eat it or not.—I. Z. Vicksburg, Mich.

SUDAN grass is a high yielding, quick growing annual crop valuable for both hay and pasture. As a hay crop it has a little greater feeding value than timothy and when a temporary pasture is needed Sudan is practically the only crop that can be sown during May and furnish abundant pasturage during July and August, when Kentucky blue grass or June grass is in the resting stage.

All classes of livestock do well on Sudan grass pasture. On the Woodbury Farm at the Michigan Agricultural Experimental Station, Sudan grass was sown on light sandy loam soil May the twentieth. The field furnished pasture from the middle of June until the first of October at the rate of two head of horses per acre. Sudan grass being related to the sorghums is just sweet enough to be quite palatable.

The question is sometimes asked whether Sudan grass is ever poisonous. The United States Department of Agriculture reports that only three authentic cases are known. Caution should be exercised in pasturing Sudan that has been severely injured by drought or frost, since the injured plants might contain sufficient prussic acid to cause poisoning. Thousands of acres of Sudan grass are pastured yearly in the United States and since only three authentic cases have been found it does not seem likely that there is much danger. No symptoms were noticed at the Experiment Station the past sea-

son and part of the season was quite droughty.

When cut for hay Sudan has about the same feeding value as timothy and the yield secured is usually greater than from any other annual crop adapted to Michigan conditions. The following table shows the relative yield of Sudan grass as compared with other annual crops over a period of three years.

COMPARATIVE YIELDS

The comparative yields of Sudan grass and other annual crops secured by the Michigan Ag-

ricultural Experiment station are as follows:

Three year average yield (1919 '20 '21) in tons of air dry hay per acre: Sudan grass, 3.33; Golden millet, 3.25; Japanese barnyard millet or billion dollar grass, 3.22; Soy beans, 2.67; Hungarian millet, 2.48; common millet, 1.94; oats and vetch, 1.99; oats and peas, 1.78.

Sudan grass does best when sown on a well prepared corn soil about the middle of May at the rate of from twenty to twenty-five pounds of seed per acre. The ordinary grain drill set to sow two pecks of wheat will sow approximately twenty-five pounds of Sudan grass seed per acre. In southern Michigan it may be possible to secure two cuttings of hay when the season is quite favorable. Usually, however, one crop of hay and considerable second growth for either pasture or plowing under is all that is secured.

The accompanying table from the United States Department of Agriculture, Bulletin No. 981 shows the relative composition of Sudan grass, millet, timothy, alfalfa, red clover and other grass and legumes.

Sudan grass is gradually taking the place of millet in this state. A few points of comparison may be of interest. The yield secured from Sudan grass is usually higher than that from the millets. Sudan grass is considered a safer feed than millet. Considerable more second growth is secured from Sudan grass than from millet.

Sudan grass is not an expensive crop to sow since seed for an acre only costs from a dollar to a dollar and a quarter. Sudan is not a leguminous crop and like millet and sorghum is somewhat hard on the land.

Northern Mich. Swaps Stories on Biggest Storm

Upper Half of Lower Peninsular Slowly Recovering from Worst Sleet and Snow Storm in History

THE "Big Snow" of the Yukon country which James Oliver Curwood describes so graphically in his "Nomads of the North," has found a rival in the great blizzard and sleet storm which struck the upper half of the lower peninsula on Feb. 21st and raged without ceasing for three days, paralyzing traffic, demolishing telephone poles, stripping trees, imprisoning farm families and providing endless topics for conversation and comparison with great storms of other years. For the past two weeks all the "Old Timers" of the district have been wagging their heads and saying, "I remember when, ——" and then launching into stories of other famous storms when they were young and delighted to tussle with the blizzard.

The recent storm had many peculiar and unusual characteristics. From Howard City north to the Grand Traverse region the atmospheric disturbance manifested itself in rain and sleet. Farther to the east where the temperature was lower a howling blast piled the snow in drifts six to ten feet deep in many unprotected places. Northwestern Michigan fought ice, northeastern Michigan snow, and it was a question which had the biggest fight on its hands. The damage from the snow storm was slight; but the sleet wrought havoc which years cannot repair.

The fine sleet clung to everything it struck. Trees and telephone wires were coated so heavily with ice that in many instances they crashed to the ground entailing enormous loss. Many village streets and country highways were blocked with tangled masses of telephone wires, shattered poles and branches. Some idea of the weight of the mantle of ice may be gained from the story that a piece of ordinary telephone wire six feet long weighed with its crystal coating over 36 pounds. "Barbed wire fences were so coated with ice," writes Wm. A. Jenkins, one of M. B. F.'s Wexford county reporters, "that they looked

like woven wire and woven wire fences were solid ice." Buildings were also encased with the ice and barn doors had to be cut open with axes.

Fruit and shade trees were stripped of their branches as though with a pruning knife, and now stand like naked poles bearing a marked resemblance to the pictures we have seen of the

rails being so coated with ice that it was impossible to run trains over them.

Farming communities were entirely isolated for days. Farmers who happened to be in town when the storm began were obliged to remain until it was over. But after the storm was over travel was a comparatively easy matter as the snow was so heavily crusted that it was possible to drive teams over it almost anywhere.

EAST GETS SNOW

The central and eastern sections of northern Michigan escaped the destructive sleet storm but wrestled for days with the worst snow storm in their history. At Alpena the total fall of snow during the three days measured over 15 inches while in many sections the snow drifted so high on street corners that persons in adjoining business places could not see over them. For several days all traffic on highways and railways were discontinued; mail carriers were unable to travel their routes; schools were closed down and business was at pretty much of a standstill. Farmers were obliged to do their

chores on snow shoes and some cross country travel was done on skis.

M. B. F. REPORTERS DESCRIBE STORM

Various descriptions of the storm are given by Business Farmer reporters. Dr. J. P. Houston, secretary of the Grand Traverse county farm bureau, writes as follows:

"The storm set in on Tuesday evening as a snow storm and continued throughout Wednesday as such until about 9 p. m. The snow fell like little pellets. Walking in it was like walking in sand. It looked like coarse granulated sugar, and fell to a depth of about 8 inches. The character of the precipitation changed from time to time, from snow to sleet and then to rain and back again to sleet and snow. Everything was covered with ice two inches thick. The temperature changed rapidly dropping to zero the second day of the storm (Continued on page 16)



Scene near Evart, Osceola county, following worst sleet storm in history of northern Michigan. Thousands of telephone poles in this and other counties were laid to the ground by the weight of the ice. Shade and fruit trees also suffered severely. Above photo submitted by Mrs. Elizabeth Adams, M. B. F. crop reporter for Osceola county.

devastated war areas of northern France. The only thing which prevented irreparable damage to the entire western fruit belt was the absence of high winds. As many farmers sorrowfully looked upon their ruined orchards, many others stood with abated breath and watched the branches of their fruit trees bend lower and lower, fearing every moment that a wind might set them swaying and breaking. But in most of the affected counties the rising temperature melted the ice before any great damage was done. The orchards of the Grand Traverse region suffered little if any damage, but to the south and west the loss was great.

Railway, telephone, telegraph and electric lighting companies suffered enormous losses. Towns on the G. R. & I., from Cadillac north were without train service for over a week, the

Michigan Farm Boys Show Father a Thing or Two about Farming

TO recount all of the splendid achievements of the farm boys and girls of America in their club projects would be a quite impossible task, because they are so many. It is enough to say that thousands of boys and girls have performed feats of production which have astounded some of the older generation and will be the foundation stones for successful farming careers. Only one state in the union exceeds Michigan in the number of boys and girls enrolled in club projects. And what they have accomplished, in fruit canned, corn, beans and potatoes grown, garments made, pure bred livestock raised, etc., is something truly to marvel at. We have never seen it estimated but we presume that the number of quart cans of fruit put up by Michigan club girls would, if laid end to end, encircle the earth several times or thereabouts, that the corn, beans, potatoes and live stock produced would feed a large city for a long period of time, and that the garments made would clothe all the naked little children of Armenia. This may be slightly exaggerated, yet really the total result is enormous.

Moreover, what some of these farm boys have done from a very small beginning has made their dads just a little bit jealous of their own reputation as farmers. No mere farmer can produce 140 bushels of corn or 700 bushels of potatoes or 50 bushels of beans to the acre, or take a little runt of a pig or a wobbly legged calf and make it into a State Fair prize winner. It takes a boy club member to do that.

Competition among the club exhibitors at recent county and state fairs has been very keen and in more than one instance has a freckled-faced farmer boy

grinned from ear to ear as the judge stepped up and pinned the "blue" on his calf in competition with the calves of hoary-headed exhibitors.

MACOMB BOY GETS BANKERS' CUP

One of the proudest boys in Michigan today lives just a little way from the Business Farmer office. His name is Quentin Friedhoff, of Warren, Mich. And he's proud because just a short time ago State Club Leader Ray Turner stopped at the Friedhoff farm home and left in Quentin's arms the big beautiful loving cup which the State Bankers' Association offers each year to the state club winner in corn growing projects. This is the second time the cup has come to Macomb county.

Quentin produced 73 bushels of corn from a

half acre at a total cost of \$23.60. His cost items included plowing, harrowing, spading, manuring, (\$2.10); hoeing, (\$1.60); planting (his own labor, 25c); cultivating, (his own labor, 80c); gathering corn, (\$2.20); rent of land (\$2.50); fertilizer, (172 lbs, \$2.90); manure, (4 loads, \$8.75); cost of seed, (\$2.50). The total value of the seed and common corn produced from the half acre was \$56.45 and the value of the fodder was \$17.28. The actual profit on the half acre was \$50.13.

"HOW I MADE MY CROP OF CORN"

Quentin describes his corn growing venture as follows:

"During my last term of Club Work (Corn Club) I failed to take anything in the line of prizes which gave me a great determination to win something this year, just to show the other boys that I could grow corn.

"I had my half acre plowed and harrowed early in the spring. I had put barnyard manure and commercial fertilizer in the soil in order to make a better yield.

"I bought a peck of pedigreed Picketts Yellow Dent corn and planted it the 21st of May. Luck favored me and I did not have to replant. It was not long before the fertilizers began to show on the corn. I cultivated my plot three times with a one-horse cultivator going twice in a row.

"The week before Boys' and Girls' Club Week I got real industrious as I was to have this week off and hoed my corn, leaving it very nearly free from weeds. Although I spent much time among my corn I failed to thin it out thus lessening the yield.

"I had a fairly good stand of corn of unusual growth for this variety of corn. I was quite proud of my stand, but my pride fell through a terrific wind and rain storm that occurred about a week later. The corn was driven to the ground like that much grass. My plot being near the house enabled the poultry to get their share of the corn, thus damaging it to a great extent.

"Early in the fall the corn began to ripen and as our school was a week late in starting I cut and husked the corn. I was much surprised as well as elated to find that my plot yielded me 73 bushels of corn. I picked out 8 bushels of seed corn which our county agent promised to sell at a good price.

"I won first prize on corn at our county fair and next I sent an exhibit (Continued on page 16)



Club members taking their first lessons in stock judging.



Farmers Service Bureau



SUNFLOWERS FOR SILAGE

I am interested in the growing of sunflowers for silage. Would it be advisable to plant about one-third sunflowers and two-thirds corn in the same row or would it be better to plant them two rows of corn and one row of sunflowers? How much sunflower seed must be sown per acre, also what effect has frost on them at planting time? Do you know where seed can be secured?—H. B., Michigan.

In the majority of Upper Peninsular counties sunflowers give better results than corn while in the Lower Peninsular sunflowers are advisable only on muck soils that are frosty, and occasionally on droughty, infertile soils. On land that will produce good corn, it has not yet been shown that sunflowers are a competitor.

In planting sunflowers and corn mixed it is usual to plant two quarts corn, mixing the seed thoroughly. When planting alone from four to six quarts of sunflower seed is necessary. The Russian variety gives best yield. Seed can be secured from the Farm Bureau Seed Department, Lansing, Mich., and the S. M. Isbell Seed Company of Jackson, Mich.

The sunflower is very resistant to frost and will thrive at an optimum growing temperature which averages at last ten degrees below the best temperature for corn.—J. F. Cox, Professor of Farm Crops, M. A. C.

WHERE ARE YOU JOHN?

I would like to have you help me locate through your Farmers Service Bureau or give any information concerning the whereabouts of Joe Harmon. He was last heard from in 1909. The winter of 1908 he worked in a logging camp near Cadillac and in the spring word was received that he was on his way to the south (place not known). He was at that time in Kalamazoo. He is thought to have a brother in Caledonia, Mich. but name is not known. Any information through these columns will be greatly appreciated.—J. H., Lake Odessa, Mich.

EFFECT OF CHANGE IN OCCUPATION DEPENDS ON POLICY

In the year 1908 Mr. _____ of Climax took out a policy for \$400 in the Fidelity Health and Accident Co., of Benton Harbor. At that time he was in the grocery business in Climax. His monthly premium was \$1.35. In about 3 years he went out of the grocery business and went to draying and farming. Until last fall he was hit and killed by train while crossing track with his car. The insurance company sent their agent to settle with his wife who told her as he had changed his occupation and had not notified them, he could only allow her \$200 on the policy. She thinking half a leaf better than none, accepted it and gave up the policy. He had always paid his premiums to their agent at Climax who had never said anything about him changing his occupation. Do you think the other \$200 can be collected? It looks to me like a crawl out pure and simple.—J. C., Scotts, Mich.

I could not advise you as to the liability of the company without a copy of the by-laws of the company or whatever regulations were in force at the time you took out the policy. The general rule is that if a change of occupation does not increase the hazard it does not forfeit all or any portion of the policy. If the regulations require that the insured shall notify the company of any change then he would be bound by such regulation.—Legal Editor.

TEST SOIL FOR LIME NEEDS

Can you please tell me how to test soils to determine whether they need lime or not?—L. W. F., Leslie, Mich.

There are several tests for lime needs of a soil that a farmer can make at his home. The standard one is the use of litmus paper and moistening the soil with either rain-water or distilled water which may be obtained from a drug store or garage. In making this test the litmus paper should be carefully placed in the soil and the water poured upon this soil in sufficient quantity to thoroughly moisten it. The paper should remain in contact with the soil about 10 minutes. Upon removing if the blue litmus paper has changed to a pink color it may be concluded that the soil is deficient in lime. Care must be taken in the selection of the distilled water, that is it must not be contaminated by acids. This can be determined by placing the blue litmus paper in con-

(A Clearing Department for farmers' every day troubles. Prompt, careful attention given to all complaints or requests for information addressed to this department. We are here to serve you. All inquiries must be accompanied by full name and address. Name not used if so requested.)

tact with it. If acid the blue color will change to pink.

As a general proposition it is better for the farmer to send his sample of soil to the county agent or to the Agricultural College and have it tested.—M. M. McCool, Professor of Soils, M. A. C.

EXEMPTION FROM TAXATION

I served sixteen months in the World War. I paid taxes on my land during that time and since. I am told that World War veterans are exempted from taxes. Is this true?—G. F., Millersburg, Mich.

Can I get exempted on 80 acres of wild land which I bought last spring and built a house on and a stable and cleared 12 acres. Our supervisor says everybody has to pay taxes. What is the law?—Wm. D., Millersburg, Mich.

World War veterans are not exempt from taxation as such. If they own cut-over land, they may be exempt as described below or if they have a wood-lot on their farms it may be exempt from taxation under certain condition.

Mr. D., you can tell your supervisor that he has another guess coming. Under the Michigan law you are entitled to exemption from taxes for five years. The law is as follows:

No. 208. AN ACT to exempt certain cut-over and wild lands from taxation in certain cases.

Section 1. Hereafter any cut-over or wild lands, as defined herein, which shall be actually purchased by any person for the purpose of making a home, shall be exempt from payment of all taxes for a period of five years thereafter. Cut-over and wild lands shall be construed to mean any swamp land or land from which timber has been removed and no part of which description claimed to be exempted has ever been cultivated. The exemption herein provided for shall not be operative in any case, unless the purchaser, either upon contract or otherwise, actually resides upon and improves at least two acres thereof each and every year of the said five years in a manner to subject the same to cultivation; PROVIDED, That the exemption herein provided for shall not extend to more than 80 acres purchased to any one person.

Section 2. Any person claiming exemptions under this act shall make application to the supervisor for exemption at the time assessment of the township is made, and the supervisor shall enter the person's name upon the assessment roll and the description of the land the same as though taxes were to be spread upon the land, and refer the application to the board of review of the township, who shall if the conditions entitling exemption have been complied with, order to be written after the description "Exempt under the cut-over and wild land act, first year," and each subsequent year thereafter if the conditions have been complied with, but using second year, third year, fourth year, fifth year successively, after which the land shall no longer be exempt under this act.

Approved May 7, 1913.

STEP UP, ALL YOU LONELY BACHELORS

Mrs. R. E. B. is a lonely widow of 28 summers who wants to correspond with some lonely bachelor or widower. Name and address will be given to all interested parties by applying to Editor, Business Farmer.

NO RIGHT TO TRESSPASS

I have a small lake on my farm and get into an argument every few days as to whether I have the right to stop people from crossing farm to get to this lake. There is no road to the lake and never has been one. Lake has inlet and outlet naturally. Would like to know the law regarding this.—F. W., Elm Hall, Mich.

Persons have no right to cross your farm to reach the lake. Post your farm against tresspassers and have them arrested.—Editor.

KUDZU vs. ALFALFA

What is Kudzu? Is it better than alfalfa?—F. T. M., Metamora, Mich.

Kudzu is a leguminous plant imported from Japan, which makes a viney bean like growth. This crop has given excellent results for forage purposes in southern states but it has not been demonstrated as yet that it is of much value in the north.

Kudzu failed to mature in our plats last year. Our stand was thin due to a poor start made from the roots which we secured from Florida.

Kudzu is sometimes planted as a vine to cover lattice-work and porches. In southern cities it has been

reported to have reached a length of sixty feet under such conditions. In the field, Kudzu sends out long runners which root at many points sending up shoots from two to four feet high.

Kudzu roots can be secured from Mr. C. F. Leach, Manager of the Cherokee Farms, Monticello, Fla.—J. F. Cox, Professor of Farm Crops, M. A. C.

PROPERTY RIGHTS OF WIFE

I would like to know if a married woman can buy a farm from a banker and hold it herself if she gets the deed in her own name. If my husband cut over a hundred cords of wood from my land could he charge me for clearing where he took the wood from? He sold the wood for a dollar and 50 cents a cord, is there any way he can hold a claim on my farm?—Mrs. T. B. K., Whittemore, R. 2, A. C.

A married woman has the right to purchase a farm and take the title in her name. Unless she agrees to pay some price to the husband for cutting the wood and he had the proceeds from the sale of the wood, she would not be liable to her husband for the price of the cutting. There would be no way he could hold the wife's land for such a claim.—Legal Editor.

HOW MUCH WINE CAN I MAKE?

Will you please tell us what the law is regarding the making of grape wine? How much does the law allow one man to make? Can he give it away by the gallon jug full? If a man knows of another man making more than the law allows and giving it away (if that is prohibited) and does not report it what is the penalty of the law for him?—Puzzled, Van Buren County, Mich.

The Volstead act does not permit anyone to make or possess wine, or other beverage containing more than one-half of one per cent alcohol. You can make all the wine you wish if it contains less than that much alcohol. Violations of this law should be reported to the State Department of Public Safety, Lansing, Mich.—Editor.

"BELL" TELEPHONE CO.

Will you please give me the address of the head man of the Bell Telephone Co.? I know of several places to write but I want only the headquarters or nothing. It is important that my letter should reach the right man for it means much to me if it gets in the wrong place.—Regular Subscriber.

The next time, "Regular Subscriber", you must give us your name and address. Otherwise we can't give you the information. You probably refer to either the American Telephone & Telegraph Co., at 15 Dye St., New York, or the Michigan State Telephone Co., 1365 Cass Ave., Detroit. Both are erroneously called the "Bell" Telephone Co. Mr. Franz Kuhn, formerly a member of the supreme court, is now president of the latter company.—Editor.

PERSONAL PROPERTY CAN BE SEIZED FOR TAXES

Will you kindly inform me if they can sell your personal property to collect tax on land, and if so if this law would apply to party buying under land contract.—A Subscriber, Azalia, Mich.

Section 4043 C. L. provides that if any person, firm or corporation shall neglect or refuse to pay any tax assessed to him or them the township or city treasurer, as the case may be, shall collect the same by seizing the personal property of such person, firm or corporation. No personal property is exempt from seizure by the officers to compel the payment of taxes.—Legal Editor.

RURAL MAIL SERVICE

Our rural mail carrier stops a half mile from the poor roads then turns and goes back, leaving the mail for four boxes in one, where he stops. Should he do this? If not, is there any way to compel him to go as far as the poor roads and if so what legal steps must one take to do so?—N. J., Mountcalm County.

Complaints against rural mail delivery service or carriers should be referred to the third assistant postmaster general, Washington, D. C.—Editor.

NO LICENSE REQUIRED FOR MIDWIFE

My wife has a diploma, secured in Illinois, as a trained midwife. Would she be able to secure a license in this state? Must she pass an examination?—A. L., Mich.

This state has no law which provides for the licensing of midwives. Consequently your wife would not be required to take any examination in order to carry on her profession in this state.

The law, however, provides that midwives shall file berth certificates the same as physicians; also administer a prophylaxis to the eyes of the newly born within one hour after birth.—Michigan Department of Health.

SHADE TREES ON PUBLIC HIGHWAYS

We are told that the new road law forbids the land owner from trimming a tree within 33 feet from the center of the road, without first obtaining permission from the commissioner of his district. Without which he is liable to fine. Is this one more step to rob the farmer of his constitutional rights or is it a bluff of the fellows who draw their salary and wish to hold their jobs?—T. B., Van Buren County, Mich.

The law does not specify the distance from center of road at which trees may be trimmed without permission of the highway authorities. It says "it shall be unlawful to cut, destroy or otherwise injure any shade or ornamental tree or shrub growing within the limits of any public highway, without the consent of the authorities." The law is not aimed at those who have an appreciation of the value of shade trees but at those who don't.—Editor.

HOW TO KEEP HONEY

Please tell me how to keep honey over winter without its sugaring.—C. E. C., Millersburg, Mich.

Honey is best preserved from granulation by storing it in a room that is very warm and dry.

I feel that I should call your attention to the fact that granulation is a normal physical change in honey regardless of where it may be kept. Heat and dryness simply put off the change as long as possible.—B. F. Kindig, State Apiarian.

FOR RENT OF TRACTOR

Two farmers, A and B, each own about 100 acres of land. One of these farmers intends to buy a Fordson tractor and the other farmer intends to rent it to do some of his farm work. The owner is to furnish the tractor and its repairs only. The renter will pay the going wages to the operator, if the renter isn't permitted to operate it himself, and also to furnish the fuel and oil that the tractor uses while doing his farm work. What price should the owner charge the renter per acre first for plowing, second for disking, and third for dragging for the use of this tractor, so that one farmer will not be out any more than the other when the tractor is worn out? The owner is to furnish the plows, discs and drag. Of course these figures will vary with different tractors under different operators, but assume that you have an average Fordson tractor with an average good man to operate it.—H. W., Newport, Mich.

I have used the following method if figuring the costs on this equipment and have selected figures which should be fairly representative. However, if these do not apply in the community in which the tractor is used, others can be substituted and the same method of figuring used. Starting with investment of about \$600 for tractor and equipment the following calculations are made:

Interest on investment at 6%, \$36.00 per year.

Depreciation based on 2,500 hours or 250 days (life of tractor) equals 395 divided by 2,500 equals .158c per hour.

Depreciation on equipment based on 10 years or life—205 divided by 10 equals \$20.00 per year.

Since the tractor is used about 50 days per year and some of this equipment is used with the tractor practically all of the time the depreciation per hour for equipment would amount to \$20 divided by 500 which give 4c per hour.

Taxes and insurance at 2c makes \$12 per year, adding annual charges of interest, taxes and insurance we have \$48. Adding hourly charges of depreciation on tractor equip-

ment and repairs per year we have 19.8c per hour. Assuming that the tractor is used 50 days per year the annual or overhead charges of interest and taxes amount to practically \$1 per day or less, say 10c per hour. The total overhead and operating charges then is 10c plus 19.8c equals 29.8c or say 30c an hour, which would be a fair charge for the use of tractor and equipment loan. If fuel were estimated at 16 gallons per day at 14c a gallon and oil one gallon a day at 75c per gallon the cost would amount to \$3 per 10-hour day or 30c an hour. If \$3 a day were allowed for the operator then the total costs would be \$3 a day for equipment, \$3 a day for fuel and oil and \$3 a day for labor, making a total of \$9 per day—total costs not including an item for profit.

As we have given these figures it is easy to remember that about 1-3 of the cost goes for cost of tractor and equipment, 1-3 for fuel and oil, and 1-3 for labor.

Now, it would seem that the most satisfactory arrangement which could be made between A and B would be for A to own the tractor and charge B for its use on the basis of the above figures or a set of figures arrived at in the same way. In case the tractor and equipment only is rented, then at least \$3 per day should be charged for its use. In case, tractor, fuel and oil, and labor are furnished then \$9 a day should be charged for its use. It would seem that charges when put on a day or preferably an hour basis would be more satisfactory than on an acre-basis. The work plowing and dragging varies so greatly in hard ground in the summer that it would be worth twice as much as in ground in ideal condition for spring plowing.

If these figures do not seem to meet local conditions as I have suggested then taking into account, investment, depreciation, repairs, taxes, insurance, fuel and oil, and labor, figures can be substituted which the parties think are fair and a cost arrived at.

Where we have investigated the price for various kinds of work we find that the price for plowing varies from \$1.50 to \$2.50 per acre but since practically all of our figures are based on tractors at a higher price they would not be worth much in making an estimate in this case.—H. H. Musselman, Professor of Farm Mechanics, M. A. C.

SOWING HUBAM

I wish to sow Hubam clover on some high land. This land contains much limestone and is in a very fertile condition at the present time. I would like to know if the land should be limed in order for the seed to be a success. Would it be best to seed with a grain crop and if so what kind?—F. S. G., Onaway, Mich.

It is not necessary to apply lime in preparation for Hubam clover on land that contains limestone where clover ordinarily does well. On the other hand, it must be kept in mind that even land that was naturally supplied with limestone becomes acid on the surface after several generations of cultivation. Hubam is a lime loving plant and under such

HORSESHOE PITCHING

IT IS OUR OPINION that the farm family city folks and that horseshoe pitching is skill as golf or tennis. The Business Farmer is encouraging township, county and statewide championship games to find a Michigan challenger for the national championship. We invite correspondence from those interested and will send a copy of the National Rules free on request addressed to Horseshoe

is as much entitled to healthy amusement as just as good sport and requires just as much as is encouraging township, county and statewide championship games to find a Michigan challenger for the national championship. We invite correspondence from those interested and will send a copy of the National Rules free on request addressed to Horseshoe Editor, The Business Farmer, Mt. Clemens.

Horseshoe pitching is rapidly returning to its position as one of the leading national games. It is getting so that even metropolitan dailies report championship contests. The horseshoe editor discovered in one of these dailies recently a story on the world's championship series which was pitched the other day at St. Petersburg, Fla. There were 32 contestants and in order that all might see, a booster of the game built stands and charged no admission. The man who came through the series unbeaten and was proclaimed the national horseshoe pitching champion was Charles C. Davis of Columbus, Ohio. This name means little to the majority of you at present but if Michigan can produce a state champion—well—we may know more about him.

During Farmers' Week at the

conditions from one to two tons of ground limestone should be applied. The safest way is to have the land tested for acidity.

As to whether or not the crop should be seeded with a grain crop depends upon the use for which it is intended. If mid-summer hay is desired Hubam should be seeded without a companion crop at the rate of from twelve to fifteen pounds of seed per acre on a clean, well rolled seed bed. The seeding should be made in April or early May. If late summer and fall pasturage is desired or a cutting of hay in the fall the seeding may be made with oats or barley. A lighter planting of these crops than usual, not more than one bushel per acre, is advisable.—J. F. Cox, Professor of Farm Crops, M. A. C.

STATE REWARDS

What is the state reward on a gravel road 20 feet wide and accepted by a state inspector? We thing your paper O. K. and hope we can get all our neighbors to take it.—T. L. T., Genesee County, Mich.

Please be advised that Section 10 of Chapter 5, paragraph B, of the highway laws, provides that a gravel road consisting of a traveled track containing 8 inches of compact gravel shall merit a reward of 25% of the cost of such road, but in no case shall the reward exceed the sum of \$5,000 for each mile.—Harry H. Partlow, Legal Advisor, State Highway Department.

ALFALFA KILLS THISTLES

Will alfalfa kill Canada thistles? If not, what treatment would you recommend and what crop would you plant upon the land?—J. A. B., Owosso, Mich.

Establishing a stand of alfalfa is one of the best ways of getting rid of Canada thistles. The several cuttings given the alfalfa crop each year and the crowding effect of the plants usually put an end to Canada thistles in two or three years.

It may be necessary to lime your land in order to prepare the way for a good stand of alfalfa. If clover has not been catching well on it it almost certainly needs lime.

Northern grown alfalfa seed should be planted, preferably the Grimm variety. Killing out with a good stand of alfalfa is the only way that I know of of getting rid of Canada thistles at a profit. Any other way is a costly procedure.—J. F. Cox, Professor of Farm Crops, M. A. C.

A NOT LIABLE TO C

A let a contract to B (verbally) to do the mason work for his house, B told A he would build him a fireplace (not in contract) if A would do a certain amount of tending mason which A did. When the time came to build fire place B hired C to help B build it. Now C does not seem to be able to get his pay from B and C says he will hold A for his pay.—Reader.

From your statement I am of the opinion that C has no contract with A and cannot hold him liable therefore. If, however, the steps to establish a mechanic's lien for his services have been complied with, it might require knowledge of all of the facts to determine the liability.—Legal Editor.



"Not a Kick in a Million Feet"

NO worry. No warping. No curling.—Just comfort, permanence, sightliness and freedom from repair,—that's good old MULE-HIDE.

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I am interested in Roll Shingle Asphalt Roofing. Please send me descriptive literature, samples and name of dealer in my locality.

Name.....

Address.....

MULE HIDE
Shingles and Roll Roofing

Missouri College of Agriculture the latter part of January, a tournament was played between the champions of the Missouri Farm Bureau Federation and a picked team from the college. The following is an excerpt from an article sent out to the press by the college:

"Much interest has been created at the college by the Federation challenge and the iron pegs and regulation shoes are in readiness for the tournament. The matches will be played at the livestock pavilion on the University Farm Wednesday and Thursday afternoons from 4 to 6, with a possibility that the finals will be carried over to Friday.

"A sociability foursome, also, is to be pitched on Friday by Governor Arthur M. Hyde, Hon. Jewell Mayes, Secretary of the State Board of Agriculture, President Chester H. Gray of the Farm Bureau Federation and Dean F. B. Mumford of the College of Agriculture in response to a personal invitation from E. H. McReynolds, executive secretary of the Federation.

World's Best

Offer of SILK SWISS EMBROIDERED Linene Dresses \$3.79

Latest Stunning Style



Just think! A high quality Linene Dress cannot be excelled at more than TWICE its price. Launderproof fabric. Newest style bell sleeves and collar in beautiful design of Silk Swiss embroidery, in two harmonizing colors. Long flowing slash of self material ties prettily on side. NOTE: embroidery all around dress.

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We are so absolutely certain that you will be delighted with this amazing bargain that we will send the dress if you simply mail the coupon.

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Our stock is limited. Remember, don't send a penny. Simply pay the postman \$3.79 and postage on arrival. If not completely satisfied every cent of your money will be immediately returned. Colors: Harding Blue and Rose. Sizes: 32 to 46 inch bust for ladies. Misses sizes 14 to 20 years. When ordering state size and color wanted. Order by number. The dress illustrated above is Y-322.

WORLD MAIL ORDER COMPANY

3317 Roosevelt Road, Chicago, Ill.

Gentlemen—Please send me bargain Linene Dress No. Y-322 at once. Will pay postman \$3.79 plus postage on arrival. You Guarantee to refund my money if I am not satisfied.

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15 Year Guaranteed SLATE SURFACED

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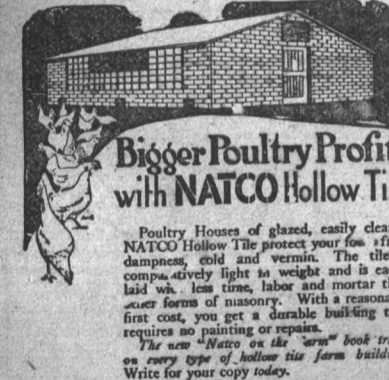
APPROVED: Fire Underwriters Laboratories

Our regular Radin Brand—full standard weight 65-lb. per roll. Exactly the same grade and quality for which we had to ask \$3.15 a roll last spring. Made of heavy roofing felt saturated and coated with Asphalt. Surface with crushed slate in natural red or green colors. Colors are permanent and non-fading. Requires no painting or staining and each rain washes it fresh and clean. In rolls 32 inches wide, 40ft. long (each roll enough to cover 100 square feet, allowing for 2-inch laps). Nails, cement, and instructions included with each roll. Easy to lay—only tools needed, a hammer and a jack-knife. If you want to apply this roofing, use old wood shingles, specify rolls to be packed with extra long nails, and add 8 cents per roll.

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Order direct from this ad—our guarantee protects you. Or write for samples—sent free on request. Shipped from Chicago, Kansas City and St. Paul, or from warehouses at York, Pa., and St. Louis, Mo. (NOTICE: Prices in Kansas City and St. Paul territories—10c per roll extra—\$2.30 per roll.) Send your order to house nearest you. Address: Dept. G.G.74.

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Poultry Houses of glazed, easily cleaned NATCO Hollow Tile protect your fowls from dampness, cold and vermin. The tile is comparatively light in weight and is easily laid with less time, labor and mortar than other forms of masonry. With a reasonable first cost, you get a durable building that requires no painting or repairs. The new "NATCO on the farm" book treats on every type of hollow tile farm building. Write for your copy today.

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What the Neighbors Say



ANOTHER VOICE PIPES UP

WELL, Rube, you've got hit on the ivory just as I thought you would when you launched that boomerang on women's clothes. It is time you took to the tall timber. It sure warms the cockles of our hearts to hear you speak a good word for the ladies—God bless 'em—but look out for that plain farmer up in Ingham county. He seems to have a stout heart and he sure wields a wicked pen.

The subject, "what shall women wear," along with politics and prohibition, has been in the spotlight ever since the world stood. Eve started it with her one-piece suit and from that day to this the path of history has been strawn with the cast-off styles of the female of the species. Puffs, rills, ruffles, pantalons, crinolines, bustles, pull-backs, sheath skirts, split skirts ad. lib. After all this, if the flapper wants to wear the new "nothing at all" on her lower extremities and almost as much on her upper extremities, why, so be it. And if the plain farmers want to wear their overalls "en rapport" or any other old way, so be it also. Better so than to be wrapped in the swaddling cloths of prejudice or the winding sheet of self righteousness.

My dear Mr. "Plain Farmer," don't think the world is going to deminution be-wows because the girls are rever'ng to first principles. If thine eye offend thee—etc. Turn your back to the girls with the short skirts and open your Good Book and read therein—beginning with the first commandment—and the more you read the less you will care whether the ladies' stockings are rolled shamelessly just BELOW the knee or tied decorously with a stout cotton string just ABOVE the knee. If you thing the girl of today is not sufficiently clothed, wrap your mantle of charity around her—and let it stay there. Place your hands on the handles of your plow and let them also stay there. We have made the world tolerably safe for the Republicans and Democrats, now let us make it safe for the flapper and the farmer, for God made them both. I mean the flapper and farmer. Keep close to the side of your good wife and thank your lucky stars that your lot has been cast in the wholesome county of Ingham instead of the odoms and Gomorrahs we read so much about. Just one parting word: Let us be careful how we draw the lines on personal matters. We, whose ancestors fought and died for the glorious thing: "Liberty of Conscience!"—"Rhoda," Olivet, Mich.

Speaking of "wicked pens" we men folks aren't in it with the women. When a woman with a versatile tongue enters an argument all male contenders should instantly retire in good order. They will eventually retire in confusion if they remain long enough. "What fools we mortals be" to tell women how they should dress. The longer we talk the shorter their dresses become. Prudence forbids that we should continue the argument. Anyway where is there a mere man who can match "Rhoda's" matchless wit or arrest her clever pen?—Editor.

CONSOLIDATION AND TAXES

NOTICE in a recent editorial you call for comment on the consolidated school question and throw your columns open without any criticism to the advocates of the system while you take your editorial pen and you sit up on your editorial perch and say the last word to the fellow who has backbone enough to oppose the system.

Now from a purely educational standpoint I might say that the system may or may not have its advantages. I am of the opinion, however, from what experience and personal contact I have had with some young people who have gone higher than the common grades that the only object attained has had a tendency to make them heady and conceited and has set them at the cross roads where they have had their minds divided, thus spoiling their aim in life for the future years before them. From an economic view in a time like this, especially, I think that consolidation of schools is a fool move.

What is to become of our country schools that dots our county over? Oh, you say sell them, junk them,

do what you like with them. Sounds foolish don't it?

Do you think that you are going to succeed in making people believe that consolidation is a cheaper method of education? Not all, no sir. To scrap our country schools and build immense consolidated schools all over the county and keep up a transport system to convey children to these schools is no small undertaking and a very expensive one.

If the rate of taxation continues with its present strides the state will own a lot of our Michigan farms before many years for the land won't keep the owners on them and pay the tax, nevertheless there is a bunch of fellows all over our state who are on the public payroll, parasites I call them, who persist in every line of propoganda for the further expense and burden of the taxpayer. I, for one, believe it is time to call a halt to stop this reckless expenditure of the sweat money of the average taxpayer. This reckless rushing on advocating measures which involve immense outlay without regard to the welfare and safety of the people who have to pay the bill is to me the height of folly. Today there are vast numbers of taxpayers who are ruined or on the verge of it. Yet these new appropriations and new measures are being taken up and advocated by papers and individuals without any regard to the final outcome. I will say this, that as I see it, Europe will soon be a heaver to live in compared to our America. I will say in conclusion, be impartial in this school question and this tax problem. Give opponents to the consolidated school the same voice you give the boosters for it and when you say you are in for lower taxes and will stand ready with your sleeves rolled up, ready to fight for lower taxation, be consistent and don't work for the very things that make for high taxes all the time. —E. F. G., Avoca, Mich.

You infer that we are denying opponents of consolidated schools the chance to present their views. Why? Haven't more letters been published in these columns against consolidation than for it? You infer that we are committed to consolidated schools. Again, why? Have we so stated? You ask us to be impartial. We will be impartial as we always have been so far as allowing every ader an opportunity to present his or her views. How many other papers can you name that are equally as impartial? But if you mean that we should not have views and declare them we cannot accommodate you. We conceive it to be the duty of every individual and every publication to not only have opinions on public issues but

MUSINGS OF A PLAIN FARMER

I GUESS I'll take a milk check and purchase a comfortable chair and sit out the act this summer. I can move it around and it won't be much trouble to keep in the shade. Why should I sweat and grunt under an existence of this kind? Only to find at the end of each year my bank book shows most in red. Better to rest up a year. Reserve my energy. Then when things get back to normal or sub-normal, pitch in and produce with all the power at my command.

Can I lay off for a crop season? Certainly! Why not? Am I not a farmer and my own master. Absolutely independent! Raise my own living and all these other things so nice in rural life. What if I should? I suppose my creditors would say, "Why you poor man, you look tired and worn. I am glad to see you taking a rest." And of course my neighbors would come over and pull the weeds and milk the cows and do other little odd chores. Bring me cigars and other dainties.

And my good wife, bless her. She would carry my meals to me. Perhaps within throwing distance. She is very fond of non-producers. Very very fond!

I wonder if the general public would call me lazy or a dreg or something else? Surely not. My pride would not suffer, all would be well and I would put on flesh. I'll see how I feel when the frost gets out. This plan of setting in the shade looks good.

If it will work.—A. P. Ballard.

to express them. That's why you like the Business Farmer. We have not yet been able to gather sufficient information on consolidated schools to commend or condemn them, but we expect to have it before long. And we are going to get it from the people who live in consolidated school districts, including both the man who is against it and the man who is for it. And we shall no doubt be influenced by the attitude of the majority of the farmers living in the district. Regardless of the merits of the contention everything involving an increase in taxes should for the time be avoided.—Editor.

THE COST OF GROWING BEETS

CAN a farmer raise beets at less than \$6.00 per ton? I hear this question discussed so often by farmers who do not keep any record of expense, or income, that I am tempted to send my experience on the beet problem for the year 1921, as taken from records kept on book put out by M. A. C. for farmers' use:

For six-acre field.

Plowing, \$2 per acre	\$12.00
Discing, \$1 per acre	6.00
Dragging	12.00
Rolling	6.00
Drilling and drill rent	4.00
Cultivating	12.00
Lifting	7.50
Drawing	47.60
Use of land	36.00
	\$143.10

The field yielded 56 1-2 tons of beets after the company took out for labor, seed, house rent and interest, etc., approximately \$170.00, received check for \$141.96, which leaves me \$1.14 short of pay for my labor and land with a trifle over a 9-ton yield which I believe is about the average for Michigan.

Then I must say, no we cannot raise beets for less than \$6.00 per ton. I do not believe it would be wise to figure for an average of the state for over 9 tons although I do not know what the average was last year. Perhaps some farmers could produce beets cheaper than I did. I do not like to see the beet industry fail and I do not believe it will, but I would like to see it put on a safe basis for the farmers, with just a little profit for both farmer and company.—Claude Stowe, Saginaw County.

When every farmer keeps a record of his costs as men in other lines of business he will not be asking himself, "can I grow beets for \$5 or oats for 30 cents or potatoes for 50 cents." He will know that he cannot. The farmer who knows what it costs suffers much from the competition of the farmer who doesn't. Your figures indicate that you are an efficient farmer, and if the efficient farmer cannot grow beets for \$5 a ton what hope is there for the inefficient?—Editor.

A COUNTY CLERK ON TAXATION

I HAVE just been reading the letter of an "Old Subscriber" from Macomb county, in the Feb. 11th issue of your paper, and while he may be looking through blue glasses to some extent, there is a whole lot of truth and sense in what he writes. I lived and worked on a farm all my life until elected to this office seven years ago, and I feel that the farmers, and the other taxpayers also, are not getting the worth of their money as too much of it goes for overhead expenses, useless jobs, and duplication of work. There are a good many examples that could be mentioned if I had time, but I shall only speak of one or two with which I am the most familiar. The so-called uniform accounting system which the auditor general's office feels called on to defend so much is one of these, and I notice that he does not say how many hundreds of thousands of dollars went to the big publishing houses nor what it cost for inspectors to run over the state and meddle with the county business, nor why it is not in use in Wayne county, nor what the taxpayer actually gets for his money. And some of the statements that are made are absolutely false at least so far as they apply to this county, and who gets it, and if fair service is rendered for the same. He does not care whether it is paid on a yellow voucher, or a white one or whether the clerk's office uses one more typewriter ribbon than the treasurer's office does.

And in road matters we have re-

cently had orders to make the maintenance reports every two weeks, although we only get our money from the state every quarter. It takes nearly as long to make one two-weeks report as it does for a quarter and just so much more time and more clerk hire in Lansing too. Also the state has an army of inspectors going over the roads all the time and last summer when some paving was done in this county they had a lot of young fellows who were hardly dry behind the ears to look after the work, and some of them did not know how to mix cement to make a stable floor. The state started to build a bridge in this county last fall, and cold weather came before it could be finished, but there are several men who go there once in a while and make a fire in the mixer, and a high-priced inspector who spends most of his time in town entertaining the ladies.

A great many people accuse the farmers of being opposed to good roads, but I do not believe there is a man in Michigan who is not in favor of them, but we do not see how all this useless clerk work and multiplied inspection is any benefit to the roads, and voters would feel more liberal if they could see a larger proportion of their money going where they received some benefit from it.—B. L. Case, Gratiot County Clerk, Ithaca.

Well, well, it is something new to have a man in office speak right out loud about the waste of the taxpayers' money in public business. Seems as if we ought to have more men of that kind in office and maybe we wouldn't have so much extravagance.—Editor.

CONSOLIDATION

WHY is it that people in the rural districts never know what they want until some one holding a good, lucrative office or position, or one who is looking for such, tells us what is good for us?

It took 20 years to work out the "Good Roads System" but when the automobile industry took hold of it and speakers were sent to almost every rural gathering to tell what a good thing it was and what benefits farmers would derive from same, but nothing was said of benefits of instigators and promoters, all to help the poor Down-trodden Farmer. We all want the good roads, but not so much red tape. My 1920 tax receipt shows one-third of total tax to be highway. Add to this expense of highway department, via. highway commissioner, deputy engineers, office help, fixtures, etc. Subtract this total from your state tax and add to your road tax and see the result—an octopus.

Now the same class of officials

are writing and talking consolidated school, or concentrated power, which means taxation, what for?

Take as an example—How many of the boys of our villages and cities with all the faculties and advantages of a high school at their door, have attained a high school education? Think it over for yourself. Count them and see if you don't find a big percentage short the goal. Then what will be the result in the country? You can't educate them all, neither can you build the fence so high as to stop those who have the disposition and will go over the top. Show me the statement today to compare with our Washington, Lincoln and many others we might mention and compare facilities. Go with me to Ohio, or any place and investigate and you will get this answer, "It is an expensive school, expensive transportation, high salaried teachers, superintendents, etc." I got this from a teacher of 25 years' experience, now teaching in a consolidated school. "A good school, but expensive, and I can do no more for a pupil than I could do in the rural school." You say he is a foggy, a has-been? Meet him.

People settled the country, located in different parts, some in center of town, some in the corner six miles from the center. Show us the justice of a school at the one's door and the other 6 miles away. Then say the mothers must start her little children out to meet this conveyance early in the morning. One minute late, go back home. Car trouble, driver half hour late, wait in zero weather. If you don't believe this, investigate. Don't take someone's word who is working for self-aggrandizement or money—Subscriber, Maple Rapids, Clinton County, Mich.

PEPPER

M. B. F. just arrived. Read article "Adding a Little Pepper." GOOD FOR YOU! Keep on peppering. For as well seasoned an old "Sour Sass" as he must be it sounds a little green, but then he probably belongs to that branch of the Pepper family known as "the long yellow." Certainly no one would take him for a sweet Pepper. He would most likely be a red pepper if he saw this, but we will try hard to see that he is well peppered with both "black and white" at the next election, if the fool killer doesn't get him. Yours for the pepper pot.—Mrs. M. Emerson, Van Buren County, Mich.

We have derived much pleasure and profit from your honest weekly. And magazine is much enjoyed by all the members of our good sized family.—Frank Timmis, St. Joseph County, Mich.

The Week's Editorial

THE HIGH COST OF BANKING

ACCORDING to returns from a nearly 3,000 national banks reporting to the Controller of the Currency, it costs these banks an average of \$59 a year to handle every \$1,000 of deposits. The rate varies all the way from \$40, the lowest, in California, to \$74, the highest, in Texas. This is certainly a rather steep overhead load on the business of the country, the banks acknowledging the harvesting of a net profit averaging \$27 on every \$1,000 of deposits over and above this cost of an average of 5.9 per cent.

"It would be interesting to have an itemization of this 'cost of handling' deposits. How much of it goes for palatial marble banking houses, mahogany furniture and oriental rugs? How much to big salaries of decorative 'officers'—and how little to salaries of clerks and bookkeepers?"

"The percentage of profit seems small. But it should be remembered that it is profit on other people's money. The deposits represent approximately 20 times the banking capital involved, on which dividends of from 30 to 60 per cent are often paid, after setting aside to surplus or exceed the amount of the original capital. It is no wonder that bank shares command—when they are obtainable at all—premiums of anywhere from 100 to 1,000 per cent.

"During a recent congressional inquiry into agriculture, it was

brought out that agricultural credit banks in Germany, handling many millions of dollars' worth of loans, succeed in transacting their business at an expense cost of less than 2 per cent. in the face of this showing, the special congressional commission recommends an amendment to the Kenyon Rural Credits Bill, which is based on the successful German system—an amendment that proposes that the credits shall take the shape of deposits in the national banks instead of being handled by co-operative organizations of the farmers themselves.

"When Charles E. Hughes conducted the life insurance investigation that marked the beginning of his brilliant career and worked a revolution in insurance methods, the premium-paying public was startled by the exposure of flagrantly extravagant expenditures for overhead and 'incidentals' that increased the cost of insurance to the policy holder and diminished the security for his investment—all the way from 40 to 60 per cent. Perhaps a similarly fearless and efficient investigation of banking methods today would bring out similarly interesting disclosures.

"But where is there a Charles Evans Hughes capable of putting through so beneficial an inquiry into the actual costs, compared with the charges for banking service to the community?"—Dearborn Independent.

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This big saving is made possible only by getting En-ar-co to you in quantity lots at the lowest possible expense. You know it costs less to handle fifty gallons of En-ar-co Motor Oil in one iron drum than fifty single gallons in fifty different packages. The difference in cost is 35c per gallon or \$17.50 per iron drum—and this

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You know the National Refining Company. It has been serving the public for forty years and has the reputation among everyone of making the highest quality Petroleum Products on the market. Nobody has ever made any better, and your farm paper or your neighbor will tell you of the high standing of the Company, and the scientifically refined quality of the goods that we sell.

Act Now! Order your drum of En-ar-co Motor Oil today. Advise what tractor, truck, automobile or light plant you want to use it for—we will send you the proper grade and guarantee immediate delivery.

If your dealer can't supply you, fill out the order blank below and mail it direct to us at Cleveland, O., or to any of the following 93 branches:

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Ship me at once by freight from your nearest distributing center.....Iron drum of En-ar-co Motor Oil. I want it to lubricate.....(Name of Tractor).....(Name of Car).....(Name of House Lighting Plant).....

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tell you how to prevent disease among livestock and poultry and describe in detail the many uses of

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Write for this Free Book, "Concrete on the Dairy Farm" and see the many money-saving suggestions it gives on the use of concrete in making permanent improvements. Properly housed dairy cattle return greatest profit on the investment. This free book is recognized as a simple guide to 100% efficiency and economy in building on the dairy farm.

Fully illustrated with diagrams and pictures. Shows how to build barns, milk-houses, silos, icehouses, cooling tanks, paved barnyards, manure pits, water supply systems, etc. Address office nearest you.

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Nomads of the North

A STORY OF THE GREAT OUTDOORS

By **JAMES OLIVER CURWOOD**
Michigan's Own and America's Foremost Author of Wild Life Romance

(Continued from last week)

DURANT and Ribon did not return until nearly noon the next day. They brought with them fresh meat of which Miki ate ravenously, for he was hungry. In an unresponsive way he tolerated advances of these two. A second night he was left alone in the cabin. When Durant and Ribon came back again in the early dawn they brought with them a cage four feet square made of small birch saplings. The open door of this cage they drew close to the door of the cabin, and by means of a chunk of fresh meat Miki was induced to enter through it. Instantly the trap fell, and he was a prisoner. The cage was already fastened on a wide toboggan and scarcely was the sun up when Miki was on his way to Fort O' God.

This was the big day at the carnival—the day of the caribou-roast and the fight. For many minutes before they came in sight of Fort O' God Miki heard the growing sound. It amazed him, and he stood up on his feet in his cage, rigid and alert, utterly unconscious of the men who were pulling him. He was looking ahead of them, and Durant chuckled exultantly as they heard him growl, and his teeth click.

"Oui, he will fight! He would fight now," he chuckled.

They were following the shore of a lake. Suddenly they came around the end of a point, and all of Fort O' God lay on the rising shelf of the shore ahead of them. The growl died in Miki's throat. His teeth shut with a last click. For an instant his heart seemed to grow dead and still. Until this moment his world had held only half a dozen human beings. Now, so suddenly that he had no flash of warning, he saw a hundred of them, two hundred, three hundred. At sight of Durant and the cage a swarm of them began running down to the shore. And everywhere there were wolves, so many of them that his senses grew dazed as he stared. His cage was the centre of a clamouring, gesticulating horde of men and boys as it was dragged up the slope. Women began joining the crowd, many of them with small children in their arms. Then his journey came to an end. He was close to another cage, and in that cage was a beast like himself. Beside this cage there stood a tall, swarthy, shaggy-headed halfbreed who looked like a pirate. The man was Grouse Piet, Durant's rival.

A contemptuous leer was on his thick-lipped face as he looked at Miki. He turned, and to the group of dark-faced Indians and breeds about him he said something that roused a guttural laugh.

Durant's face flamed red. "Laugh, you heathen," he challenged, "but don't forget that Henri Durant is here to take your bets!" Then he shook the two cross and ten red foxes in the face of Grouse Piet.

"Cover them, Grouse Piet," he cried. "And I have ten times more where they came from!"

With his muzzle lifted, Miki was sniffing the air. It was filled with strange scents, heavy with the odors of men, of dogs, and of the five huge caribou roasting on their spits 15 feet over the big fires that were built under them. For ten hours those caribou would roast, turning slowly on spits as thick as a man's leg. The fight was to come before the feast.

For an hour the clatter and tumult of voices hovered about the two cages. Men appraised the fighters and made their bets, and Grouse Piet and Henri Durant made their throats hoarse flinging banter and contempt at each other. At the end of the hour the crowd began to thin out. In the place of men and women half a hundred dark-visaged little children crowded about the cages. It was not until then that

Miki caught glimpses of the hoards of beasts fastened in ones and twos and groups in the edge of the clearing. His nostrils had at last caught the distinction. They were not wolves. They were like himself.

It was a long time before his eyes rested steadily on the wolf-dog in the other cage. He went to the edge of his bars and sniffed. The wolf-dog snarled back. Henri Durant rubbed his hands exultantly, and Grouse Piet laughed softly.

"Oui; they will fight!" said Henri again.

"Ze wolf, he will fight, oui," said Grouse Piet. "But your dog, m'sieu, he be vair seek, lak a puppy, w'en ze fight come!"

A little later Miki saw a white man standing close to his cage. It was MacDonnell, the Scotch factor. He gazed at Miki and the wolf-dog with troubled eyes. Ten minutes later, in the little room which he had made his office, he was saying to a young man:

"I'd like to stop it, but I can't. They wouldn't stand for it. It would lose us half a season's catch of fur. There's been a fight like this at Fort O' God for the last fifty years, and I don't suppose, after all, that it's any worse than one of the prize fights down there. Only, in this case—"

"They kill," said the younger man.

"Yes, that's it. Usually one of the dogs dies."

The younger man knocked the ash out of his pipe.

"I love dogs," he said, simply. "There'll never be a fight at my post, Mac—unless it's between men. And I'm not going to see this fight, because I'm afraid I'd kill some one if I did."

CHAPTER TWENTY

IT was two o'clock in the afternoon. The caribou were roasting brown. In two more hours the feast would begin. The hour of the fight was at hand.

In the center of the clearing three hundred men, women and children were gathered in a close circle about a sapling cage ten feet square. Close to this cage, one at each side, were drawn the two smaller cages. Beside one of these cages stood Henri Durant; beside the other, Grouse Piet. They were not bantering now. Their faces were hard and set. And three hundred pairs of eyes were staring at them, and three hundred pairs of ears waiting for the thrilling signal.

It came—from Grouse Piet. With a swift movement Durant pulled up the door of Miki's cage. Then, suddenly, he prodded him from behind with a crocheted stick, and with a single leap Miki was in the big cage. Almost at the same instant the wolf-dog leapt from Grouse Piet's cage, and the two faced each other in the arena.

With the next breath he drew Durant could have groaned. What happened in the following half minute was a matter of environment with Miki. In the forest the wolf-dog would have interested him to the exclusion of everything else, and he would have looked upon him as another Netah or a wild wolf. But in his present surroundings the idea of fighting was the last to possess him. He was fascinated by that grim and waiting circle of faces closing in the big cage; he scrutinized it, turned his head sharply from point to point, as if hoping to see Nanette and the baby, or even Challoner his first master. To the wolf-dog Grouse Piet had given the name of Taao, because of the extraordinary length of his fangs; and of Taao, to Durant's growing horror, Miki was utterly oblivious after that first head-on glance. He trotted to the edge of the cage and thrust his nose between the bars, and a taunting laugh rose out of Grouse Piet's throat. Then he began making a circle of the cage, his sharp eyes on the silent ring of faces.

Taao stood in the centre of the cage, and not once did his reddish eyes leave Miki. What was outside of the cage held small interest for him. He understood his business, and murder was bred in his heart. For a space during which Durant's heart beat like a hammer. Taao turned, as if on a pivot, following Miki's movement, and the crest on his spine stood up like bristles.

Then Miki stopped, and in that moment Durant saw the end of all his hopes. Without a sound the wolf-dog was at his opponent. A bellow rose from Grouse Piet's lips. A deep breath passed through the circle of spectators, and Durant felt a cold chill run up his back to the roots of his hair. What happened in the next instant made men's hearts stand still. In that first rush Miki should have died. Grouse Piet expected him to die, and Durant expected him to die. But in the last fractional bit of the second in which the wolf-dog's jaws closed, Miki was transformed into a thing of living lightning. No man had ever seen a movement swifter than that with which he turned on Taao. Their jaws clashed. There was a sickening grinding of bone, and in another moment they were rolling and twisting together on the earth floor. Neither Grouse Piet nor Durant could see what was happening. They forgot even their own bets in the horror of that fight. Never had there been such a fight at Fort O' God.

The sound of it reached to the Company's store. In the door, looking toward the big cage, stood the young white man. He heard the snarling, the clashing of teeth, and his jaws set heavily and a dull flame burned in his eyes. His breath came in a sudden gasp.

"Damn!" he cried, softly.

His hands clenched, and he stepped slowly down from the door and went toward the cage. It was over when he made his way through the ring of spectators. The fight had ended as suddenly as it had begun, and Grouse Piet's wolf-dog lay in the center of the cage with a severed juglar. Miki looked as though he might be dying. Durant had opened the door and had slipped a rope over his head, and outside the cage Miki stood, swaying on his feet, red with blood, and half blind. His flesh was red and bleeding in a dozen places, and a stream of blood trickled from his mouth. A cry of horror rose to the young white man's lip as he looked down at him.

And then, almost in the same breath, there came a still stranger cry.

"Good God! Miki—Miki—Miki!" Beating upon his brain as if from a vast distance, coming to him through the blindness of his wounds, Miki heard that voice.

The voice! The voice that had lived with him in all his dreams, the voice he had waited for, and searched for, and knew that some day he would find. The voice of Challoner, his master!

He dropped on his belly, whining, trying to see through the film of blood in his eyes; and lying there, wounded almost unto death, his tail thumped the ground in recognition. And then, to the amazement of all who beheld, Challoner was down upon his knees beside him, and his arms were about him, and Miki's lacerated tongue was reaching for his hands, his face, his clothes.

"Miki—Miki—Miki!" Durant's hand fell heavily upon Challoner's shoulder.

It was like the touch of a red-hot iron to Challoner. In a flash he was on his feet, facing him.

"He's mine," Challoner cried, trying to hold back his passion. "He's mine you—you devil!"

And then, powerless to hold back his desire for vengeance, his clenched fist swung like a rock to Durant's heavy jaw, and the Frenchman went to the ground. For a moment Challoner stood over him but he did not move. Fiercely he turned upon Grouse Piet and the crowd. Miki was cringing at his feet again. Pointing to him, Challoner cried loudly, so all could hear:

"He's my dog. Where this beast got him I don't know. But he's mine. Look for yourselves! See—see him lick my hand. Would he do that for him? And look at that ear. There's no other ear in all the north cut like that. I lost him almost a year ago, but I'd know him

among ten thousand by that ear. By God!—if I had known—”

He elbowed his way through the breeds and Indians, leading Miki by the rope Durant had slipped over the dog's head. He went to MacDonnell, and told him what had happened. He told of the preceding spring, and of the accident in which Miki and the bear cub were lost from his canoe and swept over the waterfall. After registering his claim against whatever Durant might have to say he went to the shack in which he was staying at Fort O' God.

An hour later Challoner sat with Miki's big head between his two hands, and talked to him. He had bathed and dressed his wounds, and Miki could see. His eyes were on his master's face, and his hard tail thumped the floor. Both were oblivious of the sounds of the revelers outside; the cries of men, the shouting of boys, the laughter of women, and the incessant barking of dogs. In Challoner's eyes there was a soft glow.

“Miki, old boy, you haven't forgotten a thing—not a dam' thing, have you? You were nothing but an onery-legged pup then, but you didn't forget! Remember what I told you, that I was going to take you and the cub down to the Girl? Do you remember? The Girl I saw was an angel, and 'd love you to death, and all that? Well, I'm glad something happened—and you didn't go. It wasn't the same when I got back, an' she wasn't the same, Miki. Lord, she'd got married, and had two kids! Think of that, old scout—two! How the deuce could she have taken care of you and the cub, eh? And nothing else was the same, Boy. Three years in God's Country—up here where you burst your lungs just for the fun of drinking in air—changed me a lot, I guess. Inside a week I wanted to back, Miki. Yes sir, I was sick to come back. So I came. And we're going to stick now, Miki. You're going with me up to that new Post the Company has given me. From now on we're pals. Understand, old scout, we're pals!”

CHAPTER TWENTY-ONE

It was late the night of the big feast at Post Fort O' God that MacDonnell, the factor, sent for Challoner. Challoner was preparing for bed when an Indian boy pounded on the door of his shack and a moment later gave him the message. He looked at his watch. It was eleven o'clock. What could the factor want of him at that hour, he wondered? Flat on his belly near the warm box stove Miki watched his new-found master speculatively as he pulled on his boots. His eyes were wide open now. Challoner had washed from him the blood of the terrific fight of that afternoon.

“Something to do with that devil of a Durant,” growled Challoner, looking at the battle-scarred dog. “Well, if he hopes to get you again, Miki, he's barking up the wrong tree. You're mine!”

Miki thumped his hard tail on the floor and wriggled toward his master in mute adoration. Together they went out into the night.

It was a night of white moonlight and a multitude of stars. The four great fires over which the caribou had roasted for the savage barbecue that day were still burning brightly. In the edge of the forest that ringed in the Post were the smouldering embers of a score of smaller fires. Back of these fires were faintly outlined the gray shadows of teepees and tents. In these shelters the three hundred half-breeds and Indians who had come in from the forest trails to the New Year carnival at the Post were sleeping. Only here and there was there a movement of life. Even the dogs were quiet after the earlier hours of excitement and gluttony.

Past the big fires, with their huge spits still standing, Challoner passed toward the Factor's quarters. Miki sniffed at the freshly picked bones. Beyond these bones there was no sign of the two thousand pounds of flesh that had roasted that day on the spits. Men, women, children and dogs had stuffed themselves until there was nothing left. It was the silence of Mutai—the “belly god”—the god who eats himself to sleep each night—that hovered strangely over this Post of Fort O' God, three hundred miles from civilization.

There was a light in the Factor's room, and Challoner entered with Miki at his heels. MacDonnell, the Scotchman, was puffing moodily on his pipe. There was a worried look in his ruddy face as the younger man seated himself, and his eyes were on Miki.

“Durant has been here,” he said. “He's ugly. I'm afraid of trouble. If you hadn't struck him—”

Challoner shrugged his shoulders as he filled his own pipe from the Factor's tobacco.

“You see—you don't just understand the situation at Fort O' God,” went on MacDonnell. “There's been a big dog fight here at New Year for the last fifty years. It's become a part of history, a part of Fort O' God itself, and that's why in my own fifteen years here I haven't tried to stop it. I believe it would bring on a sort of—revolution. I'd wager a half of my people would go to another post with their furs. That's why all the sympathy seems to be with Durant. Even Grouse Piet, his rival, tells him he's a fool to let you get away with him that way. Durant says that dog is his.”

MacDonnell nodded at Miki, lying at Challoner's feet.

(Continued next week)

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“WHY DOESN'T ANYBODY WANT ME?”

THAT is the question being asked by this little boy. His name is Norman. He is six years old and a fine-looking bright child. He is in good physical condition. In fact there is nothing the matter with Norman excepting that he hasn't any home—and that is about the worst thing that could happen to any child. No one is so poor and helpless and pitiable as a homeless child.

There are many others in like condition. There is Robert, seven years of age; Alvin, eight; Glenn nearly ten; David, twelve. They are all waiting for some good some to claim them.

Are't there families of good standing in Michigan with big-hearted men and women willing to share their home with one of these boys? That is the question put to the people of the state by the Michigan Children's Aid Society.

There are many people inquiring for beautiful babies and little girls from one to four years old. But the boys seem to have very little place in people's regard. Why not? Is it because people are all selfish in taking a child into their homes—and only want a beautiful pet or some one who will be easy to care for?

These boys have the making of fine men, a credit to their family and an asset to the community. Of course, they wear out shoes and stockings, and eat a good deal, and need patient loving care—that is, they need mothers and fathers—as we all did.

We appeal to the better class of people who read the Michigan Business Farmer to respond to this need, and send in their applications for a boy, to the St. Joseph office of the Michigan Children's Aid Society.

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Farming in 1922

THE farmer is looking forward to the coming crop season with mingled feelings of hope and doubt. There is little of an encouraging nature in the prospect. The recent price advances which some believe to have been engineered to some extent for the purpose of jollying the farmer into a better mood at the psychological moment he should be planning on his 1922 operations, have benefited him very little. Still they have raised him in a measure from his slough of despond and like Old Dobbin who nears the top of a long hill he is beginning to prick up his ears and take courage. A New York state farmer pretty well expresses the general sentiment of the average farmer just now when he says:

"In all the years I have reported crops this is the worst. It compares very favorably with 1872-73 insofar as the farmers are upset and at sea as regards to what is best to do. Very little planning is being done. While each farmer has a general idea as to what crops he is going to plant and sow this year, it is because he feels that he has got to do it. There is a great lack of enthusiasm that is generally manifest at this time of the year. Many are feeling that there is more in it for the farmer if he cuts down the acres sown and the number of cows milked. Congress is being watched as never before.

"High freight rates are cited as the main cause for the uncertain condition of things. High taxes and little in return for them is another drawback; also too much advice from those who don't know. The farmers' boys and girls have been and are deceived by the advertisements in the popular magazines. Easy jobs are being looked for, work has become a thing to be despised by many."

Here in Michigan our farmers will follow pretty much their established rotation with the possible exception of the beet growers, who are very much at sea to know what to do. At present cost of production \$5 beets are not an attractive crop and it would not be surprising if many turned to beans which give promise of better rewards the coming season. It would scarcely seem wise for farmers to plan on more than a normal acreage, or make too many investments in farming equipment in anticipation of higher crop prices. It would be equally foolish for them to reduce their acreage with the expectation that to do so would create a crop shortage. Credit, farm wages, and weather will be the important factors in determining the extent of farm operations this year. If these are favorable the acreage will likely be normal; if unfavorable some loss in acreage may be expected.

City People and Farmers

ONCE in awhile a farmer takes the hide off the city folks for being "against the farmers". They aren't, dear friends, and we ought to get the notion out of our heads. The city people are to be pitied and not condemned for what they don't know. It is only an oc-

casional ignoramus with a billiard ball where his head ought to be who accuses the farmer of mulcting the consumer. But a very large number of city people know what the farmer has been up against and sympathize with him in his troubles. There isn't much difference between human beings when you come to know them. All are susceptible to errors of judgment and hasty speech. All the bull-headed people don't live in the city and all the dullards don't live on the farms. In every stratum of society there is a large preponderance of sane, sensible, sympathetic, broad-minded people. The fools and the bigots and the pin-heads make up the rest. We will always be bothered with these human nuisances who delight in misunderstandings and dissension but we should never make the mistake of judging all people by their standards.

The Next Governor

THE man who comes forward with the most definite and practical program for the reduction of taxes will be the next governor of Michigan.

That may and ought to be the present governor. Mr. Groesbeck has given the state a good administration. He has applied brains and hard work to the business of the state and has secured certain tangible, beneficial results. He ought to be allowed to complete the very excellent work he has undertaken. In other years no one would think of questioning his right to a second term. But unfortunately for him and perhaps for the state as well taxation overshadows all other considerations this year, and taxation will be the cross upon which many a good man will be crucified at the coming election.

Mr. Groesbeck has not been able to run the state at any less cost than his predecessors. Whatever saving he has been able to effect by the consolidation of departments has been more than offset by the interest on the highway bonds. It may be possible that with the accumulating interest on highway and bonus bonds and the creation of a sinking fund to retire these bonds the state tax cannot be lowered. If Mr. Groesbeck knows that to be a fact he cannot promise lower taxes in the event of his re-election, but his political enemies who do not know but only suspect it can promise anything, and get a lot of votes on the strength of their promises.

Taxation will be the outstanding issue in the coming campaign. The individual who has the courage to say, "this must be cut", and "we cannot afford that", will make a powerful appeal to the voters. Individuals have been obliged to get along without a lot of things they thought necessary, so why not the state as well?



MAPLE SYRUP TIME

Anne Campbell Stark

Talk about your city pleasures,
Why, I wouldn't give a dime
For the grandest things they offer
When it's maple syrup time!
It's such fun to fool around the woods
And watch the sweet sap run,
And to taste the sticky syrup
When my ma says it is done.

There's a heap o' fun a livin'
When the sap runs in the pan.
Rather get my syrup that way
Than to buy it in a can.
Seems the very trees are sayin'
In a croonin' sort of rhyme,
"It's a sign that summer's comin'
When it's maple syrup time!"

The Income Tax

A POWERFUL opposition is forming to fight the income tax amendment to be submitted to Michigan electors at the coming fall election. The rich man does not like income taxes any more than the farmer likes the high taxes on land. But he can pay them without mortgaging everything in sight and the farmer can't.

Wealth has arrayed every conceivable argument against the theory of taxing incomes or the theory of "taxation according to ability to pay". Wealth has tried to prove that taxes on incomes are passed on to the consumer, but failing in that it has fallen back to the last resort of the tax dodger and is crying that these new-fangled forms of taxation are leading the country to the devil and Bolshevism.

"Taxation according to ability to pay", wrote Percy H. Johnston, president of the New York Chemical Bank in the January Forum, "is an ingredient of the promised panacea of the visionary Lenin and the volatile Trotsky".

"The subjects of every state", wrote Adam Smith, the world's greatest political economist, over two hundred and fifty years ago, "ought to contribute towards the support of the government as nearly as possible in proportion to their respective abilities; that is, in proportion to the revenue they respectively enjoy under the protection of the state".

Whom shall we believe, Percy or Adam?

Learn a Little Every Day

WHEN the early explorers first set foot upon this continent they had no more idea than a jack-rabbit what it was. Four hundred years have come and gone and still there are a lot of intelligent American citizens who know little more about the North American continent than either the explorer or the jack-rabbit. Take Alaska, for instance, that land of "ice and snow" which Uncle Sam got in a "hoss trade" with Russia. Who would ever think of going up there inside of the Arctic circle to farm? Well, it appears that some six hundred imbeciles have started homesteading in Alaska and grow most all kinds of vegetables, grain and small fruits. Uncle Sam has recently developed a new variety of potato for them which gives promise of yielding abundantly in that far northern clime. Last year's crops were planted about May 15th and the first killing frost occurred October 18th, long after many crops in some sections of United States had been frozen to the ground.

There are many other interesting things you ought to know about Alaska and the other countries of the globe. Let's go globe-trotting and learn a little something every week about this wonderful world and the universe in which it whirrs.

Service for Farmers

SCARCELY a week had passed following the great ice storm which swept northern Wisconsin and Michigan before the U. S. Department of Agriculture was out with detailed instructions to fruit growers on how to repair the damage to their orchards. To really appreciate the timeliness of this service one should bear in mind that only a very short time elapses before the trees will spring into life again and the wounds defy the healing arts of man. Orchardists who act promptly upon the advice of the Department of Agriculture can salvage many trees which may seem beyond repair, and save themselves thousands of dollars. Criticism of the Department of Agriculture fades away before this and other tangible evidences of its great usefulness to the farmer.

Keynote inquiry of the agricultural conference: How are you going to keep 'em on the farm when everybody's down on the farmer?—Richmond Times-Dispatch.

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EDITED BY FRANK D. WELLS

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What should I do with a neglected orchard? The trees were planted twelve years ago, but look as though only about half grown. Quack grass is thick and the trees produce little or no fruit. One cherry only remains of what were planted, the other trees are all apples. When and how should the orchard be sprayed? I want to get the trees into bearing if possible. —J. B.

Probably the trees are starving. First get some vigor into the trees by supplying available plant food.

If barnyard manure is to be had give the ground a good coat of it, as far out as the branches go, at least. If the whole surface can be covered, so much the better. There is no need to place it close around the trunk, as the feeding roots are farther out. In the spring, as early as the weather will permit, apply nitrot of sulphur, about half a pound to the tree, working it into the soil. This may be applied first and will be an available food before the manure is ready.

Cultivate the ground like a corn field till the middle of July, then sow a cover crop, using vetch, one of the clovers, or whatever legume is best suited to your locality. This will not only enrich the soil, but will check the late growth and force the tree to ripen its wood for winter. Get the trees to growing, then there will be something to produce fruit. But little is to be expected from starved trees.

Something can be done to induce bearing when trees are full of vigor. Trees that are in a sod of long standing are usually made productive by a thorough plowing that will cut the roots near the surface, accompanied by severe pruning of the top. The pruning may be done in late spring, followed by the plowing the first of June. In this way some wonderful results have been obtained for the following year.

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Chickens kept under the trees will pick up many of the larvae.

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Have any of our readers anything to suggest regarding the control of this pest?

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I had three plantings of sweet corn and two of peas. During the summer our gardens were visited by the county club leader. Then in November, we gave an exhibit of our products in the basement of the schoolhouse. Some of the members gave a basket exhibit at the county fair also.

I think that a garden club is a fine thing, and if one has the opportunity to join one if they can, they are wise in doing so. My garden has been very profitable, and I have enjoyed working in it very much and hope that our club will continue. No one will ever regret their joining a garden club, at least I didn't. —Annabel De Forest, Memphis, Mich.

FUR DEPARTMENT

EDITED BY A. R. HARDING

America's Foremost Author and Trapper

QUESTIONS ANSWERED

TANNING BUCKSKIN

Would you please tell me what to use to tan and make buckskin soft and pliable so I can make a vest of it?—C. S. B. Swartz Creek, Mich.

Put the skin in wood ashes or lime water that is about as thick as cream, leave there until hair slips off easy. Now flesh clean, that is, scrape off all the meat and fat, after the hair is off. The brown skin that is just under the hair, sometimes called the grain is scraped off also. After this is well done grease the flesh side with bacon grease or butter and let hang say for a day. Now take some of the good old home-made soft soap and make a good suds, immerse the skin and leave it until you can squeeze water through it easily. Usually it takes from four to ten days depending on the thickness of the skin. Keep in a warm place—not freezing. When water passes through the skin by squeezing easily, take it out, rinse in clear soft water, pass it through a ringer a few times, and work until dry. If you have no home-made soap use common bar soap.

Now this is fine buckskin but when it gets wet it dries hard. To prevent this smoke it. Knock both ends out of a barrel build a fire and throw the skin over top end leaving a little space so smoke will pass out slowly. Smoke for hours.

FENCE PRICES SMASHED

ORDER FOR THIS NOW

NEW LOW PRICES

On No. 11 Gauge Fence

We are now ready to make immediate delivery on our New Line of No. 11 gauge fence. It is of the same high quality that has sold millions of rods of PENDERGAST FENCE to hundreds of thousands of customers in our 36 years of fence making. We have a fence for every purpose. Below are given only a few of the many fence bargains you will find in our new folder.

The letter H preceding the style number indicates the Heavy Number 11 Gauge fence. The other styles are our Standard weight having No. 9 1-2 top and bottom wires and No. 12 1-3 filling. WRITE FOR OUR MONEY-SAVING PRICES ON OUR EXTRA HEAVY ALL NO. 9 FENCE.

THESE PRICES ARE THE LOWEST ON THE MARKET

Style	Line Wires	Height Inches	Inches Between Stays	Weight in lbs. per rd.	Price per rod delivered in Mich. & Ill.
726	7	26	12	5.5	\$.26
7260	7	26	6 1/2	6.5	.30 1/2
832	8	32	12	6.2	.29 1/2
8320	8	32	6 1/2	7.7	.36 1/2
9390	9	39	6 1/2	8.7	.41 1/2
H-726	7	26	12	7.5	.32 1/2
H-7260	7	26	6	9.8	.42 1/2
H-832	8	32	12	8.6	.37 1/2
H-8320	8	32	6	11.4	.49 1/2
H-939	9	39	12	9.7	.42

2 Point Hog Barb wire heavily galvanized, weight about 1 lb. to rod, per 80-rod spool. \$ 3.70
2 Point Cattle Barb Wire galvanized, weight about 1 lb. to the rod, per 80-rod spool. 3.50

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Our three big plants are running full blast and we are shipping thousands of rods daily. Every single customer is not only getting the highest quality fence but he is making a big saving in price. Our factories are conveniently located to give you prompt service. Send your order on this coupon to our nearest factory and your fence will be at your station within a few days. If the style you want is not quoted above write for our big folder.

PENDERGAST FENCE CO., Inc.

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Please ship me the following order freight charges prepaid. If I am not entirely satisfied with the goods I will ship them back freight collect and you are to refund every cent of my remittance and I will owe you nothing.

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Rods of Style No. _____

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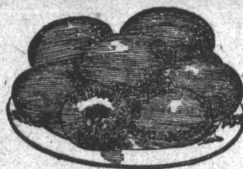
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Ripe Fruit in 80 Days After Seed is Planted



This wonderful Vegetable Peach is the most beautiful of all vegetables. They resemble oranges in color, shape and size, and grow on vines like melons. They present a beautiful and tempting appearance when made into delicious preserves and sweet pickles, and are fine for pies. There is nothing like them. Extremely early, of the earliest culture and very prolific, covering the ground with golden fruit. They grow from the seed in 80 days. A package of the seed will be sent postpaid for 10c; 3 packages for 25c. Japanese Giant Radish, 10 to 30 lbs. each; Mammoth Prize Watermelon, 50 to 150 lbs. each; Jumbo Pumpkin, 100 to 300 lbs. each. Your choice of these varieties at 10c per packet; 3 for 25c; 7 for 50c; postpaid. Catalog free.

BURGESS SEED & PLANT CO. 6 M. B., GALESBURG, MICH.

130 Egg Incubator and Brooder \$17.50

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made of hickory smoke. Easily applied with cloth or brush. Gives delicious flavor—does away with old smoke house—eliminates shrinkage and loss. Large bottle will smoke a barrel of meat. Your dealer has it.

Wright's Ham Pickle

a scientific preparation for curing meat. Contains everything except salt. Cures meat better, with less work and gives delicious flavor. Guaranteed—your dealer has it.

FREE Send name on post card for valuable book on meat curing and learn how to get a high-grade butchering set at lowest factory cost. H. WRIGHT COMPANY, Ltd. 862F Broadway, Kansas City, Mo.

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100 Everbearers—100 Senator Dunlop

both postpaid anywhere at proper planting time. Send Now. We have 50 other varieties of strawberries; also small fruits, shrubs, trees, evergreens, etc. Free Catalog of everything in plants. Our Redwood Prices will pay you to answer this ad. Write today to The Allegan Nursery, Box 44, Allegan, Mich.

PICK FRESH STRAWBERRIES EVERY DAY from Spring until late Fall and neighboring all Summer and Fall you can do this if you grow our Improved Everbearing Varieties. Catalog free. BURGESS SEED & PLANT CO. Dept. 7 M. B., Galesburg, Michigan.

OATS "BURT'S HEAVYWEIGHT" Test 38 lbs. per bu. Also Early SEED CORN. Get our low price, samples and catalogues. THEO R. BURT & SONS, Melrose, Ohio.

The Michigan BUSINESS FARMER

An Independent Farmer's Weekly Owned and Edited in Michigan

SATURDAY, MARCH 11th, 1922

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We will not knowingly accept the advertising of any person or firm who we do not believe to be thoroughly honest and reliable. Should any reader have any cause for complaint against any advertiser in these columns, the publisher would appreciate an immediate letter, bringing all facts to light. In every case when writing say: "I saw your advertisement in The Michigan Business Farmer!" It will guarantee honest dealing.

Entered as second-class matter, at post-office, Mt. Clemens, Mich.

Farming in 1922

THE farmer is looking forward to the coming crop season with mingled feelings of hope and doubt. There is little of an encouraging nature in the prospect. The recent price advances which some believe to have been engineered to some extent for the purpose of jollying the farmer into a better mood at the psychological moment he should be planning on his 1922 operations, have benefitted him very little. Still they have raised him in a measure from his slough of despond and like Old Dobbin who nears the top of a long hill he is beginning to prick up his ears and take courage. A New York state farmer pretty well expresses the general sentiment of the average farmer just now when he says:

"In all the years I have reported crops this is the worst. It compares very favorably with 1872-73 insofar as the farmers are upset and at sea as regards to what is best to do. Very little planning is being done. While each farmer has a general idea as to what crops he is going to plant and sow this year, it is because he feels that he has got to do it. There is a great lack of enthusiasm that is generally manifest at this time of the year. Many are feeling that there is more in it for the farmer if he cuts down the acres sown and the number of cows milked. Congress is being watched as never before.

"High freight rates are cited as the main cause for the uncertain condition of things. High taxes and little in return for them is another drawback; also too much advice from those who don't know. The farmers' boys and girls have been and are deceived by the advertisements in the popular magazines. Easy jobs are being looked for, work has become a thing to be despised by many."

Here in Michigan our farmers will follow pretty much their established rotation with the possible exception of the beet growers, who are very much at sea to know what to do. At present cost of production \$5 beets are not an attractive crop and it would not be surprising if many turned to beans which give promise of better rewards the coming season. It would scarcely seem wise for farmers to plan on more than a normal acreage, or make too many investments in farming equipment in anticipation of higher crop prices. It would be equally foolish for them to reduce their acreage with the expectation that to do so would create a crop shortage. Credit, farm wages, and weather will be the important factors in determining the extent of farm operations this year. If these are favorable the acreage will likely be normal; if unfavorable some loss in acreage may be expected.

City People and Farmers

ONCE in awhile a farmer takes the hide off the city folks for being "against the farmers". They aren't, dear friends, and we ought to get the notion out of our heads. The city people are to be pitied and not condemned for what they don't know. It is only an oc-

casional ignoramus with a billiard ball where his head ought to be who accuses the farmer of mulcting the consumer. But a very large number of city people know what the farmer has been up against and sympathize with him in his troubles. There isn't much difference between human beings when you come to know them. All are susceptible to errors of judgment and hasty speech. All the bull-headed people don't live in the city and all the dullards don't live on the farms. In every stratum of society there is a large preponderance of sane, sensible, sympathetic, broad-minded people. The fools and the bigots and the pin-heads make up the rest. We will always be bothered with these human nuisances who delight in misunderstandings and dissension but we should never make the mistake of judging all people by their standards.

The Next Governor

THE man who comes forward with the most definite and practical program for the reduction of taxes will be the next governor of Michigan.

That may and ought to be the present governor. Mr. Groesbeck has given the state a good administration. He has applied brains and hard work to the business of the state and has secured certain tangible, beneficial results. He ought to be allowed to complete the very excellent work he has undertaken. In other years no one would think of questioning his right to a second term. But unfortunately for him and perhaps for the state as well taxation overshadows all other considerations this year, and taxation will be the cross upon which many a good man will be crucified at the coming election.

Mr. Groesbeck has not been able to run the state at any less cost than his predecessors. Whatever saving he has been able to effect by the consolidation of departments has been more than offset by the interest on the highway bonds. It may be possible that with the accumulating interest on highway and bonus bonds and the creation of a sinking fund to retire these bonds the state tax cannot be lowered. If Mr. Groesbeck knows that to be a fact he cannot promise lower taxes in the event of his re-election, but his political enemies who do not know but only suspect it can promise anything, and get a lot of votes on the strength of their promises.

Taxation will be the outstanding issue in the coming campaign. The individual who has the courage to say, "this must be cut", and "we cannot afford that", will make a powerful appeal to the voters. Individuals have been obliged to get along without a lot of things they thought necessary, so why not the state as well?



MAPLE SYRUP TIME Anne Campbell Stark

Talk about your city pleasures,
Why, I wouldn't give a dime
For the grandest things they offer
When it's maple syrup time!
It's such fun to fool around the woods
And watch the sweet sap run,
And to taste the sticky syrup
When my ma says it is done.

There's a heap o' fun a livin'
When the sap runs in the pan.
Rather get my syrup that way
Than to buy it in a can.
Seems the very trees are sayin'
In a croonin' sort of rhyme,
"It's a sign that summer's comin'
When it's maple syrup time!"

The Income Tax

A POWERFUL opposition is forming to fight the income tax amendment to be submitted to Michigan electors at the coming fall election. The rich man does not like income taxes any more than the farmer likes the high taxes on land. But he can pay them without mortgaging everything in sight and the farmer can't.

Wealth has arrayed every conceivable argument against the theory of taxing incomes or the theory of "taxation according to ability to pay". Wealth has tried to prove that taxes on incomes are passed on to the consumer, but failing in that it has fallen back to the last resort of the tax dodger and is crying that these new-fangled forms of taxation are leading the country to the devil and Bolshevism.

"Taxation according to ability to pay", wrote Percy H. Johnston, president of the New York Chemical Bank in the January Forum, "is an ingredient of the promised panacea of the visionary Lenin and the volatile Trotsky".

"The subjects of every state", wrote Adam Smith, the world's greatest political economist, over two hundred and fifty years ago, "ought to contribute towards the support of the government as nearly as possible in proportion to their respective abilities; that is, in proportion to the revenue they respectively enjoy under the protection of the state".

Whom shall we believe, Percy or Adam?

Learn a Little Every Day

WHEN the early explorers first set foot upon this continent they had no more idea than a jack-rabbit what it was. Four hundred years have come and gone and still there are a lot of intelligent American citizens who know little more about the North American continent than either the explorer or the jack-rabbit. Take Alaska, for instance, that land of "ice and snow" which Uncle Sam got in a "hoss trade" with Russia. Who would ever think of going up there inside of the Arctic circle to farm? Well, it appears that some six hundred imbeciles have started homesteading in Alaska and grow most all kinds of vegetables, grain and small fruits. Uncle Sam has recently developed a new variety of potato for them which gives promise of yielding abundantly in that far northern clime. Last year's crops were planted about May 15th and the first killing frost occurred October 18th, long after many crops in some sections of United States had been frozen to the ground.

There are many other interesting things you ought to know about Alaska and the other countries of the globe. Let's go globe-trotting and learn a little something every week about this wonderful world and the universe in which it whirls.

Service for Farmers

SCARCELY a week had passed following the great ice storm which swept northern Wisconsin and Michigan before the U. S. Department of Agriculture was out with detailed instructions to fruit growers on how to repair the damage to their orchards. To really appreciate the timeliness of this service one should bear in mind that only a very short time elapses before the trees will spring into life again and the wounds defy the healing arts of man. Orchardists who act promptly upon the advice of the Department of Agriculture can salvage many trees which may seem beyond repair, and save themselves thousands of dollars. Criticism of the Department of Agriculture fades away before this and other tangible evidences of its great usefulness to the farmer.

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As time went on, all of my garden came up, and June 10th, my first hoeing and cultivating was done. As I wished to utilize my ground as much as possible, I set cabbage plants between each of three rows of my early potatoes, so that when the potatoes were dug, the ground would still be in use. After my two rows of early peas were gone, I planted three rows of beans in this way, not letting any of the land be idle. Three feet on either side of one row of cabbage I set a row of strawberries, so when my cabbage was harvested it would leave my strawberries six feet apart. This is the beginning of my strawberry patch.

I had three plantings of sweet corn and two of peas. During the summer our gardens were visited by the county club leader. Then in November, we gave an exhibit of our products in the basement of the schoolhouse. Some of the members gave a basket exhibit at the county fair also.

I think that a garden club is a fine thing, and if one has the opportunity to join one if they can, they are wise in doing so. My garden has been very profitable, and I have enjoyed working in it very much and hope that our club will continue. No one will ever regret their joining a garden club, at least I didn't.—Annabel De Forest, Memphis, Mich.

FUR DEPARTMENT

EDITED BY A. R. HARDING

America's Foremost Author and Trapper

QUESTIONS ANSWERED

TANNING BUCKSKIN

Would you please tell me what to use to tan and make buckskin soft and pliable so I can make a vest of it?—C. S. B. Swartz Creek, Mich.

Put the skin in wood ashes or lime water that is about as thick as cream, leave there until hair slips off easy. Now flesh clean, that is, scrape off all the meat and fat, after the hair is off. The brown skin that is just under the hair, sometimes called the grain is scraped off also. After this is well done grease the flesh side with bacon grease or butter and let hang say for a day. Now take some of the good old home-made soft soap and make a good suds, immerse the skin and leave it until you can squeeze water through it easily. Usually it takes from four to ten days depending on the thickness of the skin. Keep in a warm place—not freezing. When water passes through the skin by squeezing easily, take it out, rinse in clear soft water, pass it through a ringer a few times, and work until dry. If you have no home-made soap use common bar soap.

Now this is fine buckskin but when it gets wet it dries hard. To prevent this smoke it. Knock both ends out of a barrel build a fire and throw the skin over top end leaving a little space so smoke will pass out slowly. Smoke for hours.

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7360	7	26	6 3/4	6.5	.30 1/2
832	8	32	12	6.2	.29 1/2
8320	8	32	6 3/4	7.7	.36 1/2
9390	9	39	6 3/4	8.7	.41 1/2
H-726	7	26	12	7.5	.32 1/2
H-7360	7	26	6	9.8	.43 1/2
H-832	8	32	12	8.6	.37 1/2
H-8320	8	32	6	11.4	.49 1/2
H-939	9	39	12	9.7	.42

2 Point Hog Barb wire heavily galvanized, weight about 1 lb. to rod, per 80-rod spool. 3.70

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"BURT'S HEAVYWEIGHT" Test 38 lbs. per bu. Also Early SEED CORN. Get our low price, samples and catalogue.

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PICK FRESH STRAWBERRIES EVERY DAY

from Spring until late Fall and raspberries all Summer and still you can do this if you grow our Improved Everbearing Varieties. Catalog free.

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WHAT THE WOMEN DID

I HEARD a story, the other day, that was most interesting and I will tell it briefly to you.

A certain city in Florida was for two years in the hands and complete control of a ring of bootleggers. The completeness of which you will understand when I tell you that the mayor, the prosecuting attorney and the chief of police were the staunch and active members of the ring. The cellar of one of them, at least, was used as a receiving and a distributing station and the liquor came into that place in an enduring stream, in boxes, in barrels and bottles. Corrupt Babylon had nothing on that fair city. At last the better and more law-abiding class of citizens banded together and put in a commission form of city government. Then a committee of them waited on five prominent men, all bank officials and asked them if they would give their services to the city, for a dollar a year, for a term of two years for the purpose of wiping out the corruption, and then came the big IF and that was IF they could be elected. Of course the liquor ring put up the biggest, and dirtiest fight in the history of that town. They did everything but murder and they would have won it, and here we will write it in capitals, IF the women had not stood solidly for clean politics and voted as a body to eliminate the corruption not only of our laws but of our citizens.

Is it not an inspiring story? Women have ever been the chief sufferers when it comes to the evils and abuses of drink and I believe they can be counted on to vote right. Who can say she does not believe in equal suffrage when this story alone is its vindication?

FROM ONE WHO KNOWS

TAKE HEED! Ye who are under the erroneous impression that our girls are afraid to get their hands soiled. One of our lady experts found upon investigation in the city of Toledo that no girl could live respectably on a salary of less than seventeen dollars and twenty-five cents per week. Nevertheless the average salary of a girl worker is from nine to twelve dollars per week, depending upon the work at which she is employed.

Having been the manager of a large rooming-house in one of big cities and also having travelled extensively both in this country and abroad I have had ample opportunity to study the situation from all angles. I shall endeavor to explain just how our girls make up the difference between that nine and seventeen dollars.

Supposing our girl gets a position in one of our large department stores as a sales lady. To begin with she's got to be well dressed. She soon finds that her pay isn't large enough to meet expenses and naturally asks the manager for an increase in salary. The manager looks astonished and replies, "why, haven't you got a gentleman friend?" By making a few inquiries our girl finds that nearly all her co-workers have gentlemen friends, and very soon she has a gentleman friend also. And that's just about the beginning of the end, with the result that some day she may land in the hospital, have an operation and if she doesn't die from the effects of it, she will have her womanhood taken away from her which is nearly as bad. The former happened to an acquaintance of mine a short time ago. She died while under an anesthetic and was dead about five minutes before the doctors, who were so interested in the operation, became aware of it. The latter happened to another lady whom I know and she still walks the streets. And the cause of it all is summed up in the one word "poverty."

Ninety-nine per cent of the women go wrong on that account, regardless of what our employers and capitalists say to the contrary. Some of the girls in my rooming-house worked hard all day and then washed and ironed until one or two o'clock in the morning, to try and make both ends meet without going wrong.

In all my travels I have yet to find a girl who is afraid to get her hands soiled. God bless them with their tinkling goloshes for they are all some mother's girls, and only

The Farm Home A Department for the Women

Edited by MRS. GRACE NELLIS JENNEY

too soon the goloshes will cease to tinkle and they will probably be the future mothers of this great and glorious country of ours.—J. H. R.

Verily this letter tells the plain and unvarnished truth and I am glad to publish it for it tells just what the average clerk in the city is up against. It is a burning shame to see our sweet, clean,

It lies here on my desk and every time I look at it I shake my head and turn to something easier. It is so far from the truth I do not know where to start with it. How would it be to suggest a book or two for you to read, then write again and we will try to get on common

VOYAGERS

A tired old doctor died today and a baby boy was born— A little new soul that was pink and frail and a soul that was gray and worn.

And—half-way here and half way there, On a white hill of shining air, They met and passed and paused to speak in the flushed and hearty dawn.

The man looked down at the soft, small thing with wise and weary eyes. And the little chap stared back at him with startled, scared surmise;

And then he shook his downy head—"I think I won't be born," he said, "You are too gray and sad!" He shrank from the pathway down the skies.

But the tired old doctor roused once more at the battle-cry of birth. And there was memory in his look of grief and tait and mirth.

"Go on," he said, "it's good—and bad; It's hard! GO ON! It's OURS my lad!" He stood and urged him out of sight, down to the waiting earth. —Ruth Comfort Mitchell, in Harpers Monthly.

country girls thrown up against such a situation. Much better do housework in a respectable, kindly family, where a comfortable home, good food and some care may be expected than to face this situation alone in the big town.

CORRESPONDENT'S COLUMN

The editor wishes to thank the ladies who so kindly sent copies of "The Skeptic's Daughter." The poem is too long to publish on Our Page, so I will give the address of the firm that publishes it. Gospel Trumpet Co., Anderson, Indiana. They cost five cents a dozen.

I am at a loss to know how to answer the letter of A. W. Cheney.

ground. Read—The Greatest Thing in the World, by Henry Drummond; The Great Companion, by Lyman Abbott, and The Story of the Other Wise Man, by Henry Van Dyke. I believe your ideas will change. I cannot publish your letter for it would offend many of our readers. It is a great pity for any one to believe as you say you do and unnecessary.

To the lady who wanted a new shuttle for her Wilson sewing machine.—Send the old shuttle to The De Stieger Music Co., Macomb St., Mt. Clemens, and the company will obtain one for you.

AIDS TO GOOD DRESSING

FOR SIMPLICITY, SERVICE AND STYLE Patterns, 12c, New Spring Catalogs, 15c.

Address orders to Mrs. Jenney, Pattern Dept., Michigan Business Farmer, Mt. Clemens

Never have styles been more varied than this spring, when so many combinations of materials are used. We may change the line, "Many men of many minds," to many cloths of many kinds and add truthfully, all colors.

I saw one dress of blue and red crepe knit, this rough finished but soft and clinging material, the long loose waist was of red, the skirt of navy blue, hanging straight and plain, the only trimming was made of bands of blue faced with the red and arranged very much as you saw illustrated in No. 3887 in our issue of Feb. 25. Which, by the way, is an exceptionally smart and correct style; It is good not only for young girls but for girls who claim the distinction of many years.

Style 3858 is very popular with our readers. It will be found in our issue of Feb. 11. Let me suggest a method of developing the design or shall I just describe one that I saw? It would do just as well for wash goods altho in this case silk was used.

The waist was of black silk and the skirt of red and white check, not plaited but gathered onto the waist with a double heading at least three inches wide, this line which was long as in our picture. Of course no belt would be used and the heading fell over at regular intervals and looked like a ruching around the waist would be fitted in just a little at the under arm seams.

I am sorry not to be able to send samples to the ladies asking for them but I simply could not ask for as many as were desired. I feared the clerks would think I was making a patch work quilt.

Taffetas are much in use as always in spring and summer; also canton crepes and many cloths of rough but soft and clinging texture. Plaid and checked gingham are seen in bewildering variety and many lovely volles, some I much admired were of dark plain colors with figures or embroidered dots of white.



A "Cover All" Apron 3869. First aid to cleanliness and neatness is stamped on this model. It surely affords ample protection and may be worn as a work dress. The closing is very practical and convenient. Striped seersucker or gingham in pretty checks, would develop this style attractively. Rickrack braid or feather stitch banding will make a nice finish. The pattern is cut in 4 sizes: small, 34-36; medium, 38-40; large, 42-44; extra large, 46-48 inches bust measure. A medium size requires 3 7-8 yards of 36 inch material.



"The Little One's Outfit" 3863. Simple and practical so should little girl's garments be, then sewing and laundering and wearing them is easy. The little dress here depicted is nice for voile, lawn, batiste or gingham. The petticoat and drawers may be of cambric, lawn or crepe. The pattern is cut in 5 sizes: 6 months, 1, 2, 3 and 4 years. The dress requires 2 1-4 yards of material, the petticoat requires 1 7-8 yard, and the drawers 1 yard for a 2 year size. For ruffles of embroidery on petticoat and dress, 2 1-4 yards for each will be required. A pattern of this illustration mailed to any address on receipt of 12c in silver or stamps.



Comfortable Night Drawers 3864. This very pleasing "essential" is made with waist portions to which the full body sections are joined. The sleeves may be in wrist or elbow length. Outing flannel, domest flannel, crepe, cambric and long cloth are good for materials for garments of this kind. The pattern is cut in 6 sizes: 2, 4, 6, 8, 10 and 12 years. An 8 year size requires 3 1-8 yards of 36 inch material. Pattern mailed to any address on receipt of 12c in silver or stamps.



A Unique Guimpe Dress 3886. Here is a smart model for the girl who likes "something different." The cross may be joined to the guimpe, or be finished to "slip on" over the guimpe. Jersey cloth or prunella would be good for this style. The sleeve may be in wrist or elbow length. The guimpe may be of pongee or crepe. This is a splendid style for wash fabrics. The pattern is cut in 4 sizes: 8, 10, 12 and 14 years. A 10 year size requires 1 3-4 yard of 32 inch material for the guimpe, and 3 1-2 yards for the dress. Pattern mailed to any address on receipt of 12c in silver or stamps.

To Mrs. G. R. B.—Our new catalog contains several good styles for the kind of dress you wish. I am mailing you three separate designs.

I have been surprised not to receive more orders for pattern 3870 in our issue of Feb. 18. It is an unusually smart style. I can furnish braiding designs. These designs cost anywhere from 35 to 50 cents a pattern and come in blue for light goods and yellow for dark.

TO MISS Z. B. M., OHIO

I wrote you some time ago and asked if you would help me get the address of Miss Z. B. M., of Ohio. I have failed to get it. Possibly she thinks I want to argue with her but I want to say right here, she is my kind of a girl and I would like to tell her something she would be glad to hear. If not I will gladly pay her for her time sending her address and any expense that might be incurred. Thank you.—Mrs. Fred A. Peterson, Harbor Beach, R. 1, Mich.

I am publishing your letter so that Miss Z. B. M. of Ohio may write to you herself. I thought that the address was mailed to you several weeks ago. Is it possible that the letter went astray? Perhaps I did not have your address correct.

FOR WHOOPING COUGH

For whooping cough steep chestnut leaves. Take the tea, put enough brown sugar in it to make a thick syrup and when boiled down give every once in a while.

I cook my pork hams and shoulders and pack tight in cans. Fill up with broth and seal, it is fine. Keeps well. Would like someone to send recipe for canning beef without cold packing.—A Reader of M. B. F.

FOR RANCID LARD

In answer to an inquiry in your paper for a way of treating lard that has become rancid, I wish to tell you how we succeeded in an experiment, or rather by following the advice of a butcher who told us to re-heat the lard, being careful not to fill the kettle more than three-fourths full. When hot, put in a large handful of salt, stir well for a few minutes, remove from fire and strain. The salt will settle to the bottom of the kettle, and the lard will not taste at all of salt, but will be much improved.

Has anyone a good recipe for dried beef which they wish to contribute? — A Muskegon County Reader.

DARK CAKE

I am a most interested reader of the M. B. F. and find so many useful hints. Mrs. F. E. requests dark cake recipe. I will send mine. Makes two layers or nice loaf cake.

3 tablespoons shortening, 1-2 cup sugar (brown is best), yolk of 1 egg, 1 cup flour, 2 teaspoons baking powder, 1-4 teaspoon salt, 1-2 teaspoon allspice, 1 teaspoon cinnamon, 2 tablespoons cocoa.

England Crullers

1 cup sugar, white; 1-2 cup thick sour cream or soft lard or butter, 5 or 6 cups flour, 2 eggs, 2 1-2 cups sour milk or buttermilk is best, 1 rounded teaspoonful soda, 1 tablespoonful vinegar, 1 teaspoonful nutmeg or mace. Fry the same as doughnuts. Place in stone jar. They will keep fresh for a week or more. I find they are nicer than any others I tried.—From A Reader.

TO MRS. S. A. T., MATHERTON, MICH

I would like your moccasin pattern for baby. Thank you.

Can anyone tell me what will take the stains off white oil cloth, also what will clean French Ivory and make it look like new? I would like a recipe for ginger bread, also a recipe for a good jelly-roll cake.

Here is a good dressing for lettuce (for three): 1-2 cup of sour or sweet cream (whip cream), 1 teaspoon of prepared mustard, 2 teaspoons of sugar, add salt and sprinkle with celery salt and paprika.

Hand Lotion

The juice of two lemons, strained; 4 oz. of glycerine, 4 oz. of rose water.

French Dressing

1 cup of sugar, 1 teaspoon mustard, 1-2 teaspoon tumeric powder, 1 teaspoon salt, 1-2 cup vinegar, 1 egg, a lump of butter the size of a walnut.

If all of us farmer wives would try and send our good recipes and helpful hints to the woman's page, we would help our editor in making up a more interesting and helpful page. Let's all try.—Mrs. F. G.

ELDERBERRY PLANTS

I have been a reader of the M. B. F. for some time and must say I enjoy reading it. I always turn to the Farm Home page first. In a recent issue I saw an inquiry about elderberry plants. I have lost the paper so I can not tell you the person's name, but will say if she wishes to get elderberry plants she can get them by sending to W. N. Scarff, New Carlisle, Ohio. They will send her a catalog free on request. The elderberries are described on page 18 of 1922 catalog. I will close, hoping I have been a little help.—Mrs. R. S. B.

CHILI CON CARNE

In the Feb. 18, 1922 issue, Mrs. F. B. ask for recipe for chili con carne. Here is one I have always used: Fry 1 1-2 lbs. hamburger steak or ground beef and 3 large onions with tablespoon of lard. Place in large kettle together with 1 can kidney beans, about a pint of canned tomatoes, 1 cup boiled rice, cayenne pepper and salt to taste and teaspoonful of Gebhardt's Chili Powder. Add 2 or 2 1-3 quarts water and boil 20 minutes. I always use Bon Ami to clean nickel on stove or if the black is burned in steel wool is good.—Mrs. G. A.

The Children's Hour

DEAR CHILDREN: Here it is nearly spring. Does it make you boys think about building bird houses? It does me. Why not build some? I know you all love the birds. And it is very easy to build a house and it will show the birds they are welcome. For the little wren you can make a fine home from an old can which contained coffee. Or if your mother ever buys any edibles in tin cans you can make very satisfactory homes from them for the wrens.

Remove the entire end that has been cut in opening. Take a piece of 1-2 inch board and cut out a round piece that will fit in this end. Bore a hole 1 inch in diameter in this board near one edge. Fit the board in the can and nail, then fasten can to a tree or under the eaves of the porch, turning the can so that when it is nailed the opening will be at the upper edge. The can should not be more than 10 feet from the ground.

Most of you no doubt know much about building houses from pieces of boards and that all the tools you need are jackknife, saw and hammer so I am going to leave it to you to decide as to the different designs and styles. There are some measurements you must follow, however, if you wish to attract your feathered friends. In building a house for the wren the inside floor space should be at least 4x4 inches; the height inside, 6 to 8 inches; diameter of entrance, 1 inch; height of hole above floor, 4 to 6 inches; and height of house from ground 6 to 10 feet. This home will also do for the chickadee. The house for the bluebird must have floor space amounting to 5x5 inches; height inside, 8 to 10 inches; diameter of entrance 1 1-2 inches; height of hole above floor, 6 to 8 inches, and height of house from ground, 5 to 10 feet.

These measurements will give you something to work from and in building houses for other birds you can work according to the size of the bird compared with the wren or the bluebird. But do build some because you know the world seems brighter and you are happier when there are many birds about. And crops, gardens and fruits will be better because the birds will kill the worms, bugs and other pests. — **UNCLE NED.**

OUR BOYS AND GIRLS

Dear Uncle Ned—I am writing to ask you if I can join your merry circle? I am a girl 10 years of age and I am in the seventh grade at school. I will describe myself so if anyone sees me they will know me. I have light hair, blue eyes and fair complexion. I live on the Henry Ford farm of 1,520 acres. It has 21 buildings on it. My birthday comes September 17. I will be 11. Have I a twin? I wish some of the cousins would write to me. I live 6 miles from Harrison and 3-4 of a mile from school. I walk to school every day. We have 45 pupils in our school. We have a Ford sedan and a photograph and I expect to have a piano and then I am going to take music lessons. For pets I have a dog named Sandy and a cat named Sue. We had a valentine box at school and I got 13 valentines. We have a Shetland pony. I do gymnastic stunts in the summer. My favorite sport is skating. I have one brother and three sisters.—Gladys Bruce, R. 1, Harrison, Mich.

Dear Uncle Ned—I enjoy reading the Children's Hour. I will tell about the nice trip we took two years ago last August. We went to the Smith's reunion. We drove our Ford through and it can surely climb the hills. The reunion was in Prattsburg, N. Y. We stopped at the Niagara Falls. I think the falls are very pretty. We camped out three nights going and coming back we camped out two nights. If you want to see the sights buy a Ford. I am seven years old this month. I go a mile to school. The boys and girls had a contest and the boys won and the girls treated, the boys to ice cream. I hope the girls will beat the boys in the next contest.—Stella May Smith, St. Louis, Mich.

Dear Uncle Ned—My father takes the M. B. F. and I like the Children's Hour very much. I am a girl nine years old and am in the third grade. I have two sisters and three brothers. We live on an 80-acre farm. We have an old cat and three kittens which are my playmates. We have one turkey, two ducks and about two hundred chickens. We also have horses, cows and pigs; if we didn't wouldn't it be funny looking farm? It is snowing today and I hope it doesn't quit for a while then I can have some more sleigh rides. It will also cover up this ice that we have from the ice storm. Believe me, Uncle Ned, I took a good many falls on it and I do not care, because the snow is falling on it. Lots of

love to Uncle Ned and the cousins. — Lucile Carpenter, R. 3, Coleman, Mich.

Dear Uncle Ned—May I join your merry circle? I live three miles from Alto. I have a brother and a sister. My sister is older than I am and my brother younger. We live on an 80-acre farm. We have 6 cows and 3 horses. We have no dogs but have 2 cats. My brother Arthur and I have a calf which our father gave to us. We each have eight dollars in the bank. I am 12 years old and in the eighth grade at school. I can skate backward and forward. It is lots of fun. There is a pond on the west side of our school house. Most all of the children have skates. Will close with love to cousins and Uncle Ned.—Owen Ellis, Alto, Mich.

Hello Uncle Ned—How are you and the cousins these days? How did you like the weather last week? I think it was fine. I fell down about a dozen times, it was so icy. I go to school every day, and like to go. I am 11 years old and am in the fifth and sixth grades. I and my brother have a dog whose name is Cherry and a cat whose name is Minnie, for pets. My birthday is on the 31st of March. I will be 12 years old. Have I a twin? I live on a 60-acre farm and I like to help do the work in the garden, and do little things around home in the summer but in winter I don't care very much for working outside. I would rather do something in the house or read stories, but I like to go out side and play on the ice and in the snow with our sleigh and dog. I wish some of the boys and girls would write to me and tell about their good times they have. I will answer as many letters as I can. Your niece.—Lydia Haag, R. 1, Freeland, Mich.

Dear Uncle Ned—May I join your merry circle? I live in Detroit and though I do not go on sleigh rides and such I have good times. I am a girl eleven years and on May 1st I will be twelve. I am in the 6-A grade. I have dark brown hair and brown eyes and I am four feet eight inches tall. Have I a twin? I must tell you about my pets. I have two cats, Blossom and Taby. Blossom is pure white and has blue eyes and Taby is blue and white and he has orange eyes. They are Angoras. Blossom had a sister, Bluebelle, but she died last August. She was white and had orange eyes. I am sending a picture of Blossom, Bluebelle and myself, taken before Bluebelle died. We just got Taby and haven't a picture of him. Please won't some of my cousins write to me? Love to all.—Lucille Shultz, 1160 Reed Place, Detroit, Mich.

Dear Uncle Ned—I have been reading the Children's Hour in the M. B. F. and I like it very much. We lived on a farm of about 320 acres. We have five horses, four sows, 30 hogs and pigs, 230 sheep and lambs. We live on a four corners so we have lots of travel. I will be seventeen years old May 3rd. I am not going to school. I have four sisters and two brothers. My oldest brother works in Jackson and my oldest sister is married and has a baby girl ten months old. My mother is dead. My father is living and doing fine with farm work. I am 5 feet 3 inches tall, have light hair and blue eyes, weigh about 120 pounds. I wish some of the boys and girls would write to me. Your niece.—Helen Benson, Langsburg, Box 51, R. 2, Mich.

Dear Uncle Ned—I am a boy 13 years old, in the seventh grade at school. I go to a school called Toad Hollow because one year there was a hollow full of water and it was full of frogs. They were singing very loud. A woman happened by and she named it Toad Hollow. I live on a 160-acre farm. We have 18 head of cattle. We rent the farm. I have 1-2 interest in a calf. When it was young my father gave me his share. We are going to move to a smaller farm of 60 acres. We deliver milk in Galesburg. We are going to keep the milk business and buy our milk and we may get the ice business. Well I will close.—Lawrence DeBack, Climax, R. 1, Mich.

Dear Uncle Ned—May I join your merry circle? I will be 17 the 22nd of October. Have I a twin? We live on a 120-acre farm. I have two brothers and one sister at home, and one sister married, living in Flint. We have a good time skating and coasting. I learned to skate this winter. We had an awful sleet storm last week and it broke down many fruit trees. There is ice all over the fields so my brother skates to school. I am not going to school this year, on account of my mother's health. I certainly agree with Uncle Ned about not realizing how much we think of anyone 'till they are at death's door. My oldest sister and her husband died in one day at the Mercy Hospital, Bay City, with the flu, and left three children, two years ago. We take the M. B. F. and like it fine. As soon as it comes I look for the Children's Hour. Wishing Uncle Ned and my cousins success I will close with a riddle. If an ice wagon weighs 2,000 pounds what does the man on the rear end of it weigh? Answer: He weighs the ice. May I come again? Some of the cousins write to me.—Miss Martha Goheen, Gladwin, Star Route, Mich.

OTHER LETTERS RECEIVED

Anna Allbee, R. 1, Harrison; Leah McDonald, 1905 Jane St., Flint; Catherine Cautlin, R. 2, Melvin; Adrith Rivers, R. 1, Burt; Roberta Gaugiver, R. 4, Hesperia; Warren Cole, R. 4, Mt. Pleasant; Isobel Willett, R. 2, Standish; Mildred Boomer, R. 4, Inlay City; Albert Noreen, R. 4, Reed City; Arlene Hunt, R. 7, Lapeer; Beatrice Hunt, R. 7, Lapeer, Mich.

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FARM BOYS SHOW FATHER THING OR TWO

(Continued from page 5)

with the rest of the club boys of our community to the Louisiana Fair. This exhibit next went to the Chicago Hay and Grain Show at Chicago. As yet the boys are unaware of the details of their exhibits there.

I am planning to enter the club again next year with greater zest and determination to grow better corn."

Another Prize Winner

Among the other scores of boys who won prizes at fairs last year is H. Rollin Wood, of River Junction, Jackson county, who with his brother captured a number of high honors at the Jackson County Fair last fall with his herd of Shorthorns, consisting of two cows, two heifers, two bulls and two yearling bulls. Rollin's bull calf took first place in the boys and girls club contest and won second honors in the open class against veteran showmen. His herd won first, second and third places in the open class. He was also awarded a second place in the state championship contest for beef cow and calf in the boys and girls club contest. His story, too, should prove of interest to the older folks and an inspiration to the younger:

"In order to tell the story of my cattle I must begin back three years ago, the summer I was thirteen. I joined the calf club and raised a grade Shorthorn calf which I exhibited at the Jackson County Fair, taking first premium. That calf I sold at the fair. But we learned at the fair that it paid to keep registered stock, so we, my younger brothers and I, took our money we got from the sale of the calf and our prize money and what other money we had and bought a pure-bred cow with a calf by her side. Before the next club started the next year she had another calf which we entered in the calf club and again took first prize. That fall our father in buying a farm and stock came into possession of three head of registered Shorthorn cattle. In the winter we sold the calf we bought with the cow for \$140.

"Taking that money and some other we had managed to make we bought a half interest in those cattle. Then father gave us the other half, saying, 'Go to it, boys, and make what you can of them.'

"In June we bought two yearling heifers of H. W. Darling, giving our note for them. We believed we had a good chance of winning one of the championship prizes at the fair. When we had our cattle tuberculin tested, one of our best cows reacted to the test. Then we did feel discouraged. But soon after Mr. Ballard, our county agent, visited us. He told us that he believed we had a chance yet, if we put in our old cow. So we took hope and began to try to get her in shape to show. The day before the fair we started for Jackson with a cow twelve years old, one four, and our two yearling heifers, two bull calves, a yearling bull and a bull two years old, our entire herd. But with this outfit we won third place on the championship and were allowed to show our cattle in open class with the men, where we won first, second and third prizes and came away with money enough to pay our note. It is needless to say we are planning for next year and expect to do better.

"We feed our cattle a few ground oats, a little green corn, and alfalfa hay with what green grass they get on the pasture lot."

NORTHERN MICH. SWAPS STORIES ON BIGGEST STORM

(Continued from page 5)

and rising again on the third day when the sun came out and soon released the grip on the ice. Our fruit region immediately adjacent to Traverse City, including Old Mission Peninsula was not damaged to an appreciable extent.

"In the vicinity of Benzonia and southward it rained hard all Wednesday night, freezing as fast as it fell. Before midnight the weight of the ice began to break the limbs and the night air resounded with the snap and crack of falling branches, trees and telephone poles. When daylight came most of the trees were partly or wholly denuded and others were bent over until their tops touched the ground. Twigs of grass were changed into cylinders of ice some two inches in diameter. Heads of timothy projecting through the snow would stand up like great icicles. Fruit trees, especially apples and peaches, the broad-branching trees, were split down to the crotch or broken just above. At Thompsonville everything was down and the ice on the railroad crossings was a foot or more thick. The story of the damage in this locality was told me by a friend who left Thompsonville for Traverse City on Saturday, driving along the Pere Marquette right of way. He was obliged to make many detours because of fallen trees and telephone poles and often compelled to cut trees and fences in order to get through. My friend, who is an orchardist on the peninsula, had pictured his own orchard flat as the ones he had passed, but gained hope

as he neared Traverse City and saw that the damage was rapidly diminishing to the northward. He rejoiced when he finally reached here and learned that Old Mission Peninsula was safe. From the north came only reports of a heavy snow storm with no damage other than that usually attendant upon such a great fall of snow. Traverse City was fortunate. Under like circumstances a hundred years ago we should have had a day of Thanksgiving and praise for our deliverance from the "destruction which walked by night."

Mr Wm. A. Jenkins, proprietor Hill Top farm, Wexford county, describes the storm as follows:

"Tuesday, Feb. 21, about 6 o'clock p. m., the wind being in the southeast, it started to storm, with fine snow, changing to rain after dark. It seemed to be a great deal warmer in the upper air than on the ground, as it froze as soon as it struck. Wednesday morning we had a nice thunder shower lasting about three-quarters of an hour. It rained all day without stopping to rest, all night and nearly all day Thursday but it was a good bit colder. Trees were loaded with ice. Limbs of 1-4 inch in thickness were coated with 2 to 4 inches of ice. Roads were impassable. From 4 to 6 inches of ice were covering the railroad tracks. Nearly everybody had to chop their barn doors loose. There was thousands of dollars damage done in Wexford county alone. Some windows broken. (But best of all no reports of anyone being hurt. I have lived here over 25 years and do not remember of witnessing a storm causing so much damage. Barbed wire fences were like woven fencing and woven wire fences were solid ice. Mail carriers could not get out of Manton or Cadillac until Saturday. Brand new telephone poles were broken off. Big timber did not escape. Large elms 20 to 30 inches through were striped of limbs, leaving nothing but a straight trunk. Also other woods likewise. The country certainly looks like one big slashing, only worse."

Story of the "Big Snow"

Mrs. George Finch of Wolverine furnishes the Business Farmer with the following account of the great snow storm which struck that section simultaneously with the sleet storm farther west:

"Northern Michigan is just recovering from the greatest storm ever experienced since the days of the big lumber woods, but still there are miles upon miles of roads that are so blocked with the drifted snow that travel over them is impossible. The storm began on Tuesday afternoon gradually increasing in fury until Thursday night late. During the two days there was almost no travel over any of the country roads. Many teams which were in town on Tuesday were compelled to wait until Saturday to return home. Some farmers who were obliged to go to town had to snow-shoe both ways. Train service on the Michigan Central was cut to one train a day, but by the incessant work of the snow-plow crews the tracks were cleared sufficiently on the main tracks so that regular service was resumed Monday.

"It is truly a beautiful sight to see the heaps and heaps of snow piled in huge drifts 10 to 20 feet high all over the country. Fences in some places are completely buried and many buildings are surrounded by snow higher than the windows. On the G. R. & D. conditions are more severe than on the M. C., also on the D. & M. Parties traveling to Tower a week ago are still marooned there.

"Property damage was very light, however. North of Grayling, on the M. C. to Mackinaw City there was practically no trouble with telephone service damage such as was experienced farther south where the terrific sleet and hail storm raised such havoc. Switch tractors are not yet completely cleared but crews are doing double duty to speed the work. In Cheboygan the Union Bay and Paper Mill Co. assisted in clearing the streets for traffic by hitching their big tractors onto the snow plows and their teams hauled great piles of snow to the banks of the river. The weather has not been as cold as earlier in the winter, but the snow has packed so tight that in many places the teams can walk

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"I've thought for some time I'd write and tell you the happy results I secured from using Kow-Kare. Last winter I used it just as directed and the valuable Shorthorn cow, we would have been compelled to send to the butcher for what we could get is now safe in calf. I have also used the Bag-Balm with good results."

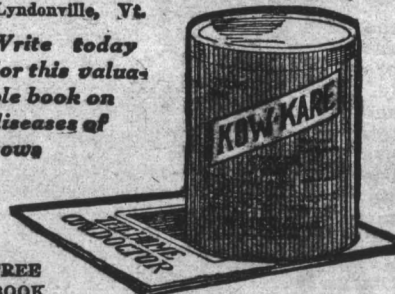
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on the crust without breaking through.

"Truly the snow fall has been, without a doubt, the greatest in the same length of time ever known in North Michigan but folks still all came out smiling and count themselves far more lucky than our neighbors farther south who have suffered far more hardships and loss than us." (March 3rd).

Mr. R. D. Bailey, county agricultural agent at Grayling:

"The crossing tender at Grayling reports this the worst storm in the history of Grayling. 100 men are loading snow onto flat cars in extensive railroad yards at Grayling. Mills closed on account of shortage of logs, branches supplying logs being blocked. Crust prevents horses working in the woods. No trains on Manistee and Northeastern, ending here, for two weeks. Must still be several days to week before road is dug out. Farmers who bring milk to Grayling from country skipped two days. Their teams have traveled on crust ten days. Electric light service here uninjured. Fuel supply for town abundant." (March 3rd.)

Mr. Norman E. Glasser, of Gaylord, gives the following graphic description of the storm at the "peak" of lower Michigan:

"One does not have to live in Northern Michigan long to learn that one crop which never fails us and which can be depended upon to produce the 'average yield' annually, is the great white blanket of snow which covers this northern territory in winter time. But whatever production records may have been made in past seasons, they all stand shattered by the "deluge" of snow which has been poured out upon this section during the past two weeks. Beginning on Monday, February 20th, with a light rainfall which at night turned to snow, the weather continued unsettled until mid-week, when a sudden rise in the wind became apparent and the weather settled down to an old-time blizzard.

"When the timid populace arose the next morning and cautiously peered out, it was to gaze upon a scene which surpassed anything in the memory of the oldest inhabitant. Men who have lived here for forty years claim that never have they seen snow to a greater depth on the level than has been in evidence here since the past week.

"Immediately after the storm traffic was practically at a standstill for a couple of days. In many cases the crust on the snow was of sufficient strength to bear the weight of a team, and in others it would hardly bear the weight of a man. The result was that the unwary pedestrian on his way to work, going along with a sense of security and satisfaction at being able to skim over the surface, would suddenly break through and nearly be lost to sight in the snow below. Skis saved the day for those who were fortunate enough to possess them and many persons found these the only means of transportation which enabled them to get to work. Throughout the country everything was practically at a standstill for several days and it is only recently that some of the main avenues of traffic have been opened up. Dragging and rolling were found necessary and was made difficult and dangerous to horses by the heavy surface crust which still prevails. It was not an uncommon thing to see a snow roller with five teams of horses attached. Two days after the storm subsided a funeral procession started from a country home to the village burial ground, seven miles distant. They had not counted on conditions being quite so bad and after fighting their way through for a distance of two miles, and being nearly exhausted, they found it necessary to put up at a farm house for the night and continue the journey the next day. Railroad service was particularly hard hit, many of the cuts being so completely filled with snow that the average snow plow made no impression, and it was only by putting on a sufficient force of men to dig their way through that service was restored. Many of the roofs on the larger business places had to be hurriedly shoveled off to relieve them of the tremendous weight of snow which threatened them with collapse.

"However, through it all the population maintained a smiling attitude, and went to work with a willingness to restore conditions to normal, especially so since reports indicate that Otsego county was not as hard hit as some other sections which suffered as a result of the ice storm. As one gazes down our main street, however, and views the great piles of snow on either side, he is likely to be seized with a feeling of regret that it is not possible to "embalm" part of the snow supply for that time he knows is coming in July when the temperature sizzles around the 100 mark and we are helpless and at the mercy of the ice man."

TREES DAMAGED BY ICE MAY BE REPAIRED

(Continued from page 4)

branches broken off from the tree, the wound should be trimmed and smoothed as neatly as possible with a gouge and mallet. Special attention should be given to trimming the edges of the bark neatly, particularly at the lower part of such a wound, because growth proceeds from the top and sides more than from the bottom. Ragged stubs and broken edges of the bark should be trimmed out at the bottom of the wound. The splintered wood should be removed, leaving a smooth surface for the healing-in margin of the wound to cover. The bottom should end in an elliptical or V-shaped point from which rain water can rapidly escape.

The exposed wood on all the scars where branches are broken and on all pruning wounds more than three-fourths of an inch in diameter or which may be expected to take more than one year to heal should be painted at once with a good wound paint. A mixture of 1-4 to 1-3 creosote oil and 2-3 to 3-4 ordinary coal tar has proved very satisfactory, since it is both a disinfectant and a waterproof covering. It is slightly injurious to the cut edges of the bark and while this may not be serious and is readily overgrown, if one wishes to get the best results, a coat of shellac should be applied to this cut edge of the bark and also a half inch or so on the sap wood before the tar and creosote tar is applied. The coal-tar and creosote are the ordinary commercial materials purchased at the paint stores. The mixture should be made as thick as a very thick paint and is best applied with a stiff brush. The wounds should be kept painted annually until they are healed, though once in two years will perhaps suffice.

Grafting May Hasten Recovery

The recovery of badly broken trees can be hastened somewhat by inserting grafts according to the usual methods of grafting fruit trees, though perhaps the grafts may not always be in the usual positions. Cut stubs can be grafted with two or more scions, either of the same or of a new variety. The scions for this purpose should be saved while the trees are still perfectly dormant, but the grafting is best done while the buds are swelling.

Large injuries on the trunks of the trees can be covered by bridge grafting. This consists of inserting long whip-like scions above and below the wound so as to completely bridge it over. By this method the trees can be greatly strengthened. It may be necessary to cut back the tops even more than ordinarily to prevent the wind from pulling the grafts out, and possibly to support the grafted tree top by posts and wires after the method used in supporting telegraph poles. The coal-tar creosote tree paint should never be used in contact with the cut surfaces of grafts, but only grafting wax, since this tree paint will kill the cut surfaces and prevent the union of the scion and the stock. Farmers Bulletin 710, Bridge Grafting of Fruit Trees, contains information regarding this practice.

All the pruning and tree surgery above suggested, except the grafting, should be done during the dormant season before the buds swell and the bark begins to slip. The grafting, on the other hand, should be done after the buds begin to swell and as soon as possible after the bark begins to slip, using scions, however, that are perfectly dormant.

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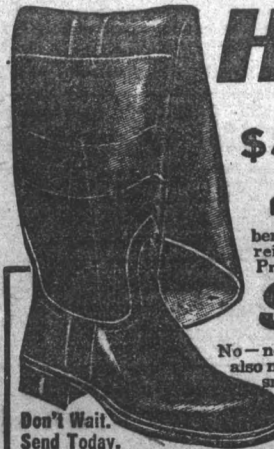
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Yes—a clear saving of at least half on these wonderful pure gum rubber hip boots for men. Let us prove it absolutely without cost or obligation to you. Let us send your size on approval. When they arrive, examine them carefully. Try them on. If not delighted with your bargain, return the boots and you will not lose one penny. Guaranteed first quality rubber throughout. Friction lined; heavy soles and heels. All seams reinforced. Sizes, 6 to 14. Wide widths. Order by No. 5B A949. Price \$2.59 and postage on arrival. State size wanted.

Send No Money

No—not one cent now. Just letter or postcard with name and address, also number of boot and size wanted. When boots arrive, by this smashed bargain price, \$2.59, and postage. Then, quality and workmanship. Try them on and show to your family. If you are not simply delighted with your bargain—if you do not think you have saved at least \$2 at our special sale price, send the boots back and we will refund your money promptly.

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To avoid conflicting dates we will without cost, list the date of any live stock sale in Michigan. If you are considering a sale advise us at once and we will claim the date for you. Address, Live Stock Editor, M. B. F., Mt. Clemens.

March 29—Holsteins, J. F. Glad, Vassar, Mich.
April 20—Holsteins, Eaton County Holstein Breeders Ass'n, Charlotte, Mich.
May 10—Shorthorns, Central Michigan Shorthorn Breeders Association, Greenville, Michigan.

LIVE STOCK AUCTIONEERS

- Andy Adams, Litchfield, Mich.
- Ed. Bowers, South Whitley, Ind.
- R. L. Benjamin—Waukesha, Wisconsin.
- Porter Colestock, Eaton Rapids, Mich.
- Harry A. Eckhardt—Dallas City, Ill.
- C. S. Forney, Mt Pleasant, Mich.
- John Hoffman, Hudson, Mich.
- John P. Hutton, Lansing, Mich.
- L. R. Love—Waukesha, Wisconsin.
- L. W. Lovewell, So. Lyons, Mich.
- J. E. Mack—Ft. Atkinson, Wisconsin.
- D. L. Perry, Columbus, Ohio.
- J. I. Post, Hillsdale, Mich.
- O. A. Rasmussen, Greenville, Mich.
- J. E. Ruppert, Perry, Mich.
- Guy O. Rutherford, Decatur, Mich.
- Harry Robinson, Plymouth, Mich.
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We make a specialty of selling pure bred big type Poland Chinas, Spotted Poland Chinas and Duroc Jerseys. We are experienced. We sell 'em and we get the money. We are expert hog judges. We are booking dates right now for 1922 sales. We would like to sell for you. We have one price for both of us and it's right. Select your date; don't put it off; write today. Address either of us.

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ADVANCE DATES SOLICITED.
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CATTLE

HOLSTEIN-FRIESIAN

SHOW BULL

Sired by a Pontiac Aagie Koradyke-Hengerfeld DeKol bull from a nearly 19 lb. show cow. First prize junior calf, Jackson Fair, 1920. Light in color and good individual. Seven months old. Price \$125 to make room. Hurry!
Herd under Federal Supervision.

BOARDMAN FARMS

JACKSON, MICH.
Holstein Breeders Since 1906

I AM OFFERING LIGHT COLORED HOLSTEIN-Friesian bull 1 year old from 21.51 lb. dam and sire whose six nearest dams are 33.34 lbs. butter. Herd under state and federal supervision.
Oscar Wallin, Wisconsin Farm, Unionville, Mich.

TUEBOR STOCK FARM

Breeders of Registered Holstein cattle and Berkshire Hogs.

Everything guaranteed, write me your wants or come and see them.

ROY F. FICKIES
Chesaning, Mich.

SOME GOOD YOUNG REGISTERED HOLSTEIN cows. Fair size, good color, bred to good bulls and due from July to December. Mostly from A. R. O. stock, prices reasonable and every one guaranteed to be exactly as represented.

M. J. ROCHE

Pinckney, Mich.

WOLVERINE STOCK FARM REPORTS GOOD sales from their herd. We are well pleased with the calves from our Junior Herd Sire "King Pontiac Lande Koradyke Segis" who is a son of "King of the Pontiacs" from a daughter of Pontiac Clithilde De Kol 2nd. A few bull calves for sale. T. W. Sprague, R. 2, Battle Creek, Mich.

FIVE MAY ECHO HEIFERS

Sire Sir Echo Clyde, double grandson of May Echo Sylvia, his six nearest dams average 34 lbs. 14 average 30 lbs; priced to sell.
A. C. BROWN, Goberville, Mich., R. 1

HOLSTEIN CALVES, 7 weeks old, 311-32nds pure. Tub. Tested, \$25.00 each, crated for shipment anywhere. Satisfaction guaranteed.
EDGEWOOD FARMS, Whitewater, Wis.

7 YEARLING BULL BARGAINS

Sired by Segis Koradyke De Nijlander, a 32 lb. son of a twice Michigan ribbon winner her dam, 29 1-2 lbs. Dams are daughters of King Segis Pontiac, a 37 lb. son of King Segis. Records 16 lbs. to 30 lbs. Priced at half value, \$100 up. Federally tested June 10. Write for list.

ALBERT G. WADE, White Pigeon, Mich.

SOLD AGAIN

Bull calf last advertised sold but have 2 more that are mostly white. They are nice straight fellows, sired by a son of King Ona. One is from a 17 lb. 2 yr. old dam and the other is from a 20 lb. Jr. 3 yr. old dam, she by a son of Friend Hengerveld De Kol Butter Boy, one of the great bulls.

JAMES HOPSON JR., Owosso, Mich., R. 2.

Fairlawn Herd—Holsteins

Herd Sire, Embargoard Lillith Champion 108073 His sire's dam Colantha 4th's Johanna, world's first 35 lb. cow, and world's first 1,200 lb. cow. The only cow that ever held all world's butter records from one day to one year, and the world's yearly milk record at the same time. His dam Lillith Piebe De Kol No. 93710, over 1,150 lbs. of butter from 29,599.4 pounds of milk in a year. World's 2nd highest milk record when made and Michigan state record for 6 years. Only one Michigan cow with higher milk record today. His two nearest dams average:

Butter, one year 1,199.22
Milk 28,515.9
Champ's sons from choice 2nd & 3rd O. dams will add prestige to your herd and money to your purse.

J. F. RIEMAN

Owner
Flint, Mich.

HOLSTEIN FRIESIAN PURE-BRED BULL tested herd. Prices as right.
LARRO RESEARCH FARM, Box A North End, Detroit, Michigan.

HOLSTEIN BULL CALF \$25

from a heavy milking Grade Cow bred to our Herd Sire King Segis Pontiac Koradyke. Just be quick. He is a dandy, looks like his father.
SCHAFFER BROS., Leonard, Mich., R. 1

FOR SALE—TWO BULL CALVES, A HOLSTEIN and Durham about 3 months old. Both have heavy milking dams. Not registered. \$50 each if taken at once.
CHASE STOCK FARM, Marlette, Mich.

REGISTERED HOLSTEINS Our Special price on your next years bull is interesting. 24 lb. dam 32 lb. sire.
J. M. WILLIAMS, No. Adams, Mich.

HOLSTEIN BULL BORN OCT. 13, 1921 Dam is sired by a 30 lb. Bull and out of a 22 lb. daughter of a 21 lb. cow. \$50 delivered your station.
EARL PETERS, North Bradley, Mich.

SHORTHORNS

REGISTERED SHORTHORN CATTLE, DUROC Jersey Hogs and Percheron Horses. Quality at the right price.
CHASLEN FARMS, Northville, Mich.

MILKING STRAIN SHORTHORNS

Registered stock of all ages and both sex. Herd headed by the imported bull, Kemoscott Viscount 25th, 648,563. Prices reasonable.
LUNDY BROS., R4, Davison, Mich.

SHORTHORN CATTLE AND OXFORD DOWN sheep. Both sex for sale.
J. A. DeGARMO, Muir, Mich.

FOR SALE—REGISTERED SHORTHORNS and Duroc Jersey spring pigs, either sex; two red bulls, one 11 months and one 5 months old. Several heifers from 6 months to 2 years old. Scotch Top and Bates bred. Address
GEORGE W. ARNOLD or JARED ARNOLD
Williamsburg, R. 1, Michigan

TWO REAL SHORTHORN HERD BULLS FOR SALE 15 mo. old and sired by Imp. Dainty Prince.
W. W. KNAPP, Howell, Mich.

3 EXTRA GOOD BULL CALVES FOR SALE, From the Maple Ridge herd of Bates Shorthorns. Calved in September 1920.
J. E. TANSWELL, Mason, Michigan.

SHORTHORNS COWS, HEIFERS, BULLS offered at attractive prices before January first. Will trade for good land.
Wm. J. BELL, Rose City, Mich.

FOR POLLED SHORTHORNS

Shropshire, Southdown and Cheviot rams write to
L. O. KELLY & SON, Plymouth, Mich.

FRANCISCO FARM SHORTHORNS AND BIG TYPE POLAND CHINAS

Now offering—Three bulls ready for service. Mastodon, Clansman, Emancipator breeding in gilts bred for spring farrow. See them.

POPE BROTHERS CO

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INHERITED SHORTHORN QUALITY Our pedigree show a judicious mixture of the best blood lines known to the breed. Write to
JOHN LESSITER'S SONS,
Clarkston, Mich.

RICHLAND SHORTHORNS

Special offer on two white yearling Bulls from IMP. Cows and sired by IMP. Newton Champion.

Also several other real Bull Bargains. Don't overlook these bargains.

C. H. Prescott & Sons

Tawas City, Michigan

SHORTHORNS and POLAND CHINAS. We are now offering two ten-months-old bulls, one bred heifer, and two ten-months-old heifers.
SONLEY BROS., St. Louis, Mich.

ATTENTION SHORTHORN BUYERS

If you want a real herd bull, or some good heifers bred to Perfection Heir, write me. Satisfaction guaranteed.

S. H. PANGBORN & SON
3 mi. east, Bad Axe, Mich.

DUROCS AND SHORTHORNS, BRED GILTS, Yearlings and two year olds, few good boars, bull calf 8 weeks old, good cow with heifer calf. Several bred heifers.
P. B. LUDLOW, Rolling Prairie, Ind.

MILKING SHORTHORNS Bulls old enough for service, tuberculin tested and at bargain prices.
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ACCREDITED HERD OF SHORTHORNS. 6 extra good bulls, 1 out of an Imp. cow, all sired by Maxwellton Jupiter.
JOHN SCHMIDT & SON, Reed City, Mich.

WATERLILY STOCK FARM

offers 4 fine Reg. Shorthorn Bulls from 10 to 22 mo. old at bargain prices.
THEODORE NICKLAS, Metamora, Mich.

JERSEYS

ONE OF OUR MAJESTY BULLS WOULD IMPROVE your herd.
FRANK P. NORMINGTON, Ionia, Mich.

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BEEF PRODUCERS!

Michigan Produces the World's Best Beef at the Lowest Cost. Raise far better feeding Cattle than you can buy. Grow Baby Beef when gains cost least in feed and labor. Avoid costly rail hauls with their shrink, bruises and loss.

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Solves your problem—insures your success. A fair intelligent, satisfying system evolved from 37 years conscientious service to American Cattle Industry by three generations of Sothams. GET THE FACTS. Write now or wire. Address
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ANGUS



ACHIEVEMENT

The reward of pure breeding; the accomplishment of quality. Success has again contributed more laurels to the already remarkable record of

EDGAR OF DALMENY

THE SIRE SUPREME

At the International Live Stock Exposition, where gathers each year the elite of North American Cattle to compete for the coveted awards, five more honors have been bestowed upon the "get" of Edgar of Dalmeny.

You too may share these honors. A bull by this world famous sire will prove a most valuable asset to your herd. Write us today.

WILDWOOD FARMS

ORION, MICHIGAN.

W. E. Scripps, Prop. Sidney Smith, Mgr.

DODDIE FARMS ANGUS of both sex for sale. Herd headed by Bardell 31910, 1920 International Jr. Champion.
Dr. G. R. Martin & Son, North Street, Mich.

REGISTERED ABERDEEN-ANGUS-BULLS, Heifers and cows for sale. Priced to move. Inspection invited.
RUSSELL BROS., Merrill, Michigan

GUERNSEYS

8 REGISTERED GUERNSEY COWS AGE from 2 to 7 years. 5 are imported. **PINE HILL FARM**
Howard City, Michigan.

3 GUERNSEY BULLS, 1 REGISTERED, 2 eligible. Ages, 2 months to 9 months. All are fine individuals.
W. D. KAHLER, Jones, Mich.

GUERNSEYS

OF MAY ROSE AND GLEKWOOD BREEDING. No abortion, clean federal inspected. Their sire's dam made 19,460.20 milk, 909.05 fat. Their mother's sire's dam made 18,109.10 milk 778.80 fat. Can spare 3 cows, 2 heifers and a beautiful lot of young bulls.
T. V. HICKS, R. 1, Battle Creek, Mich.

VETERINARY DEPARTMENT

DR. W. AUSTIN EWALT, EDITOR

ACTINOMY COSIS OR LUMPY JAW

I have a cow that has a lump on her jaw. It appeared about two weeks ago and is located at about the center of her jaw.—W. McC., Bad Axe, Mich.

This is Actinomy Cosis or "lumpy jaw." When this disease first makes its appearance, and is confined to the soft tissues the results obtained from the use of potassium iodid in from one to two dram doses three times daily is nothing short of marvelous in some cases. The treatment of that form which has gone on and invaded the dense tissues and the bone itself is not so satisfactory and requires a surgical operation. That this may be safely and thoroughly done it is necessary to cast the animal. I might add this operation should only be undertaken by a qualified veterinarian. Having cast the patient the veterinarian incises the tumor near the most dependent part, using an abscess knife and making a incision not more than one inch in length. The incision is carried well into the center of the tumor and the interior is then thoroughly curatted. This is a painful operation and is best performed under anesthetics. When this has been done a gauze or cotton wad, which has been saturated in a ten per cent solution of chromium trioxide, is packed firmly into the cavity and the animal is allowed to get up. In most cases this completes the local treatment in this form of the disease. After a week or ten days the entire mass of diseased tissue drops out and leaves but little scar. The internal treatment is to consist of giving the potassium iodid as above described.

WEAVER

Our seven-year-old mare stands in the stable and weaves her head back and forth, not all the time but is growing worse. She seems to be well but lazy. Is this a habit and how can she be broken of it? If not a habit what is the cause? One quack veterinarian said there were teeth that should be removed.—G. P., Marion, Mich.

Put out the quacks, you know just as much about your animals, and no doubt more than they do; what you don't know they only have to guess at. Your horse is what is known as a weaver and this is nothing more or less than a habit. Remove manger and let this animal have the liberty of a box stall. Nothing wrong with the teeth.

RATION FOR SOWS

We have two sows, age 10 months, due to farrow April 28th. We are feeding them, together, 24 quarts of sweet skim milk twice per day. Nothing else. What is your opinion of such a ration for these sows? They are in the best of condition and spirits apparently. Would it be better to mix some bran or middlings in their milk? If so how much? Would it be good policy to mix some salt in their feed or just throw in a lump in the pen?—P. R., Grant, R. 3, Mich.

By all means feed middlings with the milk. Salt must be fed very cautiously to hogs as an over feed will often cause death. Good clean quarters and plenty of dry bedding are indispensable.

PIGS NEED CHANGE OF FEED

Could you advise me what to do for my pigs? I have a bunch of eight that I am feeding oats in the morning, boiled potatoes at noon and corn at night. They are about two months old. They are getting all crippled so they can hardly walk.—A Reader of M. B. F.

Feed these pigs skim milk and middlings, provide good warm, well ventilated quarters with plenty of dry straw for bedding and your pigs will do well.

STERILITY

We have six cows and have taken them all to the bpl 3 or 4 times each and they have come in heat every week or 10 days. What is the cause of this and can they be with calf and come in heat at the same time?—W. L., Cheney, Mich.

You do not state whether or not you have used more than the one bull, if not I would suggest you try another bull. It may be the one you are using is not prolific. If you are sure the bull is productive, then I would say you have sterility in your herd which may be caused by a modified form of contagious abortion, or even in very mild catarrhal forms of such conditions it is frequently a very difficult matter to get the cow in calf again and this may

be caused by the retention of the afterbirth. In fact if cows are not properly cleaned after calving they very frequently terminate in barrenness. In other instances the sterility is temporary in character, depending probably upon the relative activity of the diseased condition within the uterus; after one or two seasons of barrenness the cow will again become pregnant. Many cases, however, terminate in permanent worthlessness of the cow for breeding or dairy purposes. You should have your herd examined by a qualified veterinarian.

BELIEVE IT IS ABSCESS

I am a reader of your paper and like it very much. I am writing for a little advice in regard to one of my cows which has a swelling or lump about the size of a quart bowl just below the rump bone. It has been there about two weeks. It does not seem to get larger or smaller.—A Subscriber, Marion, Mich. I am inclined to believe this is an abscess and if so should be opened. Shave the entire enlargement, wash thoroughly with any good antiseptic then paint with iodine and make a good dependent opening sufficiently large to allow proper drainage. Then syringe cut good once daily using one tablespoonful creolin to one pint of water. Boil the knife you use to be sure not to cause infection.

MACK'S NOTES

James Napier, who has been in charge of the Richland Shorthorn herd at Tawas City, has accepted a position with the Sni-Bar Farms, at Grain Valley, Mo. Robert Rothnie, who has been associated with Mr. Napier for the past two years will, hereafter, be in full charge as herdsman for the Prescott firm.

The foot and mouth disease is still raging among the herds of England and a large number of outbreaks have been noted in Scotland, in one period of 24 hours, recently, 57 outbreaks of the dread disease were reported. The important spring sales of pedigreed cattle at Perth and Aberdeen, arrangements for which had already been made, have been postponed, indefinitely.

Parker Bros., of Niles, Mich., held a very successful auction sale of Berkshire hogs, late in January and make the announcement that they will hold another in August, 1922. At the recent sale of 32 large type Berkshire bred sows, the average was \$120; the highest price was paid by F. R. McMahon, Altoona, Pa., for Manchester Rival Lady, a sow with wonderful scale and outstanding quality.

Geo. A. Prescott, Jr., who directs the breeding and sale activities on Richland Farms, near Tawas City, where the firm of C. H. Prescott & Sons, is developing a wonderful herd of Shorthorn cattle, announces an auction sale of pure-bred bulls and heifers for the month of June, 1922. The writer has seen these youngsters and can recommend them to anyone who desires to purchase high-grade foundation stock, from the standpoint of individual excellence and the popular Shorthorn blood lines which they represent, the cattle scheduled for this spring sale are above criticism.

THE MONROE DUROC SALE

An auction sale of pure-bred Duroc hogs was held on the Plum Creek Stock Farm of F. J. Drott, Monroe, Mich., on Friday, March 3. The name of the firm making the sale was Drott & Berns. Mr. Berns being the member of the firm in charge of the herd. The offering was made up of tried sows, spring yearlings, fall yearlings and spring gilts. Col. H. L. Ingelhart from Elizabethtown, Ken., was the auctioneer and Hayden Ingelhart, from the same city, had charge of the ring work. Paul H. Gilman, Petersburg, Mich., was the clerk. The Duroc Bulletin was represented by W. P. Penry, Randor, Ohio. The Michigan Business Farmer, Mt. Clemens, Mich., was represented by H. H. Mack.

The animals in the sale were of the best blood lines known to the Duroc breed and they were the very last word in mellowness and general fitness for auction offering. The spring and fall yearlings averaged a little less than \$70 and the spring gilts about \$48. One of the most appreciated features of the sale was the splendid dinner which was served to the large crowd in attendance.

The names and addresses of the buyers are as follows: Harlan Wilt, A. T. Murphy, Edward Handly, G. F. Putnam, Howard Linn and H. S. Graig, all of Britton; G. L. Burke, F. Jackson, Albany Cronewett of Dundee, S. R. Bird, F. L. Wood, Paul H. Gilman and Fred Bamm of Petersburg, Mich.; E. H. Miller, B. S. Knapp, Lewis Heerl, Ed. Schroeder and W. C. Craney of Monroe, Charles Mortke, New Boston, Harry T. Wagner, Flat Rock, Ellery King, Leonard, A. A. Ding, Blissfield, W. Zimmermann, La Salle and George Willman, Ida, Michigan.

THE NYE HOLSTEIN SALE

On Thursday, March 2, a small herd of pure-bred Holstein cattle was sold on the farm of James Nye, northwest of Pontiac, just off Oakland avenue and near to the outer end of the new pavement. The auctioneer was Harry Robertson, the pedigree expert, J. F. Fishbeck, the clerk was Bradford Smith, and H. H. Mack, of the Michigan Business Farmer was the fieldman. There were 25 head of pure-bred animals in the offering and several grades. The names and addresses of the breeders, who bought cattle at this sale are as follows:

Frank Renshaw, Pontiac, A. E. Hardy and W. R. Kerr, of Rochester, E. P. Waldron, Byron Maddock, Cyril Olliver and Fred Lockwood all of Pontiac, M. Carter of Flint; Roy Farrell, of Clarkston and E. E. Vantine, of Detroit, who paid the top price, \$237.50. The next highest price was paid by A. E. Hardy who bought a fine two-year-old heifer for \$195.

PURE BRED STOCK

Reading along in Mack's notes I see where Ex-Governor F. O. Lowden talks about pure bred stock among farmers. It certainly is hard to get some started. I believe in pure bred stock myself, whether for beef or dairy purposes which it may be, I don't mean you all have to have the same kind of breeds, there is quite a number of both kind, also the same way in swine. There has been some registered swine and bulls purchased here, and the owners did not dare charge 50c more for pigs than they do for scrubs, if he did say I can get them cheaper to so-and-so. It seems to make no difference about the breed, and the same way in cattle line, one of our neighbors purchased a registered Durham bull, paid a big price for him, and he only charged 50c more for the service of him than they did for their scrubs, but this man was obliged to sell him or just keep him for his own use, of which he did for a while. But that 50c was a heart breaker. Pure bred stock for me.—A Subscriber, Lake Co.

The Experience Pool

Bring your everyday problems in and get the experience of other farmers. Questions addressed to this department are published here and answered by you, our readers, who are graduates of the school of Hard Knocks and who have their diplomas from the College of Experience. If you don't want our editor's advice or an expert's advice, but just plain, everyday business farmers' advice, send in your question here. We will publish one each week. If you can answer the other fellow's question, please do so, he may answer one of yours some day! Address Experience Pool, care The Business Farmer, Mt. Clemens, Mich.

HOUSES OF HOLLOW TILE

In a recent issue of the Business Farmer I noticed an inquiry from R. C. Ithaca, Mich., in regard to houses built tile. We have one built of Natco hollow tile in 1918 with which we are well pleased and would be pleased to show him if he desired. We are located 4 miles west and one mile north of Chesaning, or 4 miles south and 1 mile east of Brant Center. There are also several others in this community.—Mark Brewer, R. 3, Chesaning, Mich.

FOR SALE GUERNSEY BULLS READY FOR service and bull calves carrying 1/2 of blood of my heifer Norman's Missaukee Red Rose, World Champion G. R. Sired by her sire. Dams finishing splendid A. R. Records. A. M. SMITH, Lake City, Mich.

REGISTERED GUERNSEY BULLS ready for service. Also yearling heifers. Farmers prices. Dr. W. B. Baker, 4800 Fort St. W. Detroit, Mich

AYRSHIRES FOR SALE—REGISTERED AYRSHIRE bulls and bull calves, heifers and heifer calves. Also some choice cows. FINDLAY BROS., R 5, Vassar, Mich.

RED POLLED THREE YOUNG RED POLLED BULLS FOR sale. Sired by Cosy Ellis Laddie. He took the prize at six State Fairs. PIERCE BROS., Eaton Rapids, Mich., R 1

SWINE POLAND CHINA WALNUT ALLEY Big Type Poland Chinas. I have a few more of those big boned, high backed, smooth sided boars left. The kind that makes good at one-half their value. Come or write and let me tell you what I will do. A. D. GREGORY, Ionia, Michigan.

FOR SALE, LARGE TYPE POLAND CHINA boar pigs. Sired by F's Clansman 391211, Michigan's 1920 Gr. Champion boar, and by Smooth Buster 395823, Michigan's 1920 1st Jr. Yearling Boar. Immune by double treatment. Priced to sell. Write or see them. Free livery to visitors. A. A. FELDKAMP, Manchester, R. R. No. 2 Mich.

LEONARD'S BIG TYPE P. C. BOAR PIGS at weaning time, from Mich. Champion herd \$25 with pedigree. Satisfaction guaranteed. Call or write E. R. LEONARD, R 3, St. Louis, Mich.

L. F. P. C. \$15-\$20-\$25 We are offering our 1921 fall crop of pigs at the above prices. They are sired by Hart's Black Price and Right Kind Clan. F T HART, St. Louis, Mich.

L T P C BRED GILTS Bred to my new boar Liberator Pride. Priced with the time. Nuff sed. M. M. PATRICK, Grand Ledge, Mich.

GLADWIN COUNTY PURE BRED LIVESTOCK ASSOCIATION. Hereford, Shorthorn, Jersey and Holstein cattle; Duroc-Jersey, Poland China and Hampshire hogs; Oxford, Shropshire and Hampshire sheep. A place to buy good breeding stock at reasonable prices. FRED B. SWINEHART, O. E. ATWATER, President, Secretary, Gladwin, Mich.

BRED GILTS now ready to ship, bred to boars of Bob Clansman, Defender and Joe breeding at farmers prices. H. O. Swartz, Schoolcraft, Mich.

BOARS AT HALF PRICE. Poland Chinas bred in the purple, sired by Mich. Buster, A Giant and Butler's Big Bob. No better breeding. A big rugged, big-boned boar ready for service, registered, for \$25.00-\$30.00. JNO C. BUTLER, Portland, Mich.

BIG TYPE P. C. SPRING PIGS EITHER SEX from large growthy dams and sired by choice herd boars. Come and see our stock, prices reasonable. L. W. BARNES & SON, Byron, Mich.

POLAND CHINA BRED GILTS Bred to Hillcrest Liberator by Liberator Leader the 1920 Grand Champion and to Big Prospect by Liberator Buster the 1921 Grand Champion. They will start you right in the breeding industry. Exceptional bargains. Write for prices. HILLCREST FARMS, F. B. LAY, Kalamazoo, Mich.

BIG TYPE POLAND CHINAS Spring pigs all sold. For fall pigs, write W. CALDWELL & SON, Springport, Mich.

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

DUROCS FOR SALE EXTRA FINE SEPT AND OCT pigs, either sex, priced right. HARLEY FOOR & SONS, Gladwin, Mich., R 1.

PEACH HILL FARM TRIED sows and gilts bred to or sired by Peach Hill Orion King 152489. Satisfaction guaranteed. Come look 'em over. Also a few open gilts. INWOOD BROTHERS, Romeo, Mich.

AM SELLING A GREAT OFFERING OF DUROC BRED SOWS AND GILTS March 4th, mostly mated to Orion Giant Col. a son of Ohio Grand Champion. Get an mailing list for catalog. W. C. TAYLOR, Milan, Mich.

PURE-BRED DUROC JERSEY HOGS We usually have good boars and sows of all ages for sale. Reasonable prices. LARRO RESEARCH FARM, Box A North End Detroit, Michigan.

Duroc Jersey Bred Stock all Sold. Orders taken for venting pigs. 1,000 pound herd boar. JOS. SCHUELLER, Weldman, Mich.

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WE OFFER A FEW WELL-BRED SELECTED spring Duroc Boars, also bred sows and gilts in season. Call or write McNAUGHTON & FORDYCE, St. Louis, Mich.

Durocs. Hill Crest Farms. Bred and open sows and gilts. Boars and spring pigs. 100 head. Farm 4 miles straight S. of Middleton, Mich., Gratiot Co. Newton & Blank, Perrinton, Mich.

Duroc sows and gilts bred to Wait's King \$2949 who has sired more prize winning pigs at the state fairs in the last 2 years than any other Duroc boar. Newton Barinart, St. Johns, Mich.

FOR SALE: ONE DUROC BOAR FROM Brookwater breeding stock. Choice spring pigs. JOHN CRONWETT, Carleton, Mich.

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FOR SALE PURE BRED CHESTER WHITE BOAR. T. J. SWEENEY, Brant, Mich.

THE FINEST DUROC JERSEY HOGS in Michigan. Nearly 100 to choose from. Bred Sows, Gilts, Fall pigs, either sex. Write us your wants. Former prices. SCHAFFER BROS., Leonard, Mich., R 1

FOR SALE DUROC BRED SOWS OR OPEN gilts and only 1 boar left. 14 sows to farrow in spring beginning March 6th. Always satisfaction or money back. B. E. KIES, Hillsdale, Mich.

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BERKSHIRES Special prices for Registered Berkshire Breeding stock: 10 Mature Bred Sows.....\$75.00 10 Fall Yearlings, Bred..... 50.00 Best type with size and quality. Satisfaction absolutely guaranteed. Write for information. C. C. COREY, 2423 First National Bank Bldg. Detroit Michigan

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POULTRY

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HOMESTEAD FARMS LEGHORNS



We are issuing a Bulletin that describes the kind of a fowl the farmer now wants. Send for this description of our Pure Breed Practical Poultry. The highest class practical stock in Michigan; stock that each year is also now being shipped to poultry farmers of other states. You will like particularly the White, Brown, and Buff Leghorns of this breeding; they give the eggs.

Also Banded and White Rocks, Reds, Wyandottes, Orpingtons, Anconas.

STATE FARMS ASSOCIATION
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Two great breeds for profit. Write today for free catalogue of hatching eggs, baby chicks and breeding stock.

CYCLE HATCHER COMPANY, 149 Philo Bldg.
Elmira, N. Y.

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Leghorns, R. I. Reds, White Wyandottes and Banded Rocks. Eggs, stock and chicks in season. Write for prices.

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offers young stock and a few mature breeders in White Chinese Geese, White Runner Ducks and White Wyandottes. Also O. I. C. spring gilt. Write today for prices on what you need.

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Top Quality Chicks, Spanish, Minorcas, Rocks, Reds, Wyandottes and Orpingtons.

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BARRED ROCK COCKERELS AND PULLETS

from America's best prize-winning heavy-laying strains. Winners Detroit National Show Dec. 1921, of five first prizes. Low prices.

TOLLES BROS., R 10, St. Johns, Mich.

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from world's heaviest laying strain. Parks direct, a few excellent breeding pens at \$15 to \$18. Eggs, \$2 per 15. Satisfaction guaranteed. (P)

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Knight's White Rocks, Baby Chicks \$20 per 100 Eggs \$1.50 per 15; \$8.00 per 100. Robert E. Knight, New Baltimore, Michigan.

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By Big 10 lb. males, solid color, National winners and Hogan tested heavy layers, bred for 30 years.

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EGGS-CHIX. Imperial ringlet barred Rocks.

Pens mated by poultry judge of exhibition stock. Good layers. For prices write.

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CHICKS. Order now for spring delivery. Send for circular.

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Cockerels from select mating.

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Single Comb Buff Leghorn Cockerels \$3 to \$5.00 each. Hens and pullets \$2.50 to \$5.00 each. Will start shipping Baby Chicks in March.

LAPHAM FARMS, Pinckney, Michigan.

GRABOWSKIE'S S. C. WHITE LEGHORN,

cockerels and hatching eggs for sale.

LEO. GRABOWSKIE, Merrill, Mich., R 4.

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HEIMBACH'S White Wyandottes

won silver cup for best display at Grand Rapids Coliseum Show.

5 pullets entered: win 1, 2, 3, 5, 6, 5 hens and win 2, 5, 1 cock and win 1st 5 cockerels, win 3, 7, 8, 1 young pen winning 1st 1 old pen winning 2nd.

Have a few utility cockerels and yearling hens for sale. Baby chicks and hatching eggs. Also from Rose Comb Rhode Island Reds of good stock. Send for catalog.

C. W. HEIMBACH, Big Rapids, Mich.

PURE BRED WHITE WYANDOTTE HATCHING

eggs and chicks. Fishel strain.

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EGGS FOR HATCHING, from prize winning

White Wyandottes at \$3 and \$5 per setting.

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WHITTAKER'S RED CHICKS

Both Combs. Blood tested for white diarrhoea. Michigan's greatest color and egg strain. Catalog free. Interlakes Farm, Box 4, Lawrence, Mich.

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matings eggs. \$2.00 up per setting.

John A. Hartgerink, Zeeland, Michigan, Box 67

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hatching eggs and baby chicks, Feb. \$12.00; Mar., April, \$10.00; May, June, July, \$8.00. Chicks twice the price of eggs. Both combs.

WM. H. FROHM, New Baltimore, Mich., R 1

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Island White Cockerels for sale, \$4.00 each.

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3000 EARLY APRIL HATCHED FULLY MATURED ANCONAS. BUCKEYE ANCONA FARM

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Heavy layers and show birds, none better. Reasonable prices and quality stock is our motto. Can furnish winners for any show. Ask for our late winnings at Columbus, O., Louisville, Ky., Cleveland, O., Pittsburg, Pa., Hagerstown and Cumberland, Md. Oks, Hens, Chks, Pul and Mated Pens always for sale. Eggs and Baby Chicks in season. 100,000 incubator capacity. Write us and get the best.

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Merrill, Mich., R 4.

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DR. SIMPSON'S LANGSHANS OF QUALITY. Bred for type and color since 1912. Winter laying strain of both Black and White. Have some cockerels for sale. Eggs in season.

DR. CHAS. W. SIMPSON, Webberville, Mich.

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GIANT BRONZE TURKEYS

Hens all sold. Have several splendid young toms. Large type, well marked.

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BIG MASSIVE TOMS, by 1st Chicago winner,

rich copper bronze, 25 to 31 lbs. No eggs.

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FOR SALE 2 MAMMOTH BRONZE TOMS,

vigorous birds, splendid color yearling. 24 lbs. \$12; 2-yr. old, 45 lbs. \$18.

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COLLINGS BEST: PURE BRED WHITE HOL-

land Turkeys, Hens, \$8. Toms, \$10 to \$12.

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EGGS PURE BRED WHITE ROCKS AND

Toulouse Geese. Both Blue Ribbon winning stock. Prices right.

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from the world's greatest layers. A postal brings booklet from

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EGGS \$1 SETTING, Parcel Post Paid. Thor-

oughbreds. Barred Rocks, White Rocks, Buff Rocks, White Wyandottes, Anconas, Buff Minorcas, White Leghorns, Brown Leghorns, Rhode Island Reds, Buff Orpingtons. PHILIP CONDON, West Chester, Ohio.

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DUCK EGGS MAMMOTH WHITE PEKIN

stock. A limited number of orders accepted for future delivery. \$1.50 per setting.

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THE J. B. FARMS HATCHERY

S. C. White Leghorn Chicks. Best selected stock; large, with capacity for eggs which they DO lay. Only THE BEST grade. Write for terms.

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If you want chicks that pay you we have them. Ours have the egg-laying habit. From show winning strains and egg strains as high as 294. Leghorns, Rocks, Reds, Anconas, Wyandottes, Minorcas, Orpingtons. Safe delivery. Prepaid. Prices right. Free catalog

HOLGATE CHICK HATCHERY, Box B, Holgate, Ohio.

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200,000 FOR 1922.

Sheppard's Anconas, English Type White Leghorns and Brown Leghorns, Barred Rocks. Get them direct from Hatchery from all culled out flocks. Free and safe delivery guaranteed. Catalogue free.

KNOLIS HATCHERY, Holland, Michigan, R 8.

THE 'Old Reliable' OHIO HATCHERY

which has been in the business TWENTY-TWO YEARS can supply you with the best Chicks from all leading varieties and at reasonable prices. Get our Free Catalogue NOW before you order Chicks elsewhere. 100 per cent Live Delivery Guaranteed. To your door by Prepaid Parcel Post.

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DAY OLD CHICKS

Now is the time to think of buying chicks. You want the best chicks from our heavy laying selected breeding stock. Start with them at the right time. Order now. Lowest price. S. C. White and Brown Leghorns and Anconas. 100 per cent live delivery guaranteed. Write for circular and price list

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Baby Chicks for HATCHING

Thoroughbred varieties of Tom Barron English White Leghorns, S. C. R. I. Reds, Parks Barred Rocks, Big, Strong and Healthy Chicks from tested heavy producing stock, correct in plumage and color as well as being EXCELLENT LAYERS. Our prices will interest you. Write for them. We GUARANTEE safe arrival of our Strong and Vigorous Baby Chicks. FIRST COME FIRST SERVED, so we advise to place with us your order as soon as possible. Write AT ONCE for our interesting catalog. It is FREE.

BRUMMERS' POULTRY FARM, Box 28, Holland, Mich.

DAY OLD CHICKS

Leghorns, Rocks, Reds, Wyandottes, Anconas, Minorcas, Orpingtons, produced from selected flocks. Live delivery guaranteed. Delivery charges paid. Send for catalog.

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We furnish Pure Bred Chicks of the finest quality from high egg-producing stock. Flocks built directly from laying contest winners. We have seventeen breeds. Write for our free illustrated catalogue and price list.

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Big Value Baby Chicks

Eleven popular, money-making breeds. Easy to buy—priced low. Easy to raise—husky, healthy, vigorous. And guaranteed! Write today for FREE catalog showing many breeds in full colors.

OHLS POULTRY YARDS and HATCHERY, BOX 28, MARION, OHIO

BABY CHIX, MARCH AND APRIL DELIVERY.

Prices: Barred Plymouth Rocks, R. I. Reds, Black Minorcas, White or Brown Leghorns, 25 for \$5.50; 50 for \$10.00, or 100 for \$17.00, parcel post prepaid. 100 per cent delivery guaranteed. Our 12th year producing the kind of chick that please. Get our prices on 500 or 1000 lots. Green Lawn Poultry Farm, R3, Fenton, Mich

QUALITY BABY CHICKS

DON'T place your order for chicks until you have secured our catalogue and prices on ROCKS, ANCONAS, ENGLISH and AMERICAN WHITE LEGHORNS. Our Chicks are hatched in the best machines, by genuine experts, and our flocks are of the best in Michigan. We guarantee delivery and quality.

PROGRESSIVE HATCHERIES, Box L, Holland, Michigan.

WHY NOT

buy your chicks from egg-bred stock?

ANCONAS & WHITE LEGHORNS

Come and see our stock if you can or send for full description and prices.

QUALITY HATCHERY, Box A11, Zeeland, Mich.

DAY OLD CHICKS

It is now time to think about next season's chicks. You want the best available to start with at the right time, and at a reasonable price. We are here to meet those demands. We supply 'efficiency chicks' Reds, Rocks, Wyandottes, Leghorns. Ship them prepaid by special delivery parcel post, guaranteeing delivery. You take no chance. Send for our catalogue for full information and why you should buy chicks.

CLYDE CHICK HATCHERY, Box 5M, Clyde, O

CHIX FROM TWELVE LEADING VARIETIES

of heavy layers on free range. Reasonable prices. Get catalog and order NOW.

SUNBEAM HATCHERY, H B Tippin, Box 303, Findlay, Ohio.

LOOK! CHIX EGGS

S. C. WHITE LEGHORNS, 230-264 egg strain. Prices greatly reduced for 1922. Satisfaction and delivery guaranteed. Hundreds of satisfied customers. Catalog FREE.

GERIG'S LEGHORN FARM, Box 50, Auburn, Ind

BABY CHICKS

S. C. Buff Leghorns, one of the largest flocks in Michigan. My price is in reach of all, only \$15.00 per hundred. Detroit winners, none better.

LAPHAM FARMS, Pinckney, Mich

LABORK JUST-RITE

1 1/2 MILLION CHICKS Postage PAID 95 per cent FOR 1922. cent-live arrival guaranteed. MONTH'S FRED 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. 30, Gambler, O.

Day Old Chicks, Standard varieties. Make your

selections. Catalogue and price list now ready.

H. H. FIERCE, Jerome, Mich.

POULTRY

CHICKENS HAVE RHEUMATISM

Could you please tell me thru your valuable paper, what is the matter with my chickens? This disease, or whatever it is, does not start on them until they are about half grown. They start to limp and before long they can't stand on their feet, but walk around on their knee joints, and their feet stick out in front of them. They eat and drink good, and look healthy otherwise. They don't die with it, neither do they get over it. It just seems to be in the young chickens. We feed them shelled corn, wheat, oats and barley. Could you give me a remedy for the disease?—Mrs. M. H. R., Grand Blanc, Mich.

The trouble you mentioned is a form of rheumatism or leg weakness which is rather common in the fall of the year. It usually affects birds as they are brought into confinement in winter quarters from free range. The trouble is augmented by their being forced to remain on hard floors such as wood or concrete over which there is not a good covering of litter. Such birds should be housed in warm, dry, well ventilated houses with a good deal of straw or litter of some kind on the floor, in order that the birds may be induced to take a liberal amount of exercise. The corn in the rations should be cracked in order that the birds will have to work harder to find it in the litter. This will give them more exercise.

By following these precautions, I believe that no further trouble should be expected.—W. E. Newton, Professor, Dept. Poultry Husbandry, M. A. C.

MAN TO CULL POULTRY

I wish to have my poultry culled. Who should I apply to?—J. K. Pinconning, Mich.

Practically all the poultry culling work conducted in the state is carried on through the medium of the Farm Bureau or county agent. Each county agent receives the applications and communicates with the Extension Department of the College for the services of a man at a specified time.—E. C. Foreman, Head of Poultry Husbandry Dept., M. A. C.

WATER FOR GEESE

Is it necessary for breeding geese to have water to swim in for best results?—H. H. Garden, Mich.

While this is not considered absolutely necessary greater fertility is usually noted where water is available for swimming purposes.—E. C. Foreman, Head of Poultry Husbandry Dept., M. A. C.

EGGS UNFERTILE

Last year, in the spring, I bought a goose and gander of the same hatching being a year old last August. The goose laid six eggs which I set under a hen. The eggs proved not to be fertile and those were all the eggs that she laid. Will you please tell me the cause of my trouble?—R. P., Rapid City, Mich.

In order to secure high hatchability of eggs, it is necessary to have mature stock. The geese should be at least two years old and the gander from one to five years. In the absence of water for swimming production is greatly reduced and the fertility and hatchability of the eggs greatly diminished. Evidently the reason for the low production with a corresponding low fertility was due to one of the above causes.—E. C. Foreman, Head of Poultry Husbandry Dept., M. A. C.

TURKEY HAS SWELLING ON HEAD

I have a hen turkey that has a swelling on her head which seems to grow larger. It is located just below the eye is long and seems to be filled with a watery substance. She eats good and seems healthy. Can you tell me what to do for her?—A. H., Frederic, Mich.

From the symptoms described I would appear that it is possibly due to an injury of some kind. If the swelling does not recede, it may be advisable to lance it, treating the wound with tincture of iodine.—C. W. Ferguson, Extension Specialist in Poultry Husbandry, M. A. C.

Just a few words of appreciation of your good work. We enjoy every issue of the Business Farmer and consider your editorials worth much more than the price of subscription. You are as surely doing God's work because it is honest work and "an honest man is the noblest work of God." May the good work continue.—Mrs. John Devoreaux, Livingston County, Mich.

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WE HAVE THE BEST LAYING BREEDS ON EARTH Barron English Whiet Leghorns, also American White Leghorns, S. C. Brown Leghorns and Anconas, 25,000 large strong super-hatched chicks per week from Hogan tested flocks culled out semi-annually by our poultry experts.

17 YEARS OF CAREFUL BREEDING FOR EGG PRODUCTION You get the advantage of 17 years of careful breeding which brought our flocks up to their present high standing.

Our wonderful winter layers are headed by large, vigorous and pedigreed sired males of exceptional quality.

THOUSANDS OF SATISFIED CUSTOMERS MAKE BIG MONEY Mr. F. L. Hess, Chicago, Ill., writes, "I averaged 112 eggs a day from 140 of your pullets and sold \$158 worth of eggs in February."

Mrs. Wyttenbach, Amherst, Ohio, writes, "I sold \$357.30 worth of eggs in two months from 200 pullets of your stock."

RAISE GOOD STOCK AND REAP A GOLDEN HARVEST Intelligent chick buyers of today take no chances with ordinary stock. Our enormous output enables us to sell these money makers at a price that positively cannot be equaled.

WE SHIP SOME 400,000 CHICKS EACH SEASON We ship by PARCELS POST, PREPAID, and guarantee 100 per cent live delivery. Send for our catalogue and prices today.

WYNGARDEN HATCHERY, Box B, Zeeland, Mich.



EXTRA! EXTRA! PURE BRED BABY CHICKS

From our tested and culled flocks on free range. The best that money can buy, delivered to your door prepaid and live arrival guaranteed.

Prices for March and April delivery:

S. C. American White Leghorns.....	per 25	50	100	500
S. C. Brown Leghorns	\$3.50	\$7.00	\$14.00	\$67.50
S. C. Mottled Anconas	3.75	7.50	15.00	72.50
Tom Barron Eng. White Leghorns,	4.00	8.00	16.00	77.50
Extra Selected	4.00	8.00	16.00	77.50

Start RIGHT by placing your order today for some of these HIGH GRADE SELECTED BABY CHICKS. Order direct from this ad or send for our FREE CATALOGUE.

SUPERIOR POULTRY FARMS BOX 2052, ZEELAND, MICH.



BABY CHICKS BARRON STRAIN

SINGLE COMB WHITE LEGHORNS. Also heavy laying S. C. Brown Leghorns and Anconas. Chicks, \$7.25 per 50; \$14.00 per 100; \$67.50 per 500; \$130 per 1000. ROSE AND S. C. E. I. REDS, \$8.50 per 50; \$17.00 per 100. 100 PER CENT LIVE DELIVERY GUARANTEED BY PREPAID AND INSURED PARCEL POST. Order direct from this ad and save time. Circular free.

STAR HATCHERY

Box 500 Holland, Mich.

CHICKS THAT SATISFY



Our 11th year. Brown English Type White Leghorns. GREAT LAYERS. Large white eggs. 100 per cent safe arrival guaranteed. Get our prices at once. We save you money.

WOLVERINE HATCHERY

ZEELAND, MICH., R. M. 2.

Crystal Poultry Farms Choice Baby Chicks. From best heavy laying, standard bred stock, 36 leading breeds. Thousands of satisfied customers. Reasonable prices. Circular free. CRYSTAL POULTRY FARMS 7910 W. Franklin Ave., Cleveland, O.

CHICK PRICES SMASHED

This was the heading of our ad. last season. Now our prices are not smashed yet, but if quality is worth something to chick buyers, then I will say try our chicks this season. We have five varieties to choose from. We guarantee 97 per cent alive upon arrival and pay parcel post charges. Satisfaction guaranteed.

CITY LIMITS HATCHERY

Route 5 Holland, Mich.

CHICKS for 1922 season from Michigan's old reliable Hatchery, White Leghorns, Anconas Banded and White Rocks and Reds, the popular laying strains. High record, expert Hogan tested flocks only. Preference given early orders. Chicks delivered Postpaid and full count strong live chicks guaranteed, 14th season. Fine illustrative poultry catalog and price list free. We want to show you that we deserve your business. Write HOLLAND HATCHERY, Holland, Mich., R 7

BUSINESS FARMERS' EXCHANGE

50 A WORD PER ISSUE—3 insertions for 10c per word. Farm for sale ads. not accepted for less than 3 times. Twenty words is the minimum accepted for any ad. in this department. Cash should accompany all orders. Count as one word each initial and each group of figures, both in body of ad. and in address. Copy must be in our hands before Saturday for issue dated following week. The Business Farmer Adv. Dept., Mt. Clemens, Michigan.

FARMS & LANDS

STROUT'S NEW CATALOG FARMS, FARMS farm, just out—describing in detail 1200 poultry, fruit, truck, stock, dairy, grain, cotton and general farms; farms to meet your requirements—small farms near big cities—large farms in rich agricultural districts—farms with stock, tools, seed, equipment, ready to produce from date of possession, many water-front and lakeside properties. Just look on page 11 and see how \$700 gets a 225-acre farm with horses, 8 cows and heifers, sheep, tools, furniture; 300 apple trees; 6-room house, barn, poultry houses, garage; everything only \$2200. Several pages devoted to Special Bargain farms—requiring first payments of \$500 and less. The helpful coast to coast service of the organization that last year sold 5100 improved farms throughout the 38 states and Canadian provinces in which it operates is yours for the asking. Start right—get this big illustrated book—study it—and have your crop in for the growing season. Write for FREE copy to STROUT FARM AGENCY INC. 814 B E Ford Bldg., Detroit, Michigan.

I WANT TO FIND AND RENT A FARM furnished, to be worked on shares. WM. BURNS, R2, Brant, Michigan.

FOR SALE: ISABELLA COUNTY BEAN and beet farm, 98 acres, excellent buildings, no better roofs and foundations. All rodged, Mich. Consolidated Light and power available via a special line. One mile from village of Shepherd and Ann Arbor railroad, one-half mile from M4 on County road. Write owner, N. W. STRUBLE, Shepherd, Mich.

90 ACRE DAIRY FARM, GOOD BUILDINGS, fruit, water, 1 mile to city limits, 1/2 mile to school. Write W. C. BOGART, Big Rapids, Mich., R-1.

63 ACRE FARM MONROE COUNTY, GOOD location, fine fruit, soil, drainage, buildings, water, timber, pasture. Raises fine crops. Bargain. Selling health, must sell. Write owner, G. L. HOWARD, Petersburg, Mich.

120 ACRES BEST FARMING LAND ABOUT 90 acres cleared, 1-4 mile trunk line gravel road. Young orchard, good well. \$4000 of buildings, \$2000 personal property for cash value of land. For prices and terms address owner J. W. PREVOST, Prescott, Mich., R 2.

FOR SALE, 120 A. FRUIT AND DAIRY farm, Oakland County. State road; 25 miles from Detroit; good buildings. For price, etc., write J. W. COLE, Northville, Mich. (P)

EIGHTY-ACRE FARM, ALL CLEARED, good soil, fine buildings, good location, easy terms. CHAS. WUBBENA, Standish, Michigan, Box 954.

FARM BARGAINS, NO. ONE 240 ACRE farm on cement road. Four miles to Port Huron. Write BOX 244, Crosswell, Mich.

7 ACRES WATERED AND DRAINED, muck celery land. Particulars write L BOX 94, East Jordan, Mich.

WANTED: SMALL 5 TO 15 ACRE FARM with good small house near town. Must be a bargain. Give price and particulars addressing BOX E., Care of Michigan Business Farmer, Mt. Clemens, Mich. (P)

80 A. FARM FOR SALE, GOOD BUILDINGS, orchard and water. JOS. MOSER, Farm city, Mich. (P)

60 ACRES CLAY LOAM SOIL, 50 IMPROVED, good house, barn, other buildings, with stock, tools, plenty of hay and grain, all for \$5000.00. Inquire owner RALPH LATHROP, Le Roy, Mich., R 3.

120 ACRES, BEST OF SOIL, LOTS OF standing timber, easily cleared. Market 3 miles. \$20 per acre. EDW. ERLANDSON, South Boardman, Michigan.

FOR SALE: 80 ACRES, DAIRY FARM with stock and tools; food; \$8500; in Kent county. Weekly income of \$40 from dairy. For particulars write BOX M. G., care Business Farmer, Mt. Clemens, Mich.

FOR SALE, 144 ACRES 2 MILES FROM town, good buildings, plenty water, fruit, berries. Good roads. Priced right, easy terms. CHAS. UPLEGER, Rhodes, Mich.

FOR SALE OR TRADE, FINE 160 ACRE farm, fine buildings. On main graveled road, well located near markets and schools. BOX A, Michigan Business Farmer, Mt. Clemens, Mich.

FOR SALE, SMALL, POULTRY FARM. Pleasant home in thriving town. A bargain. Other interests compel sale. For particulars address STANLEY GREENE, Breckenridge, Mich.

FOR SALE OR EXCHANGE, BY WIDOW with or without personal, 200 acres, improved. Near Saginaw. Plenty of barns, two houses. \$100 per acre for personal and farm. Reasonable terms. Write MRS. CHARLOTTE FAY, Burt, Mich.

STOCK FARM, 187 ACRES, 10 ACRE APPLE orchard, 30 acres second growth timber and balance in pasture land and under cultivation. 14 miles from Adrian, Mich., 1-2 miles from Devils Lake. Two large barns and silo, good house. Must sell. Price \$10,500, \$2000 cash. M. CARPENTER, 323 Tuxedo Ave., Detroit, Mich.

FOR SALE: THREE 160 ACRE FARMS, two miles from Sandusky, Sanilac County, Michigan. New land cleared and cultivated. 1920. Large barns and modern houses built in 1921. Write owner JOHN O'CONNOR, Sandusky, Michigan.

FOR SALE: 120 ACRES OR WILL SELL 80 acres with main buildings. Level, fine location clay loam, gravel roads, four miles from good town. HENRY STEINMAN, Remus, Mich.

EXCEPTIONAL BUILDINGS, LOCATION, soil, 148 acres, main road, town mile, priced right. Want farm nearer Detroit. ERNEST LA-FLEUR, Vermontville, Mich. (P)

FOR SALE, 160 ACRE FARM AND 40 acre farm. Write CHARLES FENTON, Hopkins, Mich., R 3.

120 ACRES NUMBER ONE LAND, BEST of buildings, fruit, timber. One mile to Dixie Highway, station, church, school, 30 miles from Detroit, R. W. ANDERSON, Clarkston, Mich. (P)

40 ACRES, BUILDINGS, 20 CLEARED, 11 rye, 16 wood timber, flowing spring, 2 miles market, churches. FRANK NOLAN, Harriets, Mich. (P)

68 ACRE FARM FOR SALE, MOSTLY ALL cleared. Fair frame house, new barn built last year, 32x46; frame granary 14x20, good well 280 feet deep; well drained, good ditches and fences; clay and black loam land; good road, mail route, schools and churches. Located in Bay county, Garfield township, Section six. With horses, cattle and implements if wanted. MARTIN SMITH, R 1, Rhodes, Mich.

MISCELLANEOUS

TOBACCO

KENTUCKY LEAF TOBACCO, 3 YEARS old, nature cured. Don't send a penny, pay for tobacco and postage on arrival. Extra fine quality chewing or smoking, 10 lbs. \$3.00; medium quality smoking, 10 lbs. \$1.25. FARMERS' UNION, D57, Hawesville, Ky.

TOBACCO: KENTUCKY'S PRIDE, RICH mellow chewing or smoking 10 lbs. \$3.00. Mild smoking 10 lbs. \$2.00; 20 lbs. \$8.50. FARMERS CLUB, Mayfield, Ky.

LEAF TOBACCO, 3 YEARS OLD. PAY FOR tobacco and postage when received. Chewing 5 lbs. \$1.50; Smoking 6 lbs. \$1.00. FARMERS' GRANGE, No. 94, Hawesville, Ky.

TOBACCO, KENTUCKY'S NATURAL LEAF. Mild, Mellow smoking, 10 lbs. \$2.25; Hand selected chewing 3 lbs. \$1.00. Free receipt for preparing. WALDROP BROTHERS, Murray, Ky.

NURSERY STOCK AND SEED

RECLEANED ITO SAN SOY BEANS, LIMITED supply at \$2.00 bu. E. C. HARRISS, Allegan, Mich.

ITO SAN SOY BEANS, EARLY MATURING strain at exceedingly low prices. SPRING VALLEY FARM, Bluffton, Ind.

FOR SALE: FINE QUALITY, RECLEANED Ito San Soy Beans at Farmers' prices. Order at once. G. P. PHILLIPS, Bellevue, Mich.

STRAWBERRY PLANTS

STRAWBERRY PLANTS FOR SALE. Senator Dunlap, Gibson and Dr. Burrill 400 per hundred, \$2.00 per thousand. Progressive Everbearers \$1.00 per hundred, \$10.00 per thousand. FOR SALE, DE GURSE, Ovid, Mich.

STRAWBERRIES, 2 LEADING VARIETIES, 1000 Dunlap Plants \$3.25; 1000 Gibson Plants \$3.75; 1000 Raspberry Plants \$12.00. FRED STANLEY, 124 Main St., Bangor, Mich.

STRAWBERRY PLANTS: SENATOR DUNLAP and Warfield at \$4 per thousand and Guaranteed strictly first class or money refunded. Our 16 years experience costs you nothing. You get it with every purchase you make of us. Our free catalogue illustrates and describes ten best varieties, including the three best everbearers. A valuable book for the grower. HAMPTON & SONS, R 20, Bangor, Mich.

FILM DEVELOPING

KODAK FILMS DEVELOPED AND SIX prints, 25c. MODERN PHOTO WORKS, Box M. B. F., La Crosse, Wis.

KODAK FINISHING! NOT THE CHEAP way, but the neat, at a reasonable price. Mail us a trial order and prove to yourself that it is not only what you pay but what you get for what you pay. Our aim always has been and always will be, "the very best prints from every negative." MOEN PHOTO SERVICE, Quality Kodak Finishing, Box M. R. F., La Crosse, Wis.

BEEES AND HONEY

BEE HIVES, SECTIONS, COMB FOUNDATION, smokers, etc. Complete outfits for beginners with or without bees. Agents for A. I. Root Co. goods in Michigan. Send for catalog. Beeswax wanted. M. H. HUNT & SON, 508 N. Cedar St., Lansing, Mich.

PURE CLOVER HONEY, 10 lbs. \$2.00; 60 lbs. \$10.00, prepaid by mail or express. BLOOMFIELD APIARIES, Ed Stewart, Port Hope, Michigan.

GENERAL

HAY FOR SALE, BUY HAY IN CAR LOTS. Write for prices, stating kind wanted, to FARWELL MILLS, Farwell, Mich.

CELERY, GUARANTEED, SILVER KING multiplying celery. A limited supply at the very low price of \$1 for 2 roots. 2 roots will multiply to about 50 in 3 years. Can be grown on any soil. Cut every 10 days. Nice fresh celery from May till Aug. 15th. Send your order early. Full directions with each order. SILAS ROGERS, Hubbard Lake, Mich.

(FOR SALE) FIVE SHARES IN GLEANER Clearing House. Will make discount for cash. Good investment. Address BOX 102, Gladwin, Michigan.

ALL MEN, WOMEN, BOYS, GIRLS OVER 17 willing to accept Government Positions \$135. (stationary or traveling) write Mr. Ozment, Dept. 355, St. Louis, Mo., immediately.

WANTED: TENANT FOR HALF SECTION of excellent land in Hillsdale County, Mich. Applicant should have sufficient funds to own horses and tools and half interest in other live stock. Good milk market. Write H. B. SMITH, Room Four, Record Building, Union Stock Yards, Chicago, Ill.

WE PAY \$200 MONTHLY SALARY, FURNISH rig and expenses to introduce our guaranteed poultry and stock powders. BIGLER COMPANY, P682, Springfield, Illinois.

BUY FENCE POSTS DIRECT FROM FOREST. All kinds. Delivered prices. Address M. M., care Michigan Business Farmer, Mt. Clemens, Mich.

FOR SALE: EQUIPMENT FOR MAKING cheese. Inquire of FRANK L. CUSTER, R 2, Swart, Mich.

ROUND WHITE CEDAR FENCE POSTS, 3 to 7 inch tops, 7 and 8 ft. lengths. Get our delivered prices—Mfr. to user. R. POCH & CO., Rogers, Mich. (P)

HIDES TANNED OR LEATHER FOR REPAIR work sold direct. Prices reasonable. Let us send samples. COCHRAN TANNING CO., Greenville, Michigan. (P)

MARKET FLASHES

TRADE AND BUSINESS REVIEW

The general business situation, the country over, seems to be improving rapidly and good judges of the industrial and commercial outlook, predict a steady gain from now until spring building operations are in full swing. Merchants are completing their spring buying which has been fairly large in volume. Severe storms, in many districts, have had much to do with limiting the volume of the week's retail trade. The steel and iron trade is expanding rapidly, as a result of an increase in the number of orders for all of the various specialties in this line. Many of the steel plants are expanding and increasing their capacity for production a fact that indicates that operators expect a material increase in this summer's business over that of recent years.

The wool market, while it is rather dull, is decidedly firm from the standpoint of price; the government auctions, which have just come to a close, revealed the pressing character of the demand and stabilized the market which was beginning to hesitate because of the effort on the part of buyers and manufacturers to check the upward movement. The activity in the demand for the raw material is in direct contrast with a lifeless market for woolen goods which nearly always develops at this season of the year. The cotton market is firm and fairly active but the demand for cotton cloth is just about on a par with the market for woolen goods.

While wheat prices have eased off, somewhat, during the week, in the main, farm products have been firm and fairly active. The men who make a business of reading the future, in connection with commerce and trade in general, are predicting a boom in all lines that go directly to the farmer; there are those, however, who predict that the farmer will not, immediately, abandon his erst while conservatism but will operate with extreme and unwonted caution during the coming spring and summer months. The increase in the value of farm staples is certainly a boon to the agricultural classes of this country; verily, it is an ill wind that blows nobody good. We are told that it is the failure of Russia to produce her usual share of human food that is responsible for the growing export demand for our products.

Reports, from the great financial centers of the country, indicate that cash is piling up in the bank vaults, while the over-careful owners are seeking opportunities for the safe investment of the same. Long lists of mortgage sales, in the columns of certain local papers, reveal the fact that some of our leading banks have been speculating in real estate securities, land contracts, etc.; a fact that may, in part, explain the lack of funds for farm loans to assist production.

Business has been booming, of late, on the New York Stock Exchange and prices, for all of the dividend-paying stocks have been working higher under persistent buying; both railroad and industrial stocks have been decidedly active, a fact, that speaks well for the industrial outlook for the coming summer season. Call money has been easy, ranging between 4 and 5 per cent. The expansion in business circles is indicated by increased bank clearings which, for the week, amounted to \$7,189,000,000.

WHEAT

The wheat market rules fairly steady since the recent weakness

WHEAT PRICES PER BU., MAR. 7, 1922			
Grade	Detroit	Chicago	N. Y.
No. 2 Red	1.44	1.40	1.48%
No. 2 White	1.41		
No. 2 Mixed	1.41		1.44%
PRICES ONE YEAR AGO			
	No. 2 Red	No. 2 White	No. 2 Mixed
Detroit	1.83	1.81	1.81

developed. There are more bulls than bears in the market and it

Edited by H. H. MACK

MARKET SUMMARY

Wheat quiet. Corn and oats steady. Rye 2c higher at Detroit and Chicago. Beans and potatoes easy. Butter firm and eggs weak. Live poultry unchanged. Dressed hogs and calves dull. Considerable activity in Detroit live stock market and tone is steady. Hogs decline on Chicago market.

(Note: The above summarized information was received AFTER the balance of the market page was set in type. It contains last minute information up to within one-half hour of going to press.—Editor.)

looks as if the advance has only been temporarily checked. Export demand is good and domestic supplies rapidly dwindling to the danger point. Following a period of dullness which should be expected as a natural reaction from the sharp advances during February we may expect to see another upward trend set in.

CORN

The corn market started out last week strong and there were several

CORN PRICES PER BU., MAR. 7, 1922			
Grade	Detroit	Chicago	N. Y.
No. 2 Yellow	.67	.58%	.76 1/2
No. 3 Yellow	.65	.56%	
No. 4 Yellow			
PRICES ONE YEAR AGO			
	No. 2 Yell	No. 3 Yell	No. 4 Yell
Detroit	.72		.69

advances in prices but before the close of the second day weakness developed and declines in prices resulted. From then until the close Saturday afternoon there was an up and down trend to the market but in spite of the weak condition prices finished the week 1c higher at Detroit, No. 2 yellow being quoted at 68c. The market at Chicago closed at the end of the week from 2 to 5c lower than it was the same day one week before. Demand was good the entire week and all breaks in prices brought out buyers in force. Exporters were good customers and they took considerable grain. Receipts continued to decline at all points. Chicago received only 1,982 cars, against 3,625 last week and 3,028 one year ago. Shipments from Chicago were 5,056,000 bu., or nearly 500,000 bushels more than were received.

RYE

Rye followed the trend of wheat last week and on Saturday was dull and lower. Buyers showed little

interest in the market. No. 2 is \$1.03 at Detroit, compared with \$1.05 one week ago.

OATS

Oats are up to 43 cents for best grade at Detroit and are scarce at

OAT PRICES PER BU., MAR. 7, 1922			
Grade	Detroit	Chicago	N. Y.
No. 2 White	.43	.40%	.49
No. 3 White	.41		
No. 4 White			
PRICES ONE YEAR AGO			
	No. 2 White	No. 3 White	No. 4 White
Detroit	.48 1/2	.47	.44

the price. Buying has been fairly active of late and a good-sized dent was put in the visible supply.

BARLEY

Trading in barley was quite active at Chicago last week shipping sales amounting to 10,000 bu. On that market the prices have advanced to 65@71c per bu. The Detroit market was quiet and prices remained unchanged at \$1.25@1.35 per cwt.

BEANS

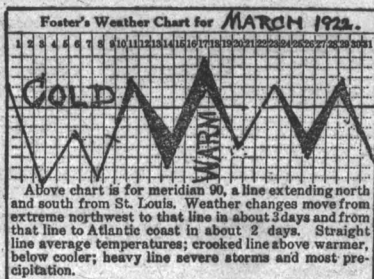
The very thing we have feared and predicted would happen to the

BEAN PRICES PER CWT., MAR. 7, 1922			
Grade	Detroit	Chicago	N. Y.
J. H. P.	6.00	6.25	
Red Kidneys		7.25	
PRICES ONE YEAR AGO			
			J. H. P.
Detroit			3.95

Detroit bean market has actually taken place. This market has been going skyward for several weeks but reacted at the close of last week and a sharp slump took place, prices declining forty cents per cwt. in the course of three or four days. Last week we suggested that farmers might find it to their advantage to sell at prevailing prices, though we

THE WEATHER FOR NEXT WEEK

As Forecasted by W. T. Foster for The Michigan Business Farmer



WASHINGTON, D. C., March 9, 1922.—The week centering on March 17 will average above normal temperatures on meridian 90 from Gulf of Mexico to the far north. The high temperature of that disturbance will be in northwestern Canada about March 15, in Michigan March 18, and in eastern sections March 19. A cool wave will be in northwestern Canada near March 19, in Michigan March 22, eastern sections March 23. Unusually severe storms will prevail from March 11 to 19 and whatever relief that is in store for America and Canada may be expected during that ten days. Bulletin of Feb. 4 said best crop-weather of month would come first and last weeks of February. It came. But March will be full of storms and improvements in crop-weather will come with the storms. I now expect better crop-weather as a result of these numerous severe storms in March than I predicted some time ago and that the general crops of North America will be bet-

ter than I indicated in some of my newspaper bulletins. I now expect that about one-third of the continent will get below normal crops and two-thirds will get bumper crops. Altogether the best average of crops are expected for North America that will have been produced for many years. In my last week's comments on great droughts between this and April 1, 1924, I mentioned thirteen countries that would suffer. I should have included Japan. Including Australia all six of the continents are sure to be much damaged by drought within the next twenty-four months. I do not mean that all of each continent will be greatly damaged. That would be too much drought. But I have definitely mentioned fourteen countries that are sure to have great losses from drought and I am doing this to prove that these great events are foreknowable. Some of these countries will get only a shortage of rain and not a drought. The damage to winter wheat in America this winter is only a shortage of rain and is not a drought, because there has been but little evaporation. When a drought begins in the fall no winter grain should be sown. The destruction of crops by hail is quite an important item in the farmer's calculations. June, July and August are the principal hail months. I am expecting more than usual hail during the coming summer. I am expecting hurricanes during the coming hurricane season. Most severe hurricanes come in August, September and October.

W. T. Foster

did not at that time expect to see such drastic price declines. We have felt right along, however, that the Detroit market has been in the hands of manipulators and that it could not much longer continue its upward trend without occasional slumps. That is why we have been anxious and "nervous" about this market. We have wanted our readers to get the highest possible prices for their beans but we have been afraid that the rapidly advancing prices might lead us all into an unwarranted belief that prices were going very much higher and induce us to hold our beans for prices which would never materialize. While we do not believe that the recent slump is anything to worry about it is something to be watched very closely. We look for the market to recover most if not all of its strength before the next crop. Much will depend upon the 1922 acreage. We look for another effort to bolster up prices before the planting season, and we believe farmers who have not sold might do well to wait until the next bulge, providing the recent declines have affected local prices to any great extent.

POTATOES

Potatoes have firmed up a little following several weeks of a drag-

SPUDS PER CWT., MAR. 7, 1922		
	Sacked	Bulk
Detroit	2.00	
Chicago	1.80	
New York	1.90	
Pittsburg	2.04	
PRICES ONE YEAR AGO		
Detroit	1.66	

gy, unsettled market. Prices are lower all over the country than they were a month ago, but not materially so. While there are many who lack faith in higher prices they do not look for very much lower prices. On the other hand the majority of the dealers seem to be of the opinion that stocks are unusually light for the season and that higher prices will be seen. York state farmers are quite unanimous in their belief in higher prices and are selling very little at prevailing values. Local and primary points in Michigan are not any too well supplied with potatoes due to the great storm which has tied up shipping in the potato section for the past two weeks. As a result we look for a stiffening of the market and possibly higher prices within the next few days.

HAY

Eastern markets are well supplied with hay and demand is low. How-

	No. 1 Tim.		Stan. Tim.		No. 2 Tim.	
	Detroit	Chicago	Detroit	Chicago	Detroit	Chicago
Detroit	19.00 @ 20	18.00 @ 19	17.00 @ 18			
Chicago	21.00 @ 23		18.00 @ 21			
New York	22.00 @ 26		22.00 @ 25			
Pittsburg	22.50 @ 22	20.50 @ 21	18.00 @ 19			
HAY PRICES A YEAR AGO						
	No. 1 Tim.		Stan. Tim.		No. 2 Tim.	
	Detroit	Chicago	Detroit	Chicago	Detroit	Chicago
Detroit	20.00 @ 21	19.00 @ 20	19.00 @ 18			
Chicago						
New York						
Pittsburg	19.50 @ 20	20.00 @ 21	20.50 @ 21			

ever markets in that section of the country show an inclination toward firmness and business promises to improve some within the immediate future. Cold weather and heavy snows have improved the market throughout the west and the better grades are selling at higher levels at many points. Bad weather has held up receipts which is also having much to do with the tone of the market. Should markets become much stronger and prices advance the gain would hardly amount to a substantial sum owing to the time of the year. Advances made last week only amounted to \$1 on a ton at the most.

WOOL

The wool market, while it is quiet. There is very little wool continues about steady, but very moving and there is a hesitating tendency. Sales of new clip in the

rest are not reported so often, growers' and buyers' ideas being rather apart, according to reports.

This condition is reflected in the rest of the market, with the result that, though prices are quotably unchanged, the undertone in uncertain and waiting. Mills are buying less freely.

The Commercial Bulletin gives wool quotations at Boston unchanged from last week, as follows: Ohio and Pennsylvania fleeces: Elaine unwashed, 47@50c; fine unwashed, 33@39c; 1-2 blood combing, 42@44c; 3-8 combing, 40@42c.

Michigan and New York fleeces: Elaine unwashed, 44@45c; fine unwashed, 34@36c; 1-2 blood unwashed, 39@41c; 3-8 blood unwashed, 39@41c; 1-4 blood unwashed, 37@39c.

Wisconsin, Missouri and average New England: 1-2 blood, 33@39c; 3-8 blood, 37@38c; 1-4 blood, 36@37c.

LIVE STOCK MARKETS

The cattle trade showed marked improvement, last week, over the week before, one of the principal causes being the short run in Chicago where the falling off from the week before equaled 7,500 head. Prices advanced, early in the week, and held about steady until the close on Saturday. The kind that showed the most gain were the cattle selling between \$7.25 and \$8.25. The supply of rough strong weight steers was rather liberal but only a few high-quality cattle came to hand. The demand for heavy steers greatly improved from this day last week, as the conviction is general, among good judges of market conditions, that the crop of long-d cattle will prove to be far short of the needs of the case.

Eastern dressed beef markets started out rather slow, last week, but they are making it up this week as a result of a rapidly increasing demand. In some parts of the state the supply of cattle on feed is small, a fact that makes an encouraging outlook for those who are starting the business.

Reports from interior points indicate an active demand for feeding cattle; feeders from Mineral Point, Wisconsin, are already buying in the Chicago market in anticipation of an early rise of pasturage. Last week's sheep and lamb receipts were practically the same as the week before; the big run of the week before and the large estimates for last week, caused prices to break early in that period. Part of the loss was regained, and the close was firm and within 25 cents per cwt. of the week's high time. Prospects of warmer weather hurt the trade in dressed lamb and mutton, late last week and the market for live animals was obliged to follow suite. The demand for feeding lambs experienced very little change from the levels of the week before, the range being from \$12 to \$13.75 per cwt. Shearlings brought \$13.75 to \$14.50 in the Chicago market. Illness and hesitancy in the wool market has also tended to take the edge off the demand for all classes of breeding sheep.

Chicago had an active hog trade last week resulting partly from falling off in arrivals of more than 15,000 hogs from the showing the week before. Shipping orders were small in the Chicago yards, last week, but small stocks of fresh pork at all points kept the market from slipping. Export demand for products, continues on a larger scale than ever and the outlook favors one of the best years, for the portation of food products, that the country has ever known. The market made a new "high" rally, last week, but it begins to look a tired look and the situation hardly as strong as on this day last week.

EAST BUFFALO LIVE STOCK MARKET

March 7th
Cattle: Receipts, 3,000; heavy; lower; but handy steady, shipping steers, \$7.50 to \$8.50; butchers, \$7.50 to \$8.25; yearlings, \$9; few, \$10; heifers, \$5.50 to \$7.75; cows, \$2.25 to \$6; bulls, \$3.50 to \$5.25; stockers and feeders, \$5 to \$6; fresh cows and heifers, \$45 to \$110. Calves: Receipts, 100; 500 lower, \$3 to \$13; Hogs: Receipts, 13,000; steady to shade lower; heavy, \$11.50; mixed, \$11.75; yorkers,

\$11.75 to \$11.85; light do, \$11.50 to \$11.75; pigs, \$11.25 to \$11.50; roughs, \$9.25 to \$9.50; stags, \$4 to \$6; Sheep and lambs: Receipts, 3,000; 25c to 50c higher; lambs \$8 to \$16; yearlings, \$10 to \$15; wethers, \$10.50 to \$11; mixed sheep, \$10 to \$10.50.

MISCELLANEOUS MARKET QUOTATIONS

Detroit, March 7th

BUTTER—Best creamery, in tubs, \$4 1-2 to \$5c per lb.

EGGS—Fresh, current receipts, 23 to 24c.

APPLES—Greening, \$3.50 to \$3.75; Steel's Red, \$3 to \$3.50; Baldwins, \$2.75 to \$3; Spy, \$3.50 to \$4; western, boxes, \$3 to \$3.75.

ONIONS—Eastern, \$3 to \$3.50 per per 100-lb. sack.

POPCORN—Globe, 5c; Little Buster, 10c per lb.

DRESSED HOGS—Small to medium, 12 to 13c; heavy, 10 to 11c per lb.

DRESSED CALVES—Choice, 15 to 16c; medium, 12 to 13c; large coarse, 5 to 10c per lb.

LIVE POULTRY—Best spring chickens, smooth legs, 23c; staggys, 25c; leghorn springs, 25c; large fat hens, 30c; medium hens, 28c; small hens, 26 to 27c; old roosters, 17c; geese, 20 to 22c; ducks, 35c; choice large trukeys, 35c per lb.

WEEKLY MARKETGRAM

WASHINGTON, D. C., For the week ending March 4, 1922.

DAIRY PRODUCTS: Butter markets firm with prices showing advances averaging about 2 cents higher in eastern markets and about 1 cent higher at Chicago. Demand latter part of week active; all grades moving well. Closing prices 92 score; New York, Boston and Philadelphia 33 cents; Chicago 37 cents. Cheese markets active following declines on Wisconsin cheese boards Feb. 27. Prices at Wisconsin primary markets March 3: Twins, 18 1-2c; Daisies, 20 cents; Double Daisies and Young Americas, 19 1-2 c; Longhorns, 20c; Square Prints, 21 1-4c.

FEED: Demand slow. Future offerings demand light. Linseed meal firm, offerers quote firm prices. Eastern markets easier. Southern and southeastern demand good for middlings and shorts; light for bran. Cottonseed meal easier, moderately liberal. Northwestern markets scarce. Hominy feed inactive, price unchanged. Gluten feed production good, demand good. Receipts and stocks generally ample to meet requirements. Quoted March 3: Bran, \$25; middlings, \$25.50, Minneapolis; 36 per cent cottonseed meal \$40.25; white hominy feed, \$23, St. Louis. Linseed meal, \$52, Minneapolis; gluten feed, \$32.15; Chicago, No. 1, Alfalfa meal, \$17.25, Kansas City.

FRUIT AND VEGETABLES: New York and Chicago potato markets slightly weaker, other cities steady to firm. Supplies liberal, demand limited. New York sacked round whites off 5 cents in New York city at \$2 to 2.05 per 100 pounds up 5 cents in other eastern cities at \$2.15 to 2.25. Northern stock nearly steady in Chicago at \$1.80 to 1.95; up 5 to 10 cents in other markets at \$2.10 to 2.15. Idaho rural down 10 cents in Chicago at \$1.95 to 2. Prices steady to firm in distributing markets. New York round whites up 7 cents at \$1.88, Maine Green Mountains up 10 cents at \$1.41. Northern round whites up 10 cents at \$1.60 to \$1.70 f o b, shipping points. Cabbage markets strong, supplies new stock liberal. Demand limited. New York Danish type up \$5 to 10 in eastern cities at \$40 to 53 per ton bulk. Too few sales at shipping points to establish market. Apple markets firm; demand limited. New York Baldwins, @ 2 1-2 firm at \$7.50 to 8.25 per bbl. in leading markets.

LIVE STOCK AND MEATS: Chicago hog prices advanced 25 to 35 cents higher, heavy hogs advancing most. Beef steer up 10 to 25 cents; Butcher cows and heifers up 15 to 40 cents. Good to choice stockers and feeders steady; common kinds dull and weak. Veal calves lost 25 cents to \$1.50; fat lambs and yearlings 25 to 50 cents; fat ewes 25 cents. Feeding lambs unchanged. March 4 Chicago prices: Hogs, top \$11.25, bulk of sales \$11 to \$11.25; medium and good beef steers, \$7.40 to \$9.15; butcher cows and heifers, \$4.15 to \$8.15; feeder steers, \$5.50 to \$7.50; light and medium weight veal calves, \$7.25 to \$10.50; fat lambs, \$13 to \$15.75; feeding lambs, \$11.50 to \$14.50; yearlings, \$10.85 to \$14.25; fat ewes, \$5.50 to \$9. Stocker and feeder shipments from 11 important markets during the week ending Feb. 24 were: Cattle and calves, 55,745; hogs, 8,773; sheep, 26,685. In eastern wholesale fresh meat markets mutton and beef advanced while veal, lamb and pork loins declined. Mutton up \$1 to \$3; Beef 50 cents to \$1. Veal, lamb and pork loins weak at some markets and as much as \$2. Lower at others. March 3 prices good grade meats: beef \$12.50 to \$14; veal \$16 to \$18; lamb \$25 to \$29; mutton \$14 to \$21; light pork loins \$19 to \$21; heavy loins \$15 to \$18.

CROP REPORTS

CHEBOYGAN—Practically no change in market conditions since last week. Just recovering from effects of big storm of week ago. Roads improving but still rough for travel. Almost no heavy hauling being done. Entertaining motion picture program dealing with wild animal life, taken on the shores of Burt Lake and elsewhere in this district being given this week by G. H. McGilvray of State Game Dept. Farm management meetings to have been given by county agent postponed on account of storm. Crows have been seen for three weeks,

presaging an early spring in spite of the heavy snow fall. Fall grains well protected and should yield abundantly. "Heavy snow—Fruit will grow" goes the old adage.—M. G. F., March 2.

GRATIOT—Winter wheat is suffering, freezing and thawing. The sugar companies are offering to contract beets at \$5 per ton with \$18 labor and sliding scale contract. Everyone wants hogs and are paying fancy prices. Those who sold beans early curse their luck. Many are considering exchanging horses for cheap tractors. Alfalfa acreage gaining.—Carl C. DeWitt, March 3.

LIVINGSTON—Weather has been moderate with light fall of snow on Tuesday. Farmers are busy getting up wood and getting out manure in preparation for spring plowing. The usual number of auction sales are being held. Some farmers moving to town while others are renting their farms.—Geo. Coleman, March 3.

ST. JOSEPH—March 1, quite heavy fall of snow, March 2, lovely sunshine and thawing fast. Farmers hauling few logs to mill and cutting wood. Some cutting wood on shares. Eggs are way low. Rye is advancing in price slowly. March 3, weather better, sun shining and birds singing. Some skunk trapping being done here.—Mrs. H. C. Holtz, March 3.

KENT (N)—Having our first spring weather this week. Saw first robins last Tuesday. The sleet storm of last week did but slight damage in this vicinity. Farmers are getting restless and are hauling manure, getting up wood and attending auction sales. Sales every day now. Bids rather slow. Some beans and grain being sold. A few potatoes also. Not many left here.—C. A., March 3.

MONROE—Weather is fair, freezing nights, thawing days. Not much doing. Prices of products some better, but not much left to sell; some oats and corn being sold to farmers for seed and feed. Most of our grain went out on trucks and crop reporters give it as in the farmers hands yet. It will be found the same in lots of places.—G. L. S., March 3.

EATON—Pleasant and warm this a. m. Snow nearly all off fields. Wheat and rye looking brown. The roots are all right as yet. Farmers are feeling as if the worst of the deflation has passed. Prices for hogs and sheep are good, but cattle are low as yet. Hope to receive better prices the coming season. So we will be able to pay taxes without going to banks.—C. F. L., March 3.

MIDLAND—During the past week we have had the worst weather that has been experienced here in years. Rain, which froze as soon as it touched anything, fell intermittently for about 36 hours. Trees and telephone poles were broken off. Immeasurable damage was done to fruit trees of all kinds. For several days the water was over the road and people from this direction were unable to reach town.—C. L. H., March 2.

WEXFORD (NW)—Sun shining brightly this morning. Ice not all gone from trees yet. Saw a crow last week, sounds like spring. Buying hay, straw and grain now, quite a bit. Township caucus next week. Pick out the best man. Nearly everyone is expecting better times ahead. They will plant and sow about the same here as usual.—W. A. J., March 3.

GENESEE—Some snow Friday. Roads very rough having been cut up badly during the rain of last week. Wheat looks very brown but some of it has good growth. It may come thru very well but late sown wheat looks bad. Not many farm auction sales. Some farms going back to former owners because cannot be paid for.—A. R. Graham, March 3.

SUGAR COMPANIES OFFER \$5 PER TON FOR BEETS

(Continued from page 3)

several Michigan factories to the U. S. government for a period of 12 years we find that the average extraction of white sugar (which does not include the by-products) to be right around 12.9 per cent or 258 pounds of white sugar extracted from a ton of beets. If we take into consideration the above facts if true we now have all of the data necessary on which to build a fair sliding scale contract on a 50-50 basis. It will be seen that sugar at one cent a pound would give to the factory \$1.29 and the grower \$1.29 out of a ton of beets. This \$1.29 is some where near the right spread to use in the advance for a ton of beets and not an even dollar as proposed by the factories for each cent advanced in the price of sugar.

"The factories are raising a point which they are stressing heavily and that is the minimum guaranteed price for a ton of beets. In this their point is well taken, but it is something that cannot be gotten around on account of the bad condition of our farmers, the high taxes, high labor and large amount of capital needed to grow a beet crop requiring interest to be paid on same by the majority of growers. This is something that should be and must be considered by congress if the industry is to be saved and a protection tariff high enough to cover the difference in the cost of production in foreign countries and when this is properly done I do not believe sugar will average below 5 cents in N. Y. and make the factories safe in offering a contract based on a minimum of 5 cent sugar or right around \$6 for beets on the 1922 contracts. I will concede that for

the factories to be safe in doing this a tariff of at least 2 cents on foreign sugar will be necessary. Why cannot the representatives of the factories and those of the growers meet in a conference and thresh some of these things out along strictly business lines instead of standing off submitting to conditions requiring and calling for political conferences which do not get us anywhere and operate generally to the disgust of the ordinary farmer and manufacturer?"

JUST AS OUR GRANDFATHERS THOUGHT!

THE DATE was 1867. The place was northern Missouri. The Civil War was two years away. The persons were two farmers sitting together on a worm fence. The theme was the only one they knew—hard times!

You know what they were saying. Their world of finance was warped and twisted. Interest rates were high and money almost impossible to get. Their good wives were gathering up eggs and selling them for eight cents per dozen. They had to beg the dealer to buy their pork. Their corn was worth fourteen cents and their oats not worth hauling away over the poor roads.

It was a hard time. What did they do? They faced the situation with hope and hard work; and in a few years their farms were paid for, their children educated, and they had a comfortable nest built for old age. But in 1867 the clouds of gloom hung close over their puzzled heads.

Today the grandsons of the farmers of 1867 are sitting in their automobiles talking hard times, and poor markets, and low prices. They are talking the language of their fathers. Abraham Lincoln had a poem written by a Scotchman which he kept over his desk in the White House which read, "We are the same our fathers have been." We are surely the same when depression hits our pocketbooks.

Time has shown that the farmers of 1867 and 1893 did not have all the facts, for had they been able to forecast the future days they would have been singing instead of moaning. Better days came just as truly as better days are sure to come to us.

Just as our fathers and grandfathers faced the financial chaos of their times, and turned it into order, so will we. In the meantime, there are two things we can do to help:

Let's stop talking to each other about hard times. We are not starving yet, and there is no prospect of that. If we keep on suggesting to each other that things are "going to the devil," it will grease the slide to that state of things.

Then we must keep suggesting to each other that we believe in each other; pledge each other our mutual faith, to our country and the God above us, that we will stay on the job and plug and save and dig until the new economical day dawns. If we will all do that, our eyes will be wide open to enjoy the new day when it comes.—The Farmer, St. Paul.

LIVE STOCK EXCHANGE ELECTS

THE Michigan Live Stock Exchange directors at the first meeting last week elected C. V. Tracy of Ithaca president of the Exchange for the coming year. W. J. Perry, secretary; E. E. Compson, vice-president; P. M. Granger, Charlotte, treasurer; George Boutell, Perry, secretary; E. E. Compson, Lansing, secretary-manager. The Exchange is getting ready to establish co-operative commission houses at Detroit and Buffalo.

The Old Reliable Remedy for Colds. CASCARA QUININE. BREAKS COLDS IN 24 HOURS. LA GRIPE IN 3 DAYS. WORLD'S STANDARD FOR TWO GENERATIONS. BEGINS acting within ten seconds. Safest and most dependable family remedy for Colds, Headaches and La Grippe. Don't experiment—insist upon Hill's Cascara Bromide Quinine. World's standard Cold remedy for two generations. Demand red box bearing Mr. Hill's portrait and signature. At All Drugists—30 Cents. W. H. HILL COMPANY, DETROIT.

Belgium Imported Melotte

22% Cut In Price

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.

Our 15 Year Guarantee What U. S. Government Says!

Every Belgium imported Melotte Cream Separator is sold under an absolute, ironbound, 15-year guarantee. No Melotte is ever sold except under this guarantee. A guarantee written in plain English so that you can understand it. A guarantee that is 100% stronger than any other separator guarantee ever made. A guarantee that really guarantees something—upon which you can absolutely rely—an absolute protection to the purchaser, and which binds us to our bargain.

Vibration of a cream separator's bowl will soon cost you more money in cream waste than the price of your separator. U. S. Government Bulletin No. 201 says that a perfectly true motion of the bowl is *absolutely necessary*. The bowl is the vital part of any separator—the part where the cream separation takes place.

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—can not vibrate and thus cause crosscurrents 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.

\$7.50
after 30 Days
Free Trial

—NO MONEY DOWN—FREE TRIAL—SMALL MONTHLY PAYMENTS—DUTY FREE

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 the balance in small monthly payments until the separator is paid for.

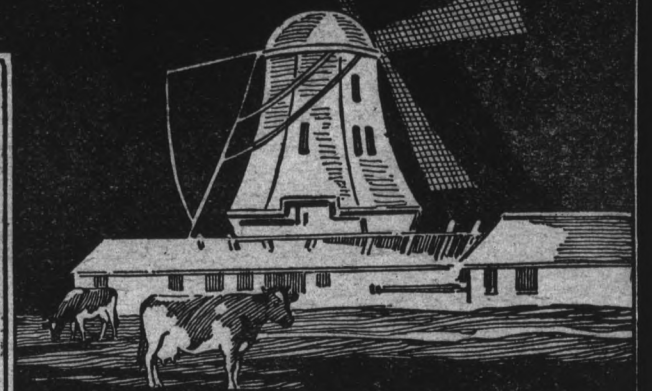
Send No Money!—Easy Payments!

After 30 days free trial, then send only the small sum of \$7.50 and the balance in small monthly payments. The Melotte pays for itself from your increased cream checks.

You're not to send one cent until you've used this great Belgium Melotte and have made up your mind

it is the machine you want. Keep it for 30 days and use it just as if it were your own machine.

Compare the Melotte separator with any other—test them side by side. Then send your milk to the creamery. Let them prove which separator skims the cleanest.



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Without cost to me or obligation in any way, please send me the Melotte catalog which tells the full story of this wonderful separator and M. Jules Melotte, its inventor. Also send me your revised price list showing 22% reductions.

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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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Dept. 3303 2843 West 19th Street Chicago, Illinois