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ORCHARD AND GARDEN

January 1-8.

Order seeds early. There is a decided shortage of many kinds and the home supply should be obtained as soon as possible.

Sweetpeas sown in the greenhouse about Christmas will be in bloom for Easter.

Well rotted manure scattered over the lawn will hold the snow and give better grass next year.

Are rabbits or mice enjoying the tender wood of your apple trees now? Better examine the trees and take steps to destroy the rodents.

Potatoes should be kept in a temperature of about 38 degrees. If the air is dry, they should be covered with sand. They should also be kept from light, which will turn them green. Keep off all sprouts.

Go over the celery, cabbage and root crops in the cellar and pick out any that are starting to decay.

By means of the Florists' Telegraph Delivery it is possible to send flowers to any part of the United States by giving the order to a florist who is a member of this organization. They may even be sent to the soldiers in the French hospitals through the connections of this society in France.

Liberty wreaths were made up this year by some of the florists. They consisted of holly or evergreen with silk American flag in the center. A wreath hoop makes a good base to tie the evergreen on in the form of a wreath.

Clip the tip of the flower stems in the vase on your table each day and change the water. The inch taken from the end of the stem enables fresh, clean water to go up into the flower to take the place of water that has been given off. The exception to this plan comes in the case of flowers with milky juice like the poppy and poinsettia. These should be dipped in hot water or a blaze of fire quickly when first cut.—LeRoy Cady, associate horticulturist, University Farm, St. Paul, Minn.

ORCHARD AND GARDEN

January 8-15.

Evergreens add much to a winter landscape and keep off the wind.

Water plants in the morning in winter to give the foliage a chance to dry off before night. This will help to prevent mildew.

After heavy snow storms it is a good plan to shake the snow from evergreen branches. Too much snow is likely to cause them to break down.

Plants that are inclined to mildew may be dusted with liver of sulphur. The best plan, however, is to remove the cause of mildew, which may be a draught of air or moisture conditions.

A dry house atmosphere is not desirable to live in and it will not permit the raising of good house plants. Plants must not be kept too dry or warm. Fresh air is essential to them as well as to human beings.

Swiss chard is sometimes grown in the greenhouse to advantage. Beets may be started under the greenhouse bench if there is light enough to prevent their becoming spindling.

This is the time to study spraying. Spraying is serious business and the spraying campaign should be well worked out in advance. Know first what insects or diseases you are going to combat, then get the best materials to meet them and learn when and how best to apply them.

Unless looked after carefully gardeners make good coffins for house plants. Plants must have air at their roots as well as tops and will not stand wet roots or soggy soil. Keep the soil sweet and clean as well as the room in which the plant is kept. Plants need fresh pure air as well as people.

Let us not give up the culture of flowers this year entirely but give increased attention to growing good gardens.—LeRoy Cady, associate horticulturist, University Farm, St. Paul, Minn.

ADDRESSES BEFORE

LEAGUE OF CITIES

The December number of Minnesota Municipalities issued by the League of Minnesota Municipalities with headquarters in Minneapolis is devoted largely to the recent meeting of the league, giving the address of welcome by D. H. Freeman, mayor of St. Cloud, address of the president, O. H. O'Neill, and report of the secretary-treasurer. Special articles are: "Kultur or Civilization" by W. D. L. Hardie, president of the Union of Canadian Municipalities, and "War Time Economies" by Frederic Bass.

MAPLES URGED AS A SUGAR RESOURCE

There is a serious shortage of sugar. Sugar is needed as food by soldiers at the front and by workmen who are building ships, making war supplies, operating railways, etc. Hence, sugar-saving is helping to win the war. There are three sugar-bearing crops which Minnesota farmers can grow and use at home in the place of sugar purchased from the store. These are maple trees, sugar beets, and sorghum. Of these the maple trees produce the finest syrup or sugar and that easiest to manufacture at home. There are thousands of "hard maple" trees scattered through the hardwood groves of Minnesota. Every one of these should be tapped next spring as soon as the sap begins to flow, and the sap boiled down to syrup or sugar. Either the old style open kettles or newer galvanized iron evaporating pans may be used.

If the sap is boiled down until it shows a temperature of 219 degrees, the syrup when cool will weigh 11 pounds to the gallon and will not grain on standing. This is the best strength for maple syrup. If sugar is desired, continue the boiling until the temperature is 234 degrees, if soft or "tub-sugar" is desired, or 240 degrees, if hard "cake-sugar" is preferred. At these temperatures, remove from the fire, and stir vigorously and continuously until the sugar "grains," and a supply of the finest sugar known will be obtained. Such sugar sells for from 25 to 30 cents per pound. This is a source of revenue and of sugar-conservation which ought not to be neglected by any loyal citizen who owns maple trees. Begin now to prepare necessary spiles, buckets, and evaporating kettles or pans.—R. W. Thatcher, dean of the Department of Agriculture, University of Minnesota.

WINDBREAKS PAY IN COMFORT AND MONEY

A grove on a farm greatly improves its sale value. Trees arranged in nice shape around a farmhouse and buildings will raise a farm in the estimation of a buyer, who wants an attractive home, a good many times the value of the time and money put into the planting of the trees.

Windbreaks are a great protection from the hot, dry winds of the summer and the cold, chilling winds of the winter. They are especially beneficial to orchards, preventing the winds from blowing off the blossoms in the spring and shaking off the fruit in the fall. Windbreaks also protect fruit trees from blight and winter killing.

A well arranged strip of trees is a great protection against drifting snow. Clover and winter crops, such as winter wheat and rye, protected by a belt of trees which prevents the snow from blowing off, will produce much better and be less subject to winter killing. In summer and spring a tree belt protects from hot, scorching winds, which cook the grain before it is ripe or blow the seed out of the ground before it sprouts.

The protection which a good windbreak will give to stock in winter will pay in a short time for the cost of establishing the windbreak.—W. H. Kenety, superintendent, Cloquet Experiment Station.

HOW TO FORM FARM LOAN ASSOCIATION

Though many farm loan associations are being formed under the federal farm loan act, there is still a good deal of doubt as to how to proceed. For this reason the Department of Agriculture of the University is passing on the following statement from the government at Washington:

Any ten farmers—men farming their own land—can form an association if the total of their loans exceeds \$20,000, provided always that each loan is not less than \$100 and not more than \$10,000. The federal land banks are ready to send to any one who wishes to form an association the necessary papers. One set of papers will be completely filled out with fictitious names so that there will be no possibility of making mistakes if it is followed. The process of forming an association consists of signing the articles of association by ten farmers together with the signing of individual applications for each of their loans. Each farmer, however, must subscribe for stock in the association in an amount equal to five per cent of his loan. Moreover, the secretary-treasurer of the association and the loan committee must fill out other blanks, but the papers will indicate the requirements with regard to these. The first thing to do is to get the necessary papers from the federal land bank of the district. For Minnesota this is in St. Paul.

FIGURES ON SEED GRADING WRONG

The item in the University Farm Press News of December 15, headed "Does Grading of Your Seeds Pay?" was in error. In arriving at the correlation between plumpness of seed and amount of yield, the writer of the item did not give consideration to the fact that the wheats grown were not all of the same variety.

A MEATLESS DAY

When I come to the end of a meatless day

I am always so glad that it's past,
For the mush and the bread that I've stowed away

Are not foods that are made to last.
I long for a steak or a juicy roast
In place of the spuds and the mash,
If I only could have some minced ham on toast,
Or some old-fashioned wieners or hash.

But I'll stick to the plan for saving the meat,
And I'll eat oats and corn and won't stop

Until Uncle Sam has Germany beat,
And our boys have gone over the top.

We cannot all fight or work in the pit,

We can't all be warriors brave,
But we can all help by doing our bit
With the meat and the wheat that we save. —T. S. P.

COUNTY AGENT A WAR NEED—HOUSTON

County commissioners of Wabasha county, upon being approached in regard to appropriation for county agricultural agent work, felt that they desired to know that the United States government regarded this as a war measure and accordingly wrote Secretary D. F. Houston in order to get first hand information. Secretary Houston replied by wire as follows:

"The last congress, as a part of its war emergency program, provided an appropriation to assist in the placing of a county agent in each agricultural county in the United States within the present fiscal year. The department is in co-operation with state agricultural colleges which are taking the matter up with county authorities. Since appropriations became available, August 10, more than five hundred county agents have been appointed. There are now about 1,700 county agents in the United States. The department hopes that every agricultural county will have an agent before the beginning of the next crop year to assist the government in stimulating production, promoting conservation, and improving the distribution of farm products and foods, and in any other work incident to the war."

STRAW URGED AS LIVESTOCK FEED

Dr. Carl W. Gay of the Minnesota Experiment Station urges upon Minnesota the use of straw as a livestock feed in order to conserve grains for use as human food. He says that cattle and sheep can digest limited quantities of straw to good advantage.

Straw is improved in palatability, he says, by cutting and soaking in beet molasses available to Minnesota feeders at \$35 a ton. Straw run through a cutting box then soaked in diluted molasses, one to four, from one feed time to the next should in Dr. Gay's opinion, be fed more extensively than it is. Incidentally, this is about the best way to feed molasses, itself a good feed.

Feeding straw should be bright and clean and the amount should be carefully guarded if the best results are to be obtained. To feed too much straw is dangerous. It should not be fed at the same time as hay, and stock should not be allowed to run to the straw stack.

Straw has been fed experimentally to horses, beef cattle and sheep with results which warrant a much more general use of it than is now made. It is especially good for roughing idle horses through the winter.

CAN YOU SOLVE

THIS PROBLEM?

If 50 rats cost the farmer \$100 a year, how much money are you wasting?

It is estimated that there are more rats than human beings in the United States. New corn cribs and granaries should be built with concrete floors and with small mesh wire netting in the walls. Old cribs and granaries and poultry houses should be made rat proof. Farmers' Library Bulletin 54 "Some Four-Footed Farm Pests," by F. L. Washburn tells how to exterminate rats. If you do not already have a copy, write to Office of Publications, University Farm, St. Paul, for a copy. It is free.

AVOID OAT HULLS AND HULLS OF RICE

Farmers are warned to avoid the purchase of oat hulls and rice hulls when offered at from \$25 to \$30 a ton in lieu of mill feeds.

Complaints are being received by the division of agricultural biochemistry, University Farm, of the serious losses through the feeding of such materials. One farmer reports that his milk production fell off 50 per cent within a few days after oat hulls were made an important part of his dairy herd's ration. Animals fed on oat hulls sooner or later suffer from digestive disturbances and refuse to eat the stuff. The fur becomes rough and in severe cases "humpy back" is observed. The protein contained in oat hulls is low, as are also fats and carbohydrates. Besides, the stuff contains so much woody fiber that it is impossible to make a mash of it. The ash is high in silica which probably accounts for the digestive disturbances.

Rice hulls are even less desirable than oat hulls.

HORSEMEN FAVOR

HORSE MEAT AS FOOD

The National Association of Stallion Registration boards, of which J. S. Montgomery, University Farm, St. Paul, is vice president, at its Chicago meeting in December went on record as favoring the use of horse meat as human food and passed resolutions requesting the United States bureau of animal industry to provide suitable inspection of horse meat at the principal market.

It was brought out in the discussion at the meeting that there are in a half dozen northwestern states several hundred thousand head of horses which weigh less than one thousand pounds and have practically no market value, even for army purposes. On this fact and the fact that there are probably 10,000,000 people in the United States who have come from countries in which the use of horse flesh as human food is common or whose parents came from such countries, the association based its action.

PIG CLUB ARMY

GROWING RAPIDLY

The boys and girls of Minnesota are rapidly being recruited for the pig club contests of the coming summer. T. A. Erickson, state leader of boys' and girls' clubs, and L. H. Fudge, assistant state leader in charge of pig club work are reaching out into every part of Minnesota with information as to the organization of pig clubs and the rewards to be won by careful work. They report great interest based on the results of the 1917 contests. This year they are using a new pig club record book as an aid to the accurate reporting of the kinds and weights of feeds and the monthly weights of the hogs under the care of contestants. The record book also contains a series of questions to be answered by the contestants in writing the story of their pigs.

Anyone who is interested in the pig club work in his community should write to Mr. Erickson or Mr. Fudge, University Farm, St. Paul.

STATE CROP SHOW

CLASSES UNCHANGED

The classification of the Minnesota Crop Improvement association for the annual show at Luverne February 13-15, will be practically the same as that of last year. Therefore, any seed grown on the farm may have a chance to win a prize. Fifty, ten and single ears of corn—either dent, flint, sweet or pop-corn—are included for the northern, central and southern sections of the state. Peck samples of wheat, oats, barley, flax, rye, buckwheat, field peas and beans are included for all staple varieties, and half peck samples of timothy, clovers, alfalfa, and grass seeds may be sent. A miscellaneous class for sorghum, broom corn, etc., is also planned. Samples should be sent prepaid to J. E. Treat, Luverne, Minn., care of Crop Show.

THE WORLD'S WORST OF ANIMAL PESTS

The world's worst animal pest is the rat.

It carries the germs of bubonic plague and many other diseases fatal to man.

It destroys annually in the United States property worth \$200,000 equivalent to the gross earnings of an army of 200,000 men.

It eats enough grain on many a farm to pay the farmer's taxes and leave a margin.

Why not join in and fight the rats? You can get valuable suggestions as to methods in Farmers' Bulletin 896, United States department of agriculture, Washington, D. C., and in Farmers' Library Bulletin 54, extension division, University Farm, St. Paul.

NEW SHORT COURSE FOR THE DAIRYMAN

Beginning January 8, 1918, and continuing three months a short course for the dairyman, whether he is interested in manufacturing dairy products or providing the raw materials from the farm, will be given at University Farm, St. Paul.

Milk-testing, butter-making, cheese-making, ice-cream making, with classroom lectures and recitations to make them clear, will be emphasized on one side and a study of breeds, of feeding, and of judging dairy cattle, on another. The work is designed to fit young men for positions as creamery helpers, to make creamery helpers more efficient and to equip young men as herdsmen and as testers in official and contesting association work.

While this short course is a little school by itself the work will be given in such a way that if the student ever decides to return to the school of agriculture he can receive definite credit for the work done at the short course.

A bulletin describing the dairy course will be sent upon request.

MINNESOTA WINS

AT LIVESTOCK SHOW

The Department of Agriculture of the University with a total of 16 animals won 24 honors at the recent International Livestock Show in Chicago. The animal winning the most prizes was Standard Lad Fourth, Hereford yearling, which took five honors:

Hereford yearling, open, first, \$25; Hereford association special, first, \$15; Champion Hereford, \$50; Hereford association special, \$50; Reserve champion yearling, no prize money.

Other prizes were won by Minnesota beef cattle, swine, horses and sheep.

In addition, the Minnesota student stock-judging team won fourth place among 10 contesting teams, and Mark McCarty and J. H. Kalash won second and third in individual rank among about sixty contestants.

U. FARM COW

MAKES A RECORD

One of the Guernsey cows of the herd of the dairy husbandry division at University Farm has just completed a yearly record which places her away up among the aristocracy of dairy cattle. The cow is Imported Victorina of Sarnia No. 35669. She is seven years old and in the year just completed produced 10,504.7 pounds of milk with an average test of 5.13 per cent of butter fat or a total of 538.54 pounds of butter fat. In addition she gave birth to two fine calves within a year.

This record gives Imported Victorina eighth place in the honor list of all cows of the breed in Class AA. The slogan of the double letter class is "A calf with every record." This class was inaugurated in order to encourage more profitable management of Guernsey herds.

In making this record she was not given any better care than the more successful dairy farmers of Minnesota find profitable in the management of their herds. And, while the record is not phenomenal from the standpoint of milk and fat, it is a practical and profitable one when we consider that she reproduced as well as produced.

MACKINTOSH LEADS

HORTICULTURISTS

The Minnesota State Horticultural society at the close of its annual session at the West hotel, Minneapolis, elected R. S. Mackintosh, horticultural specialist at University Farm, to the presidency for the ensuing year. Mr. Mackintosh succeeds Thomas E. Cashman, who has held the presidency for eight years. A. W. Latham of Minneapolis was re-elected secretary, and George W. Strand of Taylor's Falls, treasurer. J. M. Underwood, Lake City, and Clarence Wedge, Albert Lea, were elected to the executive board for three years.

Mr. Mackintosh was a member of the first class ever to be graduated from the school of agriculture. His father, William Mackintosh, was one of the early and important members of the society.

MINN. GETS \$135,000

TO AID CONSERVATION

Dean R. W. Thatcher of the agriculture department of University of Minnesota, recently back from Washington, D.C., says Minnesota has been granted an emergency fund of \$135,000 to help carry on the food conservation campaign and other emergency work. He says also, that under the Smith-Hughes vocational bill Minnesota will receive \$60,000 the first year to aid in the establishment of secondary vocational schools. This sum will be increased from year to year.