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## ORCHARD AND GARDEN

June 1 to 8

The wheel hoe makes garden cultivation easy.  
Squash and melons may be planted now with good results.  
Dahlias and gladioli may be planted now to good advantage.  
Lima beans require warm weather for their best growth. Plant them now.  
Too many plants to the foot is just as bad as weeds. Keep the plants thinned.  
Bone meal is a good fertilizer to work into the ground around perennials occasionally.

Geraniums, cannas, coleus and, in fact, all bedding plants may go into the ground now.  
Tomatoes trained to stakes do not yield quite so much as when in bush form, but the fruit is better colored and larger.

Wire gauze netting over cucumbers and melons will protect them from the striped beetles. Often a thorough sprinkling of lime or dust is effective.  
Dust the currant bushes with paris green and air-slaked lime as soon as the currant worm begins its work. Put on when the bushes are moist.

Neatly trimmed borders of flower beds, shrubs, or walks add much to their beauty and do not take much time.  
Mow the lawn frequently and fertilize occasionally if you want it kept in good condition. Don't let the grass get long. It is harder to mow and weakens the growth.

One of the beautiful trees on University Farm campus this year was the Mayday tree. It came into bloom May 11 and, as usual, was a column of white nearly thirty feet high.

The summer meeting of the State Horticultural society will be held at University Farm soon. Watch the papers for announcements, and spend the day on the campus. There is always a good show, a good program, and a good attendance at these meetings. Plan to see the campus at its best.—LeRoy Cady, associate horticulturist, University Farm, St. Paul, Minnesota.

## ORCHARD AND GARDEN

June 8 to 15

Don't quit cultivating now. Plants need the soil stirred now as much as ever.

June is a good month for visiting parks and private grounds and studying the trees and shrubs.  
If the apple or plum trees are overloaded with fruit it is a good plan to thin out a part of it.

Farmers' visiting day at University Farm is to be a new feature this year. Plan to spend this day, June 20, on the campus.

Proper crowning and frequent dragging of the roads after each rain will keep them in fairly good shape.

Trees fifty or sixty feet apart along the highway add to the appearance, and to the comfort of the traveler.

Asparagus should not be cut after June 20. It must have some time to store up a supply of food for next season's growth.

Many New England farmers use their surplus stones for building stone fences. A few farmers in Minnesota could well afford to use their stones in this way.

Keep the potatoes well cultivated. Much depends on the way the crop is cultivated. The killing of weeds is not the only purpose of cultivation.

A good windbreak is a great factor in the success of the orchard or garden. The repeated failure of many Minnesota orchards may be laid to the lack of protection from the winds of summer as well as those of winter.

Nitrate of soda applied to leaf crops occasionally stimulates their growth. Half an ounce to a gallon of water is usually sufficient at a time. When applied dry, 150 to 200 pounds are used per acre.

Many communities are concerned now as to what kind of memorial to erect for the soldiers of the world war. The monument type finds little favor. Instead, memorial buildings, forests, parks or trees are being used. No finer or more lasting monument can be given a city or town than a good park equipped for community service.—LeRoy Cady, associate horticulturist, University Farm, St. Paul, Minnesota.

## FARMERS WARNED AS TO LIVE WIRES

The farmer who moves a hay-stacker or derrick under high voltage transmission wires takes a great risk. L. A. McArthur, general manager of a large power and light company, warns farmers of this danger, and suggests that they seek the help of power and light companies before attempting to move derricks and hay-stackers under such wires.

## OVERFEEDING BAD FOR HAND-RAISED CALVES

"Overfeeding is one of the common causes of scours in hand-raised calves," says C. H. Eckles, chief of the dairy husbandry division, University Farm. "It is a mistake to think that, because the cream has been removed, the calf needs more of the skim milk, or that because the calf is not doing well it is not getting enough milk."

"The calf gulps its milk down so quickly that its appetite is only half satisfied even when getting as much as it can digest. A good rule is always to keep the calf a little hungry. If it does not show a strong appetite for more than it gets, something is wrong with either the calf or the amount of milk given."

"The amount to be given varies with the age and size of the animal. At the age of two or three weeks when first started on skim milk, from three to four quarts of milk at a feeding is enough. At no time is it necessary to feed over a gallon at a feeding. If the milk supply is abundant, up to five quarts may be fed to calves over three months old."

"The only safe way is to regulate the amount of milk each animal receives by feeding in separate pails. Allowing two to drink together from a bucket or several from a trough is a bad practice and will lead to sickness sooner or later."

"By the time the calf is a month old it will begin to eat some grain and should be given as much as it will eat up clean. On the first indication of indigestion—generally shown by a strong odor from the manure—the amount of milk should be cut down to one-third for two or three feedings. It generally helps matters to give three ounces of castor oil in a pail of milk to the animal showing the first signs of indigestion."

"It is far easier to prevent than to cure scours, and careful attention to the amount of milk fed will help greatly in preventing these troubles."

## CREAMERY PRICES FOR BUTTERFAT

Reports from 233 cooperative creameries in Minnesota for March show that 126 paid between 70 and 77 cents a pound for butterfat; 72 paid between 65 and 69 cents; 25 between 60 and 64 cents, and 10 between 55 and 59 cents. The average price paid by these 233 creameries was 70 cents. As these creameries are representative of the 600 cooperative creameries in the state, we may estimate that this price was the average price paid by the cooperative creameries of Minnesota.

Cream buying stations base the price they pay for butterfat on the price of butter sold as New York extras. The net price they pay to the farmers is generally 2 cents below New York extras. The price of New York extras for March was 59.6 cents. From this we may estimate that cream buying stations paid an average price of 10 cents below the average price paid by cooperative creameries for March.—A. J. McGuire, University Farm, St. Paul.

## GAS FOR THE FARM FROM STRAW OR PEAT

A process has recently been invented for making gas from straw. Prof. R. D. McLaurin, of the University of Saskatchewan, Canada, worked out the process, and says that it is possible for the farmer to produce gas for heating, lighting, and power from waste straw. He says that 11,000 to 12,000 cubic feet of such gas are obtained from a ton of straw, with a heating value of approximately 400 heat units per cubic foot, according to the British standards commonly accepted. The carbon residue obtained from each ton of straw amounts of 600-650 pounds, and this has a fuel value of 10,000 heat units per pound, or about 70 per cent of the heating value of coal. Considerable potash remains when this residue is burned, which can often be used to advantage as a fertilizer.

Small plants which can be operated on the farm are being developed for the manufacture of straw gas, says C. H. Bailey, of the division of agricultural biochemistry of the Minnesota college of agriculture. It is estimated that if all the straw annually wasted in the United States was converted into this gas, it would yield in power the equivalent of 470,000,000 gallons of gasoline. No doubt these or similar plants could be operated using weeds or peat in place of straw, and thus afford the Minnesota farmer a chance to turn his peat bogs to a profitable account.

Is there open water about the yard that birds may get into? They need water to drink and bathe in at this time of year and will very soon show their appreciation of water placed for them. Put the pans on posts, or something which will protect them from cats.

## WILL STUDY NATURE IN NORTHERN WOODS

A bulletin announcing a new course in forestry, nature-study and woodcraft, to be given by the division of forestry of the University of Minnesota in Itasca Park, July 2 to July 30, is in course of preparation at the University and will be issued soon.

The aim of this course is to teach camping, cooking in the open, packing by canoe and pack-sack, government land surveys, use of the compass, locating tracts of land, trees and common plants of the forest, birds and wild animals, elementary geology as illustrated by topography of the country, swimming and other outdoor sports.

While the men and boys who take the course will be cared for at the park, mostly in a large log house which will serve as a dormitory, most of the study will be in the open woods themselves, where the subject matter of their different studies will be all about them, even including deer, beaver, muskrat, and many other wild animals; also all of the plant life of the woods. Members of the forestry division will conduct the woods work; a naturalist will give instruction as to birds, animals and flowering plants, and a physical director will teach swimming, canoeing and other sports.

Only men and boys over 16 years old will be admitted and the number will be limited to 25. Application must be made to the division of forestry, University Farm, St. Paul, before June 15, accompanied by the registration fee of \$10.

## KEEP THE YOUNG CHICKS GROWING

Even if chicks have been hatched early, pullets that will lay in the fall and winter can not be looked for unless the early chicks are kept growing from the very start. Chicks should always be kept away from cold, wet ground; they should not be allowed to run outside until they reach an age and size enabling them to withstand such conditions. Inside runs where the floors are covered with sand are better. Chicks should be fed little and often, and kept moving, with good, clean grain mixtures thrown in chaff, and a dry meat or milk mash in the hopper. Milk in most any form to chicks is a sure life preserver.—W. E. Stanfield, University Farm, St. Paul.

## "FOURTEEN POINTS" FOR HOME CANNERS

Inspect your cans now.  
Be sure that the glass inside and outside is smooth.  
Test the edge and the rim where the rubber rests. If not smooth, correct the roughness by filing.

Fit with covers.  
Test for leaks. To do this, adjust a rubber, fill jar with hot water, put the cover on and clamp, invert. Leaks are caused by poor rubbers, ill-fitting covers and imperfect clamps or screws.

Discard for canning all jars that can not be made "non-leakable."  
Order new jars now.

Consider carefully the size, durability, and quality of new jars.  
The best jars are the simplest. They have few parts, are easily sealed, easily washed and easily stored.

The best type of jars have straight sides, wide mouths, covers easily adjusted.

Mason jar covers must be inspected. If the porcelain is cracked, or the screw leaks, replace with a perfect one.

Metal covers of the vacuum seal type must be renewed every year.

Inspect the rubber-like rim in the vacuum seal covers. If it is broken or chipped it is imperfect. If it is crummy or cheese-like it is spoiled.

Be ready when your garden is ready, and smile, smile, smile.—L. Cordner, University Farm, St. Paul.

## COURSES BY MAIL FOR THE RETAILER

Two new courses of interest to retail merchants and their clerks have just been announced by the correspondence-study department of the University of Minnesota. Retail management takes up the subject from the viewpoint of the store manager or of the merchant who manages his own store. It takes up such topics as store organization, store management, buying, handling the sales force, advertising, window trimming, and credits and collections. Retail salesmanship is designed to give training to the store clerk and to make him see the importance of his task in the general field of distribution. It takes up such topics as analysis of a sale, mechanics of the sale, methods of increasing sales, customer analysis, and store policies. Both are short courses of the vocational type. Full information about them may be obtained from the General Extension Division, University of Minnesota, Minneapolis.

## FARMERS WILL BE UNIVERSITY GUESTS

The University has announced Friday, June 20, as Farmers' Visiting Day at University Farm, St. Paul.

On that day farmers from all parts of the state are invited to visit the farm and inspect its work and buildings. Invitations are being extended through county agents, farmers' clubs, high school agriculturalists, and the press.

The program for the day will include addresses in the morning by Dean R. W. Thatcher and President M. L. Burton, a picnic dinner on the campus at noon, a livestock parade, and an inspection of the fields, gardens, school buildings, shops and barns in the afternoon.

## MILLIONS SAVED BY SWATTING ROOSTERS

Hens running without a male bird will produce infertile eggs. They will produce just as many eggs as if a male bird were present. Infertile eggs keep better than fertile eggs especially during hot weather. A loss of \$15,000,000 or more each year is directly due to fertile eggs. Infertile eggs are more profitable because the losses are less. Infertile eggs are superior to fertile eggs for every purpose except to produce chicks. Sell, kill or confine the male birds and produce infertile eggs as soon as the breeding season is over.—W. E. Stanfield, University Farm, St. Paul.

## SOYBEAN SOIL TO BE RECORDED THIS YEAR

Soil for the inoculation of soybeans has been supplied in considerable quantity this year by the farm crops section of the division of agronomy at University Farm. This has been in order to get inoculation started in various parts of the state so that soil from such parts may be available for use for inoculating in 1920. County agents, high school instructors, and farmers who wish to grow soybeans in 1920 are urged by A. C. Army to keep in mind fields which grow soybeans this summer and which on examination show that bacteria are present, so as to provide locally for inoculation.

## FIRE MUTUALS PAY ASSESSMENTS SLOWLY

Three hundred and sixty farmers in the forest fire district of northeast Minnesota who placed their trust in their local mutual insurance companies are suffering great hardship in restoring their farms because the policy holders in 75 Minnesota Mutuals have not yet forwarded the 75 cents per \$1,000 of insurance in force, as requested by the State Association of Farmers' Mutuals at its annual meeting in Minneapolis last December. Eighty-one mutuals had up to May 5 contributed \$123,713, but a total of \$331,000 is needed to meet the obligation in full.

A. D. Stewart, secretary of the state association, is calling on the members of delinquent companies to take up by telephone or letter the question of meeting the call with proper officials. He asks: "Shall the farmer who placed his trust in mutual insurance find that his policy is worthless, while the old line companies have already paid one hundred cents on the dollar?"

There is a mistaken impression that the state legislature took action that would pay the losses of the mutual insurance companies, as well as other losses of these unfortunate farmers. The following statement by Col. H. V. Eva, manager of the forest fire relief commission, shows the extent to which relief has been provided. He says: "We have received from the state legislature \$1,850,000 as a direct appropriation; we received from the state calamity fund soon after the fire \$300,000, and we have received from private subscriptions, approximately, \$1,000,000. This makes slightly over \$3,000,000 to help over 50,000 people who sustained in this fire an approximate loss of \$25,000,000."

## A SHORT COURSE FOR FARM WOMEN

The fifth annual short course for farm women will be held at the West Central School of Agriculture, Morris, from June 17 to June 20. This week is a vacation period for farm women and has become one of the most popular and beneficial short courses conducted at the West Central school. Recreation will be mixed with attendance on talks and demonstrations relating to many of the problems in which farm women are most interested. A staff of experts from the University of Minnesota assisted by people who have made a practical success on the farm will appear upon the program daily. A descriptive circular is now ready for distribution and will be sent to all farm women interested in this short course. A large attendance is expected.

## DREAD CEREAL BLIGHT APPEARS IN THE U. S.

One of the most dreaded diseases of wheat, oats, barley and rice has been found in the United States. It was discovered for the first time in Illinois, across the river from St. Louis, and has also been found in several counties in Indiana. Owing to its extreme seriousness it is known as the "take-all" disease.

"Every grain-grower in Minnesota should keep a sharp lookout for this disease, so that it may be stopped before it has a chance to spread and cause the enormous losses that it is constantly causing in Europe and Australia," says Dr. E. C. Stakman, plant pathologist at the Minnesota Experiment station. Pathologists representing sixteen states and the federal department of agriculture had a conference in St. Louis. The diseased fields near were carefully examined. That the disease must be prevented from spreading in order to avoid enormous losses was the unanimous opinion of all the plant disease specialists.

"The 'take-all' disease must be kept out of Minnesota," adds Dr. Stakman. "Watch for it."

The symptoms are a stunting of the plant and narrowing of the leaves, which quite often are bluish green in color while the normal plants are grass green; matting of the plants on the ground, because some of the roots are rotted off and new roots and shoots keep being sent out which also rot; rotting of the roots so that when a person tries to pull a diseased plant it breaks off at the ground. Diseased patches in the field often can be seen from a distance. They are irregular in size and are characterized by stunted plants.

"The disease lives over winter both in the seed and in the soil so that its control is extremely uncertain and difficult."

"If any patches of badly stunted plants appear in Minnesota fields," says Dr. Stakman, "farmers should send specimens immediately to the plant disease department, University Farm, St. Paul. Every one should cooperate to keep this disease out of Minnesota."

## WILL IDENTIFY WEED ROBBERS

R. C. Dahlberg, of the state seed laboratory at University Farm, has announced that he will aid farmers and others in identifying weeds. The reason for this announcement now is that this is the season of the year when the identification of weeds is of economic importance. "Methods of eradication to be followed depend to a very large extent on the identity of the weed," says Mr. Dahlberg. "It is necessary to know whether or not the plant is an annual, biennial or perennial, whether it spreads by seeds only or by root stocks and seeds, before a practical system of eradication is adopted."

"The most serious weeds in Minnesota spread by means of root stocks and seeds. They are quack grass, Canada thistle, and perennial sow thistle. There are, however, several grasses which somewhat resemble quack grass in that they spread by means of underground roots. These include brome grass, western wheat grass, vanilla grass and bluegrass. There is likely to be some difficulty in determination of these grasses before they are headed out."

"By sending plant specimens of any kind to the seed laboratory, University Farm, St. Paul, a determination will be made and the general habits of the plant reported."

"The whole plant specimen should be sent. If this is not possible, a portion of the root, a leaf, and a flower should be forwarded."

## STANDARD PREMIUMS FOR COUNTY FAIRS

Last winter the president of the federated county fairs of Minnesota appointed a committee to draft a suggestive premium list. This committee has, in cooperation with the agricultural extension division, University of Minnesota, completed its work and sent a copy of the premium list as worked out to the secretaries of all county fairs in Minnesota.

Such a list has been found necessary in order to place the state of Minnesota, in so far as the county fairs are concerned, where the committee feels it properly belongs, at the head of the list.

So far as livestock, poultry, seeds, grains, forage, and fruit are concerned, few changes will be necessary. In the other departments some changes may be necessary.

The agricultural extension division offers to assist in any way in pushing the good work of county fairs in Minnesota.

Shrubs that flower in the spring may be pruned as soon as flowering time is past.