

Entered as Second class matter January 15, 1910, at the postoffice at St. Paul, Minn., under the Act of July 16, 1891.

ORCHARD AND GARDEN

June 15-22.

Spray potatoes early to keep ahead of the blight and bugs.

Do not cultivate when the soil is wet, but just as soon as it works easily.

Clean straw around the strawberry plants and between the rows will keep the berries clean.

Spiraeas and other early flowering shrubs may be pruned now, although ten days earlier would have been a better time.

Frequent cultivation is of much more value than watering. Keep the weeds down and a dust blanket over the soil.

Before moving a plant, thoroughly wet the soil about it and take a ball of earth with it.

Carrots and beets planted now usually make the best sort of roots to store for winter use.

Arsenate of lead or paris green are good remedies to use against chewing insects. When paris green is used it is well to add an equal quantity of lime to prevent injury to the foliage.

Kill the weeds before they start to grow. This is best done in the garden by a hand cultivator, garden rake or a five-tined garden hook.

Dahlias should be staked when about one foot high. Sometimes stakes are set when the plants are put in. Keep the plants thinned to three or four stalks. The more stalks, the smaller will be the flowers.—LeRoy Cady, associate horticulturist, University Farm, St. Paul, Minn.

ORCHARD AND GARDEN

June 22-29.

Late cabbage and celery may be planted now.

Cucumbers may be planted near a rubbish heap and will cover it quickly.

The wild cucumber is the most rapid growing annual vine for covering a trellis or fence.

Plow up the strawberry bed that has finished fruiting, and plant turnips, rutabagas or set out celery.

Keep the dead flowers off sweet peas, geraniums, etc. The plants will bloom better and longer for this care.

Liquid manure, made by soaking barnyard manure in water until the water is well colored, is a good fertilizer for pansies and other flowering plants.

Don't shoot the birds because they eat some of your fruit, but plant more fruit for them. They earn their keep in ridding the garden of insects.

Plant lice may be kept off plants by using soap suds made from soap which contains no strong chemicals or by spraying with some of the tobacco preparations.

Paris green and lime, hellebore or arsenate of lead will rid the currant bushes of worms if put on now. The paris green or arsenate of lead will also destroy the cabbage worm.—LeRoy Cady, associate horticulturist, University Farm, St. Paul, Minn.



WAR RAGES IN FRANCE

They cannot fight & raise food at the same time. WE MUST FEED THEM. Denying ourselves only a little means life to them.

United States Food Administration

An electro of the foregoing illustration can be obtained by the newspapers of Minnesota, without cost, upon application to M. J. McGowan, Director of Education, Federal Food Administration, University Farm, St. Paul.

EVERY COUNTY NOW

HAS A FARM BUREAU

F. E. Balmer leader of county agricultural agents in Minnesota, reported a few days ago that every county in Minnesota had organized a farm bureau and that in all but two counties agricultural agents were already at work. In these two counties men will be supplied as soon as suitable material can be found.

SOW MILLET TO PROVIDE FORAGE

Farmers can increase their supplies of forage for sheep and cattle by sowing the common German or Hungarian millet, to offset the clover that was killed out last winter, though there is nothing quite so satisfactory as alfalfa or timothy and clover hay, says Andrew Boss of the Minnesota experiment station.

Millet is often grown on poor land that has not been well prepared. While it makes some growth on such land it does best on rich soil that has been well prepared. A firm mellow seed-bed is best.

For hay production two to three pecks of seed should be drilled in. It may be sown broadcast, but the crop will usually grow better if drilled. The seed should be sown about one inch deep and may safely be sown up to June 20 or 25. Only 40 to 50 days of good hot weather on good land are required to produce a hay crop. Early varieties will produce seed in 60 to 80 days. Millet grows most rapidly in very hot weather, July and August being the favorable months for its growth.

For the best quality of hay, millet should be cut immediately after blossoming. The riper it is when cut the poorer the quality of the hay produced. It is a somewhat hard crop to cure, but by choosing good weather, and drying in the swath, or if the crop is heavy, turning by hand or with a tedder, a good quality of hay can be made.

When cut at the blossoming stage it makes very satisfactory cattle and sheep hay. It is not desirable as a hay for horses, although it may be fed in limited quantities or for a short time.

PATRIOTIC EATING: WHEATLESS BREAD

Eating breads made from the following recipes is real patriotism because the recipes call for not a grain of wheat.

Oatmeal and Corn Flour Biscuit
1 2/3 cups ground rolled oats.
1 1/2 cups white corn flour.
6 teaspoons baking powder.
1 1/2 teaspoon salt.

4 tablespoons fat.
1 cup milk or water.
Grind rolled oats in a meat grinder. Mix the dry ingredients. Rub in the fat, being careful not to pack the flour. Add liquid and mix lightly. Turn out on a board dusted with barley flour; roll to 3/4-inch thickness; cut and bake in a hot oven.

Oatmeal and Rice Flour Biscuit
1 2/3 cup ground rolled oats.
1 1/3 cup rice flour.
6 teaspoons baking powder.
1 1/2 teaspoons salt.
4 tablespoons fat.
1 cup milk or water.

Grind rolled oats in a meat grinder. Mix the dry ingredients. Rub in the fat, being careful not to pack the flour. Add liquid and mix lightly. Turn out on a board dusted with barley flour; roll to 3/4-inch thickness; cut and bake in a hot oven.

QUACK GRASS HELPS HUNS; CHECKS CROPS

Many farms in the northwest are becoming badly infested with quack grass. The weed interferes seriously with the growth of crops. Eradication of the pest is not a hopeless task. The following methods are advised:
1. Cut the quack grass for hay as soon as it is nicely headed out, which will be June 15 to 20 in most cases. Let the new growth start and plow deeply by July 1. Be careful to turn under all parts of the plants. Then bare fallow through the rest of the season, using the disk harrow as often as may be necessary to keep every leaf beneath the surface. This may be twice a week during the early part of the summer and only once in two weeks during the latter part. Success depends on the thoroughness of this operation.

2. Cut for hay as directed above, but plow immediately, disk thoroughly and sow to common or German millet, using three-fourths of a bushel of seed per acre. It is important that an even and thick stand be secured in order to choke out the quack grass. Cut the millet for hay just after it is headed out.

3. Cut for hay and prepare the land as above but sow it to buckwheat, using a bushel and a half of seed to the acre. Plow the buckwheat under as a green manure crop, any time during the month of September, or cut for seed if a good crop matures.

4. Plow the quack grass under June 10 to 15, plowing as deeply as the power will permit. Make sure that all of the quack grass roots are covered deeply. Disk the land down well and plant to fodder corn, using a half bushel to three-fourths of a bushel per acre. Sow in rows 42 inches apart, cultivate frequently until the corn is high enough to shade the ground. Put the land back into fodder corn the second year if the eradication is not complete.—Andrew Boss, Minnesota Experiment Station.

SILO FACTS FOR STRENUOUS FARMERS

Every farmer who is a user of the silo is a booster for the silo.

In the silo you can store corn in a form in which practically every particle can be eaten.

Silage gives the effect of pasturage in winter; it is both palatable and succulent.

Silage aids digestion in the dry-feeding season.

Animals fed silage are not more subject to tuberculosis, do not lose their teeth more quickly, and are not shorter-lived than animals fed other common kinds of feed.

The use of the silo often makes it possible to save corn that would otherwise be lost by frost.

A good silo should be round, airtight, water-proof, have walls that are smooth inside, and be strong and durable.

A silo should be placed where it will give the greatest convenience in feeding and where it will be least exposed to extremely cold winds.

One hundred tons of silage will feed 25 cows 40 pounds of silage a day for 200 days.

A silo 14 feet in diameter and 32 feet high will hold 100 tons.

Silos of more than 100 tons capacity cost from \$2 to \$6 per ton, according to the type and material used in construction.

Details about silo construction and other silo matters may be had by addressing: Office of Publications, University Farm, St. Paul, Minn.

WHAT TILE DRAINS CAN DO FOR FARMS

Besides straightening the fields, permanently reducing the costs of operation and improving the quality and quantity of the crops, tile drainage drained the entire farm and totally reclaimed—

Fourteen acres on an 80-acre Scott county farm, at a total cost of \$735, and increased the income of the farm from \$994 in 1908 to \$2,456 in 1912.

Ten acres of a 151-acre Douglas county farm at a total cost of \$1,242.

Seventy-five acres out of 300 acres on a Clay county farm at a total cost of \$7,300.

Twenty-two acres of rich peat and bog land out of 120 acres on an Itasca county farm at a total cost of \$4,758.

Thirty-four acres out of 138 acres on a Rice county farm at a total cost of \$3,167.

Ten acres on a 73-acre Hennepin county farm, bought for \$7,653 at a total cost of \$615.

Forty acres on a 246-acre Waseca county farm at a total cost of \$2,800.—Engineering Division, Minnesota College of Agriculture.

CO-OPERATION PAYS IN LAND CLEARING

Co-operation pays in land clearing, says A. J. McGuire of the extension division at University Farm.

It pays because 20 per cent dynamite costs \$19 a hundred when bought in small lots and only \$15.25 when bought in car lots. So that a group of farmers buying a car lot can save \$3.75 a hundred.

It pays, again, because stump-pullers have advanced about 20 per cent in price, and a first class, two-horse puller now costs from \$150 to \$250. This is a heavy expense for a man who clears only a few acres a year but it is a small investment for a group who can co-operate in their work of clearing.

It pays, too, because high-priced farm products make land-clearing more profitable than when dynamite and stump-pullers were selling at normal prices.

FIGURES TELL WHEN TO CUT TIMOTHY HAY

Timothy cut just as it is coming into full bloom is much harder to cure than timothy cut when the seed are in the dough stage or nearly ripe. When cut early, timothy contains a larger percentage of moisture than when cut later. Consequently, it has to remain longer in the swath or windrow and runs greater risks of being injured by rain. Besides, the yield is greater when the seed are in the dough stage.

The last named fact is shown in Farmers' Bulletin 943 on hay-making issued by the United States department of agriculture, and recently received at University Farm, which contains the following figures from experience:

Yield of timothy coming into bloom, 3411 pounds of dry matter to the acre; yield at full bloom, 5433 pounds; yield when seed are in the dough stage, 5750 pounds.

GREAT LOSS CAUSED BY CATTLE DISEASE

A loss of \$50,000,000 annually can probably be directly traced to the ravages of the disease known as contagious abortion of cattle. This statement was made by Dr. C. P. Fitch and W. L. Boyd of the division of veterinary medicine, in a new bulletin on "Contagious Abortion of Cattle" just issued by the department of agriculture, University of Minnesota. The bulletin is issued as a means of acquainting the farmers of Minnesota with the seriousness of the disease and the best known methods of its prevention. Copies of the bulletin may be had by addressing Office of Publications, University Farm, St. Paul, Minn.

IT'S TIME TO CUT

ALFALFA IN MINN.

The latter part of June is the time for the first cutting of alfalfa in Minnesota, and in line with the conservation of forage crops to prevent a repetition of last year's shortage. A. C. Army of University Farm is emphasizing the need of care in deciding when the crop is at the proper stage for cutting.

For all classes of animals except horses, says Mr. Army, alfalfa should be cut for hay when the new shoots or stems begin to appear at the crown. These are easily seen just as they come up among the old stems at about the beginning of blossoming time. When alfalfa is to be fed to horses it may be allowed to grow slightly longer than when it is to be fed to cattle. It should never be left, however, until the second crop is likely to be injured in cutting the first crop.

Alfalfa should be cut in the evening before the dew has fallen or in the morning after the dew is off. If the crop is very heavy a tedder should be used in the late forenoon or early afternoon. When the hay is partly cured in the swath and cocked while quite green the moisture from the stems keeps the leaves damp and both dry out together giving the best result.

APPETIZING WAYS TO SERVE POTATOES

Appetizing potato recipes are suggested by Lucy Cordiner of the agricultural extension division, University of Minnesota, as follows:

Escalloped potatoes may be varied by alternating layers of
a. Oysters.
b. Minced ham.
c. Well seasoned cooked meat chopped.
d. Thinly sprinkled chopped dried or smoked fish.
e. 1 tablespoon grated cheese.

Left-over baked potatoes when diced make delicious brown hash either alone or mixed with onion or with chopped cooked meat or both.

Left-over mashed potatoes may be used for the crust in a meat pie or formed into cakes and browned in a little fat in a skillet. They may also take the place of one half the flour in baking powder biscuit or in suet dumplings.

NOT TOO LATE TO PLANT BUCKWHEAT

Land which is still available for grain crops should be planted to buckwheat for use in saving wheat flour next winter. It is not too late, says A. C. Army, University Farm.

Buckwheat will do well on lands too poor to produce good crops of grain or corn. Any soil that is well drained is suitable, but the more fertile soils will produce the better yields.

If the ground has been plowed, disking and harrowing is all that is necessary. Land which has not already been plowed may be plowed at any time up to July 1. It is a good practice to harrow the ground the day it is plowed so that hard clods may not be formed.

The Japanese variety, having brown to black seeds, is the most desirable to sow. The Silverhull variety, having silvery gray seeds, is the next best.

Buckwheat should not be sown before the last week in June or the first week in July. Earlier seeding brings the blossoming period in the hottest part of the summer which causes lower yields.

Three-fourths of a peck of seed per acre is sufficient if drilled and four-fifths if sown broadcast. The seed may be planted one to two inches deep.

Buckwheat is a rapid grower and soon shades the ground completely so that weeds do not have much of an opportunity to make headway.

ALFALFA MAY BE SOWN IN SUMMER

Summer seeding of alfalfa may be done on summer-fallowed ground, says A. C. Army, University Farm. The usual procedure is to disk the ground early in spring and then use the disk and harrow sufficiently often to keep the land mellow and free from weeds up to July. If the weeds cannot be kept down with the harrow and disk, the land may be plowed and the disking and harrowing continued. Sowing the seed after July 30 is not recommended in Minnesota.

Inoculation is important as a step in preparation. For this purpose, soil taken to a depth of from four to six inches from an alfalfa or sweet clover field where the plants are known to be inoculated may be used at the rate of about 200 pounds per acre. It is well to avoid exposing the soil to the sunlight for any considerable length of time. Part of this soil may be sifted and from 10 to 20 pounds mixed thoroughly with the seed for each acre. The seed should be slightly moistened before mixing and the mixture shoveled over frequently until dry enough to sow.

Under favorable conditions, 8 or 10 pounds drilled or 10 or 12 pounds sown broadcast is sufficient.



An electro of the foregoing illustration can be obtained by the newspapers of Minnesota, without cost, upon application to M. J. McGowan, Director of Education, Federal Food Administration, University Farm, St. Paul.

WHAT TO PLANT IN LATE GARDEN

Carrots, beets and celery for winter use may be planted in the latter part of June, says R. S. Mackintosh, garden specialist of the extension division, University Farm. Mr. Mackintosh also suggests the following for the late garden:

Golden-bantam corn to keep up the supply for late summer.

Early string beans and peas to provide substitutes for meat.

Fresh and crisp vegetables as the means of saving canned products for winter use.

Seed sown in mid summer should be planted in freshly stirred soil and somewhat deeper than in spring, and the soil over the seed should be "firmed" more carefully than usual.

EDITOR'S REPORT

UNIVERSITY WILL EXPAND ITS WORK IN JOURNALISM

Work in journalism at the University is to be expanded next year, according to action taken by the board of regents Monday, June 3. This action is in line with the wishes of the press of the state and is designed to assist editors and publishers in meeting the demand for trained assistants, which has been augmented by the war.

All the university's work in journalism thus far has been that in which rural and agricultural journalism has been emphasized in the department of agriculture. This arrangement did not provide easily accessible courses for many students in the college of science, literature and the arts who wished to prepare for newspaper work, and it was to open the way to such students that expansion was decided upon.

According to the present plan the work in rural and agricultural journalism will be continued at the college of agriculture and work in metropolitan journalism will be developed in the college of science, literature and the arts. The work of these two branches will be coordinated so that there will be no duplication of courses.