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ORCHARD AND GARDEN

June 15 to 22

Now is a good time to can pie plant for next winter.

Do not cultivate beans when moisture is on the foliage.

Stop cutting asparagus if you want a good crop next year.

A well grown fern or flowering plant makes a good wedding present.

Keep some of the new growth cut off the grape vines. This will give more fruit.

Onions, cabbage, and tomatoes require constant cultivation. Are they getting it?

Tin cans make good protectors to keep the cut worms away from the tomatoes and cabbage.

Late plantings of beets and carrots often give better roots for winter storage than early plantings.

Some of our worst weeds are used for food. Among them are mustard, pigweed, and even the roots of some thistles.

Attend the State Horticultural society meeting at University Farm late in June. A fine showing of flowers will be in evidence.

Late cabbage land should be plowed some time before the plants are to be set if possible. This will save soil moisture, which is very important for the growth of the plant.

Keep the cultivator going if the garden is to be a success. The sun will kill the weeds easily if they are disturbed. It will just as surely make them grow if they are allowed to go undisturbed.—LeRoy Cady, associate horticulturist, University Farm, St. Paul, Minnesota.

ORCHARD AND GARDEN

June 22 to 29

Red cabbage adds variety of color to salads and is good for pickles.

Currants and gooseberries bid fair to give a good crop this year. Every farm should have a few plants.

Late celery and cabbage may be set out now. Give plenty of moisture and cultivation.

Putabagas may still be sown. They make a good crop for the old strawberry bed that has been plowed up.

Some of the earliest perennials to bloom are alyssum saxatile (madwort), dwarf phlox, dwarf iris, and a hardy candytuft.

Good lawn soil is best for asters, although they can be raised on all sorts of soil. The last few years the crop has been uncertain on account of blight.

Delphinium, or larkspur, and columbine are two splendid perennials for the garden. Both come in various colors and are easy to raise. Coreopsis is a splendid yellow flowering perennial.

Now is the time to study plants, both native and nursery-grown, and plantings. We should use more native plants, those whose habitat is in this section, and thus build up a distinctive type of garden.

As soon as the strawberries are picked, if the bed is clean and the plants thrifty, it is a good plan to renew the bed. Mow the tops and rake them off, then hoe out all old weak plants and thin to a row of strong, vigorous, new plants, not nearer than ten inches apart. Cultivate the rest of the season.

A small aquatic garden can be had in the back yard by using a tub or making a small basin of concrete. If one can make the right surroundings for a garden of this sort, it will prove interesting, especially to children. There are many water plants that will grow in a small space.—LeRoy Cady, associate horticulturist, University Farm, St. Paul, Minnesota.

SPEAKERS PROVIDED FOR MASS MEETINGS

A committee on public information has been formed in Minneapolis for the purpose of disseminating authentic and reliable information about the war, its causes, and its purposes. The committee proposes to send out speakers who will set forth clearly and simply the reasons which impelled the United States to enter the world struggle and the ends for which this nation fights. A corps of speakers has already been organized composed of men from the faculty of the University of Minnesota and from the professional men of the twin cities, who are willing to render this service without compensation beyond their expenses.

If any Minnesota town wishes to avail itself of this service, it should organize a committee to secure a hall, provide the necessary publicity, and raise enough money to pay the speaker's traveling and hotel expenses.

Inquiries should be addressed to Richard R. Price, director of university extension, University of Minnesota, Minneapolis.

COUNTIES IN HONOR ROLL FOR LIVESTOCK

Philip A. Anderson, of the division of animal industry, University Farm, St. Paul, has compiled from the report of the state tax commission a livestock census of Minnesota by counties.

A summary of this census shows that Otter Tail leads in the number of cattle and horses, no distinction being made between beef and dairy cattle, as separate figures are not available.

The ten leading cattle counties are Otter Tail, with a total of 83,316; Stearns, Fillmore, Goodhue, Freeborn, Wright, Olmstead, Polk, Todd, and Mower. All with the exception of Mower with more than 50,000.

The ten leading horse counties are Otter Tail with 25,242; Polk, Renville, Stearns, Hennepin, Fillmore, Redwood, Blue Earth, Martin, and Faribault, all with over 16,000.

Fillmore leads in sheep with 11,685. The ten leading counties are Fillmore, Otter Tail, Wabasha, Olmstead, Marshall, Polk, Kittson, Murray, Nobles, and Mower, all with over 5,000.

Fillmore leads in hogs with 36,908, the ten leading counties being Fillmore, Wright, Renville, Otter Tail, Mower, Faribault, Martin, Nicollet, Murray, and Jackson, all with over 25,000.

REALLY GOOD SHADE TREES NOT NUMEROUS

To the man on the street every tree is a shade tree. If he wants a shade tree on his lawn, it is merely a matter of chance whether he plants a sugar maple or a European larch. All trees look alike to him. As a matter of fact there are many different qualities of shade trees, and very few of them really first-class.

A really good shade tree must produce good, solid shade; it must have wide-spreading branches; it must be clean and free from bugs and squashy fruits. The maples, oaks, basswood, hackberry and elms all have these qualities, but the big white oak, the sugar maple, and the basswood are the only first-class shade trees. The branches of the other oaks spread too little and are too high from the ground. The silver maple has the same faults and its shade is none too good. The boxelder is crooked, homely and exceedingly dirty; it is well stocked with all kinds of bugs and drops a caterpillar—fuzzy or smooth—every few minutes; there is no peace in its shade. The elm is too high. Often when you want to rest in the afternoon the shade is over in the next man's yard. And the hackberry is much like the elm.

Thus a man looking for the very best shade is confined to one or two trees, the sugar maple or the basswood. There are dozens of others which should be on his lawn, but they are ornamental and not true shade trees.—E. G. Cheney, Minnesota College of Forestry, University Farm, St. Paul.

LESSONS FROM WAR FOR MINNESOTA FOLK

"Important lessons may be drawn from the experience of the countries which entered the war at an early date," says Dr. E. L. Tuohy, a director of the Minnesota Public Health association. "These may be summarized as follows: 'Thorough medical examination with free use of the x-ray for all cases suspected of having chest trouble.'

"Sanatorium or hospital care for everyone rejected by the medical examiners because of tuberculosis; the state to care for all of the incipient cases at the state sanatorium; each community to care for the moderate and advanced cases at its county or district sanatorium.

"Every community of the state should work out a program for the adequate prevention and control of tuberculosis not only for the invalid soldier but for the whole population. It is especially important that the returned soldiers be placed in sanatoria or hospitals and not allowed to infect whole families or communities. These institutions should preferably be near where the kin folks reside. This promotes contentment and willingness to cooperate with hospital authorities in pursuing the proper course of treatment."

Individuals or organizations willing to assist in local campaigns should write the Minnesota Public Health association, Old Capitol, St. Paul.

"AG." SCHOOL WILL OPEN OCTOBER 29

The school of agriculture of the University of Minnesota, at University Farm, St. Paul, will not open this fall until October 29. The date of the opening has been postponed in order to allow young men and young women of the farms to assist in the harvesting of farm crops.

This announcement is made in the school bulletin for 1917-1918 which is just from the press, copies of which may be had by addressing the secretary, University Farm, St. Paul.

RUTABAGAS AS A MONEY CROP

In northeastern Minnesota men will do well to consider rutabagas as a root-crop substitute for potatoes.

They have several advantages, says M. J. Thompson of the Northeast experiment station.

The crop is more certain to give a satisfactory yield over a term of years than potatoes. It is cheaper to produce. With seed potatoes selling at from \$2 to \$3.50 a bushel, it is possible to invest \$50 in seed for a single acre. On the other hand, two pounds of rutabaga seed will sow one acre at a seed cost of \$1.50 or less.

While both crops require attention during the growing season, the harvesting of rutabagas may be done later in the season when labor is cheaper, or it may be done when other work is not pressing, while the potatoes must come out only when weather conditions are exactly right.

Rutabagas offer wider range of planting. For a market crop, rutabagas can be sown, even in the north country, as late as July 15. For livestock, much earlier planting is of course desirable to secure a maximum tonnage per acre. For the man who is late with a piece of clearing that he wishes to realize from this year, there is no crop that will do so well on a rather indifferent seed bed as rutabagas.

Yields of 20 tons are common and 30 tons are not exceptional on rich land combined with good tillage. At a wholesale price of from \$14 to \$18, many growers realized handsome returns last season. There is every reason to look for good markets this fall.

Even if the market price should drop, one third the immense yield will return a profit. Should the demand fail entirely, the production of rutabagas can be justified for livestock feed alone.

FARMERS CAN CORN FOR THEIR CATTLE

Canning corn for cows is being encouraged by A. D. Wilson, head of the agricultural extension division, University of Minnesota, and chairman of the state committee on food production and conservation.

Corn is canned for cows in the silo. By the use of the silo, says Mr. Wilson, it is possible to provide summer pasture conditions in the winter and every one knows that no feeder can successfully compete with June pastures. A silo is therefore of permanent profit to the farm. No one keeping 15 or more head of cattle can really afford to be without one.

Silo building at this time also will help to win the war. One of the pressing necessities of the war is to save grain in order that a large surplus may be exported. By the use of silage, from one-third to one-half of the grain ordinarily fed to livestock may be saved.

POSSIBILITIES IN MINNESOTA'S HOGS

The swine industry in Minnesota does not suffer by comparison with the dairy industry. Credited with 1,716,000 hogs worth at least \$26,000,000, Minnesota farmers have more hogs than dairy cows. They now have invested in hogs approximately forty-two cents for every dollar invested in dairy stock. The labor supply automatically limits the number of cows, while the hog actually helps to take the limit off of labor. The hog does its own milking, cuts its own grass, and husks its own corn. Where permitted, it carries its own water, and it takes its own product to market.

The foregoing are just a few of the interesting things in a small handbook prepared by R. C. Ashby, secretary of the Minnesota Swine Breeders' Association. The book is one that farmers will be interested in. Its aim, in part at least, is to show how Minnesota may be the more strikingly put on the swine map. Copies may be had by addressing R. C. Ashby, University Farm, St. Paul.

ADVANTAGES IN USING THE SILO

Silage furnishes an almost sure feed supply. There is no surer crop in Minnesota than corn.

The silo provides a means of keeping over, for summer use, feed of high quality.

Three and seven-tenths acres of corn put into the silo furnishes as much feed as 5.3 acres of similar corn cut and shocked.

A corn crop of 35 bushels to the acre will give about 7 tons of silage to the acre, with a gain of \$11 an acre over husking from the standing stalks.

The silo increases the livestock carrying capacity of the farm.

It provides storage for the whole corn plant when it is at its highest feeding value, and in handy form for both winter and summer feeding.

Silage stimulates and improves digestion during the dry-feeding period, and keeps cattle thrifty and fresh.

NOT TOO LATE TO PLANT CROPS NOW

Where early crops have been killed out or where extra land has been prepared, certain crops may still be sown, says Andrew Boss, University Farm, St. Paul.

Buckwheat may be sown even as late as June 20 in the southern part of the state. It will do well on any land that is suitable for grain cropping even though the land is not rich. It is sown with a drill at the rate of three-fourths of a bushel or a bushel per acre, and may be successfully grown on spring-plowed land. If the land is well prepared it will need no further attention until harvest time which ordinarily will be about ninety days after sowing. It can be cut with a binder unless grown on rich land where it lodges. It needs little care in the field except to stand the bundles on end so that the kernels of buckwheat do not come in contact with the earth, and can be threshed when dry.

Flax may be sown, when moisture conditions are favorable and the land is well prepared, as late as June 20 or 25. When sown as late as this it is important that it be well covered in seeding so that it may start to grow immediately. Spring plowing followed by thorough rolling or subsurface packing makes the best seedbed for flax on old land. On sod land flax may be put in without so much preparation.

Fodder corn can be sown as late as June 25 with ample prospect for a crop. Corn sown at that date has even matured in time to make excellent ensilage.

Navy beans can be planted as late as June 25 and where given a favorable situation and good cultivation will almost surely mature a crop. It is important in this connection, however, to get northern grown seed beans which mature earlier than those grown in the south or in the west.

CLOVER AN OFFSET TO FIRE LOSSES

The loss to timber and property in northern Minnesota by fire can be recovered to a considerable extent if the burned over sections are seeded to clover. After the Bandette fire the state appropriated money for the purchase of clover seed for the burned areas. The following year the clover made wonderful growth and provided splendid pasture where only brush grew before. This year there will be no state aid for this purpose, but a farmer can make no better investment than for clover seed to scatter in the path of the fire. Even a pound of seed to the acre would bring very profitable results.

The early spring is the best time to seed clover, but it may be seeded up to July 1, or later. When the seeding can be followed with a disk or harrow it is well to do so, though not necessary.

For a permanent pasture the following grass seed mixture is recommended: Medium red clover 1 pound, Alsike clover 1 pound, white clover 1 pound, blue grass 1 pound, timothy 1 pound, per acre. If the land is to be used for pasture but a few years, the white clover and blue grass may be left out and the medium red and Alsike clover increased a pound each.

Dairy cows will make from \$5 to \$15 an acre from tame pasture that may be grown where there are as many as a hundred stumps an acre. When tame grass is not seeded the cows often go hungry. When the brush and small trees have been killed by fire, the grass has a chance to get started, and the pasturing of the land will keep the brush down. In a few years the land is much improved for cultivation.

Bankers and business men would do well by providing a loan fund to aid farmers in seeding burned-over lands to clover.—A. J. McGuire, University Farm.

DANGER OF LOSS IN IMPORTING OF PINES

F. L. Washburn, state entomologist, is urging citizens to bring no five-leaved pines into the state for a period of at least two years. This is in order to help combat the spread of white pine blister rust, which threatens to destroy the white pine industry of the state.

Mr. Washburn recently declared a quarantine against shipments of any five-leaved pines from Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Ohio and Wisconsin. It has come to his attention, however, that certain persons are bringing in white pines and other evergreens from an Illinois nursery, from which infected stock was shipped in 1908 and 1909. It is to prevent such shipments that the entomologist is requesting that no five-leaved pine be imported for two years.

Violation of this request may lead to loss. If white pine blister rust is introduced in stock purchased for private plantings or for nurseries, suspicious stock within a radius of half a mile may legally be destroyed.

FARMERS URGED TO PLAN SILO TOURS

Silo tours are being planned in many parts of the state. A. D. Wilson, chairman of the state committee on food production and conservation, is encouraging the organization of such tours throughout the corn-growing areas of Minnesota. He suggests that from 10 to 100 farmers interested in increasing the profits from their livestock get together and in autos drive to several farms where silos are in use, in order to find out from the farmers using silos just what the advantages of the silo are and just what effect the use of silage has on livestock.

Mr. Wilson says that stories to the effect that cattle which are fed silage do not live long, lose their teeth, or else die of tuberculosis, are all nonsense and suggests that farmers on silo tours ask the owners of silos whether they are satisfied with the investment, whether their cattle have done well on silage, at what stage they cut their corn for silage, how much they feed, what kind of animals silage is fed to, and similar questions.

Mr. Wilson urges that farmers' clubs, commercial clubs, officers of livestock shipping associations, bankers and farmers organize a silo tour in every community.

GRIMM MAKES GOOD IN ALFALFA TESTS

Grimm alfalfa is more dependable in Minnesota than Liscomb or other common alfalfas, according to Ben Forbell, alfalfa specialist in the agricultural extension division of the University of Minnesota.

In southeastern Minnesota Grimm produced 11,702 pounds green weight, whereas Liscomb gave only 3,216 pounds. Grimm gave a stand of 92.7 per cent and Liscomb 36.1 per cent. The height of the Grimm plants was 26.3 inches and of the Liscomb 16.6 inches. The Grimm survived the winter in excellent shape except in sags and dead furrows where water and ice collected. Common alfalfa, clover, rye and parts of meadows and pastures in the same vicinity were winter-killed. An ice sheet of from 2 to 3 inches covered this section during February and March.

In northern Minnesota, certain tests showed Grimm plants in the fall of 1916 numbering 3,671 and in the spring of 1917, 3,663, a decrease of only 8; whereas, Liscomb showing 4,666 plants in the fall of 1916 came through the winter with only 2,894 plants alive, 1,772 having been killed.

Mr. Forbell says that all of the seed sold for Grimm has not proved to be hardy, and that buyers of Grimm seed should trace carefully the source of the supply before purchasing.

SOIL FORMATIONS IN N. E. MINNESOTA

Surface formations and agricultural conditions of northeastern Minnesota are described in Bulletin No. 13 of the University of Minnesota. Minnesota Geological Survey, in cooperation with the United States Geological Survey, by Frank Leverett and Frederick W. Sardeson. The bulletin contains an introduction by W. H. Emmons, director of the Minnesota geological survey and a chapter on climatic conditions of Minnesota by U. G. Purcell, director of the Minnesota section of the United States weather bureau. A map of the surface formations of Minnesota by Mr. Leverett and Mr. Sardeson adds to the interest and value of the bulletin.

CORN FOR FODDER SOWN JULY FIRST

Fodder corn planted as late as July 1 will yield three tons or more of dry forage an acre.

Millet as a late-sown crop comes next to corn for a forage. To get the best quality of hay, millet must be cut just as the heads begin to appear. If left until fully headed out, the stalks are more woody and the formation of seed reduces its value for general livestock feeding.

Every farmer should provide for an abundance of rough feed. It will keep, and if not used will sell readily.—C. P. Bull, University Farm.

TURNIPS MAKE A GOOD LATE CROP

Turnips are good food and may be sown as late as July 10, though it is better to sow them by July 1 if possible.

Turnips do well on new land, but will grow in any soil rich enough for grain or corn. One or two pounds of seed to the acre is enough if sown broadcast. If the turnips are put in with drills the rows should be from 24 to 30 inches apart. This will call for a half pound of seed to the acre of they are carefully sown. Turnips need very little cultivation.