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ORCHARD AND GARDEN
June 15 to 22

Asparagus should not be cut after June 20 if the best growth is wanted for next year.

Soft wood cuttings of hardy shrubs may be taken at this time and rooted in sand in the greenhouse or hotbed.

The crataegus or wild thornapple was one of the prettiest shrubs in bloom in the woods two weeks ago.

Newly set elm and other shade trees need only enough pruning to keep them shaped and growing in the way we want them to grow.

Plant only one dahlia tuber in a hill. If several are planted, too many shoots arise and none has a chance to make a proper growth.

Spiraea van Houttei plants that did not flower this spring should be cut off quite low and a new growth allowed to come on. This will flower next year.

Plenty of early vegetables should be coming from the garden now. Some folks say it is not worth while to bother with a garden. Do you believe it?

The summer meeting of the State Horticultural Society will be at University Farm, St. Paul, the latter part of June. This meeting will be well worth attending, on account of both the exhibits of horticultural products and the program which will be given.

When tulips are through flowering they may be lifted and placed, tops and all, on the ground in some shady place, as under a bush or tree, and covered with a board to keep off the rain. It is best to leave them there till fall, when the bulbs may be cleaned and planted.

Darwin tulips were at their best about June 1. These are splendid flowers for planting in shrubbery. They may be put in beds, though from their habit of growth they are not so good for this purpose as are the May flowering sorts. They may be planted in the fall, as in the case of other varieties.

Many of the large cemeteries the country over have stopped the individual planting on graves. All work is done in them by the cemetery association. This tends to keep the cemeteries more park-like and does away with the scattered effect of present planting methods. The old method has a sentiment about it that is hard to break away from, but the restricted planting makes a much prettier effect.—LeRoy Cady, Associate Horticulturist, University Farm, St. Paul.

ORCHARD AND GARDEN
June 23 to 30

Keep the cultivator going. Weeds are unsightly as well as injurious to the crop.

Take a day off and visit some one else engaged in your line of work. Perhaps you can learn something from their methods.

Do not allow too many suckers to grow about the raspberry hill. Some varieties sucker very badly.

The old-fashioned bleeding heart makes one of the best perennials for planting about the home.

Keep the green aphids off sweet peas and roses by frequent spraying with some tobacco preparation.

Strawberries should be at their best now. If you do not have at least a small patch, it is your misfortune.

If the strawberry bed is to be fruited again, mow it close to the ground as soon as picking is done. Thin the plants to at least a foot apart and cultivate thoroughly.

Proper advertising should give just as good results to the farmer and gardener as to the merchant. Now is a good time to give it a trial.

Is the home well supplied with flowers now? Shrubs, perennials and annuals have given a magnificent showing about the city homes and parks this year.

Caladium and cannas need an abundance of heat, water and plant food. It is often a good plan to mulch the plants with rotted manure on the approach of dry weather about the middle of July.

Late cabbage may be set on the land that the old strawberry plants grew on, if the ground is plowed at once. Turnips or rutabagas also often make a good crop on a piece of land of this sort.—LeRoy Cady, Associate Horticulturist, University Farm, St. Paul.

PLANT PESTS

From the Section of Plant Pathology and the Section of Economic Entomology, University Farm, St. Paul.

Cucumbers in cold frames should be watched for the grub of the cucumber beetle, which works on the roots of the plants. Fighting this insect now is doubly important, because the adult beetle spreads the bacterial wilt. A small quantity of Nicofume poured around the base of the plant is sufficient to con-

trol the grub. In the field the plants should be protected by a screen of some kind.

White pickle is showing upon cucumbers in greenhouses. This is characterized by a mottling of the leaves and fruit and the deforming of the fruit, sometimes accompanied by a wilting of the vines. All affected plants should be pulled up and burned.

Small fruits should be sprayed at this time to prevent damage from leaf spots, plant lice and leaf-eating insects. For information concerning this combined spraying, see special bulletin No. 1.

Plums should be sprayed at this time with lime sulphur—1 to 40—and arsenate of lead to control the curculio and to prevent the brown rot from getting started.

Apple scab is beginning to develop. Trees on which it is found should be sprayed thoroughly with a 1-40 lime-sulphur solution.

Be sure not to cultivate beans when they are wet. Such is likely to spread blight and anthracnose.

The currant worm on currants and gooseberries can be controlled readily by spraying with arsenate of lead or hellebore, used either as a dust or liquid.

The second generation of cabbage maggots will probably begin to lay eggs about the first of July. Preparation should be made for a special spraying practice.

REGISTRY LIST ADDS
BETTER STALLIONS

That Minnesota is making progress in horse breeding is shown by the following figures published by the state stallion registration board:

The increase in purebred stallions since 1910 has been from 1,327 to 2,056—54.7 per cent.

The decrease in the number of grade stallions in the same time has been from 2,214 to 1,806—14.3 per cent.

The percentage of the total of licensed stallions registered is now 52 per cent; in 1910 it was 40.3 per cent.

The registration board is encouraging better horse raising by special meetings for members, furnishing judges at local colt shows, furnishing speakers on horse breeding for farmers' clubs and assisting farmers in selecting good sires. The board also watches for violations of the laws concerning breeding. Twenty-six prosecutions were brought by the board last year. Each case was decided in favor of the state and the offenders fined from \$25 to \$100.

The summer meeting of the board will be at Lake City, June 17. It will be open to all horsemen who care to attend.

\$75,000 LOST BY
GRADE SIRE'S USE

Hundreds of Minnesota farmers are wasting time, money, feed and labor by breeding to grade stallions each year. The difference in service fee between a good, purebred and a common grade sire is seldom more than \$10 and often not more than \$5. The difference in the value of the colt when three years old is from \$25 to \$100, tho the cost of feed and care is about the same.

The average value of horses on Minnesota farms is \$109.80 a head, which is not enough to pay for producing them. By the use of sound, purebred draft sires, the average farm mare can be made to produce a colt worth \$200 at working age and the better farm mare will produce foals to make \$250 or \$350 horses.

There are 1,806 grade sires licensed for service in the state. Now, counting that the "get" of these sires will return a profit \$25 less than the get of a purebred sire, which is a conservative estimate, the use of the common sires is costing the farmers of Minnesota from \$40,000 to \$75,000 a year.

That the farmers are realizing the value of the purebred stallion is shown by the fact that the number of such horses registered has increased more than 50 per cent since 1910 and that the number of grade stallions registered has decreased more than 14 per cent in the same time.

The Minnesota stallion law requires that every horse that stands for public service must be licensed. It further provides that every bill, poster or advertisement of the horse must contain an exact copy of his state license and that a copy of the license be posted on the door of every barn or building where the horse makes a stand. Misleading illustrations, pedigrees, and other untruthful matter are forbidden on the advertisements.

Any stallion owner who does not comply with the provisions of the stallion regulations has no legal right to collect service fees.—J. S. Montgomery, assistant secretary, Minnesota Stallion Registration Board.

MODERN HOUSE AIDS
IN LIKING COUNTRY

The farm boy or girl likes to live in a good house. The call of the city is largely a call of the better house, the house better adapted to being made a home, say men in the United States Department of Agriculture.

It is not necessary to go to the city to get a modern home. A farm home can be built for three or four thousand dollars that would cost nearly twice as much in the city. A lighting and heating system can be installed as cheaply in the country and kept up at a much smaller expense than similar conveniences can be kept in the city home.

The amount of money necessary for taxes and for public improvement is almost negligible to the farm-home owner. To the owner of the city home, it is considerable.

The amount of money to be invested in the building of a farm home should not be determined by its relation to the balance of the plant in size nor the amount needed to provide a shelter. It should be the amount the owner may reasonably afford to spend without financially crippling himself too severely, says the Department of Agriculture. The average city home is bought as a social investment. The buyer looks to the comforts and conveniences that he can get in the new home that can not be supplied in a rented house. He does not think of how much he can sell the house for when he no longer wants it. He knows he can not sell it, oftentimes, for as much as he must pay for it in the first place.

The better farm home is not a panacea for all ills of dissatisfaction with farm life. There will be farm boys and farm girls who will want to take up other professions than tilling the soil. The problem, continues the Department of Agriculture, is not to force them to stay on the farm, but to make conditions good enough there that they may make an intelligent choice.

CROOKSTON OPENS
PLAGUE HOSPITAL

Minnesota's seventh state-aided institution for the treatment of tuberculosis was opened at Crookston early in June. This sanatorium, called Sunnyrest, has room for twenty-six patients. It was built jointly by Polk and Norman counties.

Patients from any part of the state may be admitted at Sunnyrest when there is not a waiting list of patients from either of the counties which aided in building the sanatorium. Such a list is not likely to be waiting for a few weeks at least. This makes four county institutions which have room for outside cases. The others are: Battle Lake Sanatorium, Battle Lake; Mineral Springs Sanatorium, Cannon Falls, and Lake Julia Sanatorium, Puposky.

In each of these institutions the regular charges are \$10 a week for patients outside the county. Persons from the county are kept for \$7 a week. Patients unable to pay may receive treatment at the expense of the county in which they are legal residents, for part of which the county will be reimbursed by the state.

"With all these institutions open," Dr. I. J. Murphy of the Minnesota Public Health Association says, "there is little excuse for any Minnesota citizen with tuberculosis remaining at home. Everyone agrees that the only proper place for persons suffering from the plague to be is at a sanatorium until he is given a certificate of graduation therefrom."

To aid various patients in getting into institutions, the two nurses employed by the Minnesota Public Health Association will visit this summer the counties for which institutions have been opened recently.

THINNING HELPS TO
GROW BIG APPLES

This is the year for another big crop of apples in most parts of Minnesota. Apple trees that are overloaded with fruit should have much picked off, so that those left may get all the food needed. Superior fruit—large size, well colored, and free from injuries—always sells. To produce such fruit should be the aim of everyone growing apples.

Thinning is not an added expense. It is a means of avoiding picking a lot of second class fruit by removing part of the crop before it matures. Careful tests show that thinned trees produce as large a quantity of fruit as trees not thinned. No absolute rule can be given as to how much to thin, because there is too wide a difference in the vigor of trees, even those of the same variety. A safe rule, however, is not to allow more than one apple to remain from a cluster and to have none nearer to it than six inches.

Thinning should be done soon after the June drop has taken place, when the apples are about an inch in diameter. All misshapen and diseased apples should be picked off. Thinning as well

as giving better apples, saves the tree considerable work in producing seeds and tends to insure a crop every year.

There are thousands of persons who want to eat Minnesota apples. They like those of good size, color and quality.—R. S. Mackintosh, University Farm.

MANY TO TALK OF
COMMUNITY'S ILLS

Preachers, teachers, club officials, and other community workers will be on the program of the Minnesota Rural-Life Conference, which will be in session July 24 to 28 at University Farm, St. Paul. The sessions will be open to anyone interested in a discussion of community ills.

The forenoons of the session will be given over to discussions of community problems and instruction in agriculture. The afternoons will be open to informal discussions of professional problems and denominational meetings. Ideal rural entertainments, demonstrations of the use of the motion picture machine in the churches and in rural schools and a play showing church conditions will help make up the night programs. The discussions will be led by Minnesota's leading ministers, club officers and community workers. Nationally known orators will be on the program of each day.

A meeting of the state high school principals has been called by Superintendent C. G. Schulz for the same date as the conference at University Farm and the normal training teachers will have their state conference at the same time. Both of these groups will be allowed to spend half the time at the rural-life conference. A letter has been sent out by Governor J. A. A. Burnquist to 1,250 farmers' clubs, urging them to send representatives to the conference. Leading ministers of every denomination in the state are working for a large attendance.

A. V. Storm, University Farm, is chairman of the committee in charge of the Rural-Life Conference.

DOCTOR NEEDED FOR
WOUNDS OF JULY 4

Often permanent disability and in many cases death may be avoided by the early and adequate treatment of Fourth of July wounds, says Dr. I. J. Murphy of the Minnesota Public Health Association.

Although the number of Fourth of July accidents is decreasing with the extension of the "safe and sane Fourth" idea, there were several accidents in this state last year which terminated fatally. Even if insistence on a safe and sane observance of the day could be made in all communities, it seems that a few accidents are unavoidable. Dr. Murphy has issued this warning:

"To avoid permanent disability or even death, injuries received on the Fourth of July should receive treatment from a competent physician at once. Tetanus, commonly called lockjaw, may show its first symptoms a week or ten days after the injury. *Tetanus germs are found in all street dust.* It has become customary in the case of blank cartridge wounds and many other Fourth of July injuries to have a physician administer antitetanic serum. Even for Fourth of July wounds that appear innocent, he should be allowed to give the injury proper treatment and to administer the serum if he thinks best to do so."

SPRAY WILL CHECK
RAVAGES OF BLIGHT

The blossom and twig blight of plums is prevalent this spring. Blossoms and twigs affected with the blight become brown in color and die. On close examination it may be found that there is a grayish or brownish powder on the surface. In some orchards the blight has become so serious as to kill from 15 to 40 per cent of the flowers. In many cases it has also attacked the twigs and killed many of them, sometimes even going back into the smaller branches.

The fact that there is so much of the trouble indicates that the plums were probably not sprayed before the blossoms opened. This would have prevented much of the disease. At present the best thing to do is to spray very thoroughly with lime sulphur, one gallon to forty gallons of water, to which 2½ pounds of arsenate of lead paste or half as much powder should be added. This will prevent the rot fungus from spreading, and will help to prevent the rotting of the fruit later. When the plums are beginning to ripen they should be sprayed again with lime sulphur alone in the same proportion. At this time it would be well to add some sticker to the spray material.

Station bulletin No. 153, University Farm, will give further information on treating blossom blight of plums, or the section of plant pathology will give special information to anyone writing for it.—E. C. Stakman, University Farm.

WORK NOW, YOU'LL
NEED REST LATER

For each hour that you rest now, you'll moan later. If you put off a thing in June because you are tired, statistics show that you will not be likely to get it done when the weather gets hot in July.

One will do 15 per cent less work when the temperature is 75 degrees and 37 per cent less when it is 86 degrees than he will do when it is 68. These are the results found by the New York state commission on ventilation, in an investigation of labor conditions there. In the case of lessened work, the person had the choice of doing or not doing.

The power to do work is not changed by the temperature. One can do as much work with a temperature ordinarily high as he can when it is fairly low. But when it's hot, he must know that he has to work. He does not do so because he enjoys it.

SMALL TRACTOR IS
GROWING IN FAVOR

The farm tractor is generally a profitable implement if enough land is cultivated to use it economically. This is the opinion expressed by three fourths of the two hundred tractor users in Illinois to investigators for the United States Department of Agriculture. About one-third of the men in this list increased the acreage, on an average 120 acres to the farm, after buying the tractors and finding that they did not have room to use them to the best advantage.

The average size of the farm on which the two-plow tractor is used is 270 acres. The average size of the farms that make room for the five-plow tractor is 420 acres.

Here is the minimum size of the farm on which the Illinois tractor owners think their machines could be used profitably: Two-plow tractor, 140 acres; three-plow tractor, 200 acres; four-plow tractor, 250 acres; five-plow tractor, 320 acres.

The large tractor is going out of use on farms. Thirty-nine per cent of the tractor owners estimate that a four-plow tractor is the best size for use on a 750-acre farm, while only 22 per cent of the men using tractors favored the eight-plow machine. None recommended one as large as ten-plow.

That the small tractor is coming into greater use in Minnesota is the report of J. L. Mowry of the division of agricultural engineering, University Farm, St. Paul. Many are favoring the three- or four-plow machines, while but few find use for the large ones that were often tried a few years ago.

TEST SHOWS FALL
PIGS YIELD PROFIT

Fifty-seven fall pigs fed at University Farm, St. Paul, last winter and marketed recently left a margin of \$4.56 a head to cover cost of labor, risk, interest, profit, etc.

R. C. Ashby of the animal husbandry division at University Farm, began a series of tests two years ago to determine whether raising fall pigs is profitable in Minnesota. The margin of nearly five dollars a head is the result of the test.

Eleven sows farrowed fall litters for the tests, and the pigs were weaned December 16. They were put on feeding tests two days later. The records kept cover all feeds consumed by sows and litters from farrowing to weaning and from the time the actual feeding test was begun until it was finished.

The total cost of feed for the sows and pigs up to weaning time was \$186.81. From weaning time to the time of marketing, the feed cost \$577.88, making a total cost of \$13.42 a head. The feed was counted at these prices: Shelled corn, 75 cents a bushel; ground barley, 65 cents a bushel; shorts, \$26 a ton; tankage, \$55 a ton.

The pigs averaged 191¼ pounds when sold May 6. They were sold at \$9.65 in South St. Paul, a price equivalent to \$9.40 at home. The selling price of \$17.98 left a balance of \$4.56 each. No account of manure is taken in these figures.

The pigs were fed in five lots, three lots from self feeders and two lots fed by hand. Those in the lots in which the self feeders were used did better than those in the other lots. The corn-fed lots required about seven bushels of corn, forty pounds of tankage, and from thirty to forty pounds of shorts for each pig from weaning time to the close of the test.

The pigs were fed grain alone. They were given no milk and did not have access to the cattle yards. Mr. Ashby thinks that when milk is available or when the pigs can pick up after cattle the margin will be correspondingly increased.