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ORCHARD AND GARDEN NOTES

October 15-22

Keep house plants clean and free from dust. Water thoroughly when the plants need water, rather than a little every day.

There is still time to plant bulbs in pots for spring flowers. Use hyacinths, daffodils, or tulips. Tulips may still be planted outdoors to advantage.

Save the seed of native plants and sow them in well-prepared garden soil. The seedlings will be desirable for transplanting about the place later.

Almost any one can have grapes if he will be satisfied with the Beta or the Janesville variety. Some better varieties may be grown in favorable places.

Hyacinths, daffodils and other bulbs should be set in a cool place until the roots are well formed. Then they may be brought into heat and forced as needed.

Potatoes should be stored in a cool cellar. A temperature of about 35 is good. If they are kept warm enough to sprout badly, a loss of from ten to thirty bushels per acre in yielding power may result.

Store cabbages in a cool cellar, heads down. They may be hung from supports, or the roots may be cut off and the heads wrapped in newspaper and laid on a shelf, but they should be hung heads down for a while to insure draining the water out.

Many worthless tulip bulbs have appeared on the local market this year. They have suffered either from improper curing in Holland or from heating in transit. On cutting a bulb in halves, if the center of the flower is black the bulb is of no value.

J. C. Witten, of the Missouri agricultural college, and H. M. Dunlap, of Illinois, are two excellent speakers who will be on the program for the winter meeting of the Horticultural Society, December 7 to 11. Another feature of the meeting will be the fruit, flower and vegetable exhibit. The meetings will be held in the West Hotel, Minneapolis.—LeRoy Cady, associate horticulturist, University Farm, St. Paul, Minn.

ORCHARD AND GARDEN NOTES

October 22-29

Straight garden or orchard rows give a better appearance and are easier to cultivate.

These long evenings are good times to plan next year's garden and to study better methods.

Hoe all grass and weeds away from the trunks of trees. This will destroy a winter home for mice.

Prune grape vines as soon as the leaves drop. They should be laid down before the ground freezes solid.

Some very fine specimens of aconite have been grown in some of the gardens about Lake Minnetonka this year.

Bittersweet makes a fairly good hedge when carefully trained over a fence or wall. Its orange-colored fruit adds greatly to its attractiveness in autumn.

The cockspur thorn, or Crataegus, makes a good hedge or specimen plant. Its long hard thorns will prevent the passage of both man and beast, if it is closely planted.

Did you notice the high coloring of the Virginia creeper this season? It is a splendid thing for autumn color on a brick or stone wall or when grown over an old tree or stump.

Damage from white grubs in 1912 was estimated at \$12,000,000. It bids fair to be greater next year and in 1917-1918, unless extra efforts are put forth to get rid of the grubs now and next spring. Three means of keeping them in check are suggested: Plow in the autumn, destroy May beetles in the spring, rotate crops. Do not plant strawberries on land known to be infested.

The Massachusetts Horticultural Society gave its first dahlia show September 23-26, 1840, and it is recorded that 3000 flowers were staged. A second show was held October 10 of the same year because of the interest and it is said there were ten entries in each class. Dahlia lovers of that time would hardly recognize the plant in the great variety of types and colors at one of today's shows.—LeRoy Cady, associate horticulturist, University Farm, St. Paul, Minn.

COUNTIES MAKE WAR ON TUBERCULOSIS

"In the fight against tuberculosis some rural counties are setting an example which should be followed by all," says Dr. I. J. Murphy of the Minnesota Public Health Association. "Ottertail was the first rural county to have a sanatorium in operation. Goodhue county was next. Twenty-six other rural counties have declared war upon tuberculosis.

"There remain 55 rural counties which have not as yet awakened to their responsibility. Unless each county does its share deaths from tuberculosis in Minnesota will not decrease as they should. A total of about 1,000 beds will be available by January 1, 1917, but there were 2,363 deaths from tuberculosis in Minnesota last year. Making a comparative estimate of five times as many living cases as deaths, we have 11,815 patients needing treatment today. These cases will not be adequately cared for until more funds are available. Funds will not be available until more people of the state understand how tuberculosis should be controlled. The Minnesota Public Health Association is in position to aid any community desiring to learn more about tuberculosis. It will supply a tuberculosis exhibit and literature regarding tuberculosis. It will also arrange for speakers."

HOW TO BATTLE WITH DIPHTHERIA

"Epidemics of diphtheria are more likely to occur in rural districts than in the cities," says Dr. I. J. Murphy of the Minnesota Public Health Association.

"In city schools, which have adequate medical supervision, diphtheria is very rare. A culture is taken from every child with a suspicious sore throat. This is examined free by a state board of health laboratory. Whenever diphtheria bacilli are found cultures are taken from both the nose and throat of all associates. This discloses "carriers" who spread the disease broadcast.

"In rural districts where the family, cannot or will not have a physician take cultures, the school board should employ a physician for all suspicious cases.

"If an epidemic should get a start, the schools should not be closed, but the state board of health should be notified at once. The board's agents will see that cultures are properly taken and thus make the children attending school safer than those associating with uncontrolled playmates at home.

"Three were 355 deaths from diphtheria in Minnesota last year. Frequent use of the culture method of diagnosis for suspicious and exposed cases and the early use of antitoxin would easily reduce this below the 100 mark."

STUMP-PULLER IS TESTED AT DULUTH

The one-man stump-puller of the ratchet type has been proved to be a useful instrument for the man of small means on northern Minnesota cut-over land.

According to tests under the direction of M. J. Thompson, superintendent of the Northeast Experiment Station at Duluth, good results have been secured with such machines. With one machine and two extra men, 23 green and 42 dry stumps were pulled in one day of nine hours. The total labor cost was \$6.75. The stumps were spruce, balsam, ash, pine, and cedar, and averaged about ten inches in diameter at the cut-off. Some dynamite was used with stumps more than twelve inches in diameter, unless they were decayed, and the roots were not all removed.

This type of machine, adds Mr. Thompson, has several things in its favor. It meets the requirements of the man of small capital who has no horse, has means of buying only a limited amount of explosives, yet who must make a clearing of some sort quickly. It is useful on wet ground where a drum machine or explosive cannot be used, and it works very well in a dense growth where the diameters of trees are from six to eight inches. In sandy soils where stumps average less than twelve inches in diameter the machine is very economical of operation. In removing larger stumps the use of some dynamite is often necessary.

In spite of its advantages, Mr. Thompson declares, such a machine cannot altogether displace the use of explosives and horse labor in the lake region where there are clay soils. On such land, grass-seed is sown among the stumps, cattle are pastured for several years, and then the stumps are blasted and removed by horse power.

Settlers on northern Minnesota cut-over land would do well to communicate with Mr. Thompson if they find special difficulties in clearing their land.

Don't try to grow house plants in a very warm room with a dry atmosphere. It can't be done.

LEAGUE OF CITIES MEETS OCTOBER 20

Arrangements have been completed by the General Extension Division of the University of Minnesota for the third annual convention of the League of Minnesota Municipalities, which will be held at Virginia October 20 and 21.

The attractively printed program indicates that municipal ownership and control of public utilities will be the striking features of the meeting. Herbert S. Bigelow of the Public Power League, of Cincinnati, Ohio, will present the case for municipal ownership. John H. Roemer, late chairman of the Wisconsin Railroad Commission and now general counsel of H. M. Byllesby and Company, will speak in opposition. At the same session Charles E. Elmquist of the Railroad and Warehouse Commission, will read a paper on the new powers that have been delegated to his commission in the control and regulation of telephones. Stiles P. Jones of Minneapolis will discuss the subject of franchises.

One session of the conference will be devoted to municipal accounting and street-paving. C. L. Rotzel, C. P. A., will present the report of the committee on municipal accounting. Frank G. Pierce, editor of the American Municipalities will give the experiences of Iowa cities under uniform accounting. John Wilson, city engineer of Duluth, who has collected the comparative paving-cost data of Minnesota villages and cities, will give the report of the committee on street-paving.

At the afternoon session of the first day Ford H. MacGregor, head of the Municipal Reference Bureau, University of Wisconsin, will give an address on the subject "Municipal Government and the Citizen." Prof. William A. Schaper of the department of political science of the University of Minnesota will read a paper on the need of a constitutional convention in Minnesota. L. R. Moyer, councilman of Montevideo, will read a paper on park-planting for prairie towns.

A noteworthy feature of the program will be the four-hour automobile education tour of the Iron range. This will take the delegates through Mountain Iron, Buhl, Chisholm, Hibbing, Eveleth, and Gilbert.

THE WAY TO MAKE GOOD APPLE JELLY

An excellent apple for jelly-making is the Transcendent crab. It has a pleasant characteristic flavor and good color. For making jelly from Transcendent crabs, Miss Mary Bull of the Agricultural Extension Division, University of Minnesota, gives the following directions:

Select, before they are thoroughly ripe, apples of good bright color, if a bright jelly is desired. Wash the apples, remove the blossoms and stems, cut into quarters, put into an acid-proof kettle, add cold water enough just to cover, bring to the boiling point, and cook gently until tender. Much of the pectose, which causes the fruit juice to jelly is near the skins and about the core; do not remove either.

When the apples are perfectly soft, not mushy, pour them into a clean, pointed jelly-bag and allow to drain. The juice which drains out first makes the clearest, most sparkling jelly. The second extraction may, however, make a good jelly. If the pulp is squeezed, great care must be exercised not to get fine particles in the juice or the jelly will be cloudy.

Put the strained juice over the fire and boil gently until it will coat a clean spoon. Then add three-fourths as much sugar (warmed) as there is juice, and cook a few minutes after the sugar is dissolved. When the jelly will drop abruptly from a clean spoon it is ready to pour into glasses. All skimming of the juice should be done before the sugar is added.

Long cooking with the sugar causes a syrup-like jelly and spoils the fresh fruit flavor. Jelly should be clear, stiff enough barely to hold its shape when turned from the glass, and should melt when taken into the mouth.

Apple jelly makes a good base on which to build many flavors. A few mint leaves cooked with apples for jelly-making gives a mint jelly. One-fourth as many raspberries as apples produces a jelly which will hold its shape and have a fine raspberry flavor.

PROTECT APPLE TREES

They Are Too Valuable to Feed to Mice and Rabbits.

Apple trees are too valuable to feed to mice and rabbits, says R. S. Mackintosh, Extension Division, University Farm, St. Paul. All young trees can easily be protected by means of heavy paper or wire netting of quarter-inch mesh, wrapped around the trunks. All grass and weeds should be removed from trees that are likely to be injured by mice.

CALVES EAT SEED POTATOES, AND DIE

A farmer in northwestern Minnesota was recently treating seed potatoes with corrosive sublimate. He left a quantity of the treated potatoes lying about. Four of his calves got into the yard, ate the poisoned potatoes and died.

This is a story with a moral which is so clear that it does not need to be put into words.

THERE IS MONEY IN SORTING POTATOES

There is money to be made by the sorting of potatoes. Consumers, large and small, do not like mixed lots. They want them uniform in size and quality. Consequently potatoes are usually sorted before being put on the market and the price which is paid the potato-grower is the price of sorted potatoes, less the cost of sorting. Therefore, the potato-grower who ships unsorted potatoes really has to pay the charge of sorting.

The shipper of unsorted potatoes, also, has to pay another charge, and that is the freight on the culls which are later taken out of his shipment.

The shipper of unsorted potatoes, therefore, is simply wasting money. It pays to sort because it gives one the top market prices and because it saves freight on culls, and, it might be added, because the culls could be kept on the farm and made use of in rations for live stock.

SAVE 1914 SEED CORN FOR TESTS

Wherever seed corn of the 1914 crop is left over, it should be tested for germination, and, when found to germinate at a satisfactory rate, should be saved for seed. C. P. Bull, associate agronomist at the Minnesota Experiment Station, thinks that such corn will be of better quality than the average of the 1915 crop.

Mr. Bull believes that the conditions that have existed through the last season, gave Minnesota farmers an opportunity to determine what varieties are best for Minnesota. Thus far, he says, observations and reports strongly indicate that Minnesota No. 13 for central and southern Minnesota can be depended upon, and Minnesota No. 23 for northern Minnesota. Northwestern Dent, Rustler White, and, in the south some early strains of Silver King and Murdock are showing up well.

(Editors:—This is the first of a series of short items on farm management. Each item will emphasize the need of business methods on the farm, but each will be independent, and can be used alone, whether preceding items have been used or succeeding items are to be used or not.)

LIVESTOCK AS A FACTOR IN FARMING

Records from 400 farms in Rice County, Minnesota, show that good livestock was the most important factor in making farming profitable. The labor income, or the amount of money the farmer earned above farm expenses, interest on the farm investment at 5 percent and the value of farm produce used in the household, was used as the measure of success.

The productivity of livestock is measured by the value of the returns to the farmer. Those farms having livestock returning less than 60 percent of the average of all the farms on the basis of the amount of livestock kept, gave an average labor income of \$49 less than nothing. In other words these farmers had to take \$49 from the interest on their investment in order to pay their farm expenses. Farms with livestock returning from 60 to 100 percent of the average, gave an average labor income of \$148; those with livestock returning from 101 to 140 percent of the average gave a labor income of \$506; those with livestock returning over 140 percent of the average, gave a labor income of \$911. Livestock did not give a high labor income in every instance. Yield of crops, size of farm business, efficiency of labor and the amount of livestock are all important factors.—A. H. Benton, assistant in farm management, University Farm, St. Paul, Minn.

Have You Apples To Sell?

The Extension Division of the College of Agriculture has received requests from six farmers' clubs for prices on apples in car lots. Individuals or clubs who have apples to sell should notify the Extension Division, University Farm, St. Paul, naming prices.

THREE AIDS TO BIG EGG-YIELD

The poultryman who wishes to have a profitable, laying flock for the season just ahead, says N. E. Chapman, of the Extension Division at University Farm, must do three things NOW.

First, he must make his poultry house ready for the laying flock. This means that he must make it perfectly weather tight, repairing roof and windows if need be; that he must clean it thoroughly and either whitewash it or spray it with kerosene and zenoleum or kresol; that he must thoroughly renovate roosts and nests; that he must refill the loft with clean straw; provide new sand and litter, hoppers for dry mash, for grit, shells, and charcoal, a table or shelf for pans or crocks for water and milk, and a cheese box of road dust or hard coal ashes.

He must determine the capacity of his house in order that the laying flock may not be crowded. Each laying hen needs at least four square feet of floor space. If an enclosed scratching shed is included, this may be considered in making calculations of the amount of floor space. If a considerable number of old fowls is to be kept over, it will be worth while to divide the poultry house proportionally between old and young.

He must gather in all the young chickens from brooder houses, coops, boxes, trees, and bushes, for a thorough culling of the flock. He must give pullets, hatched in April and May, a chance to make good. They will lay in November and December if properly housed and fed. He must dispose of all old stock, except birds desired as breeders; also old roosters and cockerals, excepting those needed as breeders or for family consumption. Colony houses may be utilized for cockerals and surplus stock until they can be profitably marketed.

STATE'S RECORD IN DISEASE PREVENTION

While twenty other states were struggling through an entire season with widespread outbreaks of foot-and-mouth disease, their stock-owners suffering immense losses from the destruction of their livestock and from interference with livestock business, Minnesota stock was protected until near the close of the season, says Dr. M. H. Reynolds, University Farm, St. Paul. Even then, the outbreak, caused by the importation of the virus with hog cholera serum from a commercial concern, was confined to the farm first infected. From this there was absolutely no spread of virus.

By prompt action and harmonious co-operation with federal authorities, every susceptible animal on this farm was immediately killed and safely buried. This was followed by thorough disinfection under close official supervision. Stock on neighboring farms was also carefully inspected.

Minnesota had several other opportunities for infection. Nine cars of cattle subsequently found in another state to be infected, were unloaded at the South St. Paul stockyards. Later healthy cattle were unloaded in these same yards and all exposed cattle had to be traced in order to insure safety to Minnesota stock.

Cattle subsequently found diseased in another state were unloaded in transit at the Minnesota Transfer, and at the Montevideo stockyards. Prompt and thorough work on the part of government authorities and the Minnesota livestock sanitary board, including the temporary closing and thorough disinfection of these yards, and the tracing of all contact and exposed cattle, prevented any spread of the disease.

TO TELL A SHEEP'S AGE BY THE TEETH

A lamb has eight small first-teeth on the lower jaw. When the animal reaches the age of about one year, the middle pair are replaced by two permanent teeth; at the age of about two, the teeth on either side of these permanent teeth, are also replaced with a permanent pair; at the age of three, the next tooth on either side gives way to a permanent tooth; and at about the age of four, the last or back teeth are replaced in like manner.

Briefly then, a sheep with one pair of permanent teeth is a yearling; a sheep with two pairs is a two-year old; with three pairs, a three-year old; and with four pairs, a four-year old.

After a sheep is four years old, one cannot tell by the teeth about the age. However, one who is purchasing a sheep, says T. G. Paterson, of the Animal Husbandry Division, University Farm, should see to it that it has not lost any teeth, or that the teeth have not become long and shoe-peggy in appearance.