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ORCHARD AND GARDEN NOTES

November 1-8.

Were any tulips planted about the place? It is not too late unless the ground is frozen solid.

Remove and burn all diseased or dead oak or other trees now. This is one way to cut down insect ravages.

Has the garden been a success this season? If not, why not? Begin now to plan a better one for next spring.

The dahlia plants were still blooming nicely the early part of October. This is a splendid plant for fall use.

A few daffodils, hyacinths, and tulips in flower next March will brighten up the rooms at small cost. Now is the time to plant them.

Engelmann Ivy has been especially bright colored on the Station buildings this autumn. It is the best clinging vine for brick or cement work in this latitude.

A few autumn-bearing strawberries have been worth growing this fall. Be sure productive varieties are obtained and don't buy too many expensive plants, as they may be disappointing.

With the coming of the long winter evenings more attention can be given to horticultural books and papers. These are numerous and easy to obtain through public and traveling libraries. It pays to own a few of the best on the subject in which one is most interested.

The winter meeting of the Horticultural society will be held December 1, 2, 3, and 4. Better begin to prepare to attend it. Dean Watts, of State college, Pennsylvania, will have a prominent part on the program. Four days spent at this meeting may be made of great value, both in a business and recreation way.—LeRoy Cady, Associate Horticulturist, University Farm, St. Paul.

ORCHARD AND GARDEN NOTES

November 8-15.

Cabbage, if stored in the cellar, should be looked over frequently.

Now is a good time to make up a list of trees and shrubs to order for planting next season.

The snapdragon has been an especially good garden flower this season. It may be had in a great variety of colors.

Clematis paniculata is one of the very pretty fall-flowering vines. Its white blossoms are much appreciated late in the season.

Put boards or tie cornfodder on the south side of apple, basswood, or mountain ash trees to prevent sun-scald during the winter.

Save a good supply of leaves in some out-of-the-way place and let them decay. Leaf mold is of much value when potting plants, and in flower beds.

Canna, gladiolus, dahlia, and other flowering bulbs must be looked after occasionally during the winter. They must not be allowed to start growing or to dry and shrivel.

Clean straw is much better for covering strawberries and perennials than straw manure, since it is not so likely to smother the plants when snow settles on it.

Spring is the best time to set out all plants except iris, peonies, and rhubarb. If others have been set out this fall, see that they are well mulched with straw manure.

There are few prettier berried plants for the home than some of the common garden peppers. Most of these are easily lifted from the ground late in August and, put in pots or boxes, make good Christmas plants.—LeRoy Cady, Associate Horticulturist, University Farm, St. Paul, Minn.

NEW GREENHOUSES

Better Facilities for Horticultural Division at College of Agriculture.

The completion of the horticultural greenhouses at the Agricultural college, University of Minnesota, will greatly facilitate the work of the students in that division.

The houses are four in number and have a combined floor space of 5,805 square feet. With the exception of one which has been reserved for research work in plant breeding, the houses will be used largely for student work. They cost \$22,000, including a storage-room.

These greenhouses are separate from the large areas now under glass and devoted to the work of the botany, agronomy, entomology, and soils divisions.

SOLDIERS IN WAR SAFER THAN BABIES

"Soldiers in the great European war are safer than babies right here in America", says Dr. H. W. Hill of the Minnesota Public Health association. "Twenty per cent of babies die within the first five years after birth and we don't expect any such proportion of deaths amongst the hosts now battling abroad. In the four years of the civil war the total deaths were but 10 per cent of the total soldiers. Our Minnesota babies can show equal losses in the first four years of their little individual campaigns for life against germs, poor feeding, poor air, poor care. Mothers do not necessarily know how to care for babies; and no part of a girl's education is more neglected as a rule than this subject.

"The Minnesota Public Health association is planning a series of free demonstrations for mothers in twelve communities in Minnesota, in connection with the Red Cross Christmas seal campaign.

"A trained Baby Welfare nurse for a month can do an immense service to any community."

CANCER CURED BEST IN ITS EARLY STAGES

"The cancer campaign in Minnesota was opened Sept. 30, 1914," says Dr. H. W. Hill of the Minnesota Public Health association. "Dr. Warren Dennis, in his address at the combined meeting of the Minnesota State Sanitary conference and the Minnesota Public Health association, said that cancer could be cured, but chiefly and most often when it was early recognized. Any tumor anywhere on the surface of the body, the lips, breast, or elsewhere, should immediately be investigated. Cancer is not painful in the early and most curable stages. Dr. Dennis combated the popular belief in cancer 'roots.' A cancer has no 'roots', but it has a tendency to detach portions of itself, and these are carried through the body and begin new growths in new places often far removed from the original point, very much as the seeds of a maple may be carried by a stream or river to a distant point and there develop another tree.

"Dr. W. J. Mayo, of Rochester, addressed the State Medical society on the same subject, citing many cases of operation, the ultimate success of which depends on the stage which the cancer has reached. As modern surgery becomes more extensive and refined, the success of operations, even late in the disease, increases, but early operation is still the principal hope of cure."

VITAMINS IN FOOD PROMOTE HEALTH

"Man has eaten vitamins since the days of Adam and Eve, but without knowing it until lately," says Dr. H. W. Hill of the Minnesota Public Health association. "These vitamins are found in fresh fruit. Perhaps Eve fell a victim to the craving for them. At all events, the instinct which Eve followed, however disastrous to her, is a very good one for her descendants to follow so far as vitamins are concerned.

"Recent investigations show that fresh vegetables, fresh raw milk, and many other things contain these mysterious vitamins; also, and still more important that diets which appear to be generous may result in starvation or disease, simply because vitamins are lacking. Scurvy surely and rickets perhaps, result from diets deficient in them. Scurvy developed among sailors, explorers, and pioneers who lived on salted meats and like things too exclusively. Our forefathers knew as well as we do that the only cure was fresh vegetables, fruits or similar fresh foods, but they did not know why. The vitamins are destroyed sometimes by cooking, sometimes apparently by long storage, or by preservatives such as salt.

"The principle of eating something raw, therefore is a good one, for it makes sure of these vitamins; and if they happen to be lacking from any one article of diet, that little fresh raw nibble makes up for the deficiency."

MOIST AIR CUTS THE FUEL BILLS

"One thing that will be much needed in Minnesota homes and schools this winter will be moist air," said Dr. H. W. Hill of the Minnesota Public Health association the other day. "It can be obtained, or produced, by evaporating water on the stove or hot water radiator. Hot-air furnaces are usually supplied with evaporating pans, and these should be kept filled with water. By increasing the moisture of the indoor air, the humidity, that is, the temperature needed for comfort is reduced and a saving of fuel is made possible. The syllabus on public health teaching, recently issued by the state's department of education explains the point fully.

COMFORTABLE COWS GIVE MOST MILK

"Now is the time that the farmer should be especially careful of the treatment which he gives the cows on his farm," declares R. M. Washburn, associate in dairy husbandry at the Minnesota College of Agriculture.

"Cold winds and rains are costly. They chill the cow, just as they would a warm stove, entailing the burning of more fuel. To avoid this the farmer should provide protection early.

"The ration at this transition period between summer pasturing and winter feeding is important. Any cow that has been giving milk since last spring will decrease her flow rapidly if she is not fed liberally. The result will be a greatly reduced profit from the dairy herd during the winter months.

"We are nearing the season when butter fat brings the highest price. Farmers will recognize the wisdom of keeping up the milk flow through this period.

"I do not advocate the feeding of much grain at this time. What is fed should merely supplement a ration composed largely of late grasses, pumpkins, soft-shelled squash, roots, and small potatoes.

"Many of the farmers do not believe that the small potatoes are worth picking up, not realizing that five pounds of potatoes are worth as much as one pound of grain. They may be brought in and put on the barn floor, where, if they are covered with hay to keep off the frosts and prevent light freezing, they can be kept for a long time and will take the place of a considerable amount of expensive grain or mill feed. Frozen potatoes, however, should not be fed to cows. They react unfavorably on the digestive tract.

"Herding the cows on the young clover in the wheat and oats stubble is a good plan. They will get much of value from this young growth."

OTHER STATES BUY MINN. SEED CORN

"There is a considerable demand in Iowa and other corn states for seed corn grown in Minnesota," declares C. P. Bull, associate agronomist at University Farm.

"Both of the early-maturing varieties developed at the Minnesota College of Agriculture, Minnesota No. 13 and Minnesota No. 23, are grown in other corn states to furnish an early crop for fall feeding," says Mr. Bull. "No. 23 ripens in Central Minnesota by the middle of August, and in Iowa, of course, relatively sooner.

"In this way the farmer has new corn with which to fatten his hogs or cattle early in the season and he is able to sell them before the heavy run at the stock yards, generally getting good prices."

"Inquiries asking where good seed for next spring may be secured are beginning to come into the office of the division of agronomy.

"There is going to be a large supply of seed corn, due to a considerable extent, to the interest taken in Seed Corn Week," says Mr. Bull, "but it is probable that the supply of first-class seed oats, wheat, and barley will be small.

"Farmers who have choice grain should save it and get in touch with the Minnesota Crop Improvement association which issues annually a list of persons having good seed for sale. The headquarters of the association are at University Farm, St. Paul."

CEMENT SILOS PUT TO SEVERE TEST

Outagamie county asylum farm, near Appleton, Wisconsin, was recently visited by a cyclone which demonstrated the stability, under extraordinary conditions, of properly constructed farm improvements. Three large barns and three smaller buildings were demolished leaving a bare and desolate landscape except for three concrete silos which survived the cyclone's fury.

For silo walls and similar construction requiring reinforcement, concrete materials should be thoroughly mixed in the proportion of 1 sack of Portland cement; 2½ cubic feet of clean, coarse sand graded in size up to a quarter of an inch; and 4 cubic feet of hard, durable gravel or broken stone, varying in size from a quarter of an inch to an inch. Enough water should be added to produce a "quaky" mixture. That is, the concrete when deposited should settle to place of its own weight, but should not be wet enough to cause the mortar to separate from the coarse aggregate.

\$2500 IN PREMIUMS FOR BETTER SEED

Premiums amounting to more than \$2,500 are offered for the tenth annual midwinter fair of the Minnesota Crop Improvement association, which will be held at Brainerd, Dec. 1 to 4. The preliminary premium list, just issued, names liberal prizes for corn, wheat, potatoes, oats, barley, rye, clover, timothy, alfalfa, sweet corn, hay, field peas, buckwheat, and other farm products.

Great stress has been laid upon the corn exhibits. Many, not being aware of the tremendous progress which northern Minnesota is making in corn-growing, will be surprised that an exhibition so largely devoted to corn should be staged so far north. C. P. Bull, of the Minnesota College of Agriculture, secretary of the Minnesota Crop Improvement association, declares that good corn is now grown north to the Canadian line.

The Minnesota Crop Improvement association was organized by Mr. Bull and several prominent farmers of the state to assist the extension division of the College of Agriculture in the furthering of the growing of better seed.

"The purpose of the organization is to secure more and better seed for use in the improvement of Minnesota crops," says Mr. Bull. "One of its functions is the introduction and dissemination of new varieties bred at the Minnesota Experiment station. It gives us an organized means of testing these introductions accurately and quickly.

"Every year we publish a seed list which is sent in reply to the many inquiries asking where good clean seed can be secured. We are careful to see that only seed grown on clean farms operated by careful farmers are listed."

BIG CUT IN LOSS BY HOG CHOLERA

Out of 6,500 cases reported, all but one per cent of the hogs treated with serum have gone safely through hog cholera outbreaks, according to H. P. Hoskins, in charge of the serum plant and the cholera investigation work of the department of agriculture, University of Minnesota.

In all of these instances the State serum was used. This record is somewhat better than that reported by the United States department of agriculture for the southern states, where the reduction of the loss to 2.27 per cent was regarded as highly gratifying evidence of the value of the preventive treatment.

The loss where the treatment was given in infected herds in Minnesota was about 10 per cent, many of the losses, however, were in herds in which the veterinarian merely took the "fighting chance" to save hogs that were very sick.

Officials of the department of agriculture at Washington point out that inoculation alone is not sufficient, and does not remove the necessity for sanitary and other precautions. For example, hogs given the treatment should be fed for a few days on laxative foods. They should be removed to clean and disinfected pens where there is plenty of shade, and care should be taken to free them from lice and worms.

EARLY EGGS BY EARLY HOUSING

To encourage the early laying of eggs, hens should be provided early in the fall with comfortable quarters. It takes time for pullets to become accustomed to new surroundings. At first they are timid. Consequently they are likely to huddle together when a person enters, especially at night. Some of the hens are injured through overheating. To obviate this, only a few hens at a time should be put in each pen or house. Then when these have become accustomed to their surroundings others can be brought in. The process may be repeated until all of one's hens have been housed. By following this plan a great many colds and cases of roup may be prevented, says A. C. Smith, in charge of poultry at University Farm, St. Paul.

Poultry houses must not be tightly closed, even at night, for some time. Moreover a thorough clean-up should precede the housing of one's hens. Floor litter should all be removed, with a portion of the earth, if the floor is of earth. Nests, roosts, platforms, water-stands, hoppers and other fittings should be removed and allowed to sun. Houses and equipment should then be thoroughly disinfected with whitewash or some strong, reliable disinfectant. With a new supply of clean sand or gravel on the floor and new nesting material, the house will then be ready for the hens and the gathering of egg profits for the winter.

FARMERS LOSE MONEY BUYING CHEAP SHEEP

Not a few farmers in Minnesota have lost heavily recently through the buying of inferior sheep. In making up their minds to a purchase, they have regarded cheapness as the one essential. They have paid from \$2.50 to \$3.00 a head and gotten parasitic sheep that have died off by the score, when for an additional \$1.00 a head they might have had healthy, sound, well-conditioned animals. The result has been that many have quit the sheep business in disappointment.

Thomas G. Paterson, assistant in animal husbandry at University Farm, St. Paul, calls attention to several such experiences on the part of Minnesota farmers, and says that every such case is likely to lose Minnesota a sheep-farmer. He tells of one such farmer who bought 400 animals at "mark-down" prices. One hundred died in the winter, and in August lambs and ewes began to die off rapidly. Scores died, and the loss more than offset any gain that had been made in price at the outset. Another farmer bought a new lot and turned them in with the animals already on his farm. The new lot contained sheep with stomach worms. As a result his sheep—old and new—began to die off by the score.

"In selecting sheep," Mr. Paterson says, "the first consideration should be good health. Buyers should avoid sheep with coughs or with scours, or with indications of the latter. They should shy at sheep that are thin, especially if they also have dry coats and pale hides. The combination of these three things indicates the probable presence of parasites. Soundness is to be considered next after health. Sheep with broken or short mouths or unsound udders should be shunned." In point of age, Mr. Paterson recommends sheep two or three years old. The younger ewes are untried as breeders, and older ones have suffered some loss of vitality. Black-faced natives or westerners are recommended, the latter for the beginner in the sheep business, because they are hardier. "The buyer," continues Mr. Paterson, "should also guard against sheep that are too fat, for the fatness adds to the cost, but he should be just as careful to avoid the poor and scrawny kind, as such condition indicates the absence of vitality.

In going in for sheep, one should be careful to start right, get healthy, sound animals of right age and condition, and then take special pains to keep them free from parasites, by keeping infested sheep off his place. Making such a beginning and following such a course, a man can make money from sheep, and at the same time improve the condition of his farm and his soil.

LIGHT SERUM DOSE SAVES FALL PIGS

"Owners of herds visited by cholera early in the season frequently breed their sows for fall pigs. When this is done, close watch should be kept on the fall litters," says H. Preston Hoskins, assistant veterinarian, University Farm, St. Paul. "Usually pigs from immune sows are expected to inherit considerable immunity, but this immunity varies widely, and in some cases seems to be lost quite early. Many large hog-raisers take no chances, therefore, and protect their young pigs with small doses of serum, usually 15 cubic centimeters, when they are four or five weeks old. This suffices to carry the pigs until after weaning time, when they may be given the double treatment and rendered permanently immune. Many spring pigs were lost this year because of a failure to follow this practice, the cholera germs on the farms having survived the winter. It would therefore be well for the farmer who has had cholera on his place within the last year to pay a little attention to his fall pigs.

CARE NEEDED IN FEEDING ALFALFA

"The increased production of alfalfa in Minnesota has attracted attention to its value as hay for horses. It is a good feed, but horses should not be allowed free access to it until they have become accustomed to its use," declares J. S. Montgomery, of the animal husbandry section of the Minnesota College of Agriculture.

"Because of its palatability, horses not used to eating alfalfa are inclined to over-eat, but after it has become a regular part of their ration there is little danger.

"Care should be taken, however, when the grain fed with the hay is oats. This feed is high in protein and when combined with alfalfa which is also rich in protein, the ration may be over-balanced, causing an excessive strain upon the kidneys. Where part of the grain ration is corn this will not be true. "Horses will clean up the alfalfa better than other stock, because they eat the big stems."