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ORCHARD AND GARDEN NOTES.

JULY 1.

Try one more planting of sweet corn.

Rutabagas may be sown now. New land is the best to use.

Celery plants may be set out for a late crop.

Leave no vacant places in the garden. Replant for fall use.

Keep flowering stalks off of the rhubarb.

Another planting of string beans may be made.

Early summer-flowering shrubs may be pruned just after flowering.

Keep the cultivator going. Every weed allowed to go to seed now means many weeds next season.

The hardy Gaillardia has proved a splendid flowering plant again this summer.

Plow the old strawberry bed and set the late cabbage, or sow rutabagas on it.

Tie tomato vines to stakes. Better not let more than one or two stems grow.

One exhibitor at the summer meeting of the Horticultural Society showed 155 varieties of peonies. It was a sight well worth seeing.

Now is the time to buy a home canning outfit. The June issue of the Minnesota Horticulturist contains a good paper on home canning.

One of the pretty vines at this time of the year is the Alleghany vine or Mountain Fringe. It is easily grown, coming up year after year. Its leaves make excellent green for cut flowers.

No one should be without a few iris and peony plants in the yard or garden. Probably no two perennials give more satisfaction in their season, year after year, than these. They both come in a wide range of color.—LeRoy Cady, Associate Horticulturist, University Farm, St. Paul.

ORCHARD AND GARDEN NOTES.

JULY 8.

Sow perennial flower seed early in July for next season's flowers.

Stake gladiolus plants unless they have been planted very deep.

Remove all suckers from fruit and ornamental trees. They are unsightly and use plant food.

It is often a good plan to pinch back musk melon and cucumber vines to make the fruit grow more rapidly.

Keep sweet peas, pot marigolds and other annuals picked if you would have good flowers all summer.

Lime of sulphur dusted over rose bushes or other plants that are beginning to mildew will often stop the trouble.

Are the onions growing nicely? Hen manure or nitrate of soda may be sown broadcast over the field or cultivated in if they appear to be standing still.

Plums and apples may be budded the latter part of July or early in August. Try a few. It is an easy way to increase good varieties.

Seeds of the maple and other trees ripening at this time may be planted at once or kept until spring and planted. This is perhaps the best time to sow them.

The Russian Olive has been an especially showy tree this spring. Its white foliage among the green, and the sweet odor of its blossoms make it a good plant to have on the lawn.

Take time to visit the nearest park or a neighbor who has been successful in growing trees, fruits, or flowers and study the plants and methods of growing. It is not a difficult matter to have an attractive home yard and it adds much to the pleasure of living.—LeRoy Cady, Associate Horticulturist, University Farm, St. Paul, Minn.

A good repellent placed upon the hair of stock not only protects them from house flies and deer flies, but also from other two-winged pests, such as horn flies, black flies or buffalo gnats, the biting stable fly, and botflies, affecting horses and cattle. A mixture of a pound of rancid lard and half a pint of kerosene will be helpful. Do not use too much kerosene.—Division of Entomology, University Farm, St. Paul.

HORTICULTURAL SOCIETY MEETING.

The summer meeting of the State Horticultural Society was held at University Farm Tuesday, June 16. One of the finest exhibits of peonies and perennials in the history of the Society was made. Mr. D. W. C. Ruff, of White Bear, showed 155 varieties, among them some of the newer French as well as many American varieties. Some 30 or 40 common perennials were on exhibition. Among those showing to the best advantage were the hardy Gaillardia, Aquilegia, Lilium elegans, Iceland Poppy, Oriental Poppy, and Delphinium.

An excellent display of roses was made by the Minneapolis Park Board from the Lake Harriet Rose Garden. Some 50 or 60 varieties were shown, demonstrating that there are a great many roses that may be grown in Minnesota, providing the right soil and location is selected.

A picnic dinner was held on the campus at noon. A short program was given during the afternoon. Some of the old horticulturists were present and gave some reminiscences of horticulture and agriculture in Minnesota in the early days. Some of the prevalent horticultural troubles were discussed and a chance was given for anyone to ask questions and get information as to the care of plants and shrubs.

The exhibit was kept open during the evening and was visited by a thousand or fifteen hundred people.—LeRoy Cady, Associate Horticulturist, University Farm, St. Paul, Minn.

MINNESOTA WEEDS.

New Bulletin Tells How to Recognize and Eradicate Them.

Weeds and dairy cows, undesirable and very desirable farm inhabitants, are the subjects on which Minnesota farmers ask for Station bulletins most frequently. Accordingly the Agricultural Experiment Station at University Farm has just issued Bulletin 139, entitled Minnesota Weeds, Series II. It describes 24 of the common weeds of the section and gives directions for their eradication. It also includes drawings to aid in the recognition of the plants and the detection of the seeds in small grains and elsewhere.

A similar bulletin dealing with 24 other common weeds, published more than a year ago has been in great demand not only among farmers but also among schools that teach agriculture and botany. Professors Boss and Oswald who write these bulletins, combine theory with practice by discussing the habits of growth of the different weeds in order that the directions for their eradication may be more readily understood and applied.

Crab grass, witch grass, barnyard grass, Darnel, Pennsylvania smartweed, wild buckwheat, night-flowering catchfly, cow cockle, purslane, false flax, black mustard, five-finger, wild rose, mallow, evening primrose, dodder, sticktight, blue vervain, catnip, buckthorn plantain, marsh elder, Mayweed, prickly lettuce, and perennial sow thistle are the weeds discussed in the new bulletin 139, while those included in 129 were quack grass, slender wheat grass, yellow foxtail, green foxtail, wild oats, curled dock, sheep sorrel, smartweed, lamb's quarters, pigweed, Russian thistle, corn cockle, white cockle, French weed, peppergrass, shepherd's purse, wild mustard, yellow trefoil, sweet clover, kinghead, ragweed, burdock, Canada thistle, and bull thistle. Both bulletins are available for distribution to those who do not already have copies.

CUTTING CLOVER.

Clover for hay should be cut as soon as the first blossoms begin to turn brown. If a large amount is to be cut with a small crew, one should begin even earlier, to prevent the last of the crop from getting too ripe before it is cut. The general tendency, among those not familiar with the method of making clover hay, seems to be to let it become too ripe before cutting. The longer any hay crop is left uncut after its bloom has reached the proper stage, the more indigestible it becomes. The only condition that should be permitted to delay the cutting beyond this point is prevailing bad weather.

The mower should be started in the evening before the dew has fallen or in the forenoon as soon as the dew is off; and it is not wise to cut down too much at one time.—From Extension Bulletin 47, entitled Clover, which may be obtained without charge by addressing the Agricultural Extension Division, University Farm, St. Paul.

FARM MACHINERY INVESTMENT.

A difficult problem on the American farm is to decide how much and what kind of machinery should be purchased. Some farms are so overstocked with machinery that the depreciation, interest, and repairs eat up much of the profits.

Assuming the average depreciation on machinery at 10 per cent, and the interest on the money invested at 6 per cent, we have an average yearly expense of approximately \$13 on each \$100 invested in machinery. A man who has \$1,500 worth of machinery would have \$195 expense on this alone in interest and depreciation. If his work could be done with half this amount, he could save \$97.50. This would be equivalent to the interest on \$1,625 at 6 per cent.

A farm of 80 acres cannot profitably use 4-horse machinery because 3 horses should do the work on a farm of this size. In buying machinery too large in proportion to the size of the farm unnecessary expense is added. This comes not only in the increased cost of the machinery, but also in the maintenance of any extra horses required.

Before purchasing new machinery, it is well to consider the following questions:

Will the use of the new machine give me a larger net return from the crops on which it is used?

Will the new machine reduce the demand for man labor?

Where a machine is required only a few days each year, can it not be rented more cheaply than purchased?

Will the money to be invested return more in some other way?

Has the machine been thoroughly tried by others and found satisfactory.—A. H. Benton, Assistant Agriculturist, University Farm, St. Paul.

STORING CLOVER HAY.

Where clover hay is put into the cock, it is advisable to open up the cocks and permit them to air a short time before taking them to the stack or mow.

If the hay is put into a stack, the stack should be started upon a bottom of poles, brush, straw, or old hay. Where it is placed directly on the ground there is bound to be more or less spoiled hay in the bottom. Clover hay does not shed water, and it is advisable to top out clover stacks with rather green timothy, prairie, or slough hay, putting on enough hangers to hold the top in place.

There are a few variations in the methods of making good clover hay, but the real secret, no matter what the method, is to cut it at the proper time and cure it "in the shade" as much as possible, being careful to avoid a hasty drying up of the leaves and overcuring. Properly cured clover hay will sweat in either the stack or the mow, but unless it is unevenly packed and loose, no alarm need be felt if it gets warm.

We clip these suggestions from Extension Bulletin 47, Clover, by Andrew Boss and A. C. Army, which may be obtained, without charge, by addressing the Agricultural Extension Division, University Farm, St. Paul.

WHEN TO CUT ALFALFA.

For all classes of animals except horses, 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. Cutting earlier than this is not desirable or profitable, since the yield will be smaller and the hay will be more difficult to cure. It should not be allowed to get much beyond this stage for two reasons: (1) Although a somewhat heavier first cutting of hay can be secured by allowing it to stand longer than the time recommended, the hay is neither as palatable, nor as nutritious. (2) Leaving the first crop after it is at the proper stage to cut delays and reduces the second crop since the new shoots coming from the crown are cut off with the first crop. 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, but it should never be left until the second crop is injured in cutting the first crop.—A. C. Army, Assistant Agriculturist, University Farm, St. Paul.

For the green cabbage worm use dry Paris green dusted on the cabbage when wet, or a spray made by mixing three pounds of Paris green with fifty gallons of water and adding two or three pounds of soap. For cauliflower white hellebore should be used instead of the Paris green.—Division of Entomology, University Farm, St. Paul.

SAVE WHITE SWEET CLOVER SEED

The appearance of white sweet clover along roadsides throughout Minnesota is a very encouraging feature. It is the forerunner of alfalfa and should not be unwelcome in its own right since it is practically as valuable a soil-improver as common red clover or alfalfa. Cut at the right time, it makes a fair hay although not nearly as good as clover or alfalfa in this respect. But is not white sweet clover a weed to be feared? White sweet clover is a biennial—that is, it is planted the first year and the next year produces a crop of seed or a crop of hay and a crop of seed, and then the plants die. From this it will be readily seen that if it is cut so that it does not ripen seed, all of it will be gone the second year. Therefore it may be used on farms for inoculating fields for alfalfa and as a soil-improver without any danger whatever of getting to be a weed pest in the alfalfa field.

Inoculating the soil for white sweet clover is just as necessary to success as it is for alfalfa, but where seed can be gathered along the roadside at no expense except the labor, it will pay in many instances to sow three or four pounds of the unhulled seed per acre with the grain, other clover, and timothy seed. Some of the sweet clover plants will be inoculated the first year and more the second year. Alfalfa following will get the benefit of this increase in numbers of the right kind of bacteria.

The thing to do as the sweet clover along the roadsides ripens its seed is to gather it for use on farms, or for sale if more is gathered than is wanted.—A. C. Army, Assistant Agriculturist, University Farm, St. Paul.

WORMS SECOND TO CHOLERA.

The Symptoms of Lung Worms Are Mistaken for Those of Cholera.

From an economic standpoint parasitic diseases are of grave importance to those who are interested in the welfare of the great live-stock industry. Serious losses occur yearly among our domestic animals, especially among sheep, hogs, and horses. Parasitic diseases have frequently gone unrecognized or have been diagnosed as some other malady producing tissue changes of a similar nature. This is partly due to lack of observation and intelligent search for the real cause. Many of the most troublesome parasites that infest our domestic animals are so small that it requires very careful search to detect them. Parasites of swine, from an economic standpoint, are second in importance only to hog cholera. In certain localities the parasites have gained such a strong foothold that the hog-raising industry has become seriously impaired.

Preventives and treatments for some of the worst Minnesota parasites are suggested in Bulletin 51, recently prepared for free distribution, by Dr. W. L. Boyd, University Farm, St. Paul. It is entitled Some Internal Parasites of Domestic Animals and includes discussions of bots and pinworms of horses; lung worms of sheep, sheep and hogs; the nodule disease of sheep; thorn-headed worms of hogs, and common round worms of hogs.

SOIL TESTED FREE.

University Soils Chemist Will Test Soil Samples for Acidity if Properly Submitted.

The Experiment Station at University Farm, St. Paul, will, without charge, test for acidity all samples of Minnesota soils the senders of which comply with the following directions:

1. Send the sample by parcel post (not express), addressed to the Division of Soils, University Farm, St. Paul. It should be allowed to become dry before being mailed unless it is sent in a metal container. If dry it may be sent in a small cloth sack.
2. Give the location of the field, stating the part of section and the numbers of section, township, and range.
3. State as nearly as is known how long the field has been under cultivation.
4. A half-pound sample is sufficient for the test. This should be part of a composite sample, made by mixing in a pail samples from 10 or 15 different places in the field.
5. If tests of soil from different fields are desired prepare a sample from each as directed in 4.—F. J. Alway, Soils Chemist, University Farm, St. Paul.

GIRLS' HOME-MAKING COURSE.

One of the purposes of the Northwest School of Agriculture, Crookston, is to make the vocation of home-making an art—providing information and instruction along lines that shall make the girl from the farm a more efficient woman. Interest in the work of the home is aroused by giving familiarity with its common processes and their underlying principles and to show the relation of home to the community. The study of food, shelter, and clothing affords an opportunity to present some of the economic and esthetic as well as scientific problems involved in the management of the household and to give through these a standard of living and of the common materials used in the home. The aim is to introduce the student to some of the housekeeper's problems and above all to awaken her interest in the wider question of sound bodies, wholesome dwellings, and real homes.

The Domestic Science Department occupies the second floor of the Home Economics Building. The kitchen is equipped with gas stoves and individual utensils. The sewing-room is supplied with sewing machines of different types, tables for drafting and cutting, and various appliances for the study of clothing. The dining-room is neatly furnished with table, buffet, china closet, dishes, and linen for teaching the proper serving of meals.

The course of three years includes instruction in cooking, sewing, home nursing, sanitation, personal hygiene, home decoration, care of the home, marketing, and the keeping of household accounts.

The general purpose is to teach each girl to appreciate her home and work to make it a more beautiful place in which to live.

NO CHOLERA CURE.

Anti-Hog-Cholera Serum Is Recommended As a Preventive, Not a Cure.

There is no known cure or preventive treatment by ordinary medicines that can be recommended for hog cholera. Disinfectants properly used in sufficient strength may have some value in preventing cholera simply by destroying virus on feeding floors, troughs, etc.

The only treatment recommended by the Minnesota College of Agriculture for cholera is the use of the Dorset-Niles hog cholera serum. This serum is the watery portion of the blood of a specially treated, immune hog. It undoubtedly has curative value in some cases but should be recommended as a preventive treatment and not as a cure.

Good serum properly used is very reliable and has saved hogs worth millions of dollars, but large quantities of impotent or contaminated serum and even imitations of serum were used in this State during the past year with bad results.—M. H. Reynolds, Veterinarian, University Farm, St. Paul.

SWAT THE ROOSTERS.

Minnesota has annually 500,000 roosters on her farms. By June 15 their usefulness as breeders is ended. For the next four months their presence with the laying flock will result in great loss through chick-development during the warm weather. They should be eaten, sold, or shut up at once.

Eat Them.

The farmer's wife knows how to make a delicious pot-pie of an old rooster. Use all you can of them. Many lost their hogs and hence the family larder is low. Eat the old roosters.

Sell Them.

The value of the half million roosters exceeds a quarter of a million at current quotations. Some produce-dealers are offering ten cents per pound at country points. \$250,000 in cash either in the pocketbooks or in the bank will be much more productive than a half million roosters in the barnyards of Minnesota farmers.

Shut Them Up.

If one has a young cockerel of special value as a breeder, he should be shut up in a small pen during the summer months, and broody hens put in with him during his captivity. He should be given good care to maintain his breeding qualities.

Eat, sell, or shut up. Which shall it be? It is up to you. Get busy.—N. E. Chapman, Poultry Specialist, Extension Division, University Farm, St. Paul.

The potato beetle appears in June and the plant should be sprayed immediately with a mixture of one pound of arsenate of lead, half a pound of Paris green, and twenty-five gallons of water. Respray as often as necessary.—Division of Entomology, University Farm, St. Paul.