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ORCHARD AND GARDEN NOTES.

June 15.

Watch the rose bushes for slugs and mildew.

Take a day off occasionally. It pays in the long run.

Make another sowing of peas, beans, and sweet corn.

The Japanese and Chinese lilacs should be at their best early in June.

Lilium elegans is one of the prettiest of the early-flowering lilies.

Cucumbers may be planted and will give slicing fruits in autumn.

The Oriental poppy is one of the showiest lawn plants, but of no value as a cut flower.

Cease cutting asparagus late in June. Cut down all stalks and work as much well-rotted manure into the soil as possible.

Watch for insects on vines, currants, and ornamental plants. Get the first ones appearing and little damage will result to the plants.

Bulletin 129, State College of Pennsylvania, gives some very interesting data on tomato strains. It is well worth study by one interested in tomato-growing.

It is often a good plan to soak the strawberry bed thoroughly just before the fruit ripens. This is true if it is set on rather light soil and the season is dry.—LeRoy Cady, Associate Horticulturist, University Farm, St. Paul, Minn.

ORCHARD AND GARDEN NOTES.

June 22.

During the last week of June:

Keep the cultivator going.

Elms and other shade trees may be pruned.

Strawberries ought to be plentiful.

Many of the flowering annuals should be in bloom.

A final planting of Golden Bantam sweet corn should be made.

Rutabagas may be planted. Sow on new land for best results.

Currants will be almost ready to pick. They make the best jelly when about half ripe.

Perennial seed may be sown now and wintered over in a cold frame or protected place.

Set out late celery. Choose a location that is near water as it is often needed early in autumn.

It is a good plan to nip the new shoots of black raspberry when eighteen inches high. This makes a more bushy plant.

As soon as the strawberry crop is off mow the bed and burn or rake the dry foliage. Plow up all but a few young plants in the rows. Cultivate these and another crop may be taken off next year.—LeRoy Cady, Associate Horticulturist, University Farm, St. Paul, Minn.

THINNING APPLES.

The Utah Agricultural College during 1911 and 1912 thinned the fruit on a number of apple trees to determine the exact value of this important orchard practice. It was found that the yield was not reduced and, what was more important, it graded higher when thinned so that the apples were at least 4 inches apart. In 1911 there was 61.3 per cent fancy fruit on thinned trees and 15.1 per cent on unthinned. In 1912 there was 38 per cent of fancy and extra fancy fruit on thinned as compared with 22 per cent on unthinned trees. The culls varied from 6.4 per cent on thinned to 30.3 per cent on unthinned trees in 1911; in 1912 from 13 per cent to 21 per cent. When reduced to dollars and cents it was found that the net returns were $30 per acre. The cost of thinning always lessens the cost of sorting. Mr. Farnsworth of Ohio, before the December meeting of the Minnesota Horticultural Society, stated that it was cheaper to thin fruit on the trees than it was to pick the culls in the fall. In other words it was more profitable to handle good fruit than poor fruit.

Thinning should be done when the little apples are about one inch in diameter. Do not leave any apples nearer together than four inches.—R. S. Mackintosh, Horticultural Specialist, Agricultural Extension Division, University Farm, St. Paul.

Do not buy meat, groceries, or fruit from any store where flies are tolerated, and, above all, keep these disease-bearing insects away from the baby and its milk bottle. Exclude flies from creameries by every possible means.

FARMERS' ELEVATORS.

Efficient Managers and Good Accounting Systems Most Important Requisites of Coöperative Grain Marketing.

When the farmers determined to enter the field of coöperative grain marketing they were beset by many obstacles. In the first place it was difficult for them to procure trackage sites from the railroads for their elevators. When they did procure sites and build their elevators, every possible device of destructive competition was brought into play by the line elevator companies to kill them before they could get fairly started. Add to these difficulties the inexperience of the farmers in business affairs, and the resulting poor management of their elevators, and it is only natural that a great many failed. In spite of early discouragements, the farmers persevered, and today we have a goodly number of successful farmers' elevators in many of the states of the grain belt—notably Illinois, Iowa, Wisconsin, Minnesota, North Dakota, South Dakota, Nebraska and Kansas.

Frequent failures among farmers' elevator companies, however, have not been confined to the early days of the movement. They are still occurring with deplorable frequency. Competition of line elevator companies at local points still persists. Poor management, in the form of inefficient managers and cumbersome and faulty accounting systems, is still common. Every year, scores of farmers' elevators are closed in the Northwest, but the aggregate number in operation is steadily increasing, owing to the entrance of new companies every year. These facts suggest the principal problem connected with the farmers' elevator movement today, viz., what means shall be adopted to place existing companies on a sound basis, and to insure to new companies a reasonable chance of permanent success?—L. D. H. Weld, Agricultural Economist, University Farm, St. Paul.

BUSINESS STANDARDS FOR THE HOME.

The housekeeping must be judged by business standards. It must be managed and equipped to produce the largest possible income in work accomplished, in money saved or earned, and in the atmosphere of a real home. This demands first of all the saving of labor. If the use of a gasoline engine on a farm will more than save the work of one man, it is equally true that water under pressure, a lighting system, and power-driven laundry and cleaning machinery will save the work of one woman in the house. Or, from another view, such labor-saving equipment will release a water-carrier, or a laundress for the better paid work of dressmaking; or, better still, allow time for the real mothering of children.

But there is one still more important economic aspect. Over-work takes all the joy out of work, even of one's own work. It makes life existence, not real living. It makes men and women old when they should still be young. It is time to cease praising the industry which begins with the dawn and lasts all day long, and instead, to take account of its toll in non-productive, premature old age. Conservation of physical strength and health is conservation of earning power—a genuine production of wealth.—Josephine T. Berry, Home Economics, University Farm, St. Paul.

COMMUNITY MARKETING.

Coöperation in marketing and in buying is, we believe, essential to the economical distribution of products. Large quantities of uniformly good products can be sold much more advantageously than can smaller quantities of products, each sample of which may be good in itself but which when brought together are not uniform. When every farm was manufacturing its own butter, and each of the hundred or more farmers in the community was trying to sell butter of a different quality, the price of butter was comparatively low. Where butter is manufactured in one plant, the manager of the creamery has at his disposal large quantities of a uniform product and can sell at the best possible price.

If the products of a community, such as grain, potatoes, and live stock, can be made uniform by coöperation among the members of the community in production, and then these larger quantities of uniform products can be sold by one man, the same advantages that come to the large farmer, or have come to the dairy industry, can be secured in other enterprises on the farm.—A. D. Wilson, Director of Agricultural Extension and Farmers' Institutes, University Farm, St. Paul.

INOCULATING ALFALFA FIELDS.

Use Soil From An Alfalfa Or a Sweet Clover Field, Or Bacteria Furnished Free By the U. S. Department of Agriculture.

Alfalfa fields may be inoculated with soil taken to a depth of from 4 to 6 inches from an alfalfa or sweet clover field where the plants are known to be inoculated, at the rate of about 200 pounds per acre. It is well to avoid exposing the soil to the sunlight for any considerable length of time. Part of this soil may be sifted and from 10 to 20 pounds mixed thoroughly with the seed for each acre.

The seed should be slightly moistened before mixing and the mixture shoveled over frequently until dry enough to sow. The fine soil particles and the bacteria cling to the seeds and are ready to begin work as soon as the plants start growth. The remaining soil may be scattered broadcast at seeding time and harrowed in immediately.

Care must be exercised to secure the soil from clean fields so that the roots and seeds of noxious weeds and alfalfa diseases will not be introduced. In order to secure a thorough inoculation of the alfalfa plants the first year, it is important that the soil containing the bacteria be mixed thoroughly with the soil of the field. This can be done best with the disk or harrow just before the seed is sown. Feeding alfalfa hay and spreading the manure on the field to be sown probably introduces some bacteria.

Pure cultures of bacteria for use in treating seed are furnished without charge by the U. S. Department of Agriculture, Washington, D. C., with directions for use. Soil from sweet clover patches along the roadside may be used with fair success, but the inoculation of the plants usually will not be as general the first season as if soil is used from a well-inoculated alfalfa field.—A. C. Arny, Assistant Agriculturist, University Farm, St. Paul.

RAINFALL AND WHEAT COMPOSITION.

The rapidity with which wheat fills and ripens depends chiefly upon the amount of moisture which is available to the crop during the month of July. In all except the dry-farming districts this supply is determined by the amount of rainfall received during June and July. In regions where winter, or early spring, rainfall is conserved for summer use by dry-farming methods of tillage, the total annual rainfall may influence the amount available for the maturing crop. But whether the moisture supply is measured in terms of that present in the soil or of total rainfall, it has been found that the kind of wheat grown in different sections varies with the moisture supply. The hardest wheats come from those districts where the moisture supply is least. This is true not only in comparing the wheat of different states or localities, but in comparing the wheat grown in the same locality in different years.

In some localities, like the Pacific Coast states, where the summer temperatures are low and the rate of evaporation of water from the soil is therefore low, a small rainfall may actually supply more moisture in the soil and available to the crop, than would be available in other regions where the temperature is higher in summer, even though more moisture was actually received in the form of rain. Hence the Pacific Coast states produce soft wheat with the same or less rainfall than that which produces hard wheat in the Mississippi Valley.—R. W. Thatcher, Agricultural Chemist, University Farm, St. Paul.

ALFALFA ON EVERY FARM.

An acre or more of alfalfa on every farm means 156,000 acres of alfalfa in Minnesota within the next year. It means one hundred and fifty-six thousand alfalfa centers where this most valuable forage crop may be observed and its great value learned. It means the seeding of more than seventy times as large an acreage as has been grown with success in Minnesota during the last fifty years. One acre of alfalfa on each farm may seem a small beginning, but the personal experience gained in handling one acre successfully this year will prove very valuable if it is found advisable to increase the acreage next year.—A recent bulletin, entitled Alfalfa-Growing in Minnesota, may be secured free by addressing the writer, A. C. Arny, Assistant Agriculturist, University Farm, St. Paul.

TYPHOID FLY BULLETIN.

Fight the Fly With Traps, Poisons, Repellant Sprays, and Clean-Up Methods.

It requires no argument to prove that the annoying disease-bearing fly should be exterminated or controlled. The only question is "How"? Flies and Their Control, Extension Bulletin 43, of the Minnesota Farmers' Library, undertakes to answer this question. It deals with the house fly and some of the more important stock flies which are perhaps the worst pests of Minnesota animals.

In dealing with the habits and rapid increase of flies, Professor F. L. Washburn, the author, lays special emphasis on the transmission of disease germs from filth to food and the importance of screens and clean-up sanitation in combating the pest. Stables and privies should be so managed that flies cannot breed or feed in them and then carry infection to the family table or the baby's bottle. Food for sale should be screened or kept under glass. Three teaspoonfuls of formalin in half a pint of milk diluted with the same amount of water makes an effective fly-poison, especially if no other drinking place is open to the flies, but should be kept out of reach of children. Sticky paper is preferable to poisoned fly paper. The bulletin gives full directions for making the Minnesota fly trap.

The stock flies discussed include the horn fly, deer flies, the biting stable fly, and the horse botfly. The general preventives suggested are (1) darkened stables with burlap over the door to brush off and exclude flies as the animal enters; (2) a spray of three parts fish oil and one part kerosene; and (3) an ointment made by mixing a pint of kerosene with a pound of lard and applied thinly with a cloth over the animal's back. The nits of the horse fly can be removed by clipping affected portions or by brushing them with a feather dipped in kerosene. Too much kerosene should not be used.—J. O. Rankin, University Farm, St. Paul.

WHITE GRUBS.

Strawberries, Corn, and Potatoes Less Likely to Be Injured This Year.

From the data available, it seems that three or four of our five species of white grubs will be in the May-beetle or June-bug stage this year and that potatoes, corn, and other plants susceptible to the attack of white grubs will be relatively little injured by them. It should also be a good year for transplanting strawberries, as they will become established with less injury from the grubs. These plants should be well cultivated throughout the summer to keep down the weeds, thus preventing the adult beetles from laying their eggs in such places. For egg-laying, the beetles prefer land occupied by timothy, grain, or other vegetation. Such places should be as far away from trees as possible, as the adult beetles feed upon the foliage of various trees, such as oak, maple, and poplar. Next year, these fields should not be planted with corn or to potatoes, which are liable to attack, as they will, no doubt, be infested with large numbers of white grubs.

Wherever possible, such animals as pigs, and chickens should be allowed to run underneath the trees upon which the beetles are feeding. The beetles feed at night and during the daytime remain hidden on the ground where pigs and chickens readily find them. The larger the number of these beetles destroyed this summer, the less the injury likely to be done by white grubs next year. Some good might be accomplished by jarring the trees upon which the beetles are feeding at night, having first spread a sheet under the tree. The beetles will drop onto the sheet, from which they can readily be collected and destroyed.—William Moore, Division of Entomology, University Farm, St. Paul.

THE STRIPED CUCUMBER BEETLE.

The striped cucumber beetle appears early in June on cucumber, squash, and melon vines and should be given frequent and generous applications of air slaked lime and Paris green mixed in the proportion of ten pounds of lime to one of Paris green. The squash bug which destroys plants of the same kind should be treated with lime alone.

The cucumber beetle often proves destructive to the roots of the vine. It appears as a pale straw-colored worm about the size of a cabbage maggot and may be treated with a mixture of one tablespoonful of commercial tobacco extract in a gallon of water. Apply one teacupful of the solution around each infested plant.—Division of Entomology, University Farm, St. Paul.

NOT A CHOLERA CURE.

Dean Woods of Minnesota College of Agriculture Says Benetol Is of No Value in Treating Hog Cholera.

In view of the fact that certain claims for a proprietary remedy—benetol—have been made in the public press recently, calling attention to it as an alleged preventive and curative remedy for hog cholera, in such a manner as to indicate that the Minnesota Experiment Station approves it, we wish to call the attention of hog owners to the following facts:

Dr. E. W. Berg, whose name is mentioned in the press articles, is not and never has been connected with the Minnesota Experiment Station either directly or indirectly.

In a series of experiments recently conducted at the State Hog Cholera Serum Plant, it was found that benetol had absolutely no value as a preventive or curative agent for hog cholera.

In one series of experiments the hogs that were given benetol died before others which had not been given any treatment at all, and the characteristic lesions of hog cholera were found, on autopsy.

In a large number of cases it was found that the hogs that were given benetol, by drench, as directed, developed a severe inflammation of the entire digestive tract, evidently due to the irritating action of the drug.

When benetol was injected hypodermically, local abscesses usually followed at the points of injection.

In a herd of hogs sick of cholera by natural infection, and treated with benetol by a representative of the company manufacturing the remedy, every hog treated with benetol subsequently died of cholera, while a few that were untreated made a recovery. The treatment of this herd was under observation by a veterinarian from the Experiment Station.

Neither the Minnesota Experiment Station, the State Live Stock Sanitary Board, nor the Federal Department of Agriculture, has given any endorsement of benetol as a remedy to combat cholera, as might be inferred by the newspaper articles referred to.—A. F. Woods, Dean and Director, Department of Agriculture, University Farm, St. Paul.

U. S. WARNS AGAINST ALLEGED HOG CHOLERA CURES.

Government Has Not Approved Any Treatment Except the Protective Serum.

Office of Information, U. S. Dept. of Agriculture.

Washington, D. C.—Evidence of what appears to be a well-organized campaign to delude farmers throughout the country into buying an alleged cure for hog cholera, under the impression that this has been investigated and approved by the United States Government, has reached the Department of Agriculture. Articles praising this medicine, benetol by name, are being sent out widespread to newspapers. These articles are so worded that it appears as if the Department of Agriculture had received reports from the State of Minnesota showing that the medicine had proved most beneficial. As a matter of fact the one report received by the Department was an unofficial and unsolicited statement sent presumably from the promoters themselves. The Department attaches no importance whatsoever to this statement. It has no reason to believe in the efficiency of any proprietary cure for hog cholera and does not recommend any. Under certain conditions it urges farmers to protect their stock with anti-hog-cholera serum but that is all.

In connection with this attempt it may be said that the medicine, which is now put forward as good for hogs, was advertised some time ago as a means of killing tuberculosis, typhoid, and cancer germs, according to an article published in the Journal of the American Medical Association. At that time it was asserted that the Army was interested in it. As a matter of fact the Army was no more interested than the Department of Agriculture is now.

In view of the evidence that the attempt to create this false impression is persistent and widespread, all hog-owners are warned to communicate with the United States authorities before accepting as true any statement that the Government recommends any treatment other than the serum already mentioned.