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ORCHARD AND GARDEN

June 1 to 8

Plant gladiolus bulbs now. They will give autumn flowers.

Set out all house plants and annual flowers.

Celery and cabbage may be set out any time this month.

Beans, squash, melons, cucumbers, in fact all vegetables may be planted now.

Keep the onion field thoroughly cultivated and weeded if you want a good crop of onions.

Plant navy beans now. They do not require a heavy or over-rich soil. They must be well cultivated throughout the season.

Try a few lima beans this year. Plant a dwarf sort on warm, rich land. They require warm weather for their growth.

Plant a good big patch of melons this year. They are easy to care for.

Keep your garden tools clean and bright all the time. It is always best to keep them under cover when not in use.

Some growers of strawberries last year found it profitable to sell their fruit on the vines. While the pickers destroyed some fruit in picking, most of the crop was saved to advantage.

Prune spiraea bushes as soon as they are through flowering. Remove all old wood and thin the new growth. Spade around the plants and fertilize them well. Better flowers will result next year.—LeRoy Cady, associate horticulturist, University Farm, St. Paul, Minn.

ORCHARD AND GARDEN

June 8 to 15

The early fruit and vegetables on the market get the high prices.

Pick strawberries carefully, grade well and pack neatly, and you will get top prices for your fruit.

Tomatoes ripen better when grown on a trellis or stakes. They can be set closer together in the rows than when allowed to spread over the ground.

If it seems necessary to water the garden or lawn plants, do a thorough job. Be sure the soil is moist clear to the root tips.

Keep the plant aphid in check by using some tobacco preparation. Those insects that eat the foliage must be kept in check by spraying with a poison that they will eat, like paris green or arsenate of lead.

Attend the summer meeting of the Minnesota Horticultural society at University Farm. There will be a fine showing of flowers and it will furnish an excuse for a pleasant holiday.

Oriental poppies and Lilium Elegans are two of the most gorgeous plants in flower right now. The Oriental poppy dies down to the ground soon after flowering and is often taken to be dead. It remains dormant until next spring. Lilium Elegans loses its foliage early in the fall.

It pays to work the road drag on the road a little while after every rain. Compare right now state roads which have been dragged regularly and some of the country roads which have been allowed to cut into ruts.—LeRoy Cady, associate horticulturist, University Farm, St. Paul, Minn.

FARMERS COOPERATE IN FERTILIZER TESTS

Experiments conducted at the West Central experiment station at Morris for the last four years have demonstrated that acid phosphate can be applied profitably to the soils of western Minnesota, says P. E. Miller in charge of the station. This fertilizer has given an average increase of 4.5 bushels of corn; 4.1 bushels of wheat; 6 bushels of oats; .7 tons of clover, over plots where no fertilizer was applied. These increases have all been received from one application, applied to the land for the corn crop which is followed in rotation by wheat, oats, and clover in the order given. Figuring pre-war prices, the increase would amount to approximately \$14.92, while the cost of the fertilizer is only \$4.80 leaving a net profit of \$10.12 an acre, for the period of the rotation.

About thirty farmers largely in Stevens county are now cooperating in testing the use of this fertilizer on land seeded to wheat and clover. They have applied the fertilizer on areas varying from three to forty acres. The soil type of Stevens county is typical of western Minnesota, and, if the results of these experiments are similar to the results obtained at the experiment station, many farmers will undoubtedly use a fertilizer in the very near future, especially on farms where there is not sufficient barnyard manure to cover the land at least once in four years.

The results of the fertilizer investigations at the Morris station have been

completely summarized in the annual report which is now ready for distribution. The report calls attention to the fact that similar experiments being carried on at the experiment farms at St. Paul, Crookston, Waseca, Grand Rapids, and Duluth have so far failed to reveal any such markedly beneficial effects as are shown at Morris. Farmers may obtain same by writing to the experiment station at Morris.

EDITOR'S CORNER

HELP OFFERED IN SOLVING EDITORS' LABOR PROBLEM

The offering of courses in reporting and newspaper editing by the department of journalism of the University at University Farm, June 17 to July 26, coupled with a course in linotype operation offered by Dunwoody Institute at the same time, all of which are open to both men and women, it is believed by the University men should help in some measure to relieve the acute labor situation especially in the country print shops of the state.

Dunwoody Institute has decided to admit women to the course in linotype operation as a war measure, realizing that as the war progresses the demand for women trained to take the places of men in the industries, will increase. The suggestion from H. W. Kavel, superintendent of the institute, is that in so far as possible the publishers of the state encourage women who have had experience as compositors to take this course.

Courses in reporting and copy-reading in connection with the course in linotype operation should give publishers excellent assistants, and the University trusts that this effort to be of assistance will meet with a liberal response in the way of attendance.

BEANS URGED AS MEAT SUBSTITUTE

Because beans provide food approaching meats in value and at very much less expense, A. C. Arny of the agronomy division, University Farm, St. Paul, urges the planting of beans in Minnesota this summer. He says they may be planted during the first ten days of June with full prospect of success.

Mr. Arny urges the careful cultivation of the seed bed in advance of sowing, the planting of the beans 1½ or 2 inches deep if the soil is moist, and only such cultivation after planting as is needed to keep the soil mellow and free from weeds. Sandy loams and loams are best suited for bean raising. From 30 to 45 pounds of seed of the smaller varieties and from 60 to 75 pounds of the larger are used per acre.

LAND CLEARING PAYS DESPITE HIGH PRICES

Dynamite companies have quoted prices on 20 per cent dynamite at \$19 a hundred pounds in small lots, and at \$15.25 in carlots. For 40 per cent dynamite the price is \$4 a hundred more.

Dynamite has advanced in price practically 100 per cent. Stump pullers have also advanced in price. Labor is scarce and high-priced. It has been said that for these reasons land clearing is out of the question, but with present prices of farm products this is not true. Dynamite and stump pullers will give value received, and they should be used, says A. J. McGuire, of University Farm.

For the man who cannot invest much money in equipment for land clearing, there is still the ax, the brush scythe, the mattock and the spruce pole. Much land can be cleared with equipment costing less than \$10, and good strong manpower. There are thousands of acres of meadow land from which 1.5 tons of hay could be cut per acre if cleared. Much of this land can be cleared by hand labor at the rate of from three to five days labor per acre. There is still time to provide for a 1918 hay crop on natural meadows.

ROOT CROPS HELP IN FEEDING POULTRY

As a means of providing against a shortage of poultry feed again next winter, W. E. Stanfield, a federal government poultry specialist for Minnesota, is appealing to the men back of Minnesota's \$50,000,000 poultry industry to plant root crops for poultry feed. The shortage of grain feeds last winter put a tremendous tax on the industry and greatly reduced the profits. Mr. Stanfield says that by the use of root crops such as turnips and beets the consumption of grain can be reduced at least 20 per cent. Moreover, these feeds afford a variety, increase the egg yield, and raise the vitality of the flock generally.

SILO AS WEAPON TO DEFEAT HUNS

The United States food administration, believing that food will win the war, is beginning a campaign to increase the building of silos as a means of conserving food and stimulating the raising of livestock.

A. D. Wilson, federal food administrator for Minnesota, says the most important advantage of the silo is that it furnishes almost a sure supply of feed as there is no more certain crop in Minnesota or in the northwest than corn. He also says that there is no other practical way of storing corn in such form that it can all be made use of, that silage is a more convenient form to feed than is bundle corn, that it not only provides for the use of the whole of the plant but is both palatable and succulent, and that by the use of the silo it is possible to save corn that might otherwise, owing to immaturity, be very largely wasted.

Any common type of silo well constructed will be found satisfactory.

The size of the silo depends upon the number of cattle to be fed. A cow or steer during the winter feeding period in Minnesota consumes about four tons of silage. From this it is easy to determine how large to make one's silo.

A silo should be located for convenience in feeding and in part for protection against freezing.

The cost of the silo varies from \$2 to \$5 for each ton of capacity for silos holding 100 tons or more.

BEEKEEPERS WARNED OF DANGERS OF LOSS

Because the dandelions and fruit blossoms came early this spring and there is likely to be a gap between the end of the dandelion season and the beginning of the clover season, L. V. France, instructor in bee culture at the University of Minnesota, says bee keepers may suffer a serious loss. This will come about from the fact that bee colonies short of honey stores and depending on the dandelion nectar for increasing strength and maintenance will stop brood-rearing and through lack of strength will have few field bees to gather nectar. This may possibly lead to starvation.

The remedy, according to Mr. France, is to feed the needy colonies about one half pint, or a cupful, of sugar syrup made of one part of good sugar to one pint warm water each evening until the clovers bloom enough to support the

ENGINEERING AID OFFERED FARMERS

The division of Agricultural engineering at University Farm, St. Paul, stands ready to cooperate with the farmer in drainage operations. Members of the staff will if desired make a preliminary examination of farms for drainage, give advice on drainage matters, lay out drainage systems in districts where there is no local drainage engineer available, aid in arousing interest in district drainage projects where outlet ditches are needed, aid in the organization of drainage districts, make preliminary examinations and aid in the final design of district drains. At present the state charges no fees, but traveling and subsistence expenses must be borne by the person served.

Make your farm drainage plans now before crops are grown high. Plan a system for the entire farm. You can lay the drains at your convenience, but a complete plan must be followed if the drains work right when finished.—H. B. Roe, assistant agricultural engineer in drainage.

POISON BRAN KILLS GREEDY CUTWORM

For cutworms, which have been doing more mischief in war gardens this year than for several years, A. G. Ruggles, state entomologist, suggests the use of poisoned bait made of ten pounds of bran, one pound of white arsenic, one quart cheap molasses, the mixture moistened with water until it will just hold together. This mixture should be scattered near the infested plants about sundown.

STORY OF THE BLACK STEM RUST OF GRAINS

The story of black stem rust of grain and its relation to the barberry is one of the interesting stories of science. It is told in a graphic manner by Dr. E. M. Freeman of the division of plant pathology and botany, in Special Bulletin 27 of the agricultural extension division, University of Minnesota, just issued.

Copies may be had by addressing Office of Publications, University Farm, St. Paul.

MURPHY AT THE BAT



—B. F. Hammond in the Wichita Eagle

You have offered to do everything in your power to help win the war so

Push
Offer,
Talk,
Advertise,
Think,
Order,
Eat and
Save

Potatoes

U. S. Food Administration

Plates of this cartoon may be had by addressing U. S. Food Administration, University Farm, St. Paul

CORN HARROWING NEEDS SPECIAL CARE

Corn should be harrowed with special care this spring, if harrowed at all, says Andrew Boss of the Minnesota experiment station. Much trouble has been experienced in securing seed corn enough to plant the normal acreage in Minnesota. Some of the corn is of low germination. The stand, therefore, will be none too good. As counts of corn fields and checks show that it is not unusual for from 10 to 25 per cent of the corn that germinates to be killed by harrowing and careless cultivation, careless harrowing is likely to reduce greatly even such a stand as may be obtained.

If harrowing should be done at all in the corn field it should be done either before corn breaks through the ground or when it is three or four inches high. When harrowed at the latter time, it is very essential that both the land and corn be dry. If harrowed when wet, the corn will break off easily or pull out of the ground.

While the corn is small, much of it may be destroyed also by careless cultivation. Single stalks or even whole hills are often covered by running the corn shovels too deep. Shallow cultivation, even in the early part of the season, is preferable to deep cultivation, though in order to keep the weeds down it must be cultivated frequently. During the latter part of the season shallow cultivation is advisable or a loss of yield will result. Experimental evidence has been published which shows that cutting the corn roots by cultivating too close to the hill and too deep will retard growth of corn from a week to ten days and will lower the yield 5 to 10 bushels per acre. There is no need of experiencing this loss if good judgment is used in cultivating the corn field.

POINTS ON THE CARE OF SPRING PASTURES

Recent rains have done much for pastures and meadows. As it is during rainy times that pasture sods are most injured by the trampling that comes with over-stocking, the start that the grass is making now should be conserved against the short pasture season of midsummer. Bare spots should have been reseeded and marked for an extra application of manure when top-dressing time comes. Light harrowing improves both the newly seeded and the old sod-bound places. It pays to keep the weeds clipped back to prevent their going to seed. The bar should be set high so as to spare the grasses.

From this time on all pastures should be dragged frequently to distribute the manure. If the manure is allowed to remain where dropped by the stock the grass underneath is killed out, while there is a zone surrounding the pile which grows so rank that the stock will not eat it.—Carl W. Gay, Minnesota Experiment Station.

PRESERVE EGGS NOW FOR WINTER USE

Every family may assure itself of a winter's supply of eggs at summer prices by preserving at least thirty dozen eggs at this season in water glass.

Eggs should be medium-sized, with a smooth clean shell, of average thickness. Eggs that are thin-shelled, ridged, or irregular in shape should be avoided. Eggs with dirty or soiled shells should not be preserved until thoroughly cleaned. For cleaning a soft cloth dipped in vinegar is best. Infertile eggs keep best; that is, eggs from flocks from which the male birds were eliminated as soon as hatching was over.

One quart of water glass, or sodium silicate, to nine quarts of sterilized water is required. Boil and cool the water. This solution will cover about fifteen dozen eggs in a five-gallon jar.

A bulletin giving full, detailed instructions may be obtained by addressing Poultry Extension Department, University Farm, St. Paul, Minn.—W. E. Stanfield, United States extension poultry husbandman.

MILLIONS LOST IN THRESHING WHEAT

According to careful studies three per cent of the wheat crop has been lost every year through inefficient threshing. This has meant a loss of something like 20,000,000 bushels of wheat a year, which would mean at present prices about \$40,000,000.

The United States food administration is planning this year to reduce this loss to a minimum. An effort is being made to have every threshing outfit in the United States put into efficient working order so that it may be operated in a way to save every grain of wheat possible. Capt. Kenneth Hequemour, an Oklahoma wheat producer, has been placed in charge of the special threshing division of the food administration to look after the campaign.