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ORCHARD AND GARDEN

May 1 to 8

Separate runners from the strawberry plants and set them in the new bed.

Set strawberry plants with the crown even with the surface of the ground.

One third of the new growth of gooseberry bushes should be cut off each year.

Two or three year old wood produces the best currants. Older wood should be cut out.

One hundred asparagus plants will supply the ordinary family. Divide old roots, or buy one or two year old plants.

Plant potatoes or vegetables between the rows of trees in the orchard. The frequent cultivation is good for the trees, if care is taken not to get too close.

ORCHARD AND GARDEN

May 8 to 15

Continual surface cultivation should be given currants and gooseberries.

In setting out plants from the hotbed or cold frame, see that the soil is fine and moist.

Do not plant beans until the soil is warm. From May 15 to June 1 is usually about the right time.

Raspberries, blackberries and strawberries will succeed on any good corn land. A north slope is best.

Plant vegetables on all the tillable vacant lots where the soil is good. Organize garden clubs for the children.

If you have any difficulty with fruit trees or bushes, write to the Agricultural Extension Division, University Farm, St. Paul. Their specialists will help you.

HOW TO KILL THE CABBAGE MAGGOT

The flies that lay the eggs that hatch maggots that eat the cabbage may be destroyed with a spray made of three-fourths of an ounce of arsenate of lead paste, one-half pint New Orleans molasses and one gallon water. This mixture should be sprayed on the plants from May 1 to May 20. If the weather is clear, the plants should be sprayed once a week. If the weather is rainy, the plants should be sprayed after every rain.

A second brood of flies appears between July 1 and July 20. The spraying should be repeated at this time.

A few drops of the spray on each leaf is enough to attract the flies.—A. G. Ruggles, Minnesota experiment station.

BOY CAVALIERS ASKED TO MOBILIZE

D. D. Mayne, principal of the school of agriculture, University farm, St. Paul, has issued a call to the members of the Farm Boy Cavaliers of America to mobilize. He calls upon them for the production of more food and for the prevention of waste in the service of their country. This he urges in keeping with the four principles of the organization—service, thrift, loyalty and honor.

All farm boys in America, furthermore, are called upon to enlist with the farm boy cavaliers in the patriotic service of food production and conservation.

Mr. Mayne says that the completion of one or more of the achievement projects of the order will not only advance the farm boy in the organization, but will help him to do his bit for his country and humanity.

BEANS ARE NEEDED IN TIMES OF WAR

The crop production subcommittee of the state committee of food production and conservation recommends among other things, the growing of beans in order to ward off the dangers arising from the present food shortage in the United States, and to help win the war.

The average yield of beans for Minnesota is about 15 bushels. With the present high prices, this means that beans should be a very profitable crop this year. Here are a few things to remember in raising beans:

Light soils, sandy loams and loams are better for beans than heavy soils.

Small navy beans command the highest market prices and fewer of them are needed for seeding.

Planting should be delayed until danger from frost is past, but not too long, as the beans must have time to mature before frosts in the fall. In northern bean-growing sections, beans may be planted between May 20 and June 10.

Beans should be planted about an inch and a half or two inches deep in rows 24 inches apart, with the plants about four inches apart in the rows. They should be cultivated only often enough to keep the soil mellow and free from weeds.

PATRIOTISM PLUS PROFIT, IN POTATOES

Right now, says G. R. Bisby, University Farm, St. Paul, is the time to make a good start in the raising of potatoes right. Prices are high, the market is likely to continue good, and your country needs potatoes. Mr. Bisby suggests:

That bin selection of seed potatoes be practiced this spring; and that all diseased, rotted or injured potatoes be removed.

That scab, black scurf, or black leg be killed by treating seed potatoes with corrosive sublimate, four ounces to 30 gallons of water, or formaldehyde, one pint to 30 gallons of water, either before the seed potatoes are cut or after they are cut if they are to be planted at once.

That seed potato plots be maintained if the grower intends to continue raising potatoes and wishes to get the best results.

The seed plot enables the grower to improve the purity, type, quality and productiveness of his potatoes and also is very important in securing disease-free tubers. The soil for such a plot should be of the best and should not have grown potatoes for several years. It should also be some distance from the main potato field. The seed put into this plot should be perfect and free from disease. Of course, these also should be treated to prevent disease.

ROOTS AND POTATOES WILL HELP ROUT FOE

To aid in alleviating the shortage of food, roots and potatoes can be made a very potent factor. With ground of sandy loam character, larger yields of nutriment can be obtained than from any grain crop. The mangel is more generally grown, because it requires less labor on the average than roots with full length in the ground, but the rutabaga has better keeping qualities and yields per acre nearly the same amount of nutriment.

The following table gives the yield of nutriment per acre of the leading crops available for food both for men and livestock. except the mangel which is not used for human food.

	Yield per acre, tons	Nutriment per acre, pounds
Mangels	30.0	4,440
Rutabaga	23.0	4,324
Potato	*115	1,180
Corn	34.4	1,651
Rye	19.8	962
Barley	24.9	949
Oats	34.5	777
Wheat	13.4	644

* Bushels.

The nutriment in the roughage of the farm grains is not included because it varies greatly and has very small net nutritive value. On the other hand the nutriment in roots and potatoes has a greater net or productive value than the nutriment in grains. So far as food for men is concerned, an acre planted to rutabagas, after making allowance for peeling and trimming, promises five times as much food as an acre of wheat Potatoes, estimating the average yield at 115 bushels per acre, produce more than 1,100 pounds of nutriment per acre. The yield could be brought to 200 bushels per acre in small tracts. By feeding roots to milk cows the grain ration is reduced at the rate of one pound of grain to ten pounds of roots. The same is true with respect to potatoes, provided the balance of the feed gives sufficient protein. In addition to the large yield the high efficiency of the nutriment, and the reduction of the grain in the ration, a liberal supply of roots will maintain a higher physical tone and a larger and more profitable production, better health and longer life.—T. L. Haecker, University Farm, St. Paul.

HOME FOOD WASTE IS $700,000,000

With the homes of the United States facing such a food shortage as they have probably never known, every effort should be made to reduce their $700,000.000 waste of foodstuffs.

This enormous waste is caused by heedlessly throwing good fod into garbage pails, by allowing food to spoil, by ruining it in cooking, and by allowing it to be eaten by rats, mice and insects.

The food production and conservation committee, in view of the danger of a grave food shortage, urges a stoppage of this waste. It says:

Don't feed high-priced human food to hogs or chickens.

Don't send valuable food to the incinerator or the fertilizer heap.

Don't pour into the sewer nourishing food in the shape of milk, skimmilk, sweet or sour, soup, gravy, or melted fat, or water in which cereals or vegetables have been cooked.

Water in which cereals or vegetables have been cooked can be used in making highly palatable soups.

Keep good food out of your garbage pail and kitchen sink.

PLAN FOR SEASON'S LABOR RIGHT NOW

Farmers who depend upon transient labor to harvest the crops this year face the possibility of a scarcity of men. By taking advantage of the present situation, however, they may avoid losses later through lack of labor.

A considerable number of young men being released from the Minnesota College of Agriculture who have not had much farm experience may be employed at this time at fair wages (according to their experience), for the summer and harvest season. It will be cheaper to employ such men now and keep them through the harvest season than to be caught short-handed in harvest and have to employ transient labor at almost prohibitive prices.

To bring such young men and farmers needing them together, a labor agency has been established at University Farm. A card addressed to the agency giving the name, address, and kind of help wanted and probable length of time of employment, may assist in securing needed labor to harvest the season's big crop.

WORLD NEEDS WOOL; HOW YOU CAN HELP

The world needs wool as never before. A British authority recently made the statement that one third of the wool supply was going into uniforms. Now that the United States has entered the war the proportion going into uniforms will be still larger. This will mean less wool for the civilian population. How is the wool shortage to be met?

It can be met in part, says the livestock subcommittee of the state committee on food production and conservation by the retention of the entire lamb crop of this spring until 1918, in order that the wool clip may be increased. It can also be met in part, says Marion Weller of the home economics division of the Minnesota College of Agriculture, by the use of the shoddy made from discarded clothing, clippings from the clothing factories and rags that contain wool.

In other countries this latter source of wool supply is regularly counted on. Remnants such as those mentioned are baled and sent to shoddy mills where they go through a machine that pulls them apart and delivers the fiber in a fluffy mass. This fiber is carded again, spun into yarn and woven into cloth. Sometimes it is blended with new wool for the better grades of fabrics, or it may be mixed with cotton for the cheaper fabrics. For this reason, Miss Weller suggests that a campaign against the waste of wool in clothing should be pushed as a coördinate of the campaign for the raising of more sheep.

ALFALFA AS PARTIAL GRAIN SUBSTITUTE

With the scarcity and high prices of grain, farmers can still keep up livestock production by growing alfalfa, says B. Forbell, University Farm.

Surveys made through cow-testing associations last winter, adds Mr. Forbell, show that where alfalfa was supplied, milk production was kept up satisfactorily without the use of high-priced protein grains. Alfalfa and silage with reasonable amounts of home-grown grains, such as ground oats and corn, produced the greatest profits. Cows advanced in lactation, or those giving small amounts of milk gave the largest profit on alfalfa and silage alone. Where prairie, timothy, or timothy and clover hay was fed with silage, and was not supplemented with protein grains, production was far below normal. On this account, Mr. Forbell believes that where hays deficient in protein are used, purchased protein grains are necessary for fair production. Where alfalfa is used, dairy farmers are independent of commercial protein grains.

Alfalfa also makes a splendid hog pasture and alfalfa hay takes the place of some grain in wintering hogs.

Why not grow alfalfa?

BEES CAN ASSIST TROOPS AT FRONT

Francis Jager, chief of the division of bee culture at University Farm, has issued a letter calling upon bee-keepers throughout the state to endeavor by wise management and industry to secure a large crop of honey this summer. Honey is a valuable food product whether for civilians, soldiers at the front, or wounded and convalescing soldiers in hospitals.

The letter also urges that bee-keepers report as soon as the honey crop is in, how much they have to dispose of and at what price. Later, the division will tell bee men where to market their honey to the best advantage.

In order to meet the needs of the situation, it is suggested that honey be packed in five gallon cans.

WAR'S CALL TO THE LIVESTOCK FARMER

The present food shortage, which threatens to become much more serious, is the livestock farmer's opportunity as well as the call to patroitic duty.

In view of the grave situation, the division of animal industry, University Farm, St. Paul, offers the following suggestions to the livestock farmers of Minnesota:

Keep all livestock off pastures till the grass has a good start, and the sod will withstand tramping and retain the moisture in the soil. Much more feed will be yielded and hay saved in the long run by this method. "A week too early to grass in the spring means three weeks less pasture in the fall."

Do not turn out steers about ready for market; they will shrink more than they will gain, and other stock needs the pasture.

Raise all calves for which there is ample feed.

Save high-priced feed by providing hog pastures, and labor by self-feeders and crops to be hogged-off.

Rebreed sows that have farrowed early for fall litters wherever concentrates are available for feed.

Substitute and supplement oats in the rations of farm and city work horses by brewers' grains, oilmeal, molasses and alfalfa hay, thus releasing the oats for the horses in army service.

Breed all suitable mares to the best stallion available.

Keep chickens on city lots. They utilize kitchen waste, require only light labor such as children, old folks, and convalescents can supply, and make quick and economic returns in meat and eggs.

Observe all rules of stable hygiene and sanitation to control animal diseases.

PLANT SWEET CORN GOOD FOR DRYING

Dried sweet corn is one of the most nutritious foods. Sweet corn is more easily dried than almost any other garden vegetable. For these reasons, very large amounts of sweet corn should be dried this summer for use next winter. Sweet corn may be planted as early as May 5 and as late as June 20 to produce a crop of "roasting ears" before fall frosts, and successive plantings to secure a long season's crop should be made. It can be planted on small tracts or in large fields and is one of the most easily cultivated garden crops.

For table use, small lots of quick-maturing varieties like the Early Golden Bantam should be planted; but for drying for winter use, the larger and heavier yielding sorts, as Country Gentleman and Stowell's Evergreen, should be used.

Let everyone who has a garden or field available plant plenty of sweet corn to give a summer supply and a large excess to be dried for winter use. Full directions for drying either large or small lots will be published later in the summer, at the proper time.—R. W. Thatcher, assistant director of the experiment station, University Farm, St. Paul.

THIS IS AN OFF YEAR FOR WHITE GRUBS

Farmers in southern Minnesota who are being urged to plant corn on fields that have been in timothy sod or old pastures need not fear white grubs this year, says A. G. Ruggles of the Minnesota experiment station. In old timothy sod, the grubs changed to beetles last fall. In May and June they will emerge to feed on the leaves of trees, laying the eggs at that time in the sod. The new grubs will not be ready to do any mischief this summer. In well cultivated fields or clover, few eggs are laid, so that in 1918-1919 only the land that is in sod this year will be infested with grubs.

Corn planted on newly turned over sod in northern Minnesota, however, may be somewhat damaged this year but not in 1918. Farmers in turning over such sods should be on the lookout for the grubs and if they appear to be numerous, should not plant corn or other hill crops.

MUNICIPAL PROGRESS

New Number of Minnesota Municipalities Contains Interesting Material

The April number of Minnesota Municipalities devoted to municipal progress in Minnesota is out. It contains articles on what organizations can do for municipal development; effects of exemptions of railroads from special assessments; the community Chautauqua; Minnesota state tax conference; report of committee on sewerage and sanitation; report of committee on public health; in addition to the usual departments.

This bi-monthly magazine is proving of more and more value to Minnesota communities.

YOUR COUNTRY IS CALLING FOR CORN; PLANT MORE CORN

Remembering that corn will be depended upon largely to meet the threatened food crisis of next fall and winter, the crop subcommittee of the state committee on food production and conservation is urging the planting of the largest possible acreage of corn on Minnesota's farms this spring.

In answer to this call for corn, the people at University Farm are pointing out the essentials for securing from 50 to 100 bushels of corn to the acre. These essentials are a productive soil, good seed, a well-prepared seedbed, a perfect stand and proper cultivation.

The varieties of seed recommended for southern Minnesota by the Minnesota experiment station are Minnesota No. 13, Silver King, and Rustler; and for northern Minnesota, Minnesota No. 23, Northwestern Dent, and Minnesota grown flints.

The problem now is to see that everyone has seed enough. To this end, C. P. Bull, University Farm, St. Paul, urges that farmers having a surplus of good seed corn notify him of the fact, giving the number of bushels at their disposal. Likewise, farmers not supplied with seed should write to Mr. Bull in order that he may put them in touch with farmers having more than enough.

"Every farmer in the southern half of Minnesota should put in from 5 to 20 acres more corn than usual," says Mr. Bull. "To do so, is to render a patriotic service, and it will also be good business."

KILL THE CUTWORM; IT KILLS YOUR CORN

To prevent the cutworm from making war on your corn and other crops, cultivate the soil before seeding with disk and harrow as often as possible, says A. G. Ruggles of the Minnesota experiment station.

The damage is usually noticed first in small areas from which it spreads. Treatment of such areas with poison bait usually lessens the loss. Delay in such treatment may mean a very heavy loss.

The bait that has given the best results consists of shorts 50 pounds, paris green one pound, molasses one gallon and water one and one-half gallons, for each acre. If the cutworms are working in damp localities, bran may be used instead of shorts, but if it is, twice as much water is required.

Shorts or bran and paris green should be mixed dry. The molasses should be stirred into the water and then poured slowly over the shorts, as they are stirred with a paddle or with the hand. The bait should be scattered over the field late in the afternoon. If the soil is very dry the ground should be slightly harrowed in order to keep the bait moist. If the soil is moist it should not be harrowed.

LET THE CHICKENS HELP WIN THE WAR

The hunger period which threatens the United States and its allies in the present war may be warded off, in part at least, by attention to the lowly chicken, says A. C. Smith, head of the poultry department of the Minnesota College of Agriculture.

The hen is the only producing creature that can be profitably kept on small areas such as city and village lots, that will transfer table waste into a highly edible product. She selects from waste material, bugs, weeds and grasses a large part of her living for several months in the year and during this time is usually a high producer of very fertile eggs. She reproduces her kind much more often than any other productive animal.

She can be cared for by women and children and often by invalids and convalescents.

For these reasons, Mr. Smith urges that every well-selected hatchable egg should be set at this season when eggs are lower in price than at any other time of the year.

Other poultry including ducks, geese, and squabs should also receive careful attention in view of the present and future food situation.

RYE IS A SURE CROP ON MINNESOTA FARMS

The rye acreage in Minnesota should be increased this year, says C. P. Bull, University Farm, St. Paul. It is an absolutely certain crop in Minnesota. Even a partial failure has never been experienced. Rye in Minnesota yields well and brings a good price. Minnesota No. 2 rye, a pedigreed strain from University Farm, has given for several years an average yield of between 35 and 40 bushels to the acre. All seed of this and other improved varieties that can possibly be saved should be carried over to insure the best possible crop production in 1918 and 1919.