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ORCHARD AND GARDEN October 15-22.

Give the garden a final cleaning. Burn all rubbish. Leave the land clear. Sweet peas may sometimes be planted in the autumn with good results. It is not too late to plant bulbs, either for forcing or outside. Try a few and you will want more next year.

Have you a good supply of nuts for the winter? Take a day off and gather butternuts, walnuts, or hickory nuts for the winter.

Wealthy and other late fall apples, picked carefully and wrapped in paper and put in a cool cellar, will keep much longer than if handled roughly in boxes or baskets.

The fruit and vegetable exhibits at the county fairs have been excellent this year, but there have been too few entries in each class. There should be much more competition.

Prune the grape vines and lay them on the ground ready to cover with earth as soon as there is danger of the ground freezing. Prune severely, as too much wood and foliage means small, poor grapes.

Save the leaves. They are useful for winter mulch about garden plants, for poultry to scratch in, and when piled and rotted down make a good fertilizer for the garden. It is worth while to save them.

Parsnips and salsify may be left in the ground over winter. As a rule, it is perhaps safer to dig and store them in a cool place in sand or soil. They are more easily got at for winter use when stored than when left in the field.

The value of spraying the orchard at the right time and in the right way again this season has been shown. Much wormy and scabby fruit is on the market from local growers. This moves slowly, while the clean well-graded fruit moves rapidly and at good prices.

United States Department of Agriculture Bulletin 579 gives some celery storage experiments which are interesting to any one who is storing celery. These experiments show that the small crate is much the best to use and also that the celery keeps better stored near the floor of a cold storage plant.

The value of the celery crop in the United States in 1909 was nearly \$4,000,000. 86 per cent of this crop was grown in New York, Michigan, Florida, California, Massachusetts, Ohio, Pennsylvania and New Jersey. About two thirds of the crop is grown in the northern states, which necessitates the storing of celery for from one to four months.

LeRoy Cady Associate Horticulturist, University Farm, St. Paul, Minn.

ORCHARD AND GARDEN October 22-29.

Prepare the land now for shrubbery or flower beds next spring. Radish and lettuce sown early in August were fine for table use early in September.

Rose hips and bittersweet berries cut now make bouquets for early winter.

Do not pile squash, cabbage or onions in large piles or bins in storage. They should have a good circulation of air about them.

Nearly twenty tables were entered in the wild-flower table decoration class at the state fair. All were exceptionally good. They showed what can easily be done with wild plants in a decorative way.

Has the grass been removed from about the apple and other small trees? Rubbish about the tree makes a good harbor for mice over winter. Better put some sort of protector on the small tree to prevent sun-scald and rabbit injury.

War-time gardens have been a success this year in very many cases. Some have grown to weeds and have been a liability rather than an asset but nothing has turned people's attention to the value of garden produce like the conditions this year. Let's plan for more and better gardens next year.

Clumps and areas of sumac with their variegated colorings were one of the delights of riding through the country the last of September and early October. Sumac is easily transplanted and makes a fine plant to hold a bank that is too steep or sandy to seed. They should be mowed close to the ground each spring if the best appearance is to be maintained.

LeRoy Cady, Associate Horticulturist, University Farm, St. Paul, Minn.

ATTACK THE INSECT PESTS THIS FALL

Where grasshoppers have been very abundant, laying eggs this fall, plowing, disking and harrowing the fields to be sown to grain next year is very desirable. It is fairly well proved that plowing alone is not sufficient; disking and harrowing are necessary to break up the egg cases.

Fall plowing and disking are also helpful in destroying and turning up for the birds, cutworms, wireworms and white grubs. The more fall cultivation a piece of land is given the less trouble there will be from such pests the following year.

Stalk borers, which caused so much damage to plants of the flower garden, and to tomatoes and potatoes this year, are now in the egg stage, massed on the bases of the old stalks. Gathering and burning all the old stalks will prevent injury next year. In fact the old rubbish left around the garden in the fall, harbors all kinds of injurious forms for the winter, which if destroyed now would lessen materially the insect damage next year.

If rubbish heaps could be left a while to dry out and burned later, many injurious insects attracted to the heap would also be destroyed.

Oak and birch trees killed by borers should be cut down close to the ground, chopped into cordwood and burned before next May.

Dead twigs and limbs on oaks harbor forms which will cause more dead limbs next year unless destroyed.

Spraying machinery should be thoroughly gone over and oiled up this fall, before being put away for the winter. The best defense against an enemy is a well directed blow of your own. It is the offensive first started that gives results. This fits insects as well as others.—A. G. Rigles, University Farm, St. Paul, Minn.

PRUNE THE APPLE TREES RIGHT NOW

Apple trees may be pruned with safety at any time after the leaves begin to fall. When the leaves drop the shoots are generally mature. Many apple growers hesitate to prune before spring, thinking that the trees will be injured if pruned in the fall or winter. Experiments carried on at University Farm for the last four years show that there are no injuries caused specifically by fall or winter pruning and that in the following season the growth is at least normal.

Several groups of trees pruned in the months of November to February respectively have made practically as vigorous growth as groups of trees pruned respectively in March and April. All these groups from November to April have uniformly grown more vigorously than similar groups of trees pruned during May and June. Fall and winter pruning is done in other apple growing regions and there appears to be no reason why Minnesota apple growers should not follow this example. If the work is done now, or on mild days in the winter so that the workman may prune in comfort, it will be possible to do all the necessary pruning in an orchard when other farm work is not pressing. In this way the pruning will be done regularly and will not be omitted in the rush of spring work. An annual moderate pruning will keep the trees in the best of condition and will tend to promote the greatest degree of fruitfulness.—W. G. Brierley, Associate Professor of Horticulture, University Farm, St. Paul.

PLAN TO HAVE YOUR SEED TESTED

Mr. Farmer, do you know whether the seed you are going to plant next spring will grow? A good way to find out is to send samples of your grain and grass seed to the State Seed Laboratory, University Farm, St. Paul, where they will be tested free of charge for purity and for germination.

A few minutes of time and a few cents for postage expended on sending samples of your seed may mean the difference between a yield of fourteen bushels or less and eighteen bushels or more of wheat per acre. It may mean the difference between a poor stand of meadow or pasture grass and a good stand. It means money in your pocket. Can you afford to lose it? Live seed planted means more flour and more profits. Dead seed planted means less flour and no profits, or a loss.

David F. Houston, secretary of agriculture, says that to insure maximum production of foodstuffs it is vitally necessary to plant good live seed.—Robert C. Dahlberg, in charge of seed laboratory, University Farm, St. Paul, Minn.

PLAN ROTATION TO ERADICATE WEEDS

Now is the time to plan to remove the weed seeds from the seed grain and to eradicate weeds from the land, says A. C. Army of the Minnesota Experiment Station.

The harmful effect of wild peas and corn cockle in wheat that is to be ground into flour has been definitely established.

Minnesota farmers should plan to remove the cockle and wild peas from their seed wheat, and definite steps should be taken to eradicate this wheat from the fields in order that the wheat crop of next year will not contain these weed seeds to any extent.

There are machines on the market which will remove wild peas and cockle from wheat perfectly. If one cannot afford to purchase such a machine, several farmers might own and operate one co-operatively.

This machine is also a practical one for removing wild peas and corn cockle seed from market grain. Farmers could do this co-operatively also.

In order to eradicate wild peas from fields it is necessary to follow a good rotation. A rotation somewhat as follows but modified to suit conditions on any particular farm will be found satisfactory.

First year, grain in which clover and timothy seed is sown; second year, hay; third year, pasture or hay, or, if there is permanent pasture on the farm, corn; fourth year, corn; fifth year, corn if it is desired.

Following out some such rotation as this and keeping the fields clean will effectively free them from either of these weeds.

TAKE UNIVERSITY COURSE BY MAIL

A Minnesota farmer's wife has just written to the General Extension Division of the University, asking if the University offers such a thing as correspondence courses. She complains of feeling the need of study to prevent mental stagnation. No farmer's wife—no woman in any occupation in Minnesota—need suffer from mental stagnation because of the lack of stimulating and inspiring courses of study under the guidance of authoritative and able teachers.

The University offers over a hundred regular college and university courses by correspondence. In each of these there is careful guidance and direction for every step of the way. Each lesson is accompanied by helpful criticisms and suggestions. To any one who takes one of these courses, new horizons of study and of mental enjoyment are continually opening up.

A bulletin of information with a list of correspondence courses will be sent on application to the General Extension Division, University of Minnesota, Minneapolis.

MARKET FOR THE SMALL SHIPPER

The state committee of Food Production and Conservation, under the authority of the Minnesota Commission of Public Safety, has established at the Minnesota Transfer a state market for perishable and semi-perishable farm products. This market is now open to farmers and gardeners over the state who have not grown stuff in quantities large enough to admit of their shipping in car lots to the regular produce dealers.

In nearly all of the trade centers of the state are local representatives of the markets division of the state committee of Food Production and Conservation. These local representatives will take the small shipments of various persons, make up a car load of different sorts of products and forward them to Paul Ragatz, who is in charge of the Minnesota Transfer market. Mr. Ragatz will take this and similar cars, and combine the like products from each so as to make car lots of each individual kind of product received. These car lots he will dispose of to the regular dealers. The thing for the man who has a less than car lot shipment to make is to get in touch with the local representative of the state committee.

The market furnishes an outlet for the man not accustomed to marketing such products and for the small grower. It is created to meet the war situation and to get to market products that would in ordinary times be wasted.

The appeal of the markets division of the state committee is not to let your surplus products go to waste but to ship. The first thing to do is to get in touch with the local representative of the committee.

RAISING TREES FROM CUTTINGS

Only a few trees are propagated from cuttings. Those that grow best from cuttings, in Minnesota, are willow, cottonwood and poplar. Cuttings are pieces of branches from 12 to 18 inches long taken from living trees, those from the twigs near the top of the tree or ends of the branches, being best. The cuttings may range in thickness from the size of a lead pencil to that of a man's finger.

Cuttings will produce trees of the same nature and characteristics as the tree from which they are taken, so they should be made from the most thrifty trees. Some cottonwoods do not produce seed, and if cuttings are made from these trees, the trees which grow from the cuttings will not do so.

Cuttings may be made in the fall after the trees have shed their leaves, or in the spring before the buds open. If made in the fall, they should be buried in moist sand in a cellar and left until spring. This will heal over the end of the cuttings and they will send out roots sooner than cuttings made in the spring.

If the cuttings are to be planted out in a dry situation, it will be found better to set them out in the garden for a year, so they will develop roots, and then set them where they are wanted the second year. The law where the cuttings are set out should have been cultivated the year before and the ground prepared before the cuttings are put in.

The cuttings should be planted so that only one or two good buds are left above ground. This will generally leave about two inches above the ground. Care should be taken to see that the buds on the cuttings point up. They will grow if the buds point down, but not nearly so well.

After planting, the cuttings should be well cultivated to keep the weeds out and to conserve the moisture.—W. H. Kenety, Superintendent Forestry, Experiment Station, Cloquet, Minn.

GAME FOR FARMER TO LOOK OUT FOR

Shippers of grain, hay, and feed are advised by the Bureau of Markets, United States Department of Agriculture, to be on the lookout for what is known as "shipper's order bill of lading" transactions with unknown or irresponsible persons. Shipping car lots to such buyers under no obligation other than to pay for the shipment if they finally take it out of the cars, tends to encourage speculation and is liable to increase freight congestion. Some of these buyers order products shipped in the hope that the price will go up in the meantime and enable them to sell locally to a local dealer who will pay cash. Unless they succeed in selling to others, many of these "shipper's order" consignees have insufficient capital to pay for the goods, which sometimes fall back on the shipper.

IT PAYS TO TREAT SEED WHEAT FOR SMUT

Over 3 1/2 per cent of the wheat crop and 1 per cent of the rye crop is lost through smut.

Seed treatment with formaldehyde solution is practically 100 per cent efficient except in a few sections where the soil is badly polluted with smut spores.

The formaldehyde treatment costs less than 5 cents per acre for materials and labor. To this must be added in extreme cases the cost of 20 per cent of the seed grain, the germinating power of which may be destroyed because of seed injury.

In every case the entire cost of the treatment together with possible seed injury is much less than the value of the increased yield which it assures.

For instructions as to how to treat seed wheat, address: Division of Botany and Plant Pathology, University Farm, St. Paul.

INCREASE SUPPLY OF GARDEN SEEDS

Owing to the increase in the number of home gardens this year, and the increase in acreage of former gardens, an unusual demand for seed had to be met by the dealers, and the supply for next year should be provided, as far as possible, by the home and market gardeners.

For helpful information on selecting, drying and storing seed, write to the United States Department of Agriculture, Washington, D. C., for Farmers' Bulletin 884 Saving Vegetable Seeds for the Home and Market Garden.

MINNESOTA DAIRY SCHOOL ENLARGED

The Dairy School at University Farm has been made a two-course school. One course is for experienced men and the other for beginners.

Buttermakers.

The course for creamery buttermakers begins December 4, and continues ten days. Instruction will be offered in handling ice machines and gas engines; testing dairy products; controlling composition; starters; and creamery bookkeeping; with both lectures and laboratory work.

This course is planned to meet the needs of experienced buttermakers who wish to brush up, and is open only to men who have had at least two years general creamery experience.

Cheesemakers.

Beginning December 4 and continuing three weeks, the cheesemakers of the state will be offered a chance to learn starters, milk-testing, and better and easier methods of making cheese. Lectures will be given on milk chemistry and bacteriology, explaining clearly why milk spoils, and while at work over the vat the best methods of handling poor milk and bad curd will be explained.

Ice Cream Makers.

For five days, beginning December 17 the principles and practice of ice cream making will be taught by lectures and by experience on various freezers and in the cutting room. Any man who knows milk and machinery as creamery men must know them can in one week acquire enough skill to enable him to handle a small ice cream sideline in a creamery.

Creamery Helpers.

Beginning January 8, 1918, and continuing twelve weeks, the creamery helpers and farm boys who wish more exact and fuller knowledge of dairying will be offered a course in butter, cheese, and ice cream making, engineering, milk and cream testing, and record keeping. Instruction will also be given in the study of dairy breeds, and their breeding, feeding and management. This course will also be valuable to cow testing association workers, and to dairy herdsmen.

Annual Conference.

On January 3 and 4, 1918, the annual conference of co-operative creamery managers will be held. Special announcement will be made later.

For free bulletin describing these courses, write to the Secretary University Farm, St. Paul, Minn.

GOV'T. WON'T TAKE YOUR CANNED GOODS

The information bureau of the federal government is making strenuous efforts to stop a wild rumor to the effect that the government intends to take from every family all canned goods in excess of one hundred quarts. The rumor says that the reason the government has been urging the canning and drying of vegetables and fruits has been that the people might lay in large stores which government officials could seize for the use of the allies.

There is no truth in these rumors. They have probably been set afloat by some enemies of the nation. A. D. Wilson, national food administrator for Minnesota, and head of the state committee of Food Production and Conservation, has just returned from a conference in Washington, and has been asked to deny the rumor. Members of the department of agriculture of the University of Minnesota have also been notified that the rumor is without foundation.

BULLETINS TELL HOW TO CONSERVE FOOD

The extension division of the Minnesota College of Agriculture is sending out three food conservation bulletins prepared for the State Committee of Food Production and Conservation.

One of these, on farm dairy cheese, by R. M. Washburn, deals with the making of cheese on the farm as a means of saving great quantities of skim-milk which are largely wasted.

Another treats of the storage of root crops on the farm, and is by W. W. Cumberland, manager of the markets information service of the markets division of the State Food Committee.

The third is also by Mr. Cumberland and deals with the preparation of perishables for the markets.

Copies of any of these bulletins may be had by addressing Office of Publications, University Farm, St. Paul, Minn.