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ORCHARD AND GARDEN NOTES FOR OCTOBER.

By LeRoy Cady, Horticulturist, University Farm, St. Paul.

Plant outdoor bulbs, such as tulips, crocuses and daffodils. They should be set in a well-drained soil about three inches deep. Cover with straw mulch as soon as the ground freezes.

Remove all weeds from the garden before they are allowed to scatter and ripen their seed. This will reduce the labor of hoeing next season.

Carefully clean seeds which are to be used next year, such as plums, melons, cantaloupes, pumpkins, highbush cranberries, sandthorn, and apples. These seeds may be sown in sandy soil this fall or put between layers of sand and kept until next spring. It is better to keep seed of this sort over winter in sand to prevent their drying out or becoming too wet if the ground is heavy, as where seed is planted in the fall in clay soil, the soil will be apt to pack over the seed, making it difficult for the seedlings to break through in the spring.

Celery may be kept pretty well into the winter by digging the plants so as to leave as large a root surface as possible. Remove a few of the scraggly outer leaves and set closely in a cool cellar or in boxes. An ordinary dry goods box from 14 to 18 inches wide and three to four feet long makes a good package for storing celery. Put a little dirt in the bottom of the box, then set the plants in a row close together, just covering the roots with soil. Place another row next to the one first set, as close to this as the soil will permit, in every case setting the plants about the same depth as they grew in the field. Celery stored in this way should not be bleached in the field. If the plants become dry and wilt slightly, they should be watered, care being used not to wet the foliage of the plant any more than is absolutely necessary as this is apt to cause decay. Store the boxes at a temperature as near freezing as is safe, usually about 35 degrees. If stored at a higher temperature, the celery will grow and is apt to decay.

Rhubarb for winter use may be dug just before the ground freezes hard in the fall. Leave the plants on top of the ground, slightly covered with hay, or something to prevent their drying out, and allow them to freeze for several weeks. About Christmas time the roots may be taken into the cellar, or other dark, moderately warm location, and buried in just enough soil to cover the roots. Water and allow the plant to grow.

If rhubarb is grown in the dark, the stalk is tender and very little leaf surface is formed. Plants thus forced are of little value for setting out.

Dry sweet corn carefully for seed. It is usually more difficult to dry thoroughly than other kinds of corn. Store it where it will not be frozen during the winter.

Cannas, dahlias, and gladioli bulbs should be lifted as soon as the tops are killed by the frost. Cut off slightly above ground so that the stalk left may be used in carrying and handling the bulbs. Leave on top of the ground a few hours until the roots and soil dry, then place in a cool, though not moist, storage place. If it is necessary to place them under very dry conditions, they should be covered with dry sand or some material that will prevent the tuber drying out. If they are stored in a moist atmosphere the bulb is weakened.

Take up a few plants of parsley and place in pots or boxes in some basement or kitchen window. Parsley will grow with very little light and furnish an abundance of green material which is appreciated in the winter.

Grape vines should be trimmed as soon as the leaves fall and made ready to cover with soil.

Root crops, such as parsnips, beets, and carrots, may be prevented from thriving in the winter if they are covered slightly with dry sand in the bin or box.

If an arbor is desired on the lawn or over the porch, select a small fruiting grape vine this fall, mark it so that it will be readily found to transplant in the spring, or cuttings of the vine may be taken and set out next season.

With a good sharp hoe or spade remove all grass at least one foot from the trunk of apple, plum, or other trees, that are apt to be girdled by mice. It is a good plan to protect small trees with wire netting or by throwing a few shovelfuls of clean dirt around the trunk of the tree. Then after the first snow, trim around the tree so that there will be no place for mice to find a nesting place. Thousands of trees were killed in Minnesota last season by mice gird-

ling them during the winter. In almost every case these trees grew in weeds or grass which gave a ready refuge for mice. Cut out all dead trees before the leaves fall this autumn. These dead parts may contain the larvae of insects which will lay the foundation for much more injury next season.

Hydrangea paniculata flowers may be cut before freezing and put in vases for decoration during the winter. Cut late in the autumn, this flower remains in good condition throughout the winter. Cotoneaster acutifolia has proved one of the best hedge and clump plants on the campus this summer.

The highbush cranberry and sandthorn are two plants carrying berries at this season of the year which are especially attractive. Pyrus baccata is also attractive now on account of the small apples on the tree. This is one of the early flowering plants in the spring and is worth planting on the lawn as an ornamental.

HARVESTING AND STORING CABBAGE.

Hold Winter Cabbage For Sale at an Advanced Price.

By K. A. Kirkpatrick, Extension Horticulturist, University Farm, St. Paul.

The average farmers put forth an unbalanced effort in directing too much attention to producing a large crop and too little to marketing advantageously. The cabbage for example. For the past few years, it has been marketed and harvested at from \$5.00 to \$7.50 per ton. The purchaser has stored it and sold it during the late winter for \$50 or \$60 per ton. This eight- or tenfold advance in value might be justifiable if storage were vastly more difficult than production.

Cabbage storing is rather simple and easy. The shrinkage is small. A cheaply constructed bank or hillside root cellar, or a basement under almost any farm building, is the only storehouse necessary. This should not be too dry and should be a place which could be kept at a temperature of about 40 or 50 degrees Fahrenheit in the early part of the season. This is often accomplished by opening the doors to let in the cool night air and closing them to keep out the warmer air during the remainder of the day. Later, of course, the doors must be kept closed continuously to prevent freezing.

When harvested, the cabbage should be graded. Heads weighing seven or eight pounds each are preferred and should be grouped together. The remainder of the crop should be graded according to size.

Only winter varieties should be stored. Among these the Danish, Ballhead and Holland are very good.

In storing, most people place the heads in a cellar with all leaves and roots attached. Many market gardeners have a better plan. They cut off the stalk as though preparing the heads for market, but leave two or three rough leaves to protect the more tender parts. They then pack in ordinary cabbage crates and rack these crates up in the storage place, leaving a gangway every third or fourth tier for air circulation.

This work is not particularly difficult or hazardous, and will certainly pay the grower well if it increases the selling price of his production eight or tenfold.

AGRICULTURAL SCHOOL AT CROOKSTON.

Opens With New Building, New Course and Record Advance in Enrollment.

Crookston has the distinctively Red River Valley agricultural school, called the Northwest School of Agriculture. It is a potent factor in building for future Northern Minnesota agriculture.

It opened its seventh year October 1st, with a larger advance enrollment than ever. In six years its growth has been rapid. It has increased from one building to six, from thirty-one students to 427 in 1911-1912. Of these 427, 160 were in regular courses and 267 in other courses.

A new science hall will greet students on their return for another year's work. Those who had completed their courses in the school, now have an opportunity for the first time to return and take an advanced course. This new advanced course is open also to the graduates of high schools and graded schools.

This school offers splendid opportunities to Northwestern Minnesota farmers' sons and daughters. The State pays the tuition. Small fees are charged for text books, board, room, heat, electric light and laundry are furnished at cost, not to exceed \$15.00 per month. Those who are interested should write to Supt. C. G. Selvig, Crookston, Minn., for a catalog and further information.

CURING NECESSARY.

Seed Corn Must be Well Dried if High Germination Is Secured.

As a result of the interest aroused in the state regarding the selection of seed corn during Seed Corn Week, many thousands of bushels of seed corn were picked. This ought to help materially in securing maturity and in raising the yield of corn in Minnesota next year.

In order to obtain satisfactory results when this seed is planted, however, it will be necessary to cure the corn well this fall before the freezing weather comes. Otherwise the moisture stored up in the ear, no matter how dry it may appear to be, will not be removed in time and the germinating power of the seed will be injured. In fact, the curing of seed corn is as essential as its maturity and selection.

There are several practical ways of curing seed corn. Big seed corn dealers often have large kilns where they dry their corn with artificial heat. This practice is not economical for the average farmer, however, and simpler methods must be employed. Who is there who will forget the long strings of corn that used to hang in grandfather's garret, where so many happy days were spent in play? This old-fashioned method of curing corn is still a good one, if the windrows are opened wide during the good days to let air circulate in the room, thus drying the seed.

A corn tree made of an upright 4"x4" set on a standard and in which are driven tennepenny casing nails upon which the ears are impaled is another good method of curing seed corn. The corn tree may be placed in the garret, or any other out-of-way place in the house or shed. Seed corn may also be cured by placing it on racks, or by scattering it about thinly on a floor in a dry place where the mice or rats will not bother it. There are many different farm methods of storing corn, all of which are good. The thing which must be impressed, however, is the fact that corn should be cured well. No matter what the method is employed good air circulation must be secured. It is an indispensable necessity, if high germinating power in the seed is aimed at.—Ray P. Speer, Minnesota College of Agriculture.

Warm nights seldom occur in October. The stockman should bear this in mind and provide adequate shelter for his young stock, especially swine. Pigs have no coats of fur to keep out the cold so need some additional attention as cold weather approaches.

Most pigs have been sleeping on the ground without bedding. This was all right during the summer, but now in order to keep them comfortable at night, they should have access to shelter of some sort. If they are not allowed the run of a straw stack or straw shed or a well bedded portion of a hog house enough straw should be hauled into the feed lot to bed all hogs thoroughly. Such a bed would be greatly appreciated by the pigs. They will in turn repay the owner many fold for his time and trouble by additional gains.—W. F. Hagerman, University Farm, St. Paul.

UNIVERSITY FARM DAIRY SCHOOL.

Practical 'Dairymen's Four Weeks' Course Begins November 11, 1912.

Butter and cheese makers must keep up to date. They cannot leave their work for a long period. The University has therefore provided expert practical dairymen to give the four weeks' course.

A new feature added this year is instruction in the making of ice cream as a side line to butter making. Dairy Hall in which the strictly dairy portions of the course are given, is equipped with the latest apparatus. All students get actual practice in using and caring for the machinery and utensils. One season or more of experience in a creamery or cheese factory will be required for admission. Certificates will be granted to students who demonstrate special skill and success in butter and cheese making after the satisfactory completion of the four weeks course.

The lectures given include the latest and most reliable knowledge on co-operative dairying, creamery and cheese factory management, farming, judging and marketing dairy products, the chemistry of milk, dairy bacteriology, dairy engineering, animal hygiene, the breeding and feeding of dairy stock, economical milk production, forage, grain crops, management of pastures and meadows, management of barns, stables and yards and the construction of silos.

The next term of the dairy school will open Nov. 11, 1912. Those who desire to enroll for the course will receive full information on application to Prof. T. L. Haecker, University Farm, St. Paul.

"HOG DOWN" CORN.

Keep Down the Labor Cost by Letting the Hog and Steer Gather Part of the Crop.

In some localities this year, there will be corn harvested that is not in first-class market condition owing to late planting, a wet season, and to the use of poorly adapted varieties. Where a crop of this kind has been raised, the cost of harvesting and handling should be reduced as much as possible. Investigations at the Minnesota Station have shown that there is no more profitable way to harvest a reasonable amount of the corn crop than by turning the hogs right into the cornfield and allowing them to help themselves.

The hogs make better gains in the field than when confined in pens and fed husked corn. Needless to say, the labor of caring for them is much less. During September and October and even until the middle of November, the hogs will be perfectly comfortable in the field, if they are given a load of straw in which to nest at night and are well provided with an abundant supply of fresh water. Early pigs will be ready to market by that time, or if not quite finished can be put in market condition by three or four weeks of yard feeding.

If cattle are to be fed corn they will do quite as well during the early stages of feeding on bundle corn direct from the field, as they will on corn that has been prepared for them at a great expense of labor. Several feeders in the state are successfully finishing their cattle on bundle corn and secure excellent returns from their corn crop by reducing to the minimum the cost of production.

These are small points in the year's work on the farm, but well worth the attention of those who have corn, hogs and cattle.—Professor Andrew Boss, University Farm, St. Paul.

POTATO STORAGE.

Immediate Sale Probably Better This Year.

By K. A. Kirkpatrick, Extension Horticulturist, University Farm, St. Paul.

Our potato crop is large this year. The market is unsettled and many growers are in doubt whether to market or store. In many districts there is a great deal of scab, fusarium rot or second growth.

Under these conditions it hardly seems advisable to store unless the grower has good storage facilities at hand and a crop of unusually good quality. Potatoes must be in good condition and well ripened if they are to be stored advantageously. To store green potatoes is to court disaster.

Doubtless potatoes will advance in price as the winter progresses. The question is, can they be put on the market at the time when the demand is keen? For example, to store a few carloads some distance from the market and be unable to get them on the market when some cold snap or other condition sends prices up would be a losing proposition to the grower.

With regard to seed stock there is not so much doubt. Good, pure type seed will probably be very valuable property by spring because so much of the seed in this section is affected by rot, scab or other bad condition. To the writer, the best place to store this seed appears to be some such central point as the Twin Cities or Chicago. Here the cost of storage is not high. If well ripened seed of proper quality is selected, the gain of holding will undoubtedly more than offset the cost of storage.

FALL CARE OF ALFALFA FIELDS.

Since an alfalfa field gives its best yields after the first year, it is necessary to obtain the best results, to have the plants pass through the winters successfully. A mistake that is often made in handling an alfalfa field, is to pasture it down close or to cut it close late in the fall of the same year the alfalfa is sown. It should not be cut or pastured lower than 4-6 inches after the middle of September the first year and it will be better to follow this practice during succeeding years. Under no circumstances should straw or strawy manure be applied to an alfalfa field with the idea in mind to protect the plants. Such applications usually kill out the alfalfa plants. There will no harm come from the application of a light dressing of rotted manure carefully spread; but unless the soil on which alfalfa is planted is very poor, manure can usually be used to better advantage by applying it preceding some cultivated crop such as corn or potatoes.—A. C. Army.

STORE ONIONS.

Probable Advance in Price Gives Big Pay For Storing.

By K. A. Kirkpatrick, Extension Horticulturist, University Farm, St. Paul.

Onions now sell on the market for about 65 cents per hundred pounds. By March first, they will probably rise to from \$1.50 to \$2.00 per hundred pounds. The storage charge in large markets runs about 5 cents per hundred pounds for the first month and 2 cents per hundred pounds for each month thereafter. This includes the charge for unloading and reloading. Figure for yourself the advisability of storing the crop for a rise in price.

Only fully ripened and cured onions should be stored. Others are subject to too great danger of loss from rot and shrinkage. If onions are of proper quality, however, shrinkage in storage will be slight.

Onions for market should be pulled as soon as the tops fall to the ground. Otherwise wet weather may cause a second growth or rot to destroy their keeping and selling qualities. When pulled two or three rows are usually thrown together in a windrow to lie several days drying and curing in the sun before topping.

The small scale grower usually tops by hand. The tops are cut off with a knife about half an inch from the body of the onion. After they are topped they are forked into sacks and taken into the sorting room.

The large scale growers often use a machine topper operated with a gasoline engine. The onions are shoveled onto revolving rollers which snap off the dry tops. They operate very much as do the rollers of a corn shredder. The tops must be quite dry if they are to be removed in this way. If the weather does not permit thorough curing, even the large scale grower must top with hand labor.

In the sorting room the sacks of bulbs are emptied into a hopper from which they pass downward through a sloping cylinder which is revolved at a moderate rate of speed. The cylinder is made of narrow slats with spaces about one and one-half inches wide, through which the small onions drop. A boy or two should stand at either end of the grader to remove scullions and injured bulbs.

This grader may easily be made at home. It should stand high enough from the floor to allow the onions to pass from the lower end of the cylinder into 100 pound sacks. As rapidly as the sacks are filled, the tops are sewed up with twine leaving a dog ear at either corner to serve as a handle.

The sorting room should be well ventilated and large enough for use as a temporary store room. In storage, sacks should not be placed in close piles. The onions will heat and lose part of their selling value if there is insufficient circulation of air.

MARKETING POTATOES.

Grading, Sacking and Shipping Suggestions.

By K. A. Kirkpatrick, Extension Horticulturist, University Farm, St. Paul.

Potatoes may be graded by means of machine sorters with proper screens. Boys should be stationed beside the graders to sort out all rough, or overgrown specimens showing second growth. Fancy potatoes, choice, good and field run potatoes are recognized. All should be sound, and the last class is unsorted. The exact description of the first three classes is too long for full statement here. Those interested will be given full information on this point on application to the writer of this article at the above address.

Harvesting should be done without bruising, breaking the skin, or cutting the potatoes if possible. It should not begin before thorough maturity is reached. If the skin rubs off in handling, the potatoes are too green for the most satisfactory marketing. The tubers should be free from scab or the knobs resulting from second growth, and should not be muddy. No stones, clods, or other foreign material should get into the sacks. If possible, the mixture of potatoes of different colors should be prevented.

Only new 150-pound sacks should be used. They should be set upright in rows of three along each side of the car. A layer of sacks on their sides may be placed on the top of the offset so made. This leaves a gangway through the middle of the car for ventilation. This is especially important during the earlier and warmer part of the shipping season. At that time, only from 200 to 210 sacks should be loaded in one car. Later a large car may carry as many as 250 sacks.