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rchard and Garden Notes for May.

By LeRoy Cady, Minn. Univ. Farm.

Try a few purple cabbage for pick-g.

Has the asparagus bed been worth ile this year?

Good seeds are of vital importance the gardener. Did you get them?

Plant some Rocky Ford and White an muskmelons about May 15th to h.

Keep the soil well cultivated about trees and shrubs planted on the n.

Strawberries and grapes should be covered as soon as they start to w.

Early-sown spinach, radishes and let-e should be ready to use this nth.

Shirley poppies, scattered broadcast, me up quickly and make a showy rden.

Put only first-class clean vegetables the market. They are the only d that pay.

Weeds are a lot easier to get rid of en small than when they begin to wd the plants.

Late cabbage should be sown about y 15th. Danish Baldhead and Suc-sion are good varieties.

Pick the blossoms from the new-set awberry patch. Stronger plants l result, which will mean more fruit t year.

Keep the orchard and fruit planta-n clean cultivated where possible; least dig about the trees for a ra-s of four feet.

Petunias, poppies, sweet alyssum, lifornia poppies, and even asters, y still be planted outdoors and will om in the fall.

Prune the blackberries as soon as y blossom. Shorten back any nches where injury will not be ne the blossoms.

Sow beans and sweet corn the mid- of the month. Wardwell's, Kidney d Wax beans, and Golden Bantam eet corn, are good varieties.

Nasturtiums are one of the most mmon annuals, and also one of the ttiest. A bowl of nasturtiums is ays a cheerful addition to a room.

Keep the cultivator going in the ion-field these days. Remember a st, or anything that stops the nt's growth, means a reduction at rvest time.

Early celery should be in the ground w. Tomatoes, peppers, etc., can it until warm weather. About the t of June is often early enough to them in the field.

Let the boys and girls have a gar-n-patch or a plot of ground of their n. A calf or a piece of land all ir own, to do with as they like, will p many a boy and girl contended home.

f spinach or onions are not grow- rapidly, a little hen-manure or rate of soda may be applied broad-t just before a rain, or cultivated About 200 pounds of nitrate per e is about right.

Watch for leaf-miners on Cratægus, toneaster, etc. They may be kept check by applications of Paris en and slacked lime, dusted on the shes when they are wet with dew after a slight shower.

Succession Cropping.

Secure a good supply of Golden Ban-n sweet corn, to have on hand for nting between the rows of early getable crops, like cabbage, onions, d potatoes. Aim to plant a small ount every two weeks until mid-mmer, and have a supply of green sting ears until frost. It will also well to plant in the same manner all amounts of radishes, lettuce, nach, bunch-beans and peas, at in-vals of two or three weeks.

Early Tomatoes.

Hurry early tomatoes into the ound as soon as the nights are no ger frosty. If danger comes later, y can be protected with tin cans or per caps. A light, quick soil should chosen for the tomato-patch. The nt prefers clay loam, but will do te well on sandy soil, if humus is sent. Only well-rotted manure uld be applied to a tomato-patch. rlier and finer fruits, though not te so many of them, may be had training the plants to one or two ms and staking them up. Pick off d burn all young fruits that show y blossom-end blight. This acts as uarantine on the trouble. The fruit uires warm weather and sunshine order to ripen best. Clip out some the leaves and vines if the fruits e shaded much.—K. A. Kirkpatrick, tension Div. Minn. Col. of Agr.

Greater Production and Better Marketing.

The World's Buying Power, Rather Than the Size of the Crop, Determines Prices.

The fact that a large crop of grain or potatoes sometimes nets the farmer a smaller return that he may have received from a smaller crop in a previous year, occasionally prompts some writer to a protest against the increase of production, to bring about which has been the great aim of agricultural instruction ever since such instruction became a factor in the educational work of our era. Justification is even sought, in the low price which sometimes accompanies a large production, for such action as that of the cotton-planters of the South in agreeing together to limit the production of cotton to a figure far below the world's necessities, and even in burning up a portion of the gathered crop, in order to effect an advance in price. The advance obtained by their recent agreement, by the way, is given as from 5.6 cents in 1909 to 14.5 cents in 1911. It meant the temporary shutting down of mills in Europe and America, with semi-starvation and distress to many thousands of people.

If it could be shown that the large crop and the low price always go together, the argument for limitation of production would be somewhat better. But it has not infrequently happened that comparatively high prices have been maintained in the presence of the largest production ever known. This has in several recent years been the case with the wheat crop, and also with the corn crop. It may easily happen, therefore, that when, in the presence of a low price, farmers yield to a temptation to lessen production, conditions may so change, before the smaller crop matures, that a much larger crop might have been marketed at a high figure.

The fact is that the consuming power of the world's sixteen hundred millions of people is equal to the regular absorption of any and all the products of the cultivated lands, year after year. Purchasing ability does not, however always coincide with consuming power; hence many important and varying factors, aside from the size of crops, enter into the fixing of prices. Among these factors are climatic influences, political disturbances, industrial activities or disarrangements, the cost of transportation and the combinations of middlemen.

The last two factors, especially the cost of transportation, make themselves very active in reducing prices when crops are large. If cargoes are more abundant than ships or trains, transportation soars, and the excess in charges above the normal figure is taken off the price of the products carried.

The remedy for low prices then would seem to lie rather in the betterment of conditions and methods which affect marketing than in discouraging the increase of production. Marketing is bettered when industrial populations, abroad as well as at home, are busy and happy; when transportation agencies are hindered from charging —contrary to business ethics—"the highest price for the largest order"—as occurs when they advance their figures in the presence of multitudinous cargoes;—and when producers learn to co-operate in placing their products in the hands of consumers without the intervention of superfluous middlemen. They do well who seek to improve the conditions and methods of marketing; but they are none the less doing well who seek to win from every acre the largest possible yield at the lowest cost.—C. R. Barns.

Spots on Lawns.

For various reasons many of our lawns look patchy at this season of the year. Where the grass has died out, the land should be manured with rotted manure, and spaded deep and thoroughly; then raked fine, and a lawn mixture of Blue Grass, Red Top and White Clover sown. Various mixtures are recommended, but as good a one as any is made up of 42 pounds of Kentucky Blue Grass, 5 pounds of solid Rep Top, and 5 pounds of White Clover per acre. The Red Top and Clover germinate quickly, and later give way to the slower growing but more serviceable Blue Grass. Sometimes a little black earth scattered over the bare places, and grass seed sown in it, will soon give a good lawn.

Where weeds begin to grow in the lawn, or it is thin, it is often well to scatter grass-seed and also to add a fertilizer. Nitrate of soda, put on dry at the rate of 200 pounds per acre, just before a rain or before watering the lawn, often helps to build up the grass. Two or three applications per season should be made.

In making a new lawn, it is very important to have a deep soil, if possible. Although grass will grow for a time on a light soil, it very soon becomes thin and weedy if not frequently manured.—LeRoy Cady, Horticulturist, Minn. University Farm.

Control of Soil Conditions.

How to Preserve the Needed Supply of Moisture.

The season for cultivation of the soil, to remedy the mechanical condition, to control the moisture supply and to kill weeds, is now on. It would seem as though little would need to be said about cultivation for the control of the moisture supply in the soil, but there is never a season passes, but that a short droughty period is experienced. Experiments at University Farm show conclusively the value of stirring the surface soil during dry times.

Strange as it may seem, the stirring of the soil is also a good thing when the soil is too moist. In the former case, cultivation breaks the capillarity and prevents the escape of the moisture through evaporation. In the latter case, it opens up the soil that is stirred, and permits a freer circulation of the air, and in this way dries out the surface area; thus controlling, to a certain extent, the moisture supply. Cultivation for conserving moisture should be relatively shallow; the depth being more or less in accordance with the severity of the drought. A deeper "dust-blanket" should be maintained during a severe drought than during a short and mild droughty period. In the "dry-land-farming" sections; that is, in regions of fifteen inches or less rainfall, a dust-mulch of two to four inches is advised. Under average Minnesota conditions, a one-inch dust-mulch will generally suffice.

During the earlier period of growth, plants needs much better soil-culture than during the latter periods of growth, for the roots are not numerous and do not draw from a very large area. For this reason, it is very important that the conditions be as near perfect as is possible, that the plants may develop normally and rapidly in their earlier periods of growth. Frequent cultivations, as well as the proper kind of cultivations, are very important. In droughty periods, a cultivation of the cornfield or potato-field should be made at least once a week. The tillage question is not a difficult one to answer, if due consideration is given the scientific principles underlying the conditions, which make it necessary to do the one thing or the other. A study of the soil, the amount of moisture, the amount of rainfall and the kind of crop, will generally indicate the method to be followed.—C. P. Bull, Agriculturist, Minn. University Farm.

The Summer Meat Supply.

The organization of a "Beef Ring" Will Solve the Problem.

With the advent of warm weather comes a resort, in too many farm homes, to the pork-barrel as the only source of a meat-supply which shall satisfy the demands of appetites whetted by the activities of "the busy season." And let no one deny either the nutritive value or the appetizing qualities of salt pork! But, as a steady diet, it palls upon desire, and the yearning comes for some good fresh meat. To kill a steer, a sheep or a calf for the use of one or two families only, in warm weather, involves almost inevitable waste, on account of the absence of available refrigerating apparatus. To avoid this, and to ensure to each co-operating household a regular supply of fresh cuts, the "Beef Ring" or "Meat Club" has been devised. It has been put in operation in a number of places in Minnesota, with very satisfactory results—results which become more and more apparent as the co-operators become habituated to the plan.

Twenty to twenty-five families will easily "keep from spoiling" the carcass of a good-sized beef, when divided among them. It is easy to arrange that each family shall in turn supply an animal for slaughter, and to employ a man the killing and apportion the meat. Such a man can often be found connected with, or living close by the creamery; the refrigerating facilities of which are usually available for cooling off the carcass. A schedule is made up, under which the carcass is divided into as many parts as there are members in the club, and each member is served, first with one, then with another part; so that, when the rotation is completed, all will have been served alike, and each one will supposedly have consumed an entire animal. The small family can usually dispose of its surplus of meat to the large family requiring more. The killing is generally done on Friday afternoon, so that the members of the club may call for their meat on Saturday.

There are other plans of distribution; but they all appear to involve more waste, and more likelihood of disagreements than the above.—C. R. Barns.

A Warning.

Danger in the Use of Imported Potatoes for Seed.

The U. S. Department of Agriculture has recently issued a warning to potato-growers regarding the use of imported potatoes for seed purposes. It is pointed out that in such use there is very grave danger of introducing potato diseases into communities in which they are not yet found. For this reason Minnesota growers will do well to taboo any seed potatoes, the source of which they do not know.

This spring, with the high cost of potatoes for planting purposes, there is a tendency on the part of dealers to offer and of planters to use any stock which has a good appearance. The imported tubers which have been brought over recently have a very pleasing appearance, and might easily be passed off by dealers as select seed-potatoes.

Aside from the danger of spreading disease, the results from the use of imported "seed," so far as production is concerned, will be generally unsatisfactory. The Minnesota Station found differences as great as 90 bushels per acre between returns from selected and common seed stock. The Agricultural Department has found, in experimenting with great numbers of the best foreign varieties, that they usually give poor results the first year or two.

For best results with potatoes, use only well-selected tubers from your best fields, from your neighbors' fields, or from a near-by reliable grower.—K. A. Kirkpatrick, Extension Division, Minn. Col. of Agr.

Working on the Road.

Profit to All in Work Well Done.

A great deal can be said concerning the various systems of using road-taxes, and there can be no doubt that some systems are much better than those in use in this State. However, it is now too late to make any change this season, and the important consideration of today is to make a more efficient use of the present system. This will hardly be possible unless the farmers furnishing the labor shall appreciate the fact that every hour spent in bettering the roads is being used to their advantage and gain. A farmer may shirk in his work upon the road, and in a way beat his road overseer, but every time that he does it he is doing himself an injustice and possibly an injury.

In working out his road-taxes, every farmer can well afford to work as hard and as long, under the supervision of a road overseer, as though he were working in his own field. In fact, we feel that every farmer is justified in doing a little additional road-work on the highway along his farm, even though it must be donated to the good of the cause.

The State is in need of good roads, and in time will have much better ones than it now possesses, but not until we have different supervision, and more earnest work and co-operation on the part of all concerned.—O. M. Olson, Extension Div., Minnesota Agr. College.

Nature's Reservoir.

The subsoil is Nature's storage-reservoir for the moisture which, when rains are far apart, shall maintain the vitality of vegetation. The larger the proportion of the rainfall which can be made to find its way to that reservoir, in all lands sufficiently dry for cultivation, the greater the security of the growing crop against drought. The rain does not readily penetrate a dry, caked surface-soil, because the pores of such a soil are already filled with air; which condition makes it repel water like a dry sponge. This air is so slowly expelled that considerable rain may run off without materially benefiting the crop. Cultivation retards or entirely prevents the run-off; very likely it may enable the rain to penetrate to the subsoil; and thus it assists in the retention of moisture against an always possible day when "the heavens shall be as brass," and when, if Nature's reservoir be empty, the growing crop must perish.—C. R. Barns.

The Planting of School Grounds.

Bulletin No. 36, prepared by LeRoy Cady, of the Division of Horticulture, Minnesota College of Agriculture, contains timely suggestions for the improvement and ornamentation of school grounds. Grounds well laid out, with grassy lawns and a good selection of trees and shrubbery, all carefully attended to, are a credit to any school district. Furthermore, they afford an example which will stimulate imitation in the ornamentation of the grounds around the homes of the pupils. In all such work Prof. Cady's bulletin will be helpful. It is issued by the Superintendent of Public Instruction, St. Paul, and will be mailed free on application to him.

The Food Values of Potatoes.

The Buyer, at Present Prices, Gets Little For His Money.

Potatoes are now selling at retail in Minneapolis and St. Paul for $1.30 to $1.50 per bu., an abnormally high price for that vegetable. The question naturally arises, are potatoes worth 2½c per lb. as food, when compared with other food-stuffs at present market prices?

The potato is an ever-present article of food in the American diet; in the South the sweet potato taking the place of the Irish potato used almost exclusively in the North. The popularity of the Irish potato, as an article of food, is due not so much to its cheapness, although at times it may be a fairly cheap article of food, but rather to the fact that, on account of its pleasing flavor and physical nature, it fills a definite place in the American dietary.

Potatoes are a starchy food, consisting, in addition to water, principally of starch, together with a small amount of protein or muscle-building material, a trace of fat, and small amounts of fiber and mineral matter.

From the potato as purchased, one-fifth of its weight, comprised in the skin, must first be thrown aside as refuse. Of the remaining four-fifths, an analysis shows that nearly 80 per cent is water; leaving only 20 per cent of nutritive material, principally starch —only 2.2 per cent of it being protein or "muscle-builder."

White bread contains over four times as much protein, and about three times as much starch and other carbohydrates as potatoes. A pound of bread has a trifle over three times the food value of a pound of potatoes.

Wheat flour contains five times as much protein, and four times as much carbohydrates as potatoes, and has between four and five times the food value of potatoes.

To show the present relative value of potatoes as compared with wheat flour: At present prices, 2½c per lb. for potatoes, and 3c per lb. for flour, one dollar expended for flour will purchase practically four times as much food nutrients as if expended for potatoes. To any family to which economy is a matter of importance, it will pay to substitute to a large extent bread for potatoes. In fact, whenever the price per pound for potatoes is more than one-fourth the price of flour, it will pay to substitute flour, (or bread) for potatoes. With flour at $3.00 per 100 lbs., potatoes should not cost over $0.75 per 100 lbs., or $0.45 per bu. if equal food value is to be obtained for the same money.

Potatoes are a starchy or heat-producing food, and should not form a large part of the diet of children, who need an abundant supply of muscle-building material.—Ralph Hoagland, Division of Agr. Chemistry and Soils, Minn. College of Agr.

Shallow Cultivation for Corn.

It has been hard to wean our farmers from the old-time useless custom of planting corn in hills raised some inches above the surrounding level, and from the worse than useless custom of deep cultivation between the rows. Most of them are now fully awake to the fact that corn does best when planted on level ground. But in too many cases the deep cultivator still "gets in" its murderous work. The rootlets of the corn plant love the warmth of the surface-soil; hence they spread widely on every side, mostly from two to four inches below the surface—so widely that filaments from adjacent rows will meet in the center of the intervening space in a few weeks after planting. Whatever disturbs them lessens the amount of nourishment they may send up, and reduces the production of corn per acre.

So, while the first cultivation, before these spreading rootlets are sent out, may well be close to the plant, and say four inches deep, no subsequent cultivation should be more than two inches deep. This will suffice to destroy weeds and to maintain a soil-mulch for the retention of moisture, as well as to let in air and to warm up the soil. Shallow cultivation, repeated as often as practicable, especially after a rain, will be sure to "tell" in increasing the size of the crop.—C. R. Barns.

Minnesota Sweet Potatoes.

Sweet potatoes will grow and do nicely in central and southern Minnesota, if a quick, sunny spot of sandy loam is chosen. Make flat ridges of the well-prepared soil, about six inches high and twelve inches wide. These ridges should be about three and a half feet apart. Secure the sprouts from a plant-dealer or seedsman, and plant them about fifteen inches apart in the tops of the ridges, when the nights are no longer frosty. Cultivate by hoeing. When the runners start, keep them turned up on the ridges as long as possible, so they will not grow fast in the soil. The roots should be ready to use by the middle of August.