

mercial fertilizers. The effect of barnyard manure is similar to that of other nitrogenous fertilizers, and its use may be governed by similar conditions. For

young orchards on poor soil its use is beneficial. Two or three forkfuls of manure spread around each young tree in winter may be of value. Generally

speaking, however, the profitable use of stable manure in peach orchards is confined, as in this case, to the stimulation of early growth in newly-set orchards.

## Protect the Strawberry Plants

**T**O protect strawberry plants from the cold of winter and from the disastrous effects of alternate freezing and thawing in spring, it is necessary to give them some protection. This is best done by means of mulching. Besides being a protection against severe weather, a good mulch should enrich the soil, and if skilfully handled, it will delay the ripening of the fruit in spring as much as a week and more.

While it is desirable in most strawberry districts to secure earliness in fruiting, there are some sections in Canada where the profits of the strawberry patch would be materially increased if the crop were to ripen a few days later than is usual. It is important then for growers to consider carefully the possibilities of mulching for this purpose, but it must be practised with caution. Although some growers may delay fruiting through personal skill and the effect of favorable conditions, a mulch of sufficient depth to retard vegetation is apt to injure the young plants and, if left too long, it will rot and kill them.

The kind of material to use for mulching depends on what can be obtained most readily. To combine manurial value with protection, strawy horse manure is the most satisfactory. It can be obtained quite readily in most localities. It should not be applied, however, quite so heavily as some of the

lighter mulches, such as clean straw or hay. An objectionable feature in connection with the use of strawy horse manure, particularly that drawn from city stables, is that it is apt to contain a large number of weed seeds. This objection is seldom strong enough, however, to overcome the advantage gained by its use as a fertilizer and for protection.

The time to apply the mulch is governed by the lateness of the season. Usually it is applied soon after the ground becomes frozen hard enough to carry the horses and wagon. The covering should not be heavy enough to smother the plants. Should the winds of winter remove a considerable portion of the mulch during seasons of little snow, it is well, towards spring, to cover these bare spots, if material and time are plenty. Alternate thawing and freezing in spring do more damage than the cold and frosts of winter.

In spring the covering may be removed as soon as danger of frosts is past, or if it is desired to retard fruiting, a few days later. It is best to do this on a dark day to mitigate the effect of a sudden change from protection to light.

Rake the mulch off the plants to the space between the rows where it will serve to keep down weeds and to conserve moisture, which is so necessary to the production of large, high grade

berries. A mulch between the rows in early summer also serves to make clean picking for the pickers, and to keep the berries from being splashed with sand during rains.

## Fall Work With Plum Trees

In the treatment of a plum orchard, Mr. F. G. Stewart, of Homer, gives the following advice: "Spray plum trees in fall after the fruit and leaves are off. This kills the fungus of the Black Knot. The spores of this fungus develop twice a year, in summer and in winter. Spraying in the fall washes down and prevents the spread and development of the summer spores for the next season. Use the sulphate of copper solution, four pounds to the barrel, and apply any time after the leaves fall. This solution also helps to prevent plum rot.

"Plow to the trees about the end of October or first of November, to throw the water away from the roots. This leaves a furrow or ditch between the rows which must be opened at the ends to let the water away. If the plowing is not done until late, the ground should be harrowed so as not to leave it too open and so admit the frost. If the ground is left open, the water goes in and freezes in little pools around the roots. When the soil is packed tightly around the roots, however, the trees always do much better."

## Two Ways of Pruning Grape Vines

Which is the best, cheapest and easiest method of pruning grapes, the fan or Kniffen system?—P. E. K., Halton Co., Ont.

**I**N all grape-growing localities, the Kniffen system is the best and cheapest for strong growing varieties, such as Niagara. It is best because it requires less care and work, and it is cheap. It saves money in time and labor. Only two wires, instead of three or four, are required for the trellis. Slow growing varieties, such as Delaware, are better trained on the fan system, as they must be renewed from a point nearer the ground. When following the fan system the pruner can always cut to good wood; when following a more definite system, as the Kniffen, sometimes he must cut at a loss.

The fan system is briefly as follows: When planting, cut the vine back to two buds; next spring, again cut back to

two buds; second spring after planting, if vine is strong, leave one cane about two or three feet long, and tie up to trellis wires. When growth on this is about six inches long, rub off all sprouts below the point on the upright where it is desired to start the fan. Third spring, prune back to six or eight buds the strongest canes that arise from near a central point below first wire; tie about three of these fan-shaped to the wires and remove all the rest. The following seasons, renew the wood from as near the trunk as possible and increase the number of arms to five or more if growth is strong.

A vine trained by the Kniffen system consists of an upright trunk or standard and four arms. To produce this result the young vine is treated similar to the fan system for two seasons. The second spring after planting, select the strongest

cane and tie it straight and firmly to the top wire, cutting everything else away. The third spring, select four arms, two on opposite sides of the standard near the lower wire and two similarly placed near the upper wire, cut these back to six or eight buds according to the length of the joints on the cane, tie them to the wires, and remove all other canes. The fourth and subsequent years renew the arms with wood that arises from a point as near to the central standard as possible.

Apples for storing should be picked, barrelled and placed in a shed, then, when hard frosts come, put in a cool cellar. A slight frost will do no injury, but it is best to keep the apples as cool as possible without freezing.

As a rule the finest and highest priced fruits are the most difficult to raise.