

(3) Where crotch injury appears, remove the dead bark and paint the wound with white lead or cover with grafting wax. Never use cement in a crotch, as it will crack.

KILLING BACK OF NEW GROWTH.

It is a very common thing, especially after a severe winter, to find that numerous twigs, especially on peaches, have been killed by winter. The killing may extend two feet or more back from the tip. Trees that made a late growth in summer and autumn are usually the ones that suffer most.

Methods of Control. The general principles in regard to cultivation and fertilizing mentioned under Collar Rot apply here. If time permits the dead twigs should be cut out as soon as observed.

KILLING OF FRUIT BUDS.

Nearly every year many fruit buds on peaches are killed, though the leaf buds are uninjured. This is the chief reason that peaches require a mild climate. Cherry and plum buds are also subject to winter killing, but will stand much greater extremes than peaches. The killing of apple and pear buds is not common. If a dead peach bud is cut through with a sharp knife, the centre will be seen to be brown or black.

Bud killing seems to be due chiefly to a sudden great drop or drops of temperature. If the buds have become somewhat too advanced through the occurrence of very mild weather, such as we often have in January, their destruction seems to take place more readily.

Methods of Control. The presence of a large body of open water by moderating the climate helps to prevent this injury. Apart from the choice of situation, all that one can do would seem to be to follow the well-known good methods of cultivation, fertilizing and pruning. Good air circulation is also valuable; hence in choosing a site for an orchard avoid air pits or places where the air circulation may be expected to be poor. Air drainage is almost as important in an orchard as soil drainage.

KILLING OF BLOSSOMS AND YOUNG FRUITS.

Late frosts during bloom or soon after may destroy numerous blossoms or even young fruits. The latter seem to be just as tender as the blossoms. Sometimes enormous losses are caused by these late frosts. Orchard heaters are used in some countries to prevent this injury. They have not, however, been much tested in Ontario. The question of sites is also important here, as frost is always more destructive where air drainage is poor.

RUSSETING OF FRUIT AND CRINKLING AND RUPTURING OF LEAVES.

Late frosts, soon after or as the fruit is setting, may result in very conspicuous russet bands around apples and pears. These bands may be at the calyx end, or around the middle or nearer to the stem end. They are probably due to frost and moisture combined injuring the skin.

Some years the leaves are much crinkled and sometimes have the upper surfaces separated from the lower through spring frosts. There is apparently no practical method of preventing such injuries.