

Incomplete Pollination & Blossom Drop

There are two main reasons for a tree which was full in blossom losing its flowers without setting fruit. Either the flowers were not pollinated or the weather conditions were poor when the tree was in flower.

Pollination

If blossom drop happens year after year, the most likely cause is the absence of a pollination partner. If the variety is not self-fertile, it will not set fruit unless another variety with compatible pollen is growing nearby. Those fruits which require another variety of the same fruit flowering at the same time to achieve fertilization are said to be self-incompatible and include most varieties of apples, pears, plums and sweet cherries. Different types of fruit however will not pollinate one another. For example apples will not pollinate pears and vice versa.

The various varieties of apples, pears, plums, gages and damsons are separated into pollination groups according to when they flower, starting with the earliest flowering varieties as group A, group B a little later and so on. Varieties within the same pollination group will usually cross pollinate one another because they flower at the same time. For example, the apple variety 'Discovery' (group B) will pollinate the apple variety 'Fiesta' (group B) and vice versa. Varieties in adjacent groups will also serve as pollinators for one another because in most seasons there is sufficient overlap of pollen resulting from an overlap in the flowering period. For example, 'Egremont Russet' (group A) will pollinate 'Bountiful' (group B) and vice versa.

The majority of apple and pear varieties are what are known as diploids. That is to say they contain two sets of chromosomes. There are a few triploid varieties such as 'Bramley's Seedling' and 'Crowngold' which have three sets of chromosomes. These make poor pollinators and should be grown with two diploid varieties that will not only pollinate each other but also the triploid variety.

Some acid cherries, such as the 'Morello' cherry are self-fertile, but those that are not all would appear to be capable of pollinating one another. Sweet cherries do not make satisfactory pollinators for acid cherries but acid cherries will pollinate sweet cherries on the rare occasions when their flowering periods overlap. More sweet cherry varieties are being developed that are self fertile such as 'Celeste', 'Cherokee', 'Stella', 'Summer Sun', 'Sunburst' and 'Sweetheart', however there many varieties that require specially defined pollinators. As a general rule apricots, peaches and nectarines need to be hand pollinated.

Poor Weather

If blossom drop only occurs occasionally then poor weather at flowering time is the most probable reason. Frost damage is a common problem on cold, exposed plots. Very dry air can result in poor pollination and a wet cold spring reduces the activity of bees.

It is important to protect early flowering fruits against spring frosts if a worthwhile crop is to be obtained. Weather forecasters can very accurately determine when damaging frosts are likely to occur and therefore when precautions should be taken. Some frost protection during the flowering period can be provided by putting a top net over a fruit cage. Wall fruit can be protected by a covering of two or three layers of fleece, hessian or shade netting at night when frost is likely, rolling it up during the day. This should be supported away from the plants by bamboo canes. Alternatively a clear polythene cover with the sides open and a gap of 30cm (1ft) at the bottom for ventilation, can be used and left on during the day but this restricts access for pollinating insects, so hand pollination may be necessary. Ideally the polythene needs to be supported on a timber framework. Small free-standing trees can be protected against frost by making a temporary framework of bamboo canes and draping this with a couple of layers of fleece.