

Deciduous Fruit Trees Need Winter Care

© Peter Coppin 1998, revised 2006, 2012 & 2014

While fruit trees are either dormant or not actively growing during winter, there are a number of jobs that need to be done to ensure healthy flowering and growth next season.

Peach leaf curl, Apricot freckle, Brown rot, scale and mites are just some of the pest and disease problems that attack our fruit trees every year, sometimes with disastrous effects. Often prevention is easier and cheaper than cure, and a couple of well-timed sprays go a long way to help control many problems in fruit and vines.

Winter is the time when we can do a lot to help. The earlier the better, because spring can creep up on us and by the time there is blossom and new growth, it is too late for preventative measures to be successful, particularly for diseases.

Pruning Deciduous Trees & Vines:

Apart from controlling the size and shape of trees, encouraging replacement fruiting wood and sunlight penetration, neatly pruning trees is important. Wide branch union angles, unclustered branches and fruit reduce the areas where pests and diseases can build up.

It also leads to easier and more effective spraying, as a very thorough coverage is needed for preventative sprays such as copper, which should be applied to the point where the spray is almost running down the trunk to the ground.

Remember also to treat any pruning cut larger than 15mm with a fungicidal wound dressing or pruning paint to protect against wood-rot fungi.

How do we prune? Well, simply remember 1-2-3:

1. To determine/control size and shape
2. To encourage replacement flowering (fruiting) wood in future years
3. Crop size & quality and plant health

Most pruning for size & shape (#1) should be done 2-3 times during growth (summer pruning)

How often do we detail prune deciduous species for replacement fruiting wood (#2)?

- Peaches, nectarines, grapes, kiwifruit & persimmons every year.
- Plums & apricots every 2-3 years.
- Apples, pears & pomegranates every 3-5 years.

Winter Chill – what it means:

While deciduous plants may look totally inactive during the winter dormancy, there is a lot of hormonal and bio-chemical activity going on under the bark. One of these is the production of Gibberellins, the hormone responsible for flower bud initiation and therefore the amount of fruit set.

So the more cold we get (ie, chill units), the heavier flowering is and therefore more fruit is set, important for many deciduous fruits such as apples, pears and cherries.

But chilling only works when the trees are in full dormancy, so even if there's only one green leaf left on the end of each branch the trees aren't dormant. Assisting leaf-fall with copper sprays (mentioned below) helps, but so does hand-stripping leaves. Any green leaves, even on young apple trees, should be removed by late June – early July, if not earlier.

Copper Sprays:

Copper is the best fungicide we know, closely followed by zinc and manganese. They are also organically based, so it makes sense to use them. Using them as fungicides has the added benefit of being nutritional, as they are the three most important trace elements for fruit trees and are deficient in most of our soils.

They are also very good defoliants, so using the raw sulphate forms should be restricted to deciduous plants during dormancy, unless they are neutralised by mixing with hydrated lime. This is known as a Bordeaux spray.

Proprietary products are pre-neutralised and thus are much safer to use. They are either based on copper-oxy-chloride or cupric hydroxide, and are sold under a variety of trade names.

Copper sprays help control most fungal and bacterial diseases such as Leaf curl, Shot-hole, Freckle, Black spot, Brown rot, Bacterial canker and Sooty mould. They should be applied to all fruit trees, including evergreens, and to most vine crops.

Copper Sprays (contd):

The first application that is not promoted enough for deciduous trees is at leaf fall. This is best applied at the first sign of leaf fall, in fact burning the leaves off and forcing the trees into dormancy is beneficial. You can actually gain quite a few extra chilling hours, so important to get a crop on fruits such as cherries. As a lot of the disease spores over-winter on plant trash on the ground, this spray effectively coats this with its fungicidal protection.

The right time is the first week of May for cooler areas through to the end of May in warmer areas. Evergreen trees such as citrus also benefit from this spray as it helps reduce problems with sooty mould and fruit rots, and even help repel snails to some degree.

Another spray in mid winter may be necessary for nastier problems such as bacterial canker in cherries, or if you've had bad problems with things like peach leaf curl in the previous season. This can be mixed with an oil spray, giving more effective spread and penetration, and many growers say an improved fungicidal effect.

The most important application is on deciduous trees at the first sign of budswell. Any later is simply too late to get proper control. Once new leaves have emerged, use a lower concentration to reduce the risk of burning (I prefer the cupric hydroxides such as Kocide® for this purpose).

For the best control of Powdery mildew in grapevines, apply a lime sulphur spray during dormancy (as close to bud-burst as possible), switching to a wettable sulphur after budburst. Sulphur is also a very good fungicide, but can burn green growth, especially in hot weather. It also is an effective miticide, controlling both bunch mite and grape leaf blister mite.

Unfortunately, sulfur has little or no effect on Downy mildew in grapes, but copper sprays will. If you have both diseases you will have to use both sprays, but you can't mix them together (ideally there is a 7-10 day gap in between).

Oil Sprays:

Oil sprays are mainly used to help control scale, but they can also help to reduce mite numbers on deciduous trees. It works by leaving a film of oil over leaves and branches that smothers the tiny young insects as they hatch from the eggs. With some pests such as citrus leaf miner, it can also deter the adult moth from laying eggs.

We were once restricted to using two different formulations. One is called winter oil which can only be used on deciduous trees during dormancy. The other is white oil which is really only suitable for evergreens. However, we now have an oil blend that is suitable as both a summer and a winter oil, usually sold as aPest Oil®.

Deciduous trees are sprayed in mid dormancy to help prevent both mites and scales. Applied at heavier rates, it can help to promote a stronger flowering. A suitable insecticide can be added if there is a severe scale problem.

Citrus and some other evergreens are sprayed in early summer to control wax scale, and mid summer for other scales. Citrus leafminer is most active in spring and to a lesser extent in autumn. However, I do not recommend more than four or five oil sprays per year, as the oil film can build up to the point that plant health can be affected.

Fertiliser and Water:

Healthy, strong trees suffer less from pests and diseases, and keeping trees well mulched, fed and watered helps achieve this. Organic growers also say that Potassium is important for disease resistance, but be careful not to apply too much as it is easy to cause toxicity.

It is important to note that deciduous trees do 75% of their year's root uptake of nutrients between budswell and Xmas/New Year, so that's when most of your fertilising should be done, especially on heavier soils. July and August are the months where at least half the year's fertiliser should be applied. Remember also that the roots become active up to three weeks before you see signs of bud movement or flowering.

Mulching has become recognised as the key to sustaining healthy soils and reducing stress on plants. All fruits and vines should be mulched up to 65mm deep by the end of August

However, even the best-managed trees will still suffer to some degree from the pests and diseases we have discussed here, and the preventative sprays mentioned are really 'must do's'.

Keep a Diary:

One of the handiest 'tools in the shed' is a diary. Record all the information you can, such as the dates of bud-swell, bud-burst, first flower, full blossom, etc, for the different varieties as well as the different fruits. This is so helpful in knowing when to do these critically important jobs.