

Tree maintenance during the colder months

During the colder months of the year experienced in South-eastern Australia, the internal activities of trees slow down and some trees experience a cyclical dormant period. This is often also perceived as a dormant time on the gardening calendar. Yet autumn and winter present the perfect opportunity for some types of work, such as planting new trees, fertilising, pruning and some pest and disease control activities.

Fertilizing

In most soils the application of nitrogen is sufficient for promoting root and foliage development. This activity can be of particular benefit for trees that have experienced root damage. Whether deciduous or evergreen, most trees and shrubs exhibit the greatest need for nitrogen when developing new season growth. New season shoot growth in the spring depends almost entirely on stored carbohydrates and nutrients, absorbed the previous summer and autumn. Therefore fertilizing trees after new season shoot growth has ceased and before new growth commences the following spring is the most beneficial time to apply fertilizer.

The application of quick release nitrogen fertilizer applied at the rate of 5-10gm per m² in autumn can influence the promotion of root growth during the autumnal root elongation period and can positively influence the accumulation of nitrogenous reserves in woody tissues.

Pest and Diseases

Appropriate control practices during autumn and winter can minimize and prevent the effect of plant pest and disease. This is particularly pertinent when controlling pest and diseases of fruit trees.

Peach Leaf Curl

This is a fungal disease which attacks members of the genus *Prunus*, including peaches, nectarines, almonds and apricots. Fungal spores overwinter in buds and on twigs. Leaves are infected when bursting from the bud, becoming thickened, curled and distorted. Infected fruit show raised, irregular patches that are often red in color. This disease also affects Apricots, though symptoms differ. Whole shoots are affected with curled leaves forming close "bunches".

Peach Leaf Curl can be controlled with low toxic products by spraying at or just before budswell with copper oxychloride or lime sulphur. Where the disease has been difficult to control in previous seasons, a program of three sprays is recommended. The first spray should be applied in autumn, at leaf fall. The second spray should be applied immediately before budswell at the late dormant stage and the third spray about one week later at budswell. If in doubt about the state of buds spray in late winter and again at budswell. Remove infected twigs and leaves when leaf fall occurs.

Shot Hole of Stone fruit

This is a fungal disease which attacks members of the genus *Prunus* including peaches, nectarines, almonds, cherries and plums. Foliar symptoms include the development of irregular shaped holes, and in severe cases leaf browning and defoliation. Affected fruit develop raised brown scabs and gum exudations, though on peaches and nectarines these may develop into deep indentations. Twigs display round or oval brown spots, either raised or depressed and sometimes accompanied by gum exudation.

To overcome shot hole, spray with copper oxychloride as the trees are just coming into flower. Repeat spray in autumn after the leaves fall. Prune and remove affected twigs.

Woolly Aphid

This pest attacks apple trees, crabapples, hawthorns, firethorns, cotoneasters and occasionally pears. Woolly Aphid feed on both the roots and above-ground parts of the tree. The aphids appear as fluffy white, waxy blobs on the bark of trees. They feed only in areas where the bark is thin and their feeding causes the production of woody galls. In cold weather the swellings caused by the summer feeding of the woolly aphids can split causing wounds which allows diseases like apple canker to enter the plant.

The aphid is usually kept under control by a small black parasitic wasp (*Aphelinus mali*). Overwintering eggs on dormant fruit trees and bushes can be treated with a winter wash using suitable plant based oils. Be sure to spray thoroughly in areas such as cracks in bark and other crevices. Spraying will not control the aphid population on the roots and a soil drench of Imidacloprid could be applied in late winter. If Imidacloprid is applied to fruit trees it is important to read and understand the withholding periods.

Plane Tree Anthracnose

A fungal infection that attacks Plane trees (*Platanus* spp.) early in the spring, causing a rapid wilt of newly emerging leaves. Mature leaves develop a brown growth along the main veins. Infected leaves often curl and may fall prematurely. The disease is encouraged by damp weather during shoot extension in spring and early summer.

The fungal spores over winter in the fallen leaves and on the bark of the tree. Fallen leaves and twigs from infected trees should be raked and disposed of during the growing season and autumn. Light pruning during winter to increase air circulation in the canopy and remove the previous season's infected twigs and branches can be undertaken to assist in controlling the disease.

When using fertilizers, herbicides or pesticides always apply the recommended rates and follow directions for use and product handling.

Planting

Autumn is generally the most suitable time for tree planting in South-eastern Australia. The soil is typically warmer and may have higher soil moisture than in Spring. Evergreen plants will have less water requirements due to shorter days and cooler temperatures. Autumn root growth allows for assimilation and storage of nutrients available for new seasons growth. In combination with late winter/ early spring root growth, autumn planting provides a longer period for root development. This aids in establishment before shoot growth and increased water demand. Adequate site preparation and the use of good planting stock are fundamental to planting success.

Pruning

In general, pruning of ornamental trees can be undertaken during the late dormant season. Light pruning (removing less than 10% of the foliage or foliage bearing branches) can however be undertaken year round. Pruning after spring leaf growth has matured in summer can slow tree development; however, severe pruning at this time of year can encourage unwanted epicormic shoot development.

Pruning should conserve as many living branches as possible and should be planned to minimise the amount of cuts made. Pruning, particularly of mature trees should only remove dead, dying or dangerous branches, or branches identified as problematic. However, formative pruning of developing trees can be undertaken to direct growth to achieve a desired form. Pruning can in some instances assist in pest and disease control. Late winter pruning for example can assist in the control of Citrus Leaf Gall, Peach Leaf Curl, Anthracnose of Plane trees, and severe infections of Shothole of Stone fruit. Check the timing of infection and disease development before pruning species susceptible to serious diseases and boring insects attracted to pruned trees.

Some tree species have oozing sap that flows or "bleeds" more freely after pruning in early spring and include maples, birch and elm. To minimise bleeding prune in early winter.

