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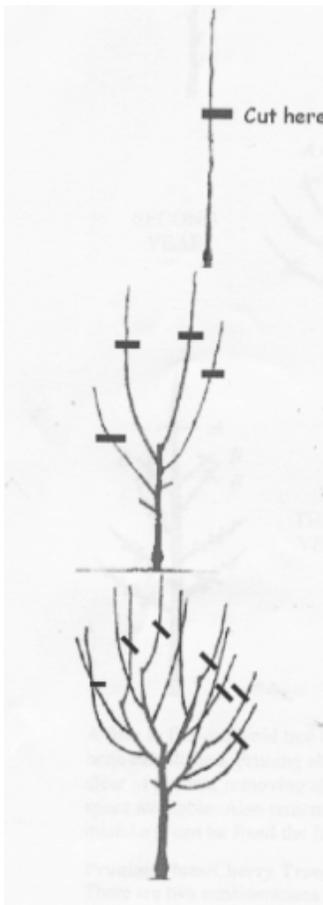


Info 19: PRUNING, ESPALIERING & SPRAYING FRUIT TREES

Pruning of fruit trees depends on the form wanted – pyramid or bush (vase).

Bush (Vase) Shaped Trees

The first pruning should occur immediately after planting. Make sure you know if you have a one or two-year-old tree. The examples below show pruning starting at a one-year-old tree.



PRUNE A ONE-YEAR-OLD TREE

A one-year-old tree should be pruned immediately after planting – cut off the top half of the trunk with a sharp pair of secateurs.

Before cutting, make sure that the bottom half contains at least four buds or formed branches. If not, make the cut higher, above the fourth bud.

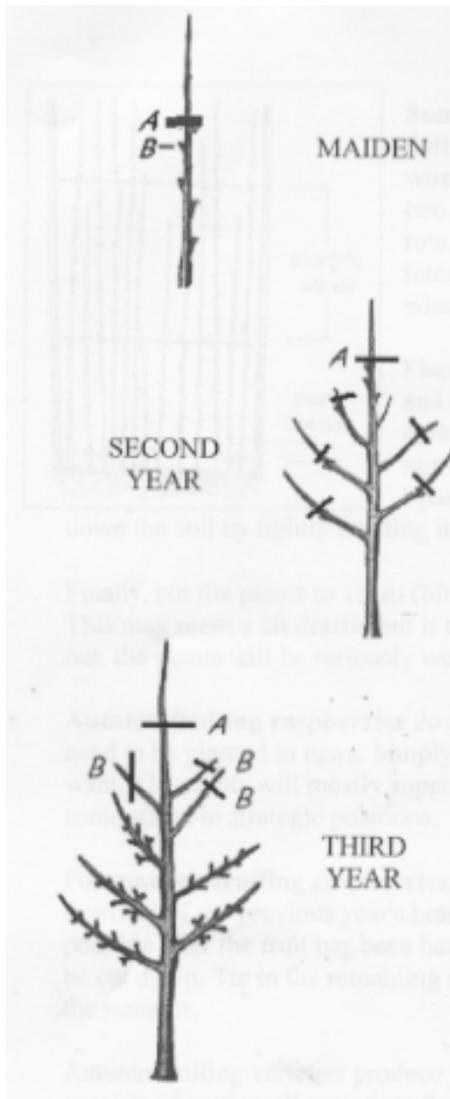
PRUNE A TWO-YEAR-OLD TREE

Below the thick black lines is the tree's growth in the previous year – this should not be pruned. Above the thick black lines should all be pruned by a third. When pruning, cut just above an outward-facing bud – this bud will then produce a side-shoot in the spring. Which will grow away from the centre of the tree.

PRUNE A THREE-YEAR-OLD TREE

Pruning is similar to the two-year-old tree – below the thick black lines is the tree's growth in the previous year. This should not be pruned. Above the thick black lines should all be pruned

by a third. When pruning, cut just above an outward-facing bud.



Pruning Pyramidal Trees

The stem should be cut back to approximately 60cm (2ft) above soil level. Make the cut (point A) just above a bud. Remove (rub out) the bud (at point B) below the top bud, making sure that there are at least three or four buds remaining below.

In the second year's pruning, cut back the main stem by about 45cm (18in) just above a bud (point A). Below this cut, there should be three or four buds above the branches from last year.

Prune all the remaining branches so that they are about 25cm (10in) long. The cut should be immediately above a healthy looking bud.

In the third year's pruning, again cut back the main stem by about 45cm (18in), just above a bud (point A). Below this cut, there should be three or four buds, above the branches from last year.

Prune the branches, which have grown this year so that they are about 25cm (10in) long (points B). The cut should be immediately above a healthy looking bud.

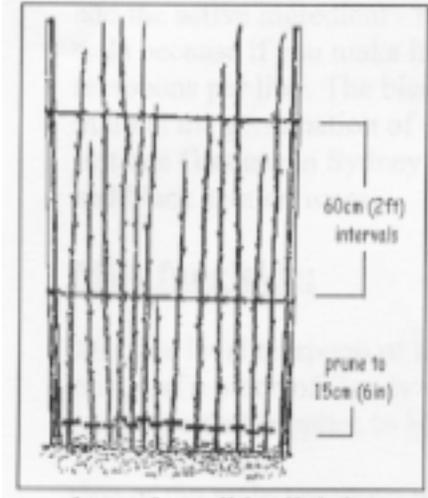
A four to five-year-old tree can be considered mature and the basic shape will have been established. Pruning should consist of keeping the centre of the tree relatively clear of growth, removing all weak or diseased growth and keeping the tree within the space available. Also remember that fruit trees are very forgiving if you make a mistake – it can be fixed the following year.

Pruning Plum & Cherry Trees

There are two considerations when pruning plum/cherry trees. The first is to establish a good shape. The second is to avoid any infection with silver leaf disease. To avoid silver leaf disease, prune plum/cherry trees when they are

growing strongly - not in the winter. Try to make the pruning cuts as cleanly as possible, and avoid crushing the wood. If any larger sections of branch are to be pruned, seal the cut with a protective sealer.

Raspberries



Summer fruiting raspberries will require support during the growing season. Put the support poles and wires in place after digging, but before planting. Secure two 2.2m (7ft) poles in the ground at either end of the row. Tie two or three horizontal wires at 60cm (2ft) intervals to the poles. Tie the plants loosely to the wires when they begin to grow.

Place the plants in the trench about 45cm (18in) apart, and cover the roots with soil 5cm (2in) above the existing soil mark on the stem. This will encourage more vigorous rooting. Work a handful of *bonemeal* per square metre (3ft) into the surface of the soil. Firm down the soil by lightly treading it down and water if the soils are not moist.

Finally, cut the plants to 15cm (6in) from the ground as shown in the diagram above. This may seem a bit drastic, but if the correct pruning for the first year is not carried out, the plants will be seriously weakened.

Autumn fruiting raspberries do not require strong supports, and therefore do not need to be planted in rows. Simply devote an area to them and let them grow as they want. The plants will mostly support themselves with only the odd bit of help from some sticks in strategic positions.

For summer fruiting raspberries, prune from the second year onwards by cutting down all of the previous year's branches to 8cm (3in) from the ground as soon as possible after the fruit has been harvested. Any weak-looking new shoots should also be cut down. Tie in the remaining shoots to the support wires as they grow throughout the summer.

Autumn fruiting varieties produce fruit on branches grown this year. Pruning of these consists of cutting all growth to 8cm (3in) from the ground. Autumn fruiting raspberries are very versatile because as well as pruning in the traditional manner, you can also have an earlier crop in early summer if you prune only the top 10cm (6in) from some of the canes. These canes will give a much earlier crop but at the same time allow the traditionally pruned canes to push through and crop in autumn.

The plants need a ready supply of water to produce good fruits. Depending on the soil type, watering throughout the summer on a weekly basis may well be needed. All raspberries will appreciate a layer of well-rotted compost being applied to the soil each year. Because raspberry roots are very near the surface, do not dig the compost into the soil, this will only damage the roots. In the absence of compost, scatter a handful of bonemeal to each square metre (3ft).

Some Organic Options for Fruit Trees

Bicarbonate of soda organic fungicide:

Use two litres of water, and a drop of vegetable oil, which helps to fix the spray to the leaf when it's dried. A drop of detergent helps to spread the mix over the leaf. Then add the active ingredient – bicarbonate of soda. Don't get carried away with the soda because if you make it too strong, it'll cause all sorts of problems. Put in two teaspoons per litre. The bicarbonate of soda makes the leaf surface alkaline and this inhibits the germination of fungal spores. You can also use it on tomatoes. The Royal Botanic Gardens in Sydney has found this to be effective on powdery mildew, rust and black spot on roses.

Milk fungicide:

Mix one level teaspoon of bicarbonate of soda into one litre of water. Add one litre of skim milk and a pinch of Condy's Crystals, which you can get from a produce agent (someone that supplies to horse owners). Shake thoroughly.

One of the main problems people come across with fruit trees is Brown Rot:

This disease affects mainly apple, pear and plum trees. Brown rot (*Monilinia fructigena* and *laxa*) is a fungus infection that enters the fruit through wounds made by wasps, caterpillars and birds. The symptoms are rotting and browning of the entire fruit. The fruit becomes soft and grey spots of fungus grown on the browned fruit. Eventually the fruit will shrivel and fall off.

How to treat Brown Rot:

The disease is spread by contact, so all infected fruit, whether on the tree or on the ground, should be removed and burnt as soon as possible. Keep the soils and grass around the tree clean. Remove leaves and other debris regularly.

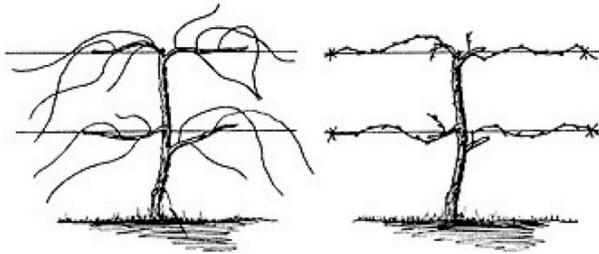
PLANTING & CREATING ESPALIER TREES

Pros

- Great for properties with limited space.
- Look good when in blossom.
- Less fungicide spraying, as you have better air movement.

Cons

- You need to have patience.
- Fruit is a little smaller than on a free-standing tree.
- It is a lot of work.



Most types of fruiting or hedging plants can be espaliered, although it can take up to 5 years to get a good looking espalier. Fruit trees are by far the best to use – especially apples, as they give provide you with leaf, blossom and finally fruit - use dwarf or sem-dwarf varieties when possible. They fruit on spurs (spurs have a life span of 10-15 years, but

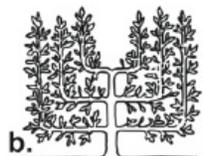
are much less on stone fruit) and/or on laterals. Braeburn, Cox's Orange pippin and Royal Gala fruit on both. All apples bear the best fruit on two-year and older wood.

Apple trees are generally easier to train than pears – the wood is much more forgiving, and the new stems do not harden off as fast. You can leave a new apple branch for a few weeks and come back and it will still be pliable. The best way to determine where the fruit will be is where it flowers, so wait until after the tree blooms before pruning.

There are several types of espalier –



1. **Standard** - Branches grown horizontally out of one central trunk. By far the easiest to do. (figure a)

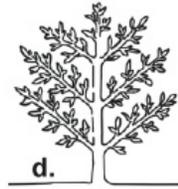


2. **Cordon** – The tree resembles a candelabra. (figure b)
3. **Palmette** – Branches grow in a fan-shaped pattern. (figure d)



There are other more elaborate shapes that are variations on the above, including a **Belgian Fence** (figure c) – a form of espalier that weaves a row of espaliers into a fence – very time consuming.

In general, light pruning and shaping is done in the autumn, heavy pruning in winter, and training the summer when growth is at its peak.



One-year-old trees are best to use, and ideally they should be unbranched. If only branched trees are available, retain the straightest leader and cut away the rest. After planting, the central leader is reduced to 5cm above the first wire – this forces the tree

to “break buds”, or start to produce stems at or near the first tier level. When growth occurs, only the top three shoots should be allowed to grow. The top shoot is then tied to an upright cane that is secured to the wires. The 2 side shoots will become the 2 lowest branches. Tie the side shoots to canes at an angle of about 45 so the laterals maintain their strength of growth while training is started.

In late autumn, remove the supporting canes and tie the branches to the horizontal wires. With the central stem again cut back to about 5cm above the second wire to train the next tier. Continue every season until the tree reaches the top wire. You then only retain 2 buds to tie down.

Allow your tree over time to break every bud to create a uniform mass of sticks projecting upwards from the tier branches. Prune these back to 3 buds – these will then turn into your fruit spurs.

Apricots are best pruned to hedges and fan shapes, and will need fairly heavy pruning. Peaches and nectarines fruit on new wood only, and so require vigorous pruning to produce new fruiting branches to maintain the espalier form. Best styles are hedge or fan. Pears are similar to apples, but with a more upright form.

WATERING RECOMMENDATIONS FOR FRUIT

FRUIT	AMOUNT	NOTES
Apple	Low-medium	Water during long dry spells
Apricot	Medium	Infrequent, deep watering
Blackberry	High	Water during growing season
Blueberry	Very High	Frequent water
Cherry	High	Regular, deep watering
Citrus	High	Do not let root zone get dry or soggy
Currant	High	Regular water
Fig	Low	Needs no water once established
Gooseberry	High	Water to maintain growth
Grape	Low-medium	Little water once established
Kiwi	High	Regular watering
Nectarine	High	Water while fruit is forming in hot weather
Peach	High	Water while fruit is forming in hot weather
Pear	Medium-High	Regular water during growing season
Persimmon	High	Regular deep water
Plum	Medium	Best with some deep watering in summer
Raspberry	High	Regular water
Strawberry	Very High	Frequent, deep soaking

(Recommendations taken from The Sunset Western Garden Book)

SPRAYING REGIME – PIP & STONE FRUIT

PIPFruit: Apples/Pears

Limitation of Liability:

This spray sheet has been produced with care to provide basic information. As this information is generalised, Southern Woods Nursery Ltd is not responsible for the application of any particular spray program. All sprays applied is at the risk of the user:

Time	Spray Used	Pest / Disease	Precautions
 Dormant	Conqueror Spraying oil Copper Champ DP	Over wintering Insects & Fungal Spores	Do not spray oil at flowering time or on Cox Orange Pipin at dormant stage
 Bud swell	Copper Champ DP	Powdery mildew, blackspot and rust on apples,	
 Full Bloom	Bravo or Fungus fighter	Broad spectrum fungicide Powdery mildew, blackspot and rust on apples,	
 Petal Fall	Bravo or Fungus fighter. Success Naturalyte (Insecticide)	Broad spectrum fungicide. Codling moth, leaf roller gicide	
21 days after Petal fall	Bravo or Fungus fighter. Success Naturalyte (Insecticide)	Powdery Mildew. Leaf Rollers, Aphids, Woolly Aphids,	Withholding periods (Before eating): BRAVO Grapes: 28 days. All other crops 7 days. DO NOT SPRAY SUCCESS NATURALYTE WHEN BEES ARE FORAGING.
Apply Champ DP at 50grams per 10litres at the beginning of leaf fall this will do a final clean up before winter starts.			

STONEFRUIT: Peaches, Apricots, Nectarines, Plums

Limitation of Liability:

This spray sheet has been produced with care to provide basic information. As this information is generalised Southern Woods Nursery Ltd is not responsible for the application of any particular spray program. All sprays applied is at the risk of the user:

Time	Spray Used	Pest / Disease	Precautions
 Dormant	Conqueror Spraying oil Copper Champ DP	Over wintering Insects & Fungal Spores	Do not spray oil at flowering time
 Bud swell	Copper Champ DP Success Naturalyte (Insecticide)	Leaf curl, Shot hole Fungus, Bladder Plum, Downy Mildew Aphids	
 Full Bloom	Bravo or Fungus fighter	Broad spectrum fungicide Powdery mildew, blackspot and rust on apples,	
 Petal Fall	Champ DP Copper Success Naturalyte (Insecticide)	Bladder Plum, Rust, Powdery Mildew Leaf Rollers, Mealy Bugs, Aphids, Woolly Aphids, Caterpillars, and Spittle Bug.	
21 days after Petal fall	Champ DP Copper Success Naturalyte (Insecticide)	Powdery Mildew. Leaf Rollers, Aphids, Woolly Aphids,	Withholding periods (Before eating): Naturalyte: Fruit 3 days. All other crops: 7 days. DO NOT SPRAY SUCCESS NATURALYTE WHEN BEES ARE FORAGING.
Apply Champ DP at 50grams per 10litres at the beginning of leaf fall this will do a final clean up before winter starts.			

Commonsense Guide to Spraying Safely

Keep Garden Chemicals and spray equipment in a locked cabinet, or on a high shelf out of the reach of children.

Always store sprays in their original labelled containers. If the label comes loose, keep it in place with a rubber band.

Set aside a shelf or bench preferably outside to mix garden chemicals. A level uncluttered surface helps avoid spills. Gloves, spray mask & protective eye wear should be worn when mixing & using chemicals.

Keep a set of mixing tools measuring spoons and a graduated measuring cup. Use them for measuring sprays and dusts only. Keep them with your garden chemicals away from children and out of the kitchen.

Read the label carefully. Follow the directions and precautions to the letter. Some chemicals just won't mix so don't try to out-guess the experts. The label is the best way.

Do not spray on a windy day. Coverage will be spotty and spray drift can be dangerous. Spray in the early morning or late afternoon when winds have dropped.

A dry plant can be burned when there is insufficient moisture in the tissues. Midday spraying can result in serious burning of plant tissue by the sun. Never eat or smoke while spraying or dusting.

Wear a spraying mask!! For a little investment you can purchase a simple but effective mask that covers your nose and mouth. A WORTHWHILE INVESTMENT!

Throw away empty chemical containers and clean up after spraying. Wash empty spray containers inside and out and put in a closed rubbish bin. Don't throw empty aerosol containers into an open fire or an explosion may result causing metal flying fragments.

Wash out sprayer bottle, clean spray gun by backflushing as directed. Wash your hands and face with warm water and soap after spraying and before eating or smoking.

Use a separate sprayer for fertilisers and weedkillers. Even sprayers cleaned out thoroughly can retain some potency, therefore it is best to avoid using a sprayer that has contained weedkiller as a fertiliser sprayer on your trees and shrubs, as some damage may still be caused.

LEAF DISEASES IN FRUIT TREES

Black Cherry Aphid

This shows as a mass of black aphids that cause all the tip growths to curl. Black cherry aphid normally only show in November, on younger trees, after a period of vigorous growth.

Treatment: Prune off affected growth and destroy or spray with an insecticide such as Yates “No more Insects”.

Leaf Curl on Peaches & Nectarines

Found on peaches and nectarines, it is a fungal disease.

Treatment: The main control used is a copper spray such as Copper Champ D.P. applied in autumn just after leaf fall and again in late winter just before the blossom buds begin to swell. It is important to collect and destroy all infected leaves if an infection occurs.

There are a number of fruit tree varieties listed in our catalogue that show some resistance to leaf curl.

Leaf curl (midge) on Plums

Often confused with leaf curl that occurs in peaches and nectarines. It is actually a leaf-curling midge that causes the leaf to curl.

Treatment: Spray with an insecticide.

Pear or Cherry Slug

A leach-like, small, dark slug that shows on the leaves of pears cherries and some ornamentals such as hawthorn. It usually only occurs in late spring, after a period of good plant growth. They feed on the upper leaf surface. As the leaves mature the pear slug finds the leaf harder to eat, and the cycle of infestation begins to disappear.

Treatment: Pear slug is very easily controlled with any insecticides such as Yates “Confidor” or Yates “No more Insects”.

DISEASES IN THE FRUIT

Brown Rot

This disease affects the fruit of nectarines, peaches and occasionally plums. The symptoms are rotting and browning of the entire fruit. Eventually the fruit will shrivel and fall off.

Treatment: The disease is spread by contact, so all infected fruit, whether on the tree or on the ground, should be removed and burnt as soon as possible. Spray with Bravo or Fungus Fighter. A winter spray of copper will help prevent infection. The best control is plant hygiene – remove all infected fruit when sited on tree and all fruit after harvest.

Keep the soils and grass around the tree clean. Remove leaves and other debris regularly.

Organic Options:

1. Milk fungicide
2. Washing soda
3. Epsom salts
4. Mouldy hay