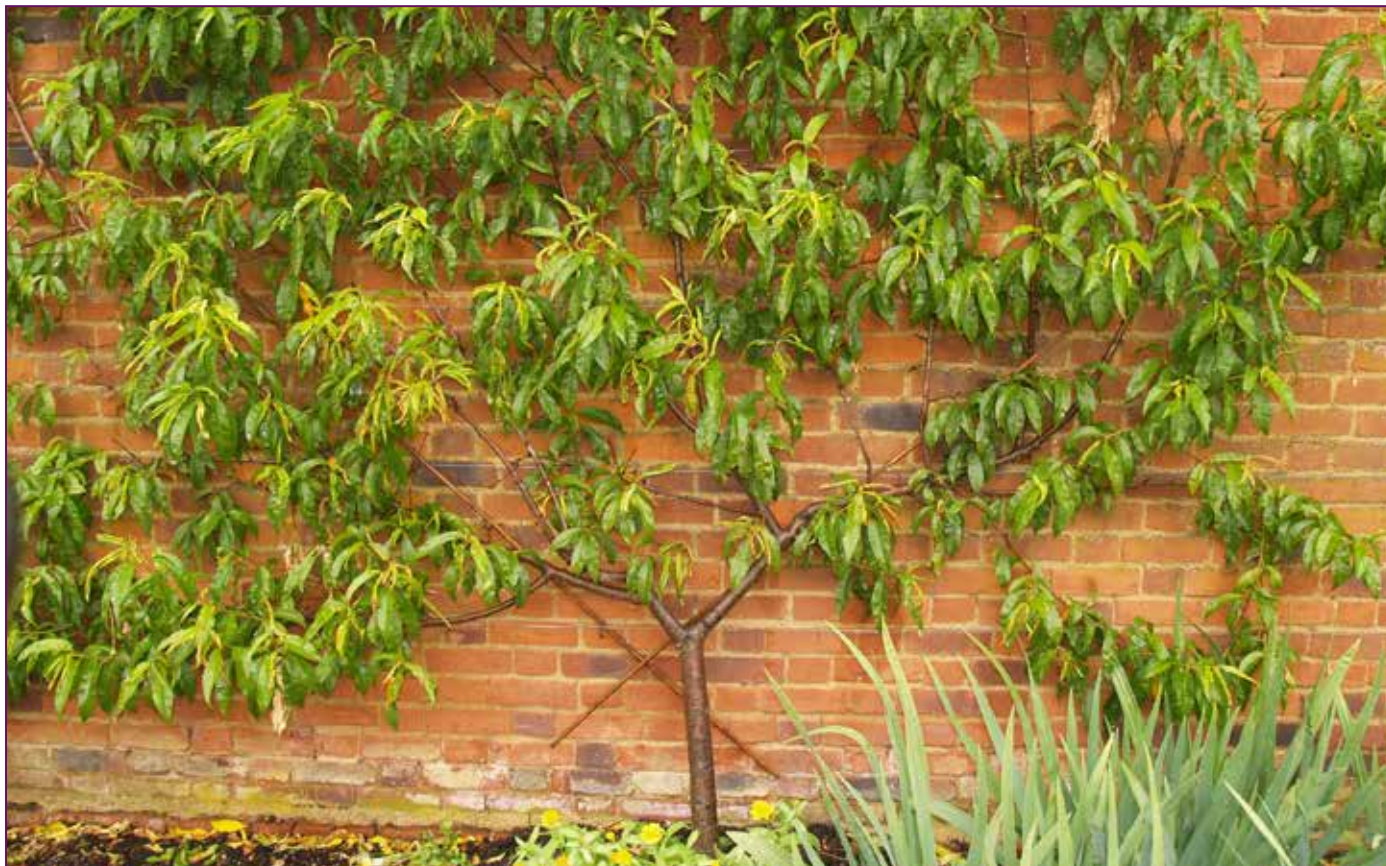


LESSON 1 INTRODUCTION



Training this peach tree to grow against a wall has many benefits: aesthetic and practical.

WHY, WHEN AND WHAT TO PRUNE: HOW PRUNING AFFECTS PLANTS

Pruning involves cutting parts off a plant for one, or several, of the following reasons:

- To remove broken branches, dead or diseased wood which could affect other parts of the plant.
- To exercise control over the type of growth produced. For example, to promote flowering, fruit or foliage.
- To control the size of a plant so it doesn't become too large.

- To control the shape of the plant to improve appearance.
- To promote healthy and bushy growth.
- To rejuvenate an old plant by encouraging the replacement of old wood with new wood.

If you are not pruning for one of the reasons listed above, then you do not need to prune at all. Many people prune plants just for the sake of it. This is not necessary. Some plants (for example most trees) only need dead or diseased tissue removing (if present) but otherwise can be left. Remember no plant in the wild was ever pruned

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Suggested Tasks

Throughout this course you will be provided with suggested tasks and reading to aid with your understanding. These will appear in the right hand column. Remember: these tasks are optional. The more you attempt, the more you will learn, but in order to complete the course in 20 hours you will need to manage your time well. We suggest you spend about 10 minutes on each task you attempt, and no more than 20 minutes.

and yet they flower and fruit heavily. However, in the garden we demand different things from plants than we do from those growing in the wild. In the wild we don't mind if a tree or shrub has become woody or leggy – in our gardens we prefer lushness and bushiness and, in order to achieve this, we prune our garden plants regularly. For many plants, especially garden shrubs, the young growth triggered by regular pruning not only improves appearance, but also increases longevity.



Platanus orientalis will survive and even thrive with heavy pruning every winter.

The reasons for pruning plants, as listed above, is different for different plants and is discussed below.

Removing Broken Branches, Dead or Diseased Wood

Some plants are more susceptible to infection than others when you cut into their living tissue (e.g. birch trees, *Betula* spp. and some herbaceous plants). Such plants are less able to contain wood rots once they start. Therefore, infected wood should be removed and burnt before the disease spreads.



A “weeping” tree may produce both upright and downward growing shoots. The uprights must be removed and weeping shoots thinned annually if the weeping effect is to be maintained.

When a disease attacks plant tissue it typically infects softer growth towards the ends of stems. Plants have adapted to fight the infection by releasing chemicals which form a barrier which the disease can't pass. The tissue on the infected side of the barrier dies off but the rest of the plant is spared. The dead tissue should be removed

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Suggested Tasks

Take a brief stroll around your neighbourhood or your garden. Look specifically at trees and shrubs and note any that appear to have dead or diseased branches. Are you surprised by the amount of dead or diseased limbs you spotted? Consider what action would be needed to remove these plant parts and the ease or difficulty of doing so.

because it may provide a base for other pathogens to grow. However, when removing dead tissue it is best not to cut below this barrier otherwise the plant will have to form a new barrier.



Bonsai - *R. indicum* 'Kinsai'

In other cases, it is necessary to cut back into healthy, living tissue. This must be done when the plant has been infected with a fast-spreading disease. In these instances, diseases are often visible on the outside of the deadwood. If tissue death has been sudden or rapid do not leave any diseased wood on a plant after pruning. Cut back into living tissue beyond any signs of disease.

Make your cuts as neat and as small as possible. This means cutting at right angles to the side of the branch or shoot. The only time to cut on an angle is if the stem or branch is vertical. A right angle cut to a vertical branch will create a surface that is parallel to the ground. Water collects more readily and sits on the surface for longer on this type of cut, and this can increase the chance of infection.



Clipped balls and hedging brings a sense of "order" to a garden.

Use sharp tools which are less likely to tear or bruise plant tissues. Also, only use clean tools. Each time you prune diseased wood you may pick up disease spores on your tools which can then be transferred to healthy wood of the next plant. It is a good idea to dip secateurs in an antiseptic solution when going from one plant to another.

No matter what you prune, or for what reason, you should always remove any dead or diseased wood when you spot it.



Griselinia can withstand very hard pruning to grow back stronger and healthier than ever.



Long canes of many plants are best managed by tying to a trellis.

- Removing the growth tips will cause a plant to develop more side shoots and become bushy.
- Cutting a plant back hard (if it can take it) will cause a flush of lush growth in the next growing season.
- Cutting the roots of a plant, by plunging a spade into the soil or digging a trench, will force a flush of new growth in the roots closer to the base of the plant for many plants. This is particularly true for those with fibrous root systems. This root pruning is used to either prepare a plant for transplanting, or to prevent the roots from spreading into areas where they are not wanted. A problem with this treatment is that it can cause poor health, or death in some plants, particularly if the cuts are made too close to the trunk of the plant.

Controlling the Type of Growth

There are three main types of plant growth: root growth, vegetative top growth (i.e. leaves and stems) and flower or fruit growth. Discouraging one type of growth can help redirect the energy in the plant towards other types of growth.

- Removing all flowers and fruit will usually stimulate vegetative growth.
- Thinning out flowers and fruit will decrease the total number of flowers and fruit, but will usually improve the size and perhaps quality of the remaining fruit.
- Removing side shoots will generally cause a plant to grow taller more quickly.



String between a peg and trowel, used to hold a shoot down encouraging more outward than upward growth.