Tree Cultivation Guidance

Fruit tree Guidance

Rootstocks and tree sizes

Left to its own devices an apple tree grown from a pip or seed will reach a height of 15-20ft (5-6m) or so. Pear, plum and cherry trees could be even taller. Such large trees look majestic in a traditional orchard, but are not very productive, and since most of the fruit is out of reach, they are difficult to harvest. They are also far too big for the Allotments.

Most fruit trees are grafted on to the roots or "rootstock" of related species which helps to keep the size of the tree down to more manageable proportions. The location of the graft is usually visible near the base of the tree as a slightly swollen area or kink in the trunk. The rootstock is an important factor when choosing a new fruit tree. Association rules limit the height of trees to 8ft (2.4m) and buying a tree with an inappropriate rootstock will result in

a) spending considerable time pruning it, and
b) being more likely to breach Association tree height rules.

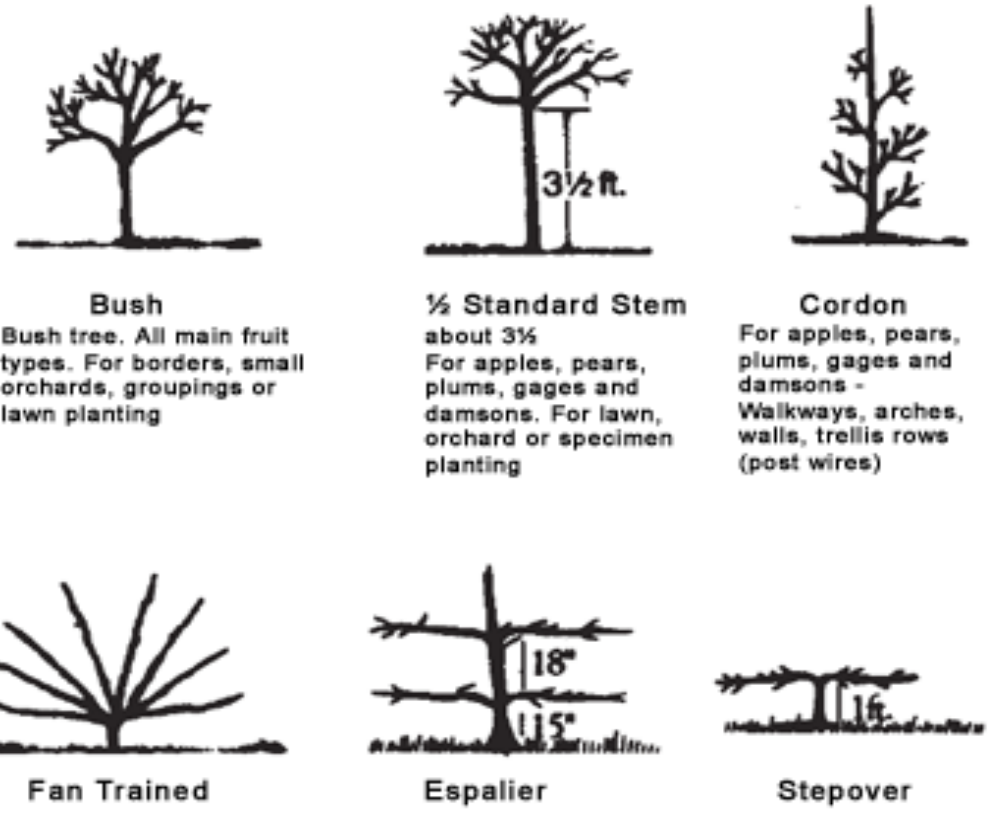
If you see a fruit tree for sale in a shop at what looks like a good price, please don't buy it unless you know it has a rootstock which allows you to easily maintain it. It is self evident from the guidance below that M27 or M9 are the only rootstocks which can be used with confidence in complying with the Association's tree height limit.

The ultimate size of a fruit tree - its mature height and spread - is affected by many characteristics. Local climate, soil conditions, and the species (apple, plum, cherry and so on) all play a part. Within species some varieties naturally tend to grow more vigorously than others. However the most significant factor in the ultimate size of your fruit tree is its rootstock. The rootstock type is usually closely related to the type of fruit being grown and would produce edible fruit if left to grow naturally, but the fruit is usually small and poorly flavoured.

The rootstock not only influences the size of the tree, it also provides other characteristics such as the age of the tree when it will first start to bear fruit, some disease resistance attributes, and resistance to harsh winters. However with some exceptions, the rootstock has little influence over the size of the fruit - so an apple from a tree growing on a rootstock which limits tree height to just 2m or so is going to be roughly the same size as an apple from a tree growing on a rootstock which allows the height to be 5m or more.

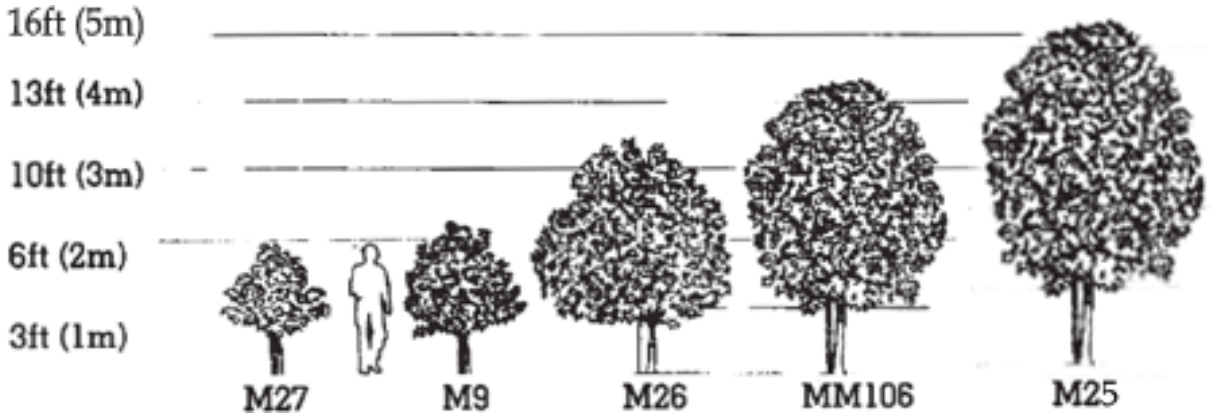
Although rootstocks are invariably given cryptic numeric reference codes, they are essentially fruit tree varieties in their own right. New rootstocks are developed using the same techniques that are used for developing fruit varieties - a combination of chance, observation, and scientific crossing of varieties with desirable characteristics.

Common Tree Shapes



Measurements are a guide and can vary with variety

Tree Height Sketch (Apple Rootstocks)



Rootstock	Mature height	Spacing	Possible Tree Shapes	Notes
Apple				
M27	Very small: 1.5m - 2m	1.2m apart e.g. 5 trees in 7m	Small centre leader. Pyramid. Step-over. Patio containers.	Permanent stake required. Watering and feeding required. Ground around the tree should be kept weed-free (e.g. mulched). Usually starts bearing crops and reaches full size within 2-3 years.
M9	Small: 1.8m - 2.5m	2.5m between trees	Ideal for small centre leader (spindlebush) styles. Oblique cordons	Permanent stake required. Watering and feeding required. Ground around the tree should be kept weed-free (e.g. mulched). Apple trees on M9 are very productive and come into bearing within 2-3 years of planting, the tree reaches full size after about 5 years. The fruit size is sometimes slightly larger than on other rootstocks. An excellent choice for the smaller garden in most parts of the UK. Widely used in commercial apple orchards.
M26	Medium: 2.2m - 3m	3m or more between trees	Bush. Large cordon. Small fan or Espalier.	Can be treated as a small MM106 in most respects. Will need a permanent stake in lighter soils. Not suitable for damp soils.
MM111/M9	Medium: about 3m	3m + (12ft) between trees	Bush	Too high for allotment use without significant pruning
M116	Large: 2.5m - 4m	3.5m between trees	Bush Fan or Espalier Half-standard traditional tree	Too high for allotment use without significant pruning
MM106	Large: 2.5m - 4.5m	3.5m-4m between trees	Bush Fan or Espalier Half-standard traditional tree	Too high for allotment use without significant pruning
MM111	Full size: 3.5m - 4.5m	4m-5m between trees	Half-standard Standard	Too high for allotment use without significant pruning

			Large Fan or Espalier	
M25	Full size: 4.5m+	6m - 7m between trees	Standard apple trees	Too high for allotment use without significant pruning
Malus seedling	Full size: 4.5m+	6m - 7m between trees	Standard apple trees	Too high for allotment use without significant pruning
Pear				
Quince C	Medium: 2.5-3m	2.5m apart	Bush Cordon Small Fan or Espalier	Produces the smallest available pear trees and therefore the best choice for small gardens. Permanent stake or other support required. Ground around the tree should be kept weed-free (e.g. mulched). Comes into bearing after 3-4 years.
Quince Eline	Medium: 2.5-3m	2.5m apart	Bush Cordon Small Fan or Espalier	A new rootstock for pears and quinces, with similar vigour to the Quince C rootstock, but much more cold-hardy. Permanent stake or other support required. Ground around the tree should be kept weed-free (e.g. mulched). Comes into bearing after 3-4 years.
Quince A	Large: 3m-3.5m	3.5m apart	Bush Large cordon Large Fan or Espalier	Too high for allotment use without significant pruning
BA29	Large: 3.5m	3.5m apart	Bush Large cordon Large Fan or Espalier	Too high for allotment use without significant pruning
Pyrodwarf	Large: 4m+	4m apart	Half-standard Large Fan or Espalier	Too high for allotment use without significant pruning
Pyrus communis	Full size: 6m+	6m-7m apart	Standard	Too high for allotment use without significant pruning
Plums, Gages, Damsons				
Pixy	Medium: 2.5-3m	3m between trees	Bush Small Fan	Good choice for plum trees in a small garden. Produces a tree roughly equivalent to the apple M26 rootstock in size. Requires a stake for at least the first 4-5 years, possibly permanently. Watering and feeding required.

				Ground around the tree should be kept weed-free (e.g. mulched). Comes into bearing after 3-4 years. It is important to thin crops on this rootstock otherwise fruit size can be small.
Krymsk 1 / VVA-1	Medium: 2.5-3m	3m between trees	Bush Small Fan	VVA-1 (also known as Krymsk 1) is a new rootstock for plum trees, increasingly used by commercial growers. It produces a tree with similar proportions to the the well-known Pixy rootstock, but sometimes with better fruit size.
Plumina	Medium: 2.5-3m	3m between trees	Bush Small Fan	Produces a tree with a similar size to the Pixy rootstock, but with better fruit size.
Wavit	Large 3m	3,5m between trees	Bush Central leader Large Fan	Too high for allotment use without significant pruning
Weiwa	Large 3m	3.5m between trees	Bush Central leader Large Fan	Too high for allotment use without significant pruning
St. Julien A	Large: 3m-3.5m	3.5m-4m between trees	Bush Central leader Half-standard Large Fan	Too high for allotment use without significant pruning
Jaspi	Large: 3m-3.5m	3.5m-4m between trees	Bush Central leader Half-standard Large Fan	Too high for allotment use without significant pruning
Brompton	5m+	7m between trees	Standard	Too high for allotment use without significant pruning
Cherry				
Gisela 5	Medium: 2.5-3m	3m between trees	Bush Small Fan	The best choice for growing a cherry tree in the garden. Comes into bearing after 3-4 years. Likely to require staking for at least 5 years. Ground around the tree should be kept weed-free (e.g. mulched). Roughly equivalent to the apple M26 rootstock.
Gisela 6	Large: 3m-4m	3m between trees	Bush Fan	Too high for allotment use without significant pruning

Krymsk 5	Large: 3m-4m	3m between trees	Bush Fan	Too high for allotment use without significant pruning
Colt	Large: 3.5m-4.5m	4m - 5m between trees	Bush Half-standard Large Fan	Too high for allotment use without significant pruning
F12/1	Full size: 6m or more	6m between trees	Standard	Too high for allotment use without significant pruning
Peaches, Nectarines, Apricot				
Wavit	Medium: 3m	3.5m between trees	Bush Fan	Too high for allotment use without significant pruning
Torinel	Large: 3m-3.5m	3.5m - 4m between trees	Bush Half-standard Fan	Too high for allotment use without significant pruning
Apricor	Large: 3m-3.5m	3.5m - 4m between trees	Bush Half-standard Fan	Too high for allotment use without significant pruning
Krymsk 86	Large 3.5m-4m	4m between trees	Bush, Half-standard, Fan	Too high for allotment use without significant pruning