

Taflen Wybodaeth Glasu / Glasu Information Sheet – Rhif 2 / No. 2 GWREIDDGYFFION / ROOTSTOCKS

Apples, pears, plums and cherries cannot be grown from cuttings. Commercially they are propagated by grafting onto a closely related plant. As a result of this all orchard trees consist of two distinct plants:

- a. The part which has the roots. This is known as the **rootstock**.
- b. The variety chosen to be grafted onto the rootstock. This is known as the **scion**.



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Historically, rootstocks were obtained by sowing the seeds from a similar fruit and then grafting onto the resultant seedling. This method was not totally satisfactory due to the natural variation amongst the seedlings. From the beginning of the 20th century research stations started to breed and select plants with particular qualities to use as rootstocks. This selection process is still going on and new rootstocks are released from time to time. Nowadays, rootstocks are propagated from layers so that each one of a particular type is identical to the rest. This helps to ensure that uniform results are obtained when scions are grafted onto them.

Rootstocks are classified according to their vigour. They range from not very vigorous ones, called 'dwarfing rootstocks', to very vigorous ones. Their vigour or lack of it is passed on to the scion. For example, a Bramley's Seedling apple grafted onto a dwarfing rootstock might produce a tree that has an ultimate height of eight feet. The same variety grafted onto a vigorous rootstock could easily reach thirty feet tall at maturity. In both cases the fruit of the Bramley's Seedling would be the same size but the total weight of crop would be greater on the larger tree.

Rootstocks can also pass on other characteristics to scions grafted onto them. Examples are:

- a. Resistance to some pests or diseases in the case of certain apple rootstocks.
- b. Early fruiting: generally the less vigorous the rootstock the sooner the scion will start to crop.

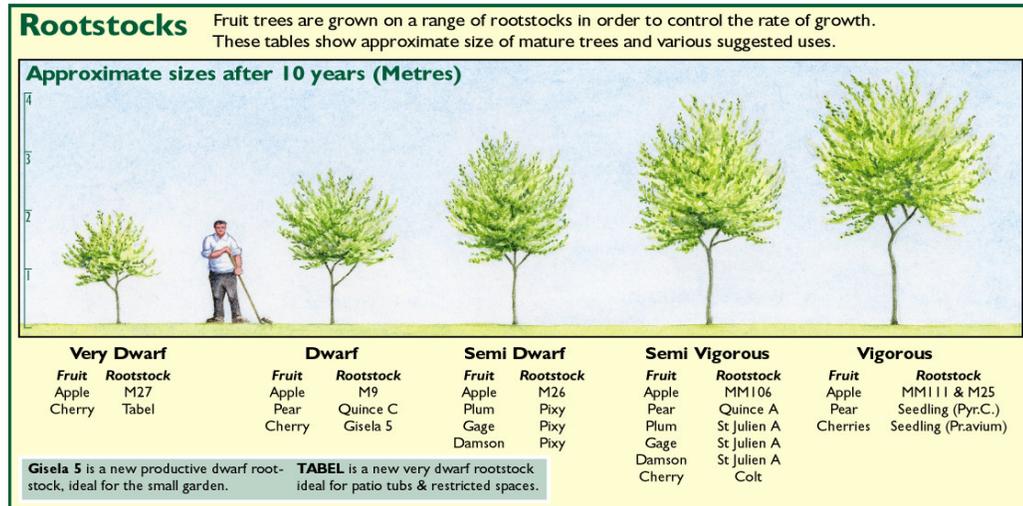
Which rootstock to choose depends on what you want the fruit tree for. Traditional orchard trees planted thirty feet apart will be grown on vigorous rootstocks. (Some grant-aided schemes may insist on these types of rootstocks.) Small garden trees to be grown against a wall or in pots would need to be grafted onto dwarfing rootstocks.

There are three other factors to take into account when deciding which rootstocks to use.

1. Some varieties of fruit trees are naturally vigorous themselves, or may be just the opposite. You can select a rootstock to compensate for a variety's characteristics.
2. The soil in which a tree grows will have an influence on its vigour. A rich soil will make any rootstock grow to maximum size. At the other extreme, a poor sandy soil may inhibit the growth of a vigorous rootstock. You can select a rootstock to compensate for your soil's characteristics.
3. In cold, hilly and upland areas it is often better to use vigorous rootstocks. These are more likely to be successful where weather conditions are less favourable and in poorer soils.

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Names of the most widely available rootstocks and their influence on fruit trees can be seen in the chart below.



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Not all fruit tree nurseries will propagate all their varieties onto every type of rootstock. You may need to shop around if you require certain varieties on a particular rootstock. Some nurseries may offer a bespoke service grafting trees onto your required rootstock. This will usually incur increased charges and a delay of perhaps several years in supplying your trees whilst they are grown to order.

Different Rootstocks and Their Characteristics:

APPLES

- **M27** Very dwarf. Produces the true mini tree, varieties reaching no more than 2 metres with little support required, excellent for the small garden.
- **M26** Semi dwarf. Requires support on most sites. Good for bush and cordon in limited space.
- **M9** Dwarf. Very productive but poor anchorage needing permanent staking for support. Ideal for cordons.
- **MM106** General purpose for most types of cordon and half standard, staking only required on exposed sites.
- **MM111** Vigorous. As for MM106 but more ideal for half standards, no staking required. Excellent collar rot and general disease resistance.
- **M25** Very vigorous. Ideal for half and full standard.

CHERRIES

- **Tabel** Very dwarfing. Not commonly used now.
- **Gisela 5** Dwarf. 60% of Colt. Ideal for commercial orchards, gardens and patio pots.
- **Colt** Semi dwarf. Very productive and fully compatible with all sweet and flowering varieties. Will contain trees to 4-5 metres.
- **Prunus F.12.1** Very vigorous. This is a selected form of the wild cherry *Prunus avium*.

PEARS

- **Quince 'C'** Dwarf and slightly earlier cropping.
- **Quince 'A'** Semi dwarf. The ideal rootstock for bush trees.

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- **Seedling pear** (*Pyrus communis*) Very vigorous. More suitable for half standard and especially standard trees.

PLUMS

- **Pixy** Dwarf and ideal for size containment in the garden.
- **St. Julien 'A'** Semi vigorous. This is fully compatible with all plums, damsons, gages, peaches, nectarines and apricots and many ornamental Prunus species.
- **Brompton** Vigorous, suitable for standards.