

Grafting tree peonies



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JO BENNISON describes how to propagate tree peonies using herbaceous peony roots as a temporary 'nurse root'

GRRAFTING IS WIDELY USED in horticulture to clone plants, restrict the size of trees and maintain collections of top fruit. However, it is not often used by gardeners at home. With a little practise, most gardeners can make grafts of their favourite tree peonies just as they take cuttings or prune trees and shrubs.

While herbaceous peonies can be propagated by division, the woody stems and extensive root systems of tree peonies make division impractical. Herbaceous peonies can also be grafted onto an herbaceous root but there is not often a reason to do this. A divided herbaceous peony will recover and flower again within two to three years.



Grafting photographs: Jo Bennison

Itoh hybrids, which are the result of a tree peony crossed with an herbaceous peony, are very vigorous and do not need to be grafted. They can be propagated by cuttings which root quite easily. A mature plant can also be dug up and divided although you sometimes need a hammer and chisel to divide the woody crown.

In China some tree peonies with a multi-stemmed growth habit are propagated by the removal of small, suckering shoots with roots attached, like an 'Irishman's cutting'. This produces a limited number of new plants and they will take five to six years to reach flowering size. Propagation by air-layering or layering in soil is slow and cuttings do not root readily without bottom heat and controlled environmental conditions. The woody stem has a pithy core with few stored reserves and the cutting generally runs out of energy before any roots are produced. By grafting the tree peony shoot or



scion onto a compatible root, the shoot is sustained by the stored energy until it is able to produce its own roots.

Early imports of tree peonies were grafted onto rootstocks of tree peony species such as *Paeonia delavayi* using a saddle graft. However, beheading the rootstock plant prior to grafting encourages it to produce vigorous suckers that grow quickly, preventing the graft from developing.

Young tree peony roots are too thin to be used for grafting but by using an herbaceous peony root as a temporary 'nurse root' the problem of suckering is avoided and the resulting tree peony can be established on its own roots.

The technique described here uses scions from *P. suffruticosa* cultivars and shrubby cultivars derived from that species. Other tree peony species such as *P. delavayi* and *P. ludlowii* have different growth habits but can still be grafted.

METHOD

(Green numbers in the text refer to photographs above and overleaf.) Grafting should be carried out in August and September when the foliage of the herbaceous plants begins to change colour and the stems of the tree peony have matured but have not yet completely lignified **1**.

Most of the equipment needed to graft tree peonies can be found either in the potting shed or the kitchen. You will need a sharp knife or single edged utility blades, bleach solution, rubbing alcohol, rubber bands and a chopping board. By using grafting tape which is elastic, self-adhesive, waterproof and biodegradable the whole process becomes fast and simple.

Preparation of the root

Select roots from an herbaceous peony that does not produce adventitious buds. This is where

buds can be produced along the length of the root and they would compete with the graft. Peonies with *P. officinalis* or *P. peregrina* in their breeding for example should not be used. Most cultivars of *P. lactiflora* are suitable, such as 'Krinkled White', which has long straight roots.

Lift the herbaceous plant and wash the roots clean of soil. After checking the roots for damage or disease, select pieces of root 2cm in diameter and 15–20cm long. To retain the orientation of the root cut straight across the top of the root and make a slanting cut at the tip **2**. Sterilise the pieces of root in a 1:10 dilute bleach solution, soaking for 1–2 hours.

Preparation of scion

Select a stem from the tree peony with 2–3 dormant buds giving a scion of up to 15cm **5**. The best developed buds tend to be on the lower stem of a shoot that has flowered. These ➤



dormant buds already contain all the leaves, stems and buds for the following year's growth. Where shoots have developed a terminal bud rather than a flower, the leaf axils below that bud may be blind. If this section of stem is used as a scion and the terminal bud fails to develop, there will be no secondary buds to break lower down the stem and the graft will fail.

Place the whole scion in dilute bleach solution for 1-2 hours.

Preparation of side wedge graft

Rinse off the pieces of root and scions. Sterilise the cutting board with rubbing alcohol. Using a sterilised utility blade, take a thin slice off both ends of the root section where the tissue has been exposed to the bleach solution. Cut out a tapering wedge at the top end of the root section using two utility blades **3**. By inserting one blade into the root and then using a second blade to cut down onto the first it is easy to remove a wedge of tissue without damaging the root by overcutting **4**. Do not touch the cut surfaces.

Making the graft

Using the utility blade again, make two oblique slices across the base of the scion to produce a sharp prow shape that corresponds to the wedge



taken out of the root section **6**, **7**. When aligned together the thin green cambium layer of the scion must be in contact with the cut surface of the root and there should be no gaps **8**.

Hold the two sections together with a piece of rubber band under slight tension, wrapped around a few times and secured by tucking the end under the last turn **9**. Then seal the whole area of the graft union with grafting tape, stretching the tape as you turn the graft so that it bonds to itself **10**. This film will protect the graft union from water and disease which can prevent a bond forming between the root and scion **11**.

Healing process

The success of the grafts is improved by allowing the union to begin to

callous before planting. Place the labelled graft **12** in a sealed plastic bag with a damp tissue around the root and hang it in a warm place at about 20°C for 3-4 weeks. Hanging the bag upright enables the orientation of the root to be maintained.

Planting out

The graft should be planted out where it can be left undisturbed for two years. Prepare the ground, digging in some compost and grit or sand if necessary. Should the soil be very dry, water, then allow to drain. Plant the graft so that the union is buried 10-15cm below the soil surface. This will allow the tree peony to begin to produce its own roots. Deep planting also encourages suckering and will result in a good bushy plant.



9



10



11



13



14

Do not water the graft after planting, and protect it with an inverted pot or cloche until new shoots appear in the spring. Once the buds have broken do not allow the grafts to dry out over the growing season.

Root development on the scion may not take place until the autumn. At this stage the rubber band should be removed if it has not already perished. Failure to remove the band could constrict the scion as it grows.

Removing the nurse root

After a second year of growth the grafted plant can be lifted and the root development inspected **13**.

When the scion has produced roots the nurse root can be cut off and the peony should be planted in its final position **14**. If the nurse root is left attached a large swelling can develop at the site of the graft and the scion will eventually fail.

Conclusion

Propagation of tree peonies by grafting is a simple technique. It is especially useful to propagate an unknown peony that has lost its name or was misnamed. It also allows you to swap scions as the herbaceous roots and tree peony scions can be stored in sealed plastic bags in the fridge for two to three weeks before grafting.

Success is increased by maintain-

ing basic hygiene during the grafting process, encouraging the healing of the graft before planting out, and protecting the new graft from too much moisture.

Commercial nurseries usually sell one year old tree peony grafts with the herbaceous root still attached. When you plant these the graft union must be placed well below the soil surface, even burying the whole plant, to allow the tree peony to develop its own roots. The herbaceous nurse root should be removed after two years when new root growth has developed.

JO BENNISON runs a peony nursery in Lincolnshire producing bare root plants of species, herbaceous, Itoh and tree peonies.

FURTHER READING

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