

Top Worked Larch Production

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INTRODUCTION

The paper covers production of the following cultivars as undertaken at Yorkshire Plants:

- *Larix decidua* 'Karstern'—Green foliage with light tips, produces a round ball of green.
- *Larix kaempferi* 'Diana'—Contorted growth with a long leaf, curious but attractive.
- *Larix kaempferi* 'Dwarf Blue'—A tight round ball shape, with steel blue foliage.
- *Larix kaempferi* 'Pendula'—Graceful weeping form with light blue foliage.

All are showy plants in spring and summer, and have very attractive autumn colours. They make attractive plants for the patio or small feature trees with spring, summer, and autumn interest.

GRAFTING PROCEDURE

Understock Production. We grow, and also buy in, 2-year pot-grown seedlings of *L. decidua* or *L. kaempferi*, in 9-cm pots. The grade is straight stems 45 to 60 cm tall. Understock side growth is trimmed prior to potting into 1.5-litre pots during March and grown on outside. A 90-cm cane is used to maintain straight growth; side feather growth is reduced during early July when caning. Our aim is to produce a straight stem of 7- to 10-mm girth at a height of 75 cm.

Grafting Environment. After needle drop in November, stems that make grade have all side shoots removed, are trimmed to 80 cm, and are placed in a double-skin polytunnel. This is our grafting environment. Understocks that do not make the girth, but are tall enough, are potted the following March into 3-litre pots and used the following year for grafting *L. kaempferi* 'Pendula' at a height of 120 cm. This cultivar requires at least this height to obtain the full effect of its weeping habit.

The double-skin polytunnel has roll-up side curtains with side netting, double louvers, and single doors at each end for ventilation. The structures are 56 ft × 21 ft and the double skin is air inflated by a single air fan. This maintains a warm, even temperature for the stocks to start showing root growth by mid-February. Ventilation is adequate for cooling during April and May when temperatures can warm up rapidly. We use no heating within the tunnel for the grafting or growing on process.

Grafting. Grafting takes place in late February. Scions are collected from stock plants growing in the open ground. Stock plants are maintained by hard pruning and fertilizing each March. The scions are trimmed to a 10 to 15 cm length. I believe it is good practice to collect scion wood the same day as you will be grafting or the day prior to grafting and store damp overnight in a cold store or fridge. We use a side veneer graft tied with an elastic rubber strip. Grafting knives are sterilised

regularly with isopropyl alcohol to reduce the risk of transferring infection.

We put two scions on all our top worked plants, one above the other on opposite sides of the stem. The height for grafting 'Karstern', 'Dwarf Blue', and 'Diana' is 75 cm. A sap drawer of around 5 cm is retained at the top of the grafted plant. Both scions are dipped into melted paraffin wax to just below the union level, care must be taken not to over-heat or boil the wax as this will damage the scion.

Dipping the graft area in wax is quicker and less messy than painting the wax and does not seem to have any adverse effect on take or scion development. In addition, red spider mite (two-spotted mite) or aphids, that may over-winter on the scion wood, will be covered in wax and so do not cause trouble in the early spring when grafting house temperatures are allowed to build up.

When the wax has set, a 200-g 8 cm × 25 cm clear polythene bag is placed over the scions and sealed with a staple from an office staple gun. This bag creates a humid micro-climate around the graft, aiding cell division and reducing moisture loss as buds break.

More than 80% of grafted plants end up being of saleable quality using this method under our conditions. The take is higher but wastage is bound to occur during aftercare, potting, and grading at sale.

Economics of Using Two Scions. This technique allows us to get plants to market sooner. Two scions will produce a saleable plant by the following July or August after grafting. Should only one scion live we will still have a plant ready for sale by the following spring. Two scions give a quality marketing advantage over growers who use only one scion on their topworked larch.

Aftercare. Root growth, compost moisture, and scion development are checked daily in the grafting house. It is easy to make the mistake of over watering at this stage, as larches do not make rapid root growth during the spring months. There is no better way than hand watering the grafts each morning as required. During the 6 weeks after grafting, no ventilation should be necessary. After 6 weeks, we release the staple at the base of the polythene bag to allow air to the union area. The tunnels are then aired as required by dropping the side curtains and opening louvers during the day—always closing them up at night.

The bags are removed within 2 weeks of releasing the staple. This should be done on a dull, overcast day to reduce the risk of scorching or stressing the scions through drying out. Removing the bags later than this will only result in disease on the establishing scions and cause failure or unnecessary spraying. It is essential to remove all suckering below the union area as these shoots are competitors for the scions and reduce scion growth.

The sap drawer is removed in late April or early May. Two weeks prior to potting, the tunnels are aired day and night to allow the plants to acclimatise to outside conditions. *Larix kaempferi* 'Diana' and 'Dwarf Blue' and *L. decidua* 'Karstern' are potted into 5-litre pots and placed outside after the last of the spring frosts—usually early June in Yorkshire. I recommend tying the cane to a support structure of post and wire with drip irrigation.

Larix kaempferi 'Pendula' grafted at 120 cm are potted into 7.5-litre pots and placed in the same environment, again in early June. We start sending out plants for retail sales in garden centres by July of the grafting year.