

MAGNOLIA PRODUCTION

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SEED PROPAGATION

Seed propagation is used for wild-collected seed, for the production of understocks, for some species where the likelihood of cross pollination is not great, and for intended hybridization programmes.

Gathering seed is a problem with large plants so long arm pruners, or even shotguns are used. The time of ripening needs to be known so that seed can be collected before it has dispersed.

Seed must be extracted from the fruiting cones and the fleshy outer covering must also be removed. This is easily done by fermentation in a plastic bag and then extracted by maceration and flotation. Once extracted, the seed must be prevented from drying out by mixing with a moist medium.

The seed needs a cold period of two to three months at 0 to 1° C to overcome dormancy conditions so that germination can be obtained.

Because of their value, the seeds are best sown after pretreatment either into trays and pricked out later, or directly into liner-sized containers.

CUTTING PROPAGATION

This is the most satisfactory methods for magnolias. It is probable that over 80% of all magnolias are produced this way.

The source of cutting material is from protected stock plants or young container stock. This will enable cuttings to be collected and prepared in late May or early June. Either leaf-bud cuttings or nodal tip cuttings can be prepared, the leaf blade usually being trimmed to reduce transpiration.

Cuttings are lightly wounded and treated with 0.3% IBA in talc or 1000 ppm IBA quick-dip.

Conventional mist propagation has proved to be the optimum facility, with a basal rooting temperature of about 18° C. Rooting takes place in 6 to 8 weeks.

Composts for rooting can range from 100% peat to 50.50 peat/bark or perlite mixtures. The compost must not be allowed to become too wet.

Rooted cuttings should be overwintered in trays and not potted off until the following spring.

LAYERING

This is not practiced to any extent nowadays, although some of the more difficult-to-root sorts are layered in Holland.

GRAFTING

Grafting is only practiced where propagation by cuttings is extremely difficult or uneconomic. There are two periods of the year when grafting can be successfully done—late summer and late winter.

Rootstocks used are pot-grown seedlings of *M. kobus*, *M. sinensis*, *M. × soulangiana*, and *M. campbellii*. Scionwood must be hardened (2 year old base)—not soft and pithy.

A side-graft is used, tied with rubber strips, and the grafts placed in a polythene tent. Maintain a temperature of 18 to 21 °C and do not allow the union to get too wet. Gradual weaning takes place after 3 to 4 weeks and, once scion growth is strong, head back the rootstock to the union.

CHIP BUDDING

Chip budding can be successfully done on pot-grown rootstocks at the same time of year as for grafting. The advantage is in economy of scion material.

MICROPROPAGATION

Work is being carried out at the Efford Experimental Horticulture Station, Hampshire, UK. The technique is useful for difficult-to-root cultivars, to rejuvenate mother stock, and to bulk up new cultivars. It is at the experimental and developmental stage at present.

GROWING ON

It takes two to three years to produce a saleable container-grown crop. Adequate spacing and trimming of plants to achieve a good shape are essential.

Provide protection under glass or polythene in the early stages and under shade structures or wind-protected outdoor beds in the final season.

MARKETING

M. stellata will usually have flower buds at two to three years, as will some of the newer *M. × soulangiana* types and the Gresham hybrids. It is possible to cold store plants so that they flower in May at the retail outlet instead of in April. Careful transportation is needed to prevent flower buds from being knocked off. Color picture labels help. The public is still, perhaps, overawed by magnolias; more information is required and the "exotic" myth needs to be dispelled.

SUMMARY

Growers intending to produce magnolias must get to know the species and cultivars and the optimum methods of propagating them.

Give protection to young stock; growing conditions must not be too wet or too dry. Careful management is required in watering and in trimming to produce shapely plants, hopefully with flower buds.

Under protection, red spider mites, whitefly, and capsid bugs are troublesome. The main disease problem is botrytis. Keep a constant watch for insects and diseases when plants are grown under protection.