

## PROPAGATION OF HAMAMELIS MOLLIS

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Some years ago trials on the rooting of *Hamamelis mollis* were initiated at Kinsealy. While the rooting of the cuttings did not present a problem, the overwintering of the young plants did.

The cuttings were propagated by rooting in mist and also using warm bench and plastic. When weaned they were potted into 7.5cm pots using a peat-based compost containing 25% sand. The plants established well and filled the pots with a good root ball before going into dormancy. They were overwintered in a cold glasshouse.

By February the mortality rate was 100% even though water requirements, etc., had been carefully monitored. In later years we tried overwintering the plants at various temperature regimes including cold store treatment, but to no avail.

### GRAFTING

It was decided to examine the traditional method of propagating this subject, i.e. by grafting on *Hamamelis virginiana*. We found it impossible to acquire understocks even from the normal suppliers abroad. They were not available even though they were catalogued. It was then decided to raise rootstocks from seed but again we failed to obtain even a small quantity. While collecting cutting material at the National Botanic Gardens, Glasnevin, we chanced to come across both *H. vernalis* and *H. virginiana*. We took cuttings of both which were rooted in mist. Both species were overwintered in 7.5cm pots and were grafted the following August.

The percentage of *H. virginiana* which overwintered under glass was considerably lower than that of *H. vernalis* (30% vs. 75%).

It had been reported that *H. vernalis*, when used as an understock for grafting *H. mollis*, was not suitable as it was prone to prolific suckering. At Kinsealy, we did not find this to be so; in fact, we found that imported plants worked on *H. virginiana* produced quite a few suckers during its early years after lining out. This may be due to clonal variation.

We have grafted many scions of *H. mollis* on rootstocks of the Glasnevin clone of *H. vernalis* over a period of years and have found that they make quite good plants.

**Grafting Method.** Rootstocks of *H. vernalis* established in Long Toms are taken from the glasshouse bench and trimmed back a little to fit snugly in a closed case. Grafting is done from mid-July to mid-August using the side graft method with a tongue. Rubber strips are used for tying the graft union which is not waxed. It is essential

to graft as close as possible to the roots of the understock to keep suckering to a minimum. The grafted plants are then placed in a closed case within a cold glasshouse. No bottom heat is used in the closed case.

Callusing of the grafts should be well underway within three weeks and hardening off should be complete by about six weeks when weaning should take place. When the grafts are fully weaned they are placed on an open bench in a cold glasshouse where they are overwintered. The stocks are headed back in the spring just as growth is commencing. A high percentage take (about 90%) is obtained.

**Rootstock Production.** At Kinsealy we have established a hedge of a single clone of *H. vernalis* from which we take our cuttings in early May. They are inserted in standard seed boxes in a compost of 2 parts peat to 1 part of a granitic sand. Forty cuttings are inserted per box. Basal cuttings are used, approximately 7.5cm long, which are placed in a solution of Captan (25gm in 5 l of water). They are taken out of this solution, allowed to drain for a few minutes and their bases dipped in an 0.8% IBA hormone rooting powder to a depth of 1.5cm. Rooting takes place in about three or four weeks either in mist or under plastic using a basal temperature of 20°C.

When well-rooted and weaned the cuttings are potted into 7.5cm pots using a compost of 2 parts by volume of fertilised peat to 1 part of granitic sand. The plants are overwintered in these pots in a cold glasshouse and must be kept on the dry side during dormancy. Overwatering during winter can be fatal.

When root development commences in spring (late April at Kinsealy) the plants are potted into Long Toms in which they will be grafted. A peat-based compost is used at this stage. If the plants are potted on too early before root growth has commenced many will be lost. Do not be tempted to pot on when shoot growth *only* is to be seen.

## CONCLUSION

For a number of years we have found the above method of producing *H. mollis* in large numbers to be most reliable in producing good quality plants. We have tried seed which takes two chilling winters to initiate germination, but it is doubtful whether the plants produced are true-to-type.

It is possible to obtain early cuttings from *H. vernalis* by placing polythene bags over the stock plants in February. These early cuttings can give a reasonable percentage of young plants which may be grafted in August of the same year.

Spring grafting has been attempted at Kinsealy in past years using root sections and cutting of various other members of the



Hamamelidaceae but none has surpassed that of grafting in mid-July to mid-August on *Hamamelis vernalis* roots.

Finally, a word of warning. Young *Hamamelis* plants are very susceptible to attack by vine weevil. Every effort must be made to control it or the results will be most devastating.

## PHYSICAL AND CHEMICAL PROPERTIES OF PEAT

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The understanding of peat compost and the changes that can take place in the compost throughout the growing season are important factors in producing quality nursery stock. Knowledge of composts can be summarised as follows: know your peat, know your nutrition.

**Peat Types.** Peat may be defined as a mass of organic matter at a stage of decomposition. Peat type depends on the source of plants and stage of decomposition. Sphagnum moss peat with which nursery stock producers mainly work is the final stage of a process which began approximately 10,000 years ago. Peat was laid down in a number of stages which may be divided as follows:

- (a) Tundra conditions prevailed at the beginning with vegetation colonising higher ground. Arctic willow and birch formed the main woody plant life.
- (b) Mixed forests of pine, oak, and yew gradually covered the areas above flood level while phragmites reed beds encroached the lakes. These constituted the first peat type.
- (c) As lakes were filled in by reed beds forests began to encroach these areas to form "woody-fen" peat. These layers are composed of non-sphagnum mosses with woody remains, mainly birch.
- (d) In the Central Plain area of Ireland when forests began decaying true acid bog peat began to grow. Thus true bog growth began and was succeeded by younger sphagnum composed mainly of relatively unhumified sphagnum mosses. This process is characterised by a complete absence of woody remains.

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