Propagation and Production of *Hamamelis* Cultivars in the Field by Chip Budding

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INTRODUCTION

The conventional propagation method for *Hamamelis* cultivars in Europe is a summer side graft onto pot-grown rootstocks of *H. virginiana*. Having seen the type of plant produced by nurseries in New Zealand, where they chip-bud onto field-grown rootstocks, I decided to try this method myself. Over the last few years I have budded between 1000 and 2000 plants per year with varying success.

LAND PREPARATION

This consists of setting up a production rotation. Currently the nursery has sufficient land that on each site 8 to 10 years can be left between crops. The land not in use is down to a grass ley. A crop of hay is taken from this grass sward until 2 years before being needed. During these 2 years the grass is mown frequently and allowed to rot back into the soil to improve humus content. It is basically free of perennial weed but if nettle, dock, etc are present these are taken out with Triclopyr.

In the August before planting the sward is sprayed off with Glyphosate to kill the grass and any remaining perennial weeds. During the winter the land is ploughed and left until planting takes place in the spring. Just prior to planting the land is finished with a spring tine cultivator.

ROOTSTOCKS AND PLANTING

Two-year-old seedlings of 6- to 8-mm diameter are planted by line and spade. Rootstock preparation consists of the removal of any low side shoots and just tipping any wayward or lengthy roots. It is important not to trim the roots or tops too hard. Planting distances are 40 cm apart in rows 100 cm apart.

SOURCE OF PROPAGATION MATERIAL

Stock plants are maintained at 1.5 m apart in rows 4 m apart to allow access for tractor mowing. A herbicide strip is maintained under the plants in the row. Maintenance includes an annual prune of the previous seasons growth back to one bud. Fertilizing consists of a nitrogen fertilizer in March of 80 units of sulphate of ammonia per acre and 80 units of sulphate of potash in July to help ripen the growth. Irrigation is given as necessary.

BUDDING OPERATION

The chip budding process is carried out around the second week in August. This seems to be the optimum time to get the budwood as ripe as possible but still have good growth on the rootstocks. I only use the two basal buds on a shoot, the four or five further up not being ripe enough. The buds are tied in with 25-mm-wide

polythene tape taking care to go round the long bud and not damage it. The ties are removed after 6 to 8 weeks when they have taken. They do not produce large amounts of callus so the buds must be carefully checked before untying.

HEADING BACK AND GROWING ON

In October the rootstocks are shortened back to 45 cm in height to prevent wind rock. In January they are further headed back to leave a 15-cm snag above the bud. At this time a bud guide is applied to the chips, this saves time in the spring and also affords some protection to the bud.

In March a nitrogen fertilizer is given as for the rootstocks and this is followed up again with another in June. Sucker growth is removed as it appears during April/May. At the end of May the 15-cm snag is cut back to the growing bud. If any bud has failed the rootstock can be left for rebudding the following August. At least three shoots, sometimes as many as five, will arise from the bud giving a really bushy plant suitable for lifting at the end of the year.

WEED CONTROL

This is carried out by using Simazine + Isoxaben after planting in the spring and Simazine + Propyzamide the following December and again 1 year after that.

HARVESTING

After leaf fall the plants are dug by hand, the shoots are tied together with a hand tying machine to prevent damage. They can then be lifted bareroot for containerising for later sales or can be rootballed for immediate sales. These 1-year plants will not have flower buds but if containerised will produce a mass of flowers the following year.

CONCLUSION

The largest problem I have experienced with chip budding *Hamamelis* is getting ripe budwood to coincide with optimum growth of the rootstock. Budwood taken at the end of August would be much riper but rootstock growth could not be maintained effectively even with fertilizing and watering at that time of year. Less activity in the rootstocks would lead to a reduced bud take even though the quality of budwood is better. To this end I have planted some stock plants into a polythene tunnel to achieve good ripe budwood 2 to 3 weeks earlier which will coincide with good rootstock activity.

Bud-take over the last 3 years (this is plants reaching a saleable size) is as follows: 1992, 75%; 1993, 40%; 1994, 70%.

The results can, I believe, be improved by early August budding with properly ripe budwood and actively growing rootstocks. Adverse cool, damp weather after budding may also still reduce bud-take but hopefully not as low as 1993 levels.