

AL FORDHAM: I have corresponded with the people at Boskoop. They have done quite a bit of work on these and have found that in some cases the combinations will succeed for two or three years but, in all instances, they finally die.

MODERATOR FLEMER: Our last paper this morning will be on *Hamamelis* propagation by Joerg Leiss.

## HAMAMELIS PROPAGATION

JOERG LEISS

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*Hamamelis* or Witch-Hazels, as a group of plants, are probably known to most of you but are propagated and sold by only a few. I think that the unusual characteristics, such as the flowering period, fall and winter to early spring, warrant a much larger quantity to be propagated than there is now. The yellow, orange, and ruby, lacy flowers brighten an otherwise bleak winter scene, when no shrub shows any sign of life.

### SEEDING

The six species, *Hamamelis japonica*, *H. mollis*, *H. vernalis*, *H. virginiana*, *H. macrophylla* and *H. x intermedia*, can be grown from seed which ripens in September-October in a two-seeded pod. It is best collected while the capsule is still soft (early September) as the seed, when ripe, is expelled as in *Buxus* and would be very hard to find on the ground. It scatters as far as 6 feet. We have found that seeds will not germinate the spring following if picked greener (August). If pure varieties are to be grown, seed has to be collected from pure stands, with the exception of *H. x intermedia*, which is a natural hybrid and varies.

We harvest our seed requirements during the early part of September. Squirrels and chipmunks are often there to pick their share at the same time. A bushel of seedpods yields about 2 pounds of clean seed. A pound of seeds has between 7,000 and 10,000 seeds for *H. virginiana*, which is our source of understock. After collecting, the unopened pods are placed in flats in the greenhouse, covered with a piece of glass. With light and heat the seed pods pop open very soon; the closed box prevents scattering. We then stratify the seed for one full year and sow the seed the following fall. Seed beds are mulched and shaded when germination occurs by the following spring. Seedlings are left for 1 year in the seed bed.

Our seed beds are treated with a nemacide-fungicide material (Vorlex) at 7 gal/A previous to seeding. We have experienced better germination and growth since we treat the soil. However, to obtain grafting-size plants we transplant for one more year, again on Vorlex-treated land. Understocks

are now pencil thick and are potted during the spring of the third year after germination. Other stock is lined out in the regular manner for balled shrubs.

### GRAFTING

*Hamamelis* varieties—and some species—are propagated by us by grafting on *H. virginiana*. We have grafted in the spring in the greenhouse on established understocks, but now prefer August-grafting in frames. The reason for this is that bottom heat does not seem to be beneficial at all. On one occasion we actually moved grafted stock out of a grafting case on to the cool greenhouse floor and found that plants healed and grew much better.

We use side grafting. We tie with rubber and remove the tip of the scion. No waxing is needed, just a tight frame. Grafting by the end of August gives enough time for healing before cool weather in the fall. Before planting out or canning the following spring, the understock is completely cut off. Deep planting is advisable, to prevent sucker growth. Any sucker showing has to be removed quickly to prevent the understock from overgrowing the scion.

### CUTTINGS

We have tried cuttings on a number of occasions — semi-ripe wood under double-glass treated with 0.8% IBA — but had very little success so we have given this method up.

### LAYERING

The branches are girdled or partly split and covered with a peaty soil, but roots will not be strong enough until the second season after layering for the layer to be taken off.

*Hamamelis* grows best in deep rich soil. We find *H. virginiana* on the edges of woods in light sandy soils with a high watertable, but it will grow on clay soils if not too heavy. The plants are long lived and there does not seem to be a disease or pest problem associated with any species. It will take 2 to 3 seasons to obtain a 2 to 3 ft. plant, but flowering will often commence right from grafting.

The following describes a number of slides:

*H. virginiana* has flowers which are pale yellow and flowers at leaf-drop, the same time the seeds are ripe. The leaves and bark have been used to make ointments for wound dressing. This plant grows to be 15 feet high and 15 feet wide.

*H. mollis* comes from Japan and flowers the latter part of winter. The flowers are not damaged by frost even as low as 0°F; however, they only open on sunny days and curl up when it gets cold. This is one of the old favourites; it grows 10 to 12 feet high and 8 feet wide.

*H. j. flavo-purpurascens* 'Adonis' Syn. ('Ruby Glow') has carmine flowers with narrow petals 1 inch long; it flowers in



March after *H. mollis*. It is a very broad spreading shrub and retains its dry leaves until spring.

*H. x intermedia* 'Jelena' has reddish-orange flowers. It has the largest flowers and petals, which are as much as 1½ inches long, very floriferous. In the fall the round, broad leaves turn reddish-orange with a yellow margin. This is the best fall-coloured clone.

*H. x intermedia* 'Arnold Promise' has flowers which are pale yellow with 1-inch long narrow petals. It reminds one of *H. j. zuccariniana* but has a broader spread and larger flowers. Flowering is from the end of March to April. It is the latest with us, and a good improvement on *H. j. 'zuccariniana'*.

*Fothergilla*. This is a plant which can be grafted on *H. virginiana* if seed is not available.

To really show them off during their early flowering period they should be planted near walkways so they can be appreciated as a most unusual plant. We are not growing the other species mentioned previously and I do not suggest that you grow even the 7 varieties I showed. *H. mollis* would be my choice for a starter.

MODERATOR FLEMER: Thank you very much, Joerg; that's really an interesting view of the various *Hamamelis*. They are unknown to most of the gardening public and with their nice fragrance, good fall color, and unusual time of blooming I think they have a promising future in the retail nursery trade. We have time for just a few questions.

VINCE BAILEY: What is the hardiness zone of the *Hamamelis*?

JOERG LEISS: There is some confusion about the hardiness zone now. On our Canadian map it would be No. 5; that would be No. 4 on your map. This would correspond to about -10°F. We know that they do not do well at Montreal.

RALPH SHUGERT: If I understood you properly, you stratify your seed for 12 months. Is this refrigerated stratification?

JOERG LEISS: No, this is outdoor stratification and actually, it's more than 12 months because we start stratification in the fall and sow the seeds outdoors the following fall. This gives an extra cold treatment which I believe is necessary; otherwise we get no germination even if we seed in the greenhouse after one year of stratification; that is, from one fall to the next.

RALPH SHUGERT: I was wondering if you had experimented with using refrigerated cold storage for the first year, then sowing in the fall of the second, to obtain seedlings the next spring.

JOERG LEISS: No, we haven't done this. Our method works and is convenient, so why change it?

MODERATOR FLEMER: Our experience with *H. vernalis* was that it could be sown in the fall as soon as the seed ripened

and seeds would germinate the following spring. Do you find you also need 15 months for seeds of this species?

JOERG LEISS: We don't grow *H. vernalis* and have no experience with it.

MODERATOR FLEMER: *H. vernalis* is a southern species which, perhaps, accounts for the lack of such a long cold period requirement.

ED MEZITT: We obtained seedlings from Sheridan Nurseries about 15 years ago and these seedlings had some nice variations. From these we saved seeds and again found many interesting variations among the resulting seedlings. Some had larger flowers, some were fragrant, some were not; some had very green flowers, some with very small petals; some had beautiful fall colors, some would hold them and some would not. *H. mollis* was not very hardy for us; some of the newer ones are much hardier. *H. mollis* 'Brevipetala' is the most hardy for us. The newer ones coming out have many good qualities; they also root very well for us. I don't know which rooting powder we use but we give them bottom heat at 75°F and have had no trouble rooting them the last few years.

MODERATOR FLEMER: We'll have to cut off the questions now. I want to thank all of the speakers on this morning's session.