

is interesting to note that he could concentrate diffusate by centrifuging leafless cuttings and that these cuttings rooted better than those which were not centrifuged.

#### 4. Summary

We can say that leaves on stem cuttings of juvenile *Hedera helix* tended to reduce or interfere with the downward movement of substances which promoted root initiation. Diffusates collected from the base of stem cuttings had activity corresponding to rooting cofactors 2, 3 and of 4.

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MODERATOR SHUGERT: Our second paper in this quarter is by Mr. Donald Wedge from Albert Lea, Minnesota. He will tell us about lilac production at the Wedge Nursery.

#### LILAC PRODUCTION AT WEDGE NURSERY

DONALD WEDGE  
*Wedge Nursery*  
*Albert Lea, Minnesota*

The common Lilac, *Syringa vulgaris*, is one of the most popular and prominent shrubs. It succeeds in all but the warmest sections of this continent and grows particularly well in the colder areas. A Lilac will out live the person who plants it and will outlast the house near which it is planted.

Our nursery has grown Hybrid Lilac since 1902. In 1935, realizing many nurseries were having difficulties propagating Lilac and we were having fair success, we decided to specialize in Hybrid Lilac and stepped up our propagation. For the past 12 years we have grafted 120,000 to 150,000 Lilac per year, depending on our balanced supply of scion wood which has been a limiting factor, growing mainly for other nurseries under contract. We are now growing 38 out of the 40 top A rated varie-

ties in the 1953 list of "The 100 best Lilac for America" and 17 of the 39 B rated varieties, and 3 varieties we believe to be on the way up.

The next few slides will give you some idea of contrasting color combinations found in Hybrid Lilac:

1. Katherine Havermeier — Pink AD
2. Chas. Joly — Red BD
3. Jan Von Tol — White BS
4. Monge — Purple AS
5. Jacques Calbot — Lilac BS
6. Reaumur — Red As
7. Pres. Lincoln — Blue AS
8. Mrs. W. E. Marshall — Purple AS
9. Victor Lemoine — Lilac AD
10. De Mirabel — Violet AS
11. Lucie Baltet — Pink AS
12. Paul Harriot — Purple AD

In 1956 at the first meeting I had the pleasure of attending, I along with 5 others talked on lilac propagation. Three propagated by means of early Spring soft wood cuttings, one summer soft wood cuttings, one by grafting on Privet, and myself by grafting on Green Ash.

In brief our method of propagating Hybrid Lilac is to bench graft the Lilac scion on Green Ash piece roots. We use a whip graft and secure the graft with grafting thread. The completed grafts are packed in poly bags, without packing material, sealed with a twist-em and put in open wooden boxes, then placed in cold storage where they are left until we are ready to plant them directly to rows in the field. About the last week in April or the first in May, or after completing the planting of hard wood and rooted softwood cuttings.

The next few slides will show some of our operations:

1. Two row trencher on Farmall M with two-way Hydraulic system to apply pressure to push down as well as lifting.
2. Grafts packed in poly bags and rows planted ready to be packed.
3. Closeup of a handfull of grafts — Note buds are still dormant.
4. Planting grafts in open trenches
5. Close-up of grafts after being packed with a packer — Next operation is cultivation.
6. One year block of Lilac planted in May. In November these are cut back to force more canes.
7. Two year block of Lilac, 60 rod rows
8. Close-up of two year Lilac — mostly 18-24 inch with some 12-18 and 2 - 3 ft.
9. Three year Block
10. Close-up of Three year Lilac showing a 3 ft. spade, mostly 2 - 3 and 3 - 4 ft.
11. One year old Green Ash seedlings, planted in April.

12. Shaker Digger on a D 2 Caterpillar which takes most of the hard work out of harvesting. This idea was originated by my father, Robert C. Wedge. Many nurseries are now using this method of digging.
13. Three year Lilac showing roots that would make hand pulling almost impossible using stationery lifter.
14. Shows part of our scion block.

This fall we received a letter from C. M. Hobbs and Sons, asking if our Hybrid Lilac are grafted or on their own roots. The answer was yes they are grafted and yes they are on their own roots. Evidently grafting and being on their own roots are not supposed to go together (Show sample of Ash roots appendix ready to sluff off, most plants don't even show this when dug). The Ash root serves to feed the scion until it is able through it's own roots to take care of itself.

In most of our experiments 500 to 1000 grafts were used and repeated for two years or more to double check the results.

When I report a 10 percent increase, it means if we had a 75 percent stand under usual or checked procedure, we received 85 percent stand under the new procedure.

*Why Grafting* — First, May is too busy and hectic a time for us to take time to secure and plant cuttings. Second, Bench grafting keeps our key help busy the months of January and February when outside work is usually impossible. It dovetails nicely between grading stock in storage and potting roses and shrubs for Spring sale.

*Why Green Ash Root Stock* — First, we had a 9 percent better stands average than on Privet and 19 percent better stand than on Villosa Lilac. Second, Green Ash is cheaper to produce.

*Why Waxed Thread* — We feel the graft can be more firmly bound with thread and that tape prohibited roots from forming at the base where they are most apt to form first. Our experiments have proven this true.

*Why Cold Storage* — Cold Storage is necessary to keep buds and scion in a dormant condition until the field and weather conditions are suitable for planting. It also give us a chance to plant our rooted softwood cuttings to the field first. These we leave in the beds over winter. Varieties such as Alpine Currant start leafing out very early so need to planted early.

*Why Callusing* — We found a number of years ago that the grafts packed in moist shavings and kept 7 or 8 days in our warm grafting room would make good callusing and increased the stand on an average of 13 percent.

*Why Poly Bags* — Packing grafts in poly bags without packing material resulted in an average increase of 17 percent. This also allowed us to eliminate sealing the upper tips with shellac which we formely thought necessary.

We wish we could combine successfully packing in poly bags and callousing grafts in a warm room. One test did result in a 4 percent better stand than either method alone. But all

other tests failed to give good stands because mildew forms on the grafts. We have attempted trials dipping grafts in Captan Fungicide (5 $\frac{1}{3}$  tablespoons per gallon), blowing terra-clor dust into the bag without good results. Callusing is very slow in the poly bags.

For the past four years we just pack in poly bags and kept them in cold storage. Average of 13 percent better stands than when we callused the grafts in shavings.

CASE HOOGENDOORN: At the time you line out these lilac grafts are they callused?

MODERATOR SHUGERT: We will have our question period after the next speaker. Thank you very much, Don, for a very nice presentation. Our next speaker, speaking on "Use of Simazine on a Limited Scale" Klas Van Hof, Van Hof Nurseries, in Rhode Island.

### USE OF SIMAZINE ON A LIMITED SCALE

KLAAS VAN HOF  
*Van Hof Nurseries*  
*Portsmouth, Rhode Island*

I want to emphasize that care must be taken in the application of Simazine 80W. Our application is usually on the light side, and we do not try to attain 100% control for twelve months. It is our belief that if we can get reasonable control for the Spring and early summer months, that this gives us the opportunity to exert all our efforts on shipping and planting without the fear of being choked with weeds. We normally apply Simazine in the later part of November on plants that have been established for one year. I have no doubt that with another application in the Spring we could get that 100% control, but we feel that the chemical is relatively new and hasn't been tested long enough to make us feel that there will not be a build-up.

We have used Simazine 80W for five years and have always had complete control of chick-weed, most of the fall grasses, and the early summer weeds. Although Simazine is primarily a pre-emergence herbicide it will eradicate mature chick-weed. I would like to add that we start cultivating as soon as we can get the tractor in the fields in the Spring. We attempt to cultivate once every ten days. Of course sometimes this is impossible. In spite of this constant cultivation we are practically weed-free until August. By this time our application has lost its effectiveness, and we have to employ mechanical means towards the elimination of weeds.

I would like to state at this time the importance in the method of application. It is my belief that the reason many nurserymen have had unpleasant experiences with Simazine is because of careless methods of application. Many times failures occur because the operation is left in charge of an employee who