

MR. WILSON: You haven't produced any formulation of how much is needed?

MR. STROOMBEEK: No.

MODERATOR COGGESHALL: Thank you very much, Mr. Stroombeek. This concludes the afternoon portion of this meeting. The Exhibitor-Speaker portion will be continued tonight at 8:00 p.m.

The session recessed at 4:45 o'clock and reconvened at 8:00 p.m.

MODERATOR COGGESHALL: The first speaker this evening is Mr. Logan Monroe, Kingswood Nurseries, Mentor, Ohio. Mr. Monroe is to speak to us on the propagation of Forsythia Spring Glory and Lynwood Gold from cuttings. Mr. Monroe!

PROPAGATION OF FORSYTHIA SPRING GLORY AND LYNWOOD GOLD FROM CUTTINGS

LOGAN MONROE

Kingswood Nurseries, Mentor, Ohio

Forsythia has gained a place of importance in the nursery business mainly because of its early bloom and also because of its brilliant color. It is actually about the first really noticeable deciduous shrub to bloom in the spring, coming in April about the same time as the daffodils.

There were two original species of *Forsythia* - *suspensa* and *viridissima*. *F. suspensa* is the low form which droops, the ends of the branches touching the ground and normally taking root. *F. viridissima* is just the opposite, a very tall upright form and a strong grower.

Years ago the nurserymen wanted an intermediate variety so they crossed these two and came up with *Forsythia intermedia*. It is from this species that most of the varieties that we know today have come, particularly the two that I would like to talk about tonight — Spring Glory and Lynwood Gold.

Spring Glory is a light lemon yellow and was selected because of its prolific bloom and its habit of growth. It has a rather bay-shaped form and has a definite intermediate tip. Lynwood Gold is a deep golden yellow. It has recently been introduced from Ireland and is actually more prolific, as far as, bloom than Spring Glory. Both varieties can be propagated fairly easily if a few of the simple rules of propagation are observed.

We use softwood cuttings almost entirely and we have propagated them in two different structures. We propagate them in a concrete block frame covered with sash and the sash in turn covered with unbleached muslin on a framework. We also have been able to propagate them successfully in our greenhouse. Now this latter method I won't cover too extensively. I will be speaking mainly of propagation in a frame.

I would like to tell you first of all, though, how we were able to use a greenhouse for propagating softwood cuttings in the middle of the summer.

We shade it heavily with a shading compound and normally we use Kemtone, a household paint, which is relatively inexpensive. Also, the major

factor in keeping our greenhouse cool enough is that we have a row of oaks and elms which are 50 to 70 feet high, 50 feet west of a north-south greenhouse. This provides shade for the greenhouse from about 1:00 in the afternoon.

We make our softwood cuttings in our area approximately June 10. They can be taken a little bit sooner and they can be taken from June 10 on up into September. We like to wait until the new growth is about a foot long on the plant.

We make our cuttings in the early morning, bring them in, wet them down on a concrete floor and keep them until we are ready to do the trimming.

In the field, we take our stems approximately 8 to 12 inches long. That way, we are able to trim them down and get the wood in just the right stage.

In preparing our cuttings, we first trim out the soft tip that will wilt down very rapidly if used in a cutting. Then we make a clean basal cut to adjust the cutting to the proper length. In our case, we make the cuttings approximately 6 to 8 inches long. Now this would seem to be a little bit long probably for the normal propagator, but we grow the cuttings to finished nursery stock, and we use a planter in lining them out in the field. The extra couple of inches we have on the cuttings facilitates use of the planter.

After we get the cuttings to the proper length and the soft tip removed, we trim the leaves off the bottom half of the cutting and trim the remaining top leaves about half-way back. Now this actually is not necessary but we find that it helps us in two ways. It is easier to handle the cuttings since the forsythia leaf is a relatively long leaf and rather cumbersome. Also, one of the most important things, when they are stuck in the frame after they have rooted, if we are not able to transplant them right away, is a little bit of aeration between the leaves. There is less chance for formation of mold or fungus.

In the frame for rooting medium we use silica sand. It is relatively coarse and is actually sandstone that has been crushed and washed, so we have very little trouble with any fungus.

The cuttings are placed one inch apart in the row and the rows are spaced approximately one and a half inches apart. The cutting is inserted approximately half-way into the sand, which would, in our case, be 3 to 4 inches. The sand is at a depth of six inches, which we find sufficient for our purposes.

We treat the cutting before inserting it with, either Hormodin No. 2 or Rootone containing a fungicide. This is actually not necessary, but it does, we believe, produce more roots along the lower area of the cutting.

After the cuttings are inserted in the sand they are tamped in and flooded with water. The frame is closed with the sash and we use an unbleached muslin on a wooden framework about one foot above the sash. This allows for indirect light to enter from the northern part of the frame. We maintain certain conditions in this frame. The humidity we like to keep very high. We have no way of actually measuring it, but we estimate it is about 90 per cent or over. If the humidity does appear to go down we have to syringe by hand. As far as the temperature is concerned, we like to main-

tain a maximum daytime temperature of not more than 90 degrees. In order to do this, at times it is necessary to ventilate the frames. This ventilating necessarily dries out the frame and is one of the reasons for syringing to keep the humidity up.

The light, of course, is limited by the unbleached muslin and water is applied as needed. We figure under normal conditions that watering is necessary approximately every 10 days.

From these conditions we are able to produce strongly rooted cuttings in approximately four weeks. These cuttings we handle in one of two ways. We pot them up and carry them over to be lined out the following spring, or we line them out directly into the field. Lining them directly out into the field has one drawback — unless you have irrigation available you can take a severe loss in lining them out in the middle of the summer. We have stuck mostly to keeping the plants potted and using them for liners the following spring. (Applause)

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MR. VAN HOF: Have you found light lemon and dark lemon color in the Lynwood Gold?

MR. MONROE: We got our stock from what we believe a reliable source. The entire stock actually has never bloomed. Every time we get stock big enough, it is either sold or made up into cuttings. When we get a cutting the flowers actually aren't significant enough to determine the actual color.

MR. VAN HOF: I would like to know if anybody else here in this room has had the same experience with color variation with Lynwood Gold?

MR. HOOGENDOORN: We got our Lynwood Gold from a reliable source, and we left some which we didn't use for propagating just to observe the bloom. Now Lynwood Gold has large petals and a large flower, but I have seen in one of the plants I kept for a check, one which I didn't cut back to make cuttings, that has large flowers and on all of the cuttings six inches from the base, we have narrow petals. It seems to me the thing is going back.

MR. WM. FLEMER III (Princeton Nurseries, Princeton, N. J.): I talked to the man who got the thing originally, Jack Lashona, and it was bud sport. It was a branch on a regular plant.

MR. HOOGENDOORN: I have started propagating Arnold Giant because that will hold.

MODERATOR COGGESHALL: How do you propagate the Arnold Giant?

MR. HOOGENDOORN: Softwood cuttings taken in the summer.

MR. WELLS: I think any member of this society ought to be a little more specific than "in the summer."

MODERATOR COGGESHALL: That softwood is sort of semi-hard - didn't you take the material in April?

We have run into all kinds of trouble propagating that plant from cuttings and have only been able to do so by taking cuttings from very soft wood

in mid April or early May. If you wait until the accepted time for taking *Forsythia* cuttings your results will be very poor.

MR. HOOGENDOORN: That is my experience. You can't grow them from hardwood cuttings. Once I grafted but I didn't get 10 per cent.

MODERATOR COGGESHALL: For those of you who do not know Arnold Giant, it is a tetraploid *Forsythia* introduced by the Arnold Arboretum. It has not taken hold too well in this country, however, in England it is a favorite plant.

MR. WELLS: I was going to ask how the Arnold Arboretum No. 13 variety compared with Lynwood Gold or Spring Glory;

MODERATOR COGGESHALL: The No. 13 variety, I believe is the one they now call "Farrand", named after Mrs. Max Farrand of Bar Harbor, Maine. On the other comment, I can agree with Case, as far as the color is concerned.

MR. WELLS: That has always seemed to me to be a splendid forsythia and I couldn't see the value in the Lynwood Gold. I think the Arnold Arboretum varieties, which have been on our doorstep for a considerable time, deserve more attention.

MR. KLEINMAN: How do you make the basal cut on the forsythia in relation to a node?

MR. MONROE: We don't pay too much attention to the node. We don't find that is too important. *Forsythia* calluses very readily. By using Hormodin we don't have trouble with the roots growing anywhere except around the callus at the base of the stem.

MR. VANDERBROOK: Does anyone produce Lynwood Gold from hardwood cuttings out in the field, or hardwood cuttings in the greenhouse? We have produced Lynwood from hardwood cuttings in the field.

MR. MONROE: I have had limited experience with that. We tried Lynwood Gold from hardwood cutting this past spring. Unfortunately, our weather conditions were unusual to say the least and we got about 10 per cent.

MR. VANDERBROOK: We got about 100 per cent.

MODERATOR COGGESHALL: I am sorry but I must stop you now, we do not have any more time. Thank you very much.

The next speaker on our program is Mr. George P. Blythe from the McConnell Nursery Company in Port Burwell, Ontario. Mr. Blythe will speak to us on "*Rosa Hugonis* from Cuttings". Mr. Blythe.

PROPAGATION OF ROSA HUGONIS BY HARDWOOD CUTTINGS

GEORGE P. BLYTHE

McConnell Nursery Company, Port Burwell, Ontario

Tonight we are particularly interested in one species of rose, called *Rosa Hugonis*. This exotic rose was found in Western China, and is sometimes called "Father Hugo's rose".