

Jersey Nurserymen's Association and knows a great deal about azaleas, rhododendrons and their propagation.

It is my pleasure to introduce Mr. Roland de Wilde, who will talk to us about azaleas from cuttings.

Mr. Roland de Wilde presented his paper, entitled: "Azaleas from Cuttings". (Applause).

AZALEAS FROM CUTTINGS

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I am not going to spend too much time on the propagation of the Kurumes and that type of azalea because of the fact that a great many people know how to do it. As a matter of fact, in our part of the country every cross-road farmer has a batch of azaleas and they are as common as weeds, and I am afraid they will be pretty nearly as cheap as that before too many years. However, we like to do things just a little different from the common practices, so I will just briefly explain our method.

First with Kurume cuttings and *Rhododendron kaempferi*—the standard practice is to make the cuttings from wood that has nearly finished growing. It is not important to do that.

We stick the cuttings in sand and peat in a cold frame. The cold frame is constructed out of a 4-inch wide concrete box two blocks high and filled up with a medium of half sand and half peat. We try to be a little heavy on the sand, especially if we use the peat dry and the peat swells when it gets wet and increases in volume.

After the cuttings are stuck, we put the sash on tight. We make the frame air-tight with the aid of some burlap around under the sides of the sash and in between the sash we weatherstrip. We whitewash the glass and put a shade on it. In addition to that, we have what you might call a lath house, for built over the frame is an iron plate with wire-bound shade. That is about six feet or more over the top of the frame. The only reason we do it is that it helps keep things a little cooler when you have the frame up, to stick the cuttings. The boys like it and it is not a lot of work.

When the cuttings are set, we stick them well down, practically flood them, put the sash on and leave it on for the next six or eight weeks. If it is dry, like this summer, we open it up and give them a drink.

Normally, we get a stand that varies between 80 and 100 per cent. Sometimes it is a little less. Occasionally, you may get a few rotten cuttings. There is practically no work to it and that is the way we do it.

The plants are left in the frame all winter long. We put a mat on top to help prevent freezing. Back in the early thirties we used to have winters when the weather man reported it might go to zero, so we had that to keep the things from freezing.

They stay in that frame until after we finish shipping, which may be the first of June. By that time, they usually have made some growth. We

promote that by the use of a dose of liquid fertilizer, usually do it with a watering can, because we usually don't have too many. About a tablespoon of I. P. Thomas 3713 to a gallon of water gives them enough of a boost to grow from 2 to 4 inches, depending on the variety. When we get ready to plant them we put them in field beds without sides, but with overhead shade. They are planted 4 x 4 inches on an average. When the cuttings are taken out of the frame we take as many as we can hold in our hand and chop the tops off to get them to break better.

In October we try to break them up by replanting at 12 x 12 inches field beds. The reason for doing that is because we find that moving them inhibits the chance of bark splitting, especially varieties of *A. ledifolia*. That is always a problem. You can be pretty sure that if you get them out in time you are going to have very little trouble.

We leave them for a full year, and usually we find that the following year we have to dig most of them because they need transplanting. We sell a lot of them at that stage. The ones that are too small to sell or are not shaped well enough are replanted in the field. The rest are held under shade with the idea of having them handy to ship.

It is quite a bit of work. But if you have to get 3,000 or 4,000 azaleas out, it is easy to dig them out of this bank, and load them on a truck. It is not like having to go out and label them in the field.

As to fertilization, we used to use a mixed fertilizer. At present we use castor pomace which is a cheap organic fertilizer. It usually has five to seven per cent nitrogen, depending upon how it is made. It is fairly slow and is safe for practically anything. We put it on when we plant in the fall or spring. I like it better in the fall because it gives more time for it to break down. We use it at about 1,000 pounds to the acre, although a little more won't hurt. I have never burned anything with it yet.

Then, we used to have a mixed fertilizer which amounted to a 3-10-10, with which we top-dressed in the spring. Lately we have had such hot dry summers, that this year we used just fertilizer through the irrigation system, which is a very simple proposition.

In a steel barrel, cut in half to be easily filled with water, we place a 25-pound drum of liquid fertilizer and stir it in. From the pump at the suction line we bring about a quarter-inch gas-line with a small gate valve. This line is primed before the pumps are started. Once running, we usually leave our irrigation on for an hour as a minimum and we have found by past experience that if you open the valve wide you can suck up about 25 gallons in 25 minutes, so about 25 minutes before we get ready to shut it off, we open this valve, and it sucks the tank practically dry, leaving about a pint in the bottom for a primer. We then move the line and go on to the next location. In that way, we can get approximately 250 pounds of the liquid fertilizer, in dry form, to an acre of azaleas, which we find is an ample dose. The treatment is repeated two or three times depending upon how well they are growing.

The only caution with the liquid feeding is that it should not be used too late. We find that latest possible date in our climate is the 15th of August. I think it takes at least two weeks to use up each dose and you want to be sure there is not too much nitrogen in the ground when the first frost comes, because you will lose your buds.

We like liquid fertilizer. It is not foliar feeding. It is actually fertilizing through the irrigation system. The fertilizer goes to the roots with very little on the foliage.

Some people grow Kurumes in the wintertime in the greenhouse and get a little bigger plant than we do in the same length of time, but we have always found it expensive to keep them in a heated greenhouse all winter and so we use this system.

As to the question of rooting deciduous azaleas, I don't profess to have the whole answer. Frankly, I haven't done it that long, but we have tried for about three years now. The first year was strictly a failure. We rooted a few but didn't keep any over the winter. The second year we did a little better. That year we used two different strength hormones, Hormodin No. 2 and No. 3 and we found very little difference in results, if anything, we got better with No. 3. We also wounded them, which is a trick I think Jim Wells has popularized. It helped.

The main trick with rooting deciduous azaleas is to get them as early as possible. That is quite a job with most of us because we are busy as a rule trying to get our stuff shipped out. That means with us that we have to stick them around the 1st to 15th of May.

We like heel cuttings and just strip off the crowns of the plants before they have had a chance to get even remotely hard. All you need to do is to get them fairly stiff around the base, so you can get them in the sand. We cut the leaves back to half their length but we don't take any off. They seem to root best in a sand-peat mixture.

Rooting is not such a problem. The question seems to be what to do with them after you get them rooted. The first year those that rooted I stuck in a cool greenhouse with low heat. That turned out to be a total failure. I don't think any one of them lived. *A. calendulacea* and all the more common varieties were there.

The second year we got them quite a bit earlier and they rooted earlier, and then I didn't pot them at all, but took them out like seedlings of rhododendrons and azaleas into prepared cold frames with plenty of peat, planted under a shade. Most of them came through fairly well. We don't yet have the complete answer because, I have done it on a comparatively small scale.

I think that about covers the essentials of my topic. If there are any questions I will try to answer them to the best of my knowledge.

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MODERATOR SKINNER: Mr. de Wilde, while you are here on the platform, first, we want to thank you for the talk, it was excellent. Secondly, I think we will have a few questions. You made a nice, concise job of getting it done.

MR. HOOGENDOORN: What was the percentage rooting on those azaleas?

MR. deWILDE: It varied a little from variety to variety. I didn't keep an accurate account. The husky ones like 'Aida' rooted practically 100 per cent. The straight mollis—like 'Dr. Moerlands' rooted fairly well, too. Off-hand, the only one I could think we had a little trouble with was *A. occi-*

dentalis. I don't think it ran over 60 per cent. The year before it was practically 100 per cent. I can't account for the difference unless the cuttings were a little too hard. I would rather have taken them two weeks sooner but the greenhouse was jammed full.

MR. ART VUYK (Musser Forests, Inc., Indiana, Pa.): Were the cuttings from forced plants?

MR. deWILDE: No. The only difference probably from your situation and mine would be that our stock plants are planted in the woods, and the reason for that is not only the fact that they grow a little better, I find the cuttings I take out of a fairly densely shaded woodland, and that applies to the rhododendron as well as the azaleas, root slightly better. I think Jim Wells will agree with me on rhododendron after looking at the list. I have some results he hasn't got yet, I think mainly due to the fact in a fairly dense shade they don't get woody.

MR. VUYK: I happened to be at the Experiment Station in Boskoop about three years ago and they were making azaleas in big numbers from the deciduous Ghent and mollis varieties. They all made those cuttings from plants brought into the greenhouse the first week in April. They forced them and the shoots were long enough to make cuttings. They inserted them in the greenhouse right away. In their checks in the sweat box—they rooted very rapidly and they claim that azalea cuttings taken from forced plants root more rapidly, and the second point, as soon as they were rooted they took them out and planted them in a cold frame, covered with a sash where they broke dormancy. They made very little new shoot growth. None of them died during the winter, and they popped out very nicely next spring.

MR. deWILDE: I think it is essentially the same idea. You get your cuttings soft enough. That is the beginning of the secret.

MR. CHARLES HESS, SR. (Hess' Nursery, Mountain View, N. J.): What I want to bring out, if I may, about losing azaleas in a heated house. If you keep them in a cold frame and expose them to the cold you will carry them through. If you carry them in a heated house you will lose them. With dogwood cuttings, if you get them rooted and keep them in a heated house over winter they die from the top down or from the roots up. If you expose them to a light frost you carry them through. That is the secret. You try it and prove it to yourself.

Another thing I wanted to mention. Nobody has mentioned cottonseed meal as one of the best fertilizers for azaleas.

MR. deWILDE: We used to use it before they charged \$120.

MODERATOR SKINNER: Just one comment on the fertilizer. I think Mr. deWilde will find if he likes the Ghent and mollis types, that they respond to more fertilizer than the Kurumes.

MR. deWILDE: We use it on seedling stock. A thing I forgot to mention is that the only way of getting the deciduous azaleas from cutting is to use a mist system. I happened to use constant mist. I suppose intermittent would do.

MR. WELLS: This isn't a question. It is just a little bit of additional information. I entirely concur with Roland and other people on the importance of taking the cuttings early, and I think in general most of us are afraid to take the cuttings as early as we should with misting.

In the one small series of test which we ran before I left Koster Nursery, we got a steady picture of increased rooting on all of these deciduous azaleas by using this new Geige chemical No. 416, and that was consistent over about nine named varieties, including mollis, occidentalis and others. I haven't a chance to do that again, but I can let anyone have some of the powder if they are interested.

MR. A. M. SHAMMARELLO (South Euclid, Ohio): I understand after you insert the cuttings you don't syringe them; you just water them heavily.

MR. de WILDE: In the cold frames we don't even look at them.

MR. SHAMMARELLO: Are they shaded heavily?

MR. deWILDE: We leave them alone and you could possibly get little better stands if you watched them in the greenhouse the way a lot of people do. We figure that if we lose 20 per cent, what is the difference? It is easy to make another couple of thousand cuttings. It is a question of economics. There are probably better ways of doing it, but it happens to be economically very handy for us.

MR. SHAMMARELLO: I am surprised they root at all under heavy shading. That is what caused me most of my trouble.

MR. deWILDE: If you left bare glass, it would get too hot in summer. That is the reason why all the deciduous azaleas have to have shade. We wouldn't have any leaves on them the first of June.

MODERATOR SKINNER: Thank you very much, Mr. de Wilde. I am sure there are a lot more questions. We may have a little time at the end for extra questions on general subjects.

Our last topic is to be discussed by another very well qualified New Jerseyite, who has a background of many years service with Bobbink Nurseries, the wholesale division of Bobbink & Atkins of East Rutherford of which division he is an officer and director, as well as being noted for his activities in numerous nursery and florist organizations. It is my pleasure to introduce Mr. Everett L. Conklin to speak on azaleas from grafts.

Mr. Everett L. Conklin presented his paper, entitled: "Azaleas from Grafts. (Applause).