

FRIDAY EVENING

October 4, 1963

Question and Answer Period — Dr. A. N. Roberts, Department of Horticulture, Oregon State University, Moderator.

MODERATOR ROBERTS: We are more than pleased to see such a fine turnout here this evening after such a busy day. I don't know how many of you enjoyed today's tours as much as I did, but I am sure you all did. Before we get started on the question and answer period I think, on the behalf of all of you, we should thank Bill Curtis and our two leaders of these tours, Bob Ticknor and Wayne Melott, and especially all the people who opened up their nurseries to us today and showed us such a fine time. Let's start out by giving them a big hand.

This is the first of these Plant Propagators' Society meetings I have attended. I have belonged to the Eastern organization since it started, but I have never been close enough to attend their meetings. I understand from those who have attended over the years that one of the finest parts of the program is the question and answer periods where you have a chance to quiz one another and get some of your questions answered. And so with these few words we are going to launch off — so get your questions ready, for our panel is certainly ready to answer them. We will use slides of various places we visited today so as to refresh your memory and maybe spark questions concerning each particular operation. Some of our panel members have also brought slides of their own nurseries with them.

Do we have any questions on vegetative propagation of fruit trees from hardwood cuttings? I think that is one of the interesting things that you saw today.

VOICE: What were the procedures followed in the hardwood cutting propagation of pear and some of these other tree fruits?

DR. MEL WESTWOOD: Generally the procedure for pear is to take the cuttings around the first of November and treat them with indolebutyric acid, either as a soak or quick-dip, and then callus them at 65-70° F, and either plant them immediately or store them at 35° F. until spring, then plant them in the rooting beds. Lyle Brooks, in addition to this method, has for several years used a slightly different method for rooting cuttings of Old Home x Farmingdale seedlings by taking the cuttings in the wintertime, storing them loose and then, in the spring, making the cuttings, treating, and callusing at a lower temperature, around 50° F., then planting them as soon as they are callused. This method, although it is satisfactory for Old Home x Farmingdale cuttings, is not satisfactory for Old Home cuttings, so our procedure was changed from this as described for Old Home x Farmingdale cuttings to conform to that which Dr. Hartmann

and others in California have previously described as being satisfactory for rooting Old Home cuttings: we found that we did get a very high percentage of rooting on these other types when using the fall-callusing method, rather than callusing the cuttings in the winter or spring.

DR. DALE KESTER: How old are the stool beds at the Carlton Nursery?

MR. WAYNE MELOTT: From three to ten years.

MODERATOR ROBERTS: Along that same line, our original stool beds at Oregon State, which we got from Dr. Tukey, were set out in 1943, I think. Some of those original beds are still producing. Their length of life seems to be quite long in our Oregon climate.

MR. BRUCE BRIGGS: Mr. Hausch, what objection do you have to using Simizine in your roses?

MR. HENRY HAUSCH: Well, we actually have no objection to it. We just haven't found why we should use it. In other words, we cultivate as late in the fall as we can to keep our weeds down, and we try to never let the weeds get ahead of us if possible, although we did have a little trouble this spring. We mound up our cuttings. We have to knock this mound away when we hoe and the weeds are going to come along with it. We do the same thing with the buds after budding. We heal up to them in the spring of the year. We have to take the dirt away from them and the weeds come along too; so far we haven't had the necessity of using weed killers.

MR. ROBERT BODDY: I'd like to hear something about the can-cutting machine we saw at the Rhododendron Nursery.

MR. GORDON GLEASON: The can-cutting machine is a hand operated machine that we got at a second hand store for about five dollars. It originally wasn't intended for cutting cans. It's more of a crimping and beating machine, but I was successful in finding what they call a slitting shear, and then we just took the crank handle off it and found an electric motor and foot pedal to engage the cutters to streamline the operation and found it works quite satisfactorily.

MR. ALBERT LOWENFELS: I've heard somebody say, I think it was at Cornell, that flower buds inhibit rooting cuttings. I noticed buds on the rhododendrons cuttings at the Rhododendron Nursery. Has Mr. Gleason, or anyone else, worked on this subject? One more thought. A noted rhododendron propagator, Jim Wells, cuts the leaves so as to get more cuttings in the rooting bench and to reduce transpiration. I wonder why that was not done?

MR. GORDON GLEASON: Well, I have read Wells' book or parts of it. As I recall, he didn't distinguish any difference in

cuttings with buds or without. I have really never made any experiments, but I've not noticed any difference in the ability of the cuttings to root or the quality of the resulting plants. One year when I transferred the cuttings from the cutting bench into the peat moss, I did remove the buds from half of one variety and left them on the other half, and I didn't notice any difference. As far as trimming the leaves, we do it only on the varieties where the leaves are very large so that the cuttings are not crowding each other. Otherwise we haven't seen any reason to cut the leaves, but perhaps there would be an advantage.

MRS. JEAN WHALLEY: I agree with Mr. Gleason, more or less. We do cut the leaves on our rhododendron cuttings, but it is just for lack of space. As far as the flower buds are concerned I can't notice any difference either in rooting. We usually remove our buds. For one thing the falling blooms in the greenhouse get sort of messy, and also I think it might help in the branching of the plant afterward, but I don't believe it makes any difference in the rooting.

MR. GLEASON: We do pick the buds off as they commence to open later in the season.

JEAN WHALLEY: We cut ours — we take off as many as possible when we put them in unless they're too tight.

MR. JOE KLUPENGER: I would like to say this to Mr. Lowenfels' questions. We always knock the buds out of the cuttings for the simple reason that after they start blooming and the flowers start opening up after a cutting is rooted in the bench, it is more or less a mess and does retard the growth — it holds growth back if you don't remove the buds. If you walk along and start pulling these cuttings out with buds on them which were in there about thirty days to six weeks and when almost every other cutting has roots $\frac{1}{2}$ inch to $\frac{3}{4}$ inch long, I don't think buds have anything to do with inhibiting rooting. In pruning off the leaves we remove a portion of the leaves on large cuttings for the simple reason to eliminate their covering each other up in the cutting bench which sometimes causes problems; damping off may get started, foliage will drop, and a lot of cuttings will be lost. There has been a lot of discussion about whether you should or shouldn't remove the buds from such cuttings. We remove them, but I've seen a lot of cuttings where the buds were not removed. It seems to me the rooting is about the same whether you remove them or not.

MR. LOWENFELS: I was going to say one more word on this. I think if one looked up in an earlier Proceedings of the Eastern Region of the Plant Propagators' Society, you would find that Charles Hess worked on this at Cornell and he had one batch with flower buds and others without; he felt that the flower buds did inhibit rooting.

MODERATOR ROBERTS: I have been under that impression

also. I think there is a general belief among many people that cuttings with flower buds are less easy to root than those with only vegetative buds.

MR. BILL CURTIS: I have always understood that flower buds on the cutting should be taken out but vegetative buds should be left in.

MR. KLUPENGER: We never remove the vegetative buds. We just remove the flower bud, for the reason that later flower will bloom in the process of growing and it become a problem; sometimes you'll disturb or destroy the roots by trying to break the flower truss out.

MR. RAY WALKER: Do these people practice wounding of cuttings in rhododendron propagation?

MR. JOE KLUPENGER: I would say that wounding the cutting is a general practice, and from what I have seen, other than what we do, different methods are used. A method is used of just splitting the bark through to the cambium, up $\frac{1}{2}$ or $\frac{3}{4}$ inch above the base of the cutting. Some of them scab the bark off from $\frac{1}{2}$ to $1\frac{1}{2}$ inches up the cutting, so in practice there are different methods of wounding the cutting for additional callusing. As far as the percent of rooting obtained in one method in comparison with the other, I feel that there is a lot in the cutting itself, as to its ripeness, or maturity at the time the cutting is placed in the bench for rooting. This has more to do with rooting than the type of wound applied to the cutting.

MODERATOR ROBERTS: It is interesting to me to see amongst the nurseryman the trend toward what we might call a specialist propagator to take care of certain disease problems, particularly viruses, the true-to-name situation, etc. We have a number of these specialist-propagators or contract propagators — developing in this part of the country.

MR. RAY BURDEN: In the Whalley Nursery how do they take care of drainage under their propagating benches on the floor in their side houses?

MRS. JEAN WHALLEY: We have sand and heating coils under the cuttings and we use flats altogether. We have very good drainage in our flats. The flats are quite tight, but then we saw openings in them so we get very good drainage. We have no trouble with the drainage.

MR. ALBERT LOWENFELS: Regarding the problem of rooting red varieties of rhododendrons which is experienced in the East, has the Whalley Nursery found any difficulty of this kind here in Oregon?

MRS. JEAN WHALLEY: I have noticed in reading articles from Eastern growers that they do mention this, but with the exception of a few varieties that happen to be red, we haven't noticed any particular difference. We do find a lot of trouble

in rooting Britannia. It is very difficult to root and Mars is rather difficult, but there are also some other rhododendrons that are not red that are also difficult and we don't use any different hormone for them than we use for all our rhododendrons. We use Hormodin No. 3 as a rule

MR. BILL CURTIS: Why does Mr. Klupenger put his Red Wing azaleas outside in the open under sprinklers?

MR. JOE KLUPENGER: Well, the short answer is that normally we always run out of space when we get to the middle of summer, so we pick the varieties that will take full sun and put them under sprinklers; we found that we have a few varieties such as Hexy, Red Wing, and some others that can survive normal summer conditions in our area under a regular sprinkling system in full sun. In fact we not only get a much better finished plant, but a better bud set

MODERATOR ROBERTS: I would like to ask a question, Joe, while you are on this point. For years you have been an advocate of "shading" with water, and now I see you have large expanse of saran cloth. What's your answer to that? Have you had a change of heart?

MR. JOE KLUPENGER: We use quite a broad spread of Saran cloth for azaleas. All our outdoor landscape nursery azaleas, of the hardier varieties, we finish practically all of them in the full sun. In the forcing azaleas, some of the varieties are a little more touchy on foliage, so we place these under poly-saran houses — a 42% shade for the summer months through the hot sun. Foliage on a lot of the *indicas* will not take full sun. Red Wing, Hexy, and some of the others used both for landscaping in this area and also for forcing have a firmer foliage, stronger growers, and by using "constant mist," like Dr. Roberts mentioned, all this material has been grown out in full sun in the past. Basically he was looking at rhododendrons and out-doors azaleas; we found that over the years under normal summers we can keep them coming right along in good shape by keeping constant mist over them. The hotter the weather the more water we keep on the plants. Years ago I was told that rhododendrons or azaleas should never be watered during hot weather until after the sun goes down. Well, if we wait until after the sun goes down I am afraid the foliage would be quite brown and we wouldn't have anything to water.

MODERATOR ROBERTS: For the membership or prospective membership — this critique sheet which has been passed out is for the Society's information on how to plan a program for you. This is your Society for exchange of ideas, etc., and if you have suggestions on improving the program write them down and see that one of the officers gets them back. These programs have improved tremendously over the years I've noticed. I am sure Dr. Hartmann over here can say the same for our Western Region, and we need more membership. Speaking for our home

folks, we need membership here in the Northwest. The Californians have been carrying the load more or less on this, and I think it would be nice if some of us here in the Northwest could get in and help plan these programs and bring the meeting back here to the Northwest again in the future.

Now this divulging of secrets, we kind of joke about this thing amongst the trade I am sure, but the purpose of this Plant Propagators' Society is an exchange of ideas. You give and you receive. I think that has been the philosophy over the 12-year period that it has been in existence, and I think it is really paying off. Propagation has advanced tremendously in the past 12 years by dissemination of information and it pleases me to see these people give us the information that they have. Any more questions?

MR. RAY BURDEN: A question to Ed Wood. How many species of ground covers are you propagating now?

MR. ED WOOD: We're trying many all the time even though they are not in production. I would guess around 300.

MR. DAVID A. LAWYER: I would like to ask Ed Wood if he thinks *Mahonia repens* has any value as a ground cover.

MR. ED WOOD: In very small areas perhaps; it is so slow-growing that I think there would be trouble making it commercial. I think *Mahonia jubila* is a far nicer, and faster growing plant for a ground cover.

MR. PERCY EVERETT: *Mahonia repens*, under California conditions, will fill in and cover the ground, if planted two feet apart, in a year's time.

MR. FRANK DOERFELER: Would Dr. Ticknor tell me why the field station at Aurora doesn't use fiber glass in the greenhouse tests.

DR. ROBERT TICKNOR: It is primarily a matter of cost. We have tried to put up houses for the least cost we could. We did not have a high budget so we tried to get as much area covered for the least amount of money as we could. Polyethylene so far is lowest on initial cost. Maybe on long range costs fiber glass would be less expensive but on initial cost you can build a polyethylene house for less.

MR. ALBERT LOWENFELS: I would like to ask is there any work done on propagating deciduous azaleas vegetatively rather than by seed? How do you increase the numbers of the fine azaleas you grow?

DR. ROBERT TICKNOR: Cuttings can be rooted, but the real question is will they be alive next spring. The biggest difficulty I know in deciduous azaleas is getting them to survive the first year. Dr. Blaney has done some work at Oregon State on this subject.

DR. L. T. BLANEY: Dr. E. J. Krause recorded some ten or

twelve years ago in the horticultural magazines that he made cuttings from deciduous azaleas about the time the flowers were fading. Here in Oregon we have nice shoots at this time. They will root very readily. Then you pinch out the terminal bud after the plant is rooted. Cuttings may be made toward the end of May and grown in the greenhouse under constant illumination. By the following May we have plants we pinch, no branched plants, some a foot tall. A general observation I would make is that those deciduous azaleas which have *Rhododendron occidentale*, the native we have along the coast, heavily present in the parentage tend to respond to the constant illumination better than some of the other varieties.

I might add one other comment from work done at the Arnold Arboretum. They found that if they just root the cuttings in the flats and then don't transplant them until the following spring they'll come much better than if they try to transplant them as soon as rooted which, quite often, is the normal procedure.

MODERATOR ROBERTS: We have noticed that, too, in some of our class work. In the mist house we run deciduous materials through along with a lot of other things. A lot of these deciduous materials under our cold misting water will ripen off, form flower buds, turn their autumn colors, and drop their leaves. You may have fine root systems on the cuttings, but they're very difficult to get through the winter. In some of the work that we have done with cherries, we have found that if we can get the roots out rapidly, then either not transplant them, as Bob says, or transplant them as soon as the roots show and keep those leaves active for a few weeks before they drop off, that we can condition the cutting to get through the winter. If you drop the leaves too soon, if you leave them in there too long, you've got a devitalized piece of wood that just can't get through the winter.

MR. BILL ROBINSON: We have taken *Cornus florida* and these deciduous azaleas and made cuttings in flats in the greenhouse in June or July, and we leave them set. In the fall we move them out of the propagating house outdoors and then forget about them for about a couple of years; then in the spring we pot them up and they really take off. But if we transplant them too soon, we lose all of them.

MR. ELLERBROOK: About those azaleas; on the East Coast I have seen them put the cuttings in a pot when they are made and then they are not disturbed. They have been doing it very successfully that way.

MODERATOR ROBERT: There seems to be a consensus of opinion here that some materials, such as the deciduous azaleas, should not be moved after rooting. That's another argument in favor of rooting in flats and leaving them undisturbed.