

FRIDAY MORNING SESSION

December 3, 1971

The Friday morning session began at 9:00 a.m. in the West Ballroom of the Golden Triangle Motor Hotel. Mr. William Flemer III served as moderator.

MODERATOR FLEMER: We have a full program this morning and in order to allow as much time for questions after each talk as is possible, we will start right in on this morning's program with Hans Hess who is going to tell us how to succeed with the after-care of grafted plants.

HOW TO SUCCEED WITH THE AFTER-CARE OF GRAFTED PLANTS

HANS HESS

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This is a very long title relating to what do you do with those grafts after you receive them in the hectic spring season. You have already said four or five times that you should never have ordered them after the poor experience of past years. Next year you will not take that extra drink or two and this won't happen, but the fact remains that here are these 500 or 1000 plants just delivered by United Parcel Service or Air Freight, and what are you going to do to improve last year's results.

Well, after a long trip you are usually tired and thirsty, so it is logical to feel that these plants are also tired and thirsty. Let's unpack them and see what they look like, and give them a drink of water; your preference of beverage might not give the results hoped for. Now that their thirst has been met let's put them in a shaded area protected from the wind for a day or two, so that they can become accustomed to normal light after having spent several days in nearly complete darkness. When you feel that the plants have successfully readjusted to normal light you should prepare them for planting, which means removing the rubber bands or string from the union and putting a short strip of half inch masking tape around the union to hold it properly to prevent breakage. If you were going to personally plant each graft this would not be necessary, but, since the planting is to be done by highly trained migrant labor you had better put tape on the union. Oh, I almost forgot to mention why the rubber band or string should be removed. Leave them on a few grafts, and after 2 or 3 years examine the union. The bands in particular, and in most cases the waxed string, will be around the union in the same place as when you received the

plants with a layer of callus tissue covering the area. Hold the graft just below the union and push the top; it will usually break at the tie area. One customer of ours who had failed to remove bands from juniper varieties had them break off at the union after they had grown 3-4 feet tall. This is rather expensive. The masking tape on the union deteriorates rapidly when in contact with the soil.

The grafts are now ready for your technicians to plant, but where are you going to plant them? Your past sad experiences tell you that dogwoods, beeches, and Japanese maples burned very badly in the field when the first hot sun warmed them. This was to be expected since they had been in a shaded greenhouse 2½ inches apart until the time you received them. If you put on your shorts or bikini and lay on the beach the first good summer weekend, the results are also painful.

The hemlocks, *Chamaecyparis*, and firs also are quite subject to sunburn the first season and should have shade provided. These plants, which are extremely subject to sun injury, should be planted in a bed under 50% shade for the first summer. The beeches and some Japanese maples have additional requirements since they are subject to frost splitting the first year; to grow these successfully they should have the added protection of a plastic cover the first winter. Container growing of these plants for a few years and protecting them in a plastic greenhouse gives excellent results.

The rugged individuals who can stand the abuse of direct field planting are the juniper varieties, the spruces, cryptomerias, *Cedrus*, and most pines. Somehow they can thrive without the added protection required by most deciduous plants.

Now that we have separated the varieties which need protection from those that can be field planted we should decide how to put this youngster in the ground or container medium. For field planting the soil should be prepared as for any other liner as far as fertilizer and organic material is concerned, and it should be loose to a depth of about 6 inches. The graft should be planted with 1 inch of soil above the top of the graft union, in order to protect it from breaking and to cover the scar area. The same applies to stock planted in beds or in containers.

Some growers like to stake new grafts, especially juniper varieties, for the first year or two. When staking is used be sure that your ties do not restrict growth when the plant increases in caliper.

Weed control in field planted grafts does require extra care the first year, so pick out the tractor driver who has graduated from the hot rod stage or you might find your expensive bushes on top of that well-prepared soil. The same pertains to the man with the hoe if you have not graduated to weed killers and "bush killers".

That just about covers my suggestions on how to increase your graft stand from 25 to 50%. After all, if I told you how to increase it any more all of us propagators would have to apply for relief.

MODERATOR FLEMER: Thank you, Hans, for a very clear paper dealing with those extremely costly losses. Too many people accept losses in the field as a matter of course and the care given after grafts are received is one of the major sources of loss in this business of ours. I remember several years ago when Jack Hill said that he doubted if over 10% of the plants which any nursery propagates ever ends up being sold by that nursery. Those numbers were shocking at first, but I thought about it quite a bit since then and I believe that if you look very carefully and honestly at your whole production I believe you will have to agree that there is a tremendous attrition rate and in many cases only about 10% of those that start the race finish it.

JIM WELLS: I was interested in your remarks about weed killers, do you not use them or do you not advocate their use?

HANS HESS: I advocate using anything that will do a good job for you. From my own experience, I don't care to use weed killers in lining out stock. If you are using weed killers, the plant must obtain its water and nutrients from the same soil on which you are trying to control weeds and these materials are a deterrent to the growth of the stock as well as the weeds. We do fumigate our soil for weed control, but my past experiences with weed killers which are applied to the soil has not been too happy.

JIM WELLS: Last year one of the young men working for me who came over from England made a statement which literally made my hair stand on end. He said "no nursery should own a hoe". I disagreed with him, but I must say that it is a rather proud record that I have to report that this year is the first year that we have not touched a hoe.

RALPH SHUGERT: Whether you should maintain weed control on a block of plants with a hoe or with a chemical weed program depends, in my mind, on economics. There is a cost of maintenance on that plant in that block per season. If you have a good crew who can maintain that block with hoes until harvest time at a less cost per unit than can be done by using chemical weed control equipment then that is the way it should be done.

VOICE: Do you have a preference as to the type of container, that is clay pot, plastic or metal container, that the stocks are in for grafting? I have had much better luck in clay pots and was wondering if you know of any reason for this.

HANS HESS: I would certainly agree that clay pots are far superior to either a plastic or metal container. However, the weight and breakage in handling clay pots must be considered. We have put some grafts in plastic pots and carried them for 1 year and they have

done very well as far as loss is concerned. I haven't used metal containers so I'm not sure how they would respond, but I do prefer clay pots.

MODERATOR FLEMER: Hans, I want to thank you for a very useful paper and I believe it should save someone a lot of money.

Our next subject concerns, "Top Grafting Japanese Maples and Dogwoods" and will be presented by Leonard Savella.

TOP GRAFTING OF JAPANESE MAPLES AND DOGWOODS

LEONARD SAVELLA

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My talk today will be on top grafting *Acer palmatum* var. *dissectum* and *Cornus florida* 'Welchii', although any of the Japanese maples or the tree form dogwoods can be grafted in the same manner if you so desire

Top grafting of *Acer palmatum* var. *dissectum* and *Cornus florida* 'Welchii' to many propagators may not be something new; however, the methods we use to propagate these two particular plants may be an improvement over the old methods.

The preparation of understocks are the same for both maples and dogwoods. We start by selecting our understocks in the spring. This is not always an easy task because the supply of straight, strong stems may be short. The propagator then has to select the best he can from what is available.

For maples the understocks should be tall enough so that when they are decapitated and ready to graft, the stem will be at least 18" tall and have a caliper of 3/16 inches or more. In my experiences stems grafted at 18 inches and up to 3 feet have made the best plants.

Dogwood understocks are easy to obtain and the propagator should have no trouble selecting straight stemmed plants. If you choose to grow your own dogwood understock, a good practice to follow is to seed them in a bed and let them grow undisturbed for 3 or 4 years. The closeness of the seedlings will make them grow tall and straight and will eliminate the lower branches, giving the plant a clean stem. Dogwoods grafted 4 to 5 feet high, in my opinion, make the best plants.

Once we have selected our understocks they are potted in containers and placed outdoors in beds where they are mulched, shaded and watered and grown that year until they are ready to be grafted the