

## FRIDAY EVENING SESSION

December 1, 1967

### THE PLANT PROPAGATORS' QUESTION BOX

DAVE DUGAN — Moderator

MODERATOR DUGAN: How can Turkish filbert be propagated other than by seeding?

BILL FLEMER: It can be grafted on *Corylus avellana* understock. The understock will sucker some but the grafted plant grows perfectly well.

MODERATOR DUGAN: Is there such a thing as Japanese oak and where can it be purchased?

JOE MCDANIEL: There are two or three of them. They grow as evergreens. They look like a holly tree at a distance without the berries. They are available in a few nurseries in the Southeast. I noticed Tom Dodd had a couple of trees in his back yard but I did not notice any acorns.

MODERATOR DUGAN: What is the proper way to plant a peat pot?

PETE VERMEULEN: As we mentioned the other day, make sure the peat pot is soaking wet when you plant it. Then either take the rim off the top of the peat pot or else plant it deep enough so that the rim is below the soil level. If there are roots coming through the pot, there is nothing else to do but if they have not broken through the peat pot as yet, just crack the bottom of the pot a little bit to help the roots go through. If anyone wants more detailed information, the Jiffy Pot Corporation of America has put out a brochure which contains a number of helpful hints on the use of peat pots. The address is West Chicago, Illinois.

GERALD VERKADE: I find with fine-rooted plant materials such as rhododendrons and azaleas, that after the plants have been in the field for two or three years and are then dug up that you still find the original peat pot. How do you get rid of the peat pot then?

MODERATOR DUGAN: Dig a larger ball! What concentration of kinitin and gibberellin is used for breaking dormancy of azalea buds?

ED HUME: I am sorry that I do not have the concentration of kinitin.

ROBERT FARMER: A 1% concentration of gibberellic acid will break the dormancy of most anything. I have not had experience with azaleas but this would be at least a concentration to try.

MODERATOR DUGAN: When storing crab apple grafts, at what temperature do you keep them and how moist?

BEN DAVIS: We pack them in wire bound crates in damp

shingle toe. The crates are lined with waterproof craft paper. The temperature of the storage is 50°.

VINCE BAILEY: We store crab apples in two ways. We store them first for a couple of weeks at 50° and then we transfer them to the 36° room until planting time. Some of the grafts are placed directly in the 36° storage and I am not sure that there is too much difference between the two treatments.

MODERATOR DUGAN: You store them at the warmer temperature to allow the callus to form and then you put them in the lower temperature area.

VINCE BAILEY: Yes, that is correct.

JIM KYLE: We store our grafts in vermiculite. We use a gallon and a half of water to a six cubic foot bag of vermiculite. We have had excellent success using the vermiculite. We also tried storing them warm to allow callus formation and then put them in the lower temperature storage but we have had just as good success by placing them directly into 38° storage.

BILL CURTIS: We only have a few thousand apple grafts so that we just store them upright in wooden boxes and cover them with moist sawdust and store them out-of-doors under fir trees.

MODERATOR DUGAN: Has anyone had a proven method for germinating domestic peach seed? I would say that the person asking this question should check the experiment station at Geneva, New York.

JOHN ROLLER: We have very good success by fall planting the peach seeds.

BEN DAVIS: We have a procedure that we have used ever since my grandfather was in the nursery business. We soak the peach seeds for seventy-two hours to be sure that they have plenty of moisture in them in case there are no fall rains. During this soaking process the empty seeds float off. After the floaters have been removed we take a hundred or so seeds out and crack them with a hammer to see how many are good or viable. Based on this information we determine how thick the seeds will be planted in the field. We plant the seeds in the fall and put a ridge of soil over top of them. In the spring when we see the roots starting develop we knock the ridge off with a rotary hoe which gets rid of the first crop of weeds and allows the seedling to germinate.

MODERATOR DUGAN: You can send your peach seeds to Geneva, New York, at the Cornell Experiment Station and they will test the peach seeds for you.

JOHN ROLLER: I have found that one good way to keep peach seeds rather than try to store them dry or anything like that is to just spread them out on top of the ground and then fall plant them.

MODERATOR DUGAN: Sid, did you compare the growth after propagation of the cuttings rooted under florescent lights with the cuttings rooted in the greenhouse?

SID WAXMAN: Yes, we did make that comparison using the chrysanthemum. There was no difference in the growth of the plants between those propagated in the greenhouse and those propagated under the fluorescent lights setup.

MODERATOR DUGAN: Would you tell us how many fluorescent lights you used and what was the wattage?

SID WAXMAN: On a four-foot bench we used two tubes, 75 watts. That would be two eight-foot tubes at 75 watts, or two four-foot tubes at 40 watts each.

MODERATOR DUGAN: In the past we have associated good rooting under mist with higher light intensities. In Dr. Waxman's paper he obtained good rooting with lower light intensities. Should we conclude that we should be using shade with our misting systems?

SID WAXMAN: The purpose of the fluorescent light treatments was not to cut down light but to provide additional propagating space.

CHARLEY HESS: I think an important factor here is that you have to start with a cutting that has a reasonable amount of food reserves, particularly when going into a low-light intensity situation. You may recall when we used the grafting case for propagation, before mist was introduced, the light intensity was as low as 240 foot candles. This was necessary because in order to reduce the heat in the grafting case it was essential to shade. But under those conditions we could not use a real soft cutting because it did not have the reserves and it would break down or rot before rooting could occur. When mist was developed it was possible to use very soft cuttings and the light intensity that was possible with the mist permitted photosynthesis and the actual accumulation of carbohydrates during the rooting period. Herein, I believe, lies the answer to the apparent inconsistency. If you have a cutting which has some substance to it, you can use a low intensity light situation for propagation but you cannot use an extremely soft cutting, particularly one that is slow to root under these low-light conditions.

MODERATOR DUGAN: Dick Vanderbilt's paper stimulated a lot of questions this morning. Dick, what pH do you suggest for the rhododendrons?

DICK VANDERBILT: I would prefer not to have the pH lower than 5.5. Because of the *Phytophthora* problem I prefer not to go much higher than 5.5 either. If it were not for *Phytophthora*, I would go as high as 6.

JIM WELLS: I agree with Dick's suggestions under the conditions in which he grows; that is, in a container. But when you are growing in the field and you do not have precise control over your conditions, in particular drainage, then I believe it is desirable to go to a much lower pH. I believe Dick White's paper stated that in the laboratory the growth of the *Phytophthora* was inhibited by pH's of 4.25 or below. Above 4.25 the organism could develop. Now that was under laboratory con-

ditions and it has been my experience under field conditions that the lower the pH, the less the problem is with *Phytophthora*. I do not believe that we can pin point a pH that is right for all conditions.

MODERATOR DUGAN: What does *Phytophthora* do to the rhododendron?

DICK VANDERBILT: The plant looks as though it does not have enough water. An easy way to separate *Phytophthora* from other diseases such as *Rhizoctonia*, is to take a knife and cut into the stem going down below ground level and if you see any brown streaking in the cambium; you have *Phytophthora*. *Phytophthora* gives a reddish-brown or cinnamon color, whereas *Rhizoctonia* does not.

MODERATOR DUGAN: Do you find the rhododendrons grown in the wooden baskets are easier to overwinter than in metal containers?

DICK VANDERBILT: By storing our rhododendrons in the poly houses, as I described last year, we have had no difficulty in overwintering either in the baskets or in the metal cans. We see no difference.

MODERATOR DUGAN: People in the Midwest are refusing to accept rhododendrons and azaleas which are balled and burlapped with burlap treated with copper naphthenate. Are you possibly running into a problem using the bushel baskets treated with copper naphthenate?

JIM WELLS: I do not believe that the copper naphthenate is detrimental to rhododendrons. I have planted young seedlings in flats that were freshly dipped in copper naphthenate and had no problem whatsoever. This is not the way to do it but we were in need of flats.

PETE VERMEULEN: I used to be of the same opinion but this past winter we had an experience which has changed our minds. We dipped flats in copper naphthenate and filled them with medium and stacked one on top of the other. When the azalea seed was planted and germinated there were two strips down the length of each flat in which the seedlings did not germinate. The only thing that we could account for the lack of germination in these areas was the strips which were on the bottoms of the flats and were in contact with the top of the medium when the flats were stacked.

CARL GULLO: I would recommend that anyone who uses flats treated with copper naphthenate treat them about a week or two before you plan to use them.

MODERATOR DUGAN: Pete, what solvent did you use for your copper naphthenate?

PETE VERMEULEN: We used Stoddard's solvent.

MODERATOR DUGAN: I just wanted to point out that there are some people who try to save about 10c gallon and use gasoline rather than Stoddard's solvent or dry cleaning fluid which is actually what Stoddard's solvent is. The gasoline is very toxic to the plant materials and should not be used.

SID WAXMAN: We have run some tests with burlap treated with copper naphthenate to determine if there was any injury. What we did was to soak the burlap in a good concentration of copper naphthenate and cut it into small squares and place it in pots with chrysanthemum cuttings. There was absolutely no injury to the roots of the chrysanthemum cuttings.

BILL CURIS: We purchase used sacks and treat them with copper naphthenate. We have found that if you use close mesh sacks that you run into some problems. As long as you use an open mesh sack then there is no trouble when they are treated with copper naphthenate. Apparently the roots just cannot get through on the close mesh sacks.

MODERATOR DUGAN: There is a question on how you handle your newly rooted rhododendron cuttings and at what time do you begin fertilization?

DICK VANDERBILT: From the rooting bench the cuttings are potted in quart containers and are fed immediately with a weak solution of 20-20-20. The concentration is 4 oz. to 100 gallons. They are not fed again for perhaps a month depending upon the soil tests. If the nitrogen level is above 10, we will not feed but wait until it drops to around 7. At this point there is no lime or superphosphate added to the medium which is one half peat moss and one half perlite. We water in Dieltrin to control the *Taxus* weevil at this time and also add chelated iron. The Dieltrin is applied at the rate of 4 lbs actual per acre and the chelated iron is applied at the rate of 2 oz. per 100 square feet.

MODERATOR DUGAN: This question is addressed to Fred Lanphear. Do you water in newly planted beds before you apply Simazine and Diphenamid or after the application?

FRED LANPHEAR: We have done it both ways. If there is a choice, it is better to water the plants in first, which will provide a type of seal and prevent the herbicide from getting down into the root area.

MODERATOR DUGAN: When including a herbicide in a mulch what amounts do you use?

FRED LANPHEAR: The herbicide that we use in combination with a mulch is Casoron. If you use the 4% granular form, you would mix 6¼ grams per cubic foot of the mulch if you were applying the mulch 2" deep.

JIM WELLS: Wouldn't you have more effect if you applied the Casoron to the soil and then applied the mulch on top.

FRED LANPHEAR: We were getting complete weed control by mixing the herbicide into the mulch. An important reason for putting the herbicide in the mulch is to obtain an easier way of applying the herbicide uniformly. By controlling the depth of the mulch, you also control the amount of herbicide that is applied. This is particularly useful in landscape situations where you have irregular areas and it is difficult to calculate the amount of herbicide that should be applied when it is used as a spray or as granular material.

VOICE: What was the mulch that you used?

FRED LANPHEAR: We have worked with peat moss, with shredded bark, crushed corn cobs and composted sawdust. All worked equally well as far as the herbicide combination is concerned.

CHARLEY HESS: Fred, if you apply the herbicide to the ground and then apply the mulch on top, would you not run into problems with weed seeds blowing in on top of the mulch and getting established?

FRED LANPHEAR: This is a good point and is particularly true when you are working with a mulch that might not be weed free.

MODERATOR DUGAN: Harold Pellett reports that once he used one pound Simazine with four pounds Diphenamid that he had injury on Forsythia, purple leaf winter creeper, and *Spiraea Vanhouttei*. This work was conducted in Nebraska on a clay loam soil during a year with a higher than normal rainfall. Do you have any comments on this?

FRED LANPHEAR: I would recommend that the herbicide combination be tried on a small scale to determine how it functions in your particular location. Also, as I mentioned this morning, it is possible to treat the plants with activated charcoal before planting. Weather conditions will dramatically effect the response of a herbicide. In working with the combinations of herbicides we are trying to build in a degree of weather proofing so that results will be more consistent even with differences in weather conditions.

MODERATOR DUGAN: Have you tried the combination of herbicides on *Pachysandra* and *Vinca*?

FRED LANPHEAR: Yes, we have.

MODERATOR DUGAN: Does anyone have a control for bind weed?

PETE VERMEULEN: We had a bind weed problem in spruce and hemlock and sprayed with 2,4-D and had good control. This was quite a number of years ago and I don't remember the rate.

HARLAN HAMERNICK: In Nebraska I have used Banvel D which is not volatile as the 2,4-D and it did a tremendous job. It is slower acting than 2,4-D but it does an excellent job of killing bind weed.

VOICE: I understand that Banvel D is dangerous to use around trees and may give troubles as late as five years after application.

MODERATOR DUGAN: Yes, I think in the East where we have a little more rainfall that it is best not to apply Banvel D in the drip line or closer to shade trees.

LEN STOLZ: I would also warn you to be cautious about the use of Banvel D. It has been used on home lawns and has caused malformations on ornamentals and trees with rates as low as  $\frac{1}{4}$  pound active material per acre.

JOERG LEISS: I read a paper this summer that someone

has used Tordon for bind weed control and had very excellent results. This was applied to open fields and not among nursery stock.

JOHN KNAPP: We have used an Amchem product called Weedone and it has given excellent bind weed control even among the chrysanthemum plants in the yard when we sprayed very carefully.

MODERATOR DUGAN: There is also a product called Lithate which is a lithium salt of 2,4-D. It makes 2,4-D nonvolatile so you have no problems from the fumes. As long as you spray carefully and do not get droplets on the desirable plants you will not have any problem.

ED AMBO: No one has said anything about Dacthal. I wonder if someone has had some experience with it?

HUGH STEAVENON: We like Dacthal because it is so safe on many plant materials which might otherwise be injured by herbicides.

MODERATOR DUGAN: Does anyone have Botrytis problems in the polyethylene covered houses?

ARIE RADDER: We had a little problem and we went to the Connecticut Experiment Station and they recommended that we use Botran; it was very satisfactory.

ANDY ADAMS: We have found Hermil or Daconil to be very effective.

DICK VANDERBILT: Daconil can only be used at warm temperatures. At the lower temperatures we have found it to be completely ineffective. The only place that we see *Botrytis* is on dead leaves or flowers, primarily in the miniature roses. I have never seen it on the general run of container stock.

MODERATOR DUGAN: What is used to control *Phomopsis* or juniper blight and when is it applied?

RALPH SHUGERT: We use Puratized Agricultural Spray. We start applying it on our juniper seed beds just as soon as the new growth on the tip of the seedling starts to develop and then we spray weekly throughout the season until the temperature gets down to about 24° or 25°. We use the Puratized Agricultural Spray at the rate of one quart per hundred gallons of water.

MODERATOR DUGAN: I would like to ask Harrison Flint if hardening can be accelerated by varying nutrient levels such as using higher levels of potassium?

HARRISON FLINT: There has been some research conducted with agronomic crops in which greater hardiness has been obtained by using high levels of potassium. Whether the rate of hardiness was speeded up or not, I am not certain.

CLARENCE BARBRE: I had seen an experiment in Florida where high levels of potassium were used on *Camellia alba plena*. There were two blocks that were treated with potassium and one block in between which was not. I was there in the spring and the two blocks which were treated had no losses and the block that was not treated contained a 25% loss of

plants. They used 20 lbs. of potassium sulfate per 1000 square feet.

MODERATOR DUGAN: Does the humidity in a polyethylene winter storage house have any effect upon the hardiness of the root systems?

HARRISON FLINT: I don't know whether it has a direct effect but it may indirectly effect hardiness. By having a higher humidity the water or moisture content of the soil in which the plants are growing will probably also be higher. If the moisture level is higher, there is a greater amount of specific heat available and therefore it would take a lower temperature to achieve freezing than if the containers were dry. In this way by keeping the soil moist, higher humidities may indirectly reduce injury to the root systems.

MODERATOR DUGAN: Has anyone had any experience in overwintering Japanese maple cuttings outside?

JIM WELLS: I think two things effect the successful overwintering of Japanese maple cuttings. The first is rooting them early and getting them to make some new top growth. In addition we plunge them in a frame covering the pots with some mulching material and we do not allow them to freeze.

MODERATOR DUGAN: Has anyone a successful technique for the rooting of *Kalmia latifolia*?

BILL CURTIS: I have a neighbor who makes cuttings in March. He puts them in sand and peat medium with bottom heat and no hormone treatment. He gets about 75% to 80% rooting year after year.

MODERATOR DUGAN: How do you propagate Eucalyptus vegetatively?

BOB TICKNOR: I have taken about 40 cuttings. One of the cuttings rooted and then it died. The people from Australia say to use the shoots from the base of the tree and they will root. However, they do not tend to grow upright and rather grow almost as a ground cover. Personally I think that seed propagation is the best answer.

AL FORDHAM: I would like to comment on the question of rooting *Kalmia latifolia*. We have good success rooting *Kalmia* using a combination of IBA and NAA at the rate of 1000 parts per million of each. We propagate the cuttings under polyethylene tents in the fall.

MODERATOR DUGAN: Has anyone had experience rooting *Mugo Pine*?

BOB TICKNOR: We make our cuttings in December and use Jiffy-Gro diluted one part Jiffy-Gro to nine parts water. The cuttings are made in the middle of December and placed in a polyethylene house and we use bottom heat. We get about 80% rooting.

CASE HOOGENDOORN: Are these cuttings from one plant or are they from a whole group of plants?

BOB TICKNOR: In my work I am using a single clone. I have a friend who is following John McGuire's recommenda-



tions and propagating the *Mugo Pine* during the summer. He has propagated 15 or 20 clones and finds that some root easily and others do not root at all. Al Roberts is the one who is doing this work.

MODERATOR DUGAN: This is a question directed to Charley Hess. What do you consider the most potentially successful approach to propagating 80- to 100-year-old Black Walnut by cuttings?

CHARLEY HESS: There are a number of techniques that could be tried. One would be to graft them on young seedlings and try to get a degree of rejuvenation. Another technique would be to force growth of branches in darkness to obtain etiolated shoots. The etiolated shoots can be placed under mist and with a moderate shading can be allowed to re-green. Under these conditions the top will become green but the base in the medium will stay etiolated and have a greater capacity to initiate roots. In each case the goal is to try to rejuvenate the tissues and then you could use the newly rooted plants, the few that you obtain by these techniques, as a source of future cuttings. In cases where the mature trees have been cut down a source of juvenile tissue can be obtained from the stump sprouts. The stump sprouts often have many characteristics of a young seedling.

MODERATOR DUGAN: There is a question for Mr. Hume on the introduction of hormones by changing atmospheric pressure.

EDWARD HUME: This was the subject which I had intended to talk about. We introduced dilute hormone solutions into the cuttings by reducing the atmospheric pressure or by creating a vacuum. We found that it was necessary to decrease the atmospheric pressure and then raise it again at the end of the treatment slowly or else there was injury. Also, we could not use a complete vacuum because this would also injure the cuttings. About one half the normal atmospheric pressure was satisfactory. We used a number of plants in our experiments including pfitzers and boxwood. One interesting thing that we observed was that we had in the case of boxwood more stimulation of rooting when we introduced a sugar solution than when we used hormones.

MODERATOR DUGAN: A question for John McGuire. Should the wound in holly be shallow, or a light wound, or should it be a heavy wound down into the wood?

JOHN MCGUIRE: Actually the research that I discussed earlier was in relation to the entry of auxins into the cutting. We wanted to see how a wound would effect the entry. We used a light wound and it did improve the uptake of the auxins into the stem.

MODERATOR DUGAN: What is the source of activated charcoal?

FRED LANPHEAR: There are two sources that come to mind now. One is called Darco and the other is called Nu-

Char. One of these products is available from the Atlas Chemical Company. Until recently the charcoal was only available in large quantities such as used in laundries. However, they are now putting up an agricultural package. I don't have the name here but I will be glad to send it to anyone who would care to write.

CLARENCE BARBRE: I would like to make a general comment about activated charcoal. There are many, many different sources and the degree of activation is considerably effected by the treatment used. Before you do a lot of work with the activated charcoal you should know the source and the degree of activation or otherwise you may get very variable results, if you do not know exactly what you are using.

MODERATOR DUGAN: Is there a time factor in grafting *Fagus sylvatica* varieties?

JOERG LEISS: *Fagus sylvatica* is one of the last things that we graft. We like to do it on a very quiet and cool day and find that we get much better results.

MODERATOR DUGAN: We have a number of compatibility questions here which may be answered by yes and no. The first — is albizzia compatible with wisteria?

VOICE: No.

MODERATOR DUGAN: Is *Kalmia latifolia* compatible with *Pyrus japonica* or rhododendron?

VOICE: No.

MODERATOR DUGAN: What is an understock for *Pinus Bungeana*?

PETER VERMEULEN: *Pinus Strobus*.

JOERG LEISS: As a general rule you use three-needle pines on three-needle understocks and five-needle pine on five-needle understocks.

MODERATOR DUGAN: Is *Euonymus Bungeana* compatible with *Euonymus radicans*?

CASE HOOGENDOORN: Yes.

MODERATOR DUGAN: Why is it that some cuttings form callus which leads to root formation and in other cases there are just masses of undifferentiated cells?

CHARLEY HESS: This may be due to an improper balance of growth substances. The basis for this speculation is from some work that was done in tissue culture by Skoog who found that if the purine level in the medium was high in relation to the auxin level, that vegetative buds were stimulated. If the auxin level was high in relation to the purine level, then roots were formed and if the auxin level and purine level were about the same, then there was just undifferentiated growth. Thus it was possible to determine what the tissue cultures would do by altering or regulating the relative concentration of purines and auxins. So in some cuttings which just form masses of callus the purine and auxin levels might be balanced in such a way that you do not get differentiation. It may be necessary to add other growth substances to establish the proper relative

concentration which is favorable for root initiation.

MODERATOR DUGAN: What is the best method of propagating *Juniperus chinensis maneyi* using dormant cuttings?

VOICE: We root them in the greenhouse using Hormodin #3. When part of the cuttings are rooted we pot them up and stick the rest back and then they come along giving us about 70% rooting in all.

RALPH SHUGERT: I take them in the last week in December using Hormodin #3 and a double wound. My rooting averages about 35% to 40% which is still cheaper than grafting.

MODERATOR DUGAN: What is an understock recommended for *Amelanchier*?

HARRY HOOPERTON: We find Washington Hawthorn the best.

JOERG LEISS: I feel that the grafting of *Amelanchier* is not in the best interest of *Amelanchier*. It is maybe okay for the propagator but the grafts don't last and they do not make up into a tree. The best solution is to root them from softwood cuttings. They root quite readily.

HARRY HOOPERTON: But how do you get any growth from cuttings? We have five to six foot whips in the first year when we graft them.

JOERG LEISS: That's the problem. You get rapid growth the first couple of years, five to six feet, and that's where they stay.

HARRY HOOPERTON: We don't find that problem. We have good trees two to three inches in caliber when they have been grafted on Washington. We have also had some grafted on *Sorbus* but they are a real problem because of the tremendous amount of suckers that form from the *Sorbus*.

MODERATOR DUGAN: What can be done about the problems of blind eyes in rooted cuttings of *Clematis*?

BILL CUNNINGHAM: If you use double node cuttings, you will not have any problems. You may lose the buds that are above the rooting medium, but you will have shoots developing from the second node which is below the medium.

MODERATOR DUGAN: Is there any possibility that when a drench or a substance such as Terrachlor is used on Sphagnum moss that the fungicidal effect of the Sphagnum moss will be lost?

CHARLEY HESS: We have been trying to isolate the fungistatic material in Sphagnum moss and in doing this work we have found a bacteria in the Sphagnum moss which apparently can synthesize a material which inhibits the growth of *Pythium* and *Rhizoctonia*. As you know, it is recommended that you do not sterilize Sphagnum moss or else you will lose its desirable properties as being fungicidal. What may be happening is that you are killing the bacteria which actually synthesize the fungistatic substances or the substances which inhibit the growth of the *Pythium* and *Rhizoctonia*. Therefore, you could speculate that drench or a substance designed to kill bacteria

in the rooting media or germination media would have a good chance of destroying the bacteria in the Sphagnum moss which produce the damping off inhibitors.

MODERATOR DUGAN: How effective is the application of water to the roof of the greenhouse in reducing the temperatures inside?

BILL FLEMER: We have used that system for many, many years. Although it does take a lot of water, it is highly effective. We can lower the inside temperature by 10 or 15 degrees. In our experience we find cuttings which will actually root better under these conditions than under mist where perhaps they are being leached.

MODERATOR DUGAN: What is the seed treatment for *Cornus kousa*? Should the seed be dried or planted immediately?

AL FORDHAM: Fresh seeds require about 3 months of cold stratification which will then lead to complete germination.

MODERATOR DUGAN: What is the best method of germinating *Cedrus atlantica* and *Cedrus Deodara*?

AL FORDHAM: I think the best way is to give the seeds about 2 months cold stratification and then you will get uniform germination. If you plant seed immediately without stratification, you will get germination but it will be erratic.