

AUSTIN KENYON: Do you use gypsum to saturate the peat with calcium?

JACK PAUL: If you use gypsum you probably won't get 100% saturation with calcium. If you want to saturate it to 100%, you would add lime.

WALTER KRAUSE: Our next speaker this morning is Mr. Duane Sherwood, Northwest Nursery Distributor, Boring, Oregon. He will speak to us on the subject "Rooting of Blue Spruce from Cuttings."

ROOTING OF BLUE SPRUCE FROM CUTTINGS

DUANE SHERWOOD

Northwest Nursery Distributor

Boring, Oregon

There is a high demand for Colorado Spruce plants that are all blue. Colorado spruce are generally fuller with a better shape than Koster blue spruce, the old standby.

Presently, most Colorado spruce plants are raised from seed. If the seed is collected from blue parents, the offspring may vary from 10% to 60% with 20% blues considered a very good result.

Grafting is frequently used for strains of Colorado blue spruce such as Koster blue spruce. Grafting has advantages of generally quicker results and uniform plants. Many people feel that a seedling understock will give a better plant. The disadvantages are that it takes experienced help to do this grafting and this experienced help is usually hard to get. Conditions where these grafted plants are kept are also quite critical.

The next way of reproducing plants is by cuttings. In talking to most nurserymen, Colorado spruce are very difficult to root from cuttings, and when they do root, roots are typically poor and claims are that the top will be lopsided. With this in mind, we have gone ahead and tried rooting cuttings.

Oregon is probably an ideal place to grow Colorado spruce, as we have acid soil which is well drained, and we have plentiful water. We also have a very mild temperature where the temperature rises above 90 degrees for less than a total of seven days a year and the minimum temperature is below 32 degrees for only one or two weeks out of the year. We are located in the general Willamette Valley, 20 miles east of Portland. The Willamette Valley is located between two mountain ranges which probably has a great bearing on our mild climate.

A little later we will show you pictures of the type of stock plants we are looking for. We are looking for shape, plus beautiful blue color. But this is only part of the problem. We also need a stock plant that has a high percentage of rooting with a good root system and uniform top. We do all of our rooting in an unheated structure covered with polyethylene. The air temperature is very similar to outside temperatures

during the winter months. We use electric cables to maintain a bottom heat of 70 degrees Fahrenheit and we use a well-drained, coarse sand. We re-use our sand year after year and treat it with mercury prior to placing the cuttings. With all of our cuttings, we dip the bases in a 1:10 dilution of Jiffy Grow for 5 seconds.

In the chart below are the results of 2 years of rooting cuttings. With the Koster spruce and Moerheim spruce we got a very poor percentage of rooting. From our selected Colorado blue spruce, our percentage rootings varied from 2% to 90% with an average of approximately 50%. It may be that we got better rooting on the Colorado spruce because they were grown on our own soil, whereas the Koster spruce and Moerheim spruce were grown on a different nursery with different soil conditions and a different fertilizing program.

Cuttings were taken from January 20 to March 11th and rooted cuttings were dug from June 30th to August 1st and placed in 4" pots in our plastic covered greenhouse for 18 months. They were then put into the open field at 4' x 4' spacing.

	Date Placed	Date Dug	No Placed	No Rooted
Koster Spruce	2/22/66	6/30/66	770	127
Koster Spruce	1/27/67	8/10/67	690	29
Moerheim Spruce	1/26/67	8/10/67	115	21
Selected Blue Spruce	3/11/66	7/1/66	1,635	834
Selected Blue Spruce	1/20/67	8/10/67	6,746	3,478

WALTER KRAUSE: Thank you, Duane. Our next speaker is Ralph Shugert and we are anxious to hear Ralph speak to us on the subject of "Seedling Propagation".

SEEDLING PROPAGATION

RALPH SHUGERT
Plumfield Nurseries
Fremont, Nebraska

Prior to presenting this paper, I would ask your indulgence for a moment, and extend the deep appreciation of myself, and my wife Shirley, for all of the courtesies extended to us during our visit in Fresno. Last December the Eastern Region had their 17th annual meeting in Mobile, Alabama, and the southern hospitality was outstanding. . . certainly the western hospitality during your 9th annual meeting is also heartwarming, and very pleasing. My fervent thanks to all of you.