

Question Period IV

Lawrence McMurtrey: Regarding the artificial snow, could you give us an estimate of cost including labor and everything? How much would it cost per acre for just one snow application?

Michael Poynter: I haven't analyzed it that closely. The large compressor can be rented for \$600 to \$1200 per month. It will probably cost \$2000 to \$3000 per acre.

Voice: Could you sketch all the problems you had. It looked good, but I'm sure there must have been many difficulties as you went through it.

Michael Poynter: We found out that we needed considerably less water and considerably more air than we first thought. I suspect that will vary with the climate and conditions. We were worried about not having enough water and we just kept turning the water down and increasing the quality of the snow so we know we have plenty of water for a couple of guns, but we need more air. In that respect we figured we needed 100 psi at the end of the gun. The problems that we had were actually not too bad. We figured out most of the problems. You cannot stop unless you can drain that water hose or it will freeze and you won't be able to start again. At night you can't see so you can't tell what you are doing. If you ask somebody to stand by a gun or sit in a tractor when it's 10F degrees outside with this noisy equipment out in the middle of a field that's pitch black, it's kind of weird. I think what they did is set up the best they could. Flashlights did not work very well. They would set it up, go inside for 30 to 45 min and then run out and move the gun. It takes a long time. We spent 3-1/2 days to cover 2-1/2 acres with 2-1/2 in. of snow. If the wind had been blowing we would have been in trouble. As often happens in the Skagit Valley, if the wind is blowing in Bellingham and further north it won't be blowing right in the valley. We predicted that and that part did work.

Voice: Was the output about 100 gal per minute.

Michael Poynter: We started at about 100 gal/ min and were down to about 10 when we were really making good snow. We just couldn't get enough air through that. The other method of making snow is where you use lots of water and very little air, but the gun costs \$40,000 to \$50,000 and it runs on electricity so you have tremendous electrical needs. We weren't ready to make that investment since we had no idea whether this would work or not anyway so this was the cheaper way to go. You can find snow guns at ski resorts they will likely give you because they are not using them anymore. They are all using the new technique.

Bruce Briggs: When you put the snow on did you go out and look at areas where you had it very deep and very shallow? Did you determine what depth you needed to give you adequate protection?

Michael Poynter: No, not in any scientific way. Our feeling is that if we can get 2-1/2 to 3 in. of snow on the perennials we can withstand just about anything. We make several assumptions such as the plants are big and mature enough to go through the winter in the first place. Also, I think the fabric underneath the snow, while it might not be the perfect scientific experiment, did help get the snow blanket on since the snow will fall down in and around the foliage. The fabric allowed us to create a more even layer of snow, uniformly over the entire bed.

Kristin Yanker-Hansen: What is the optimum depth to plant peonies?

Roy Klehm: The general consensus of opinion is that in the southern areas you plant the eyes at ground level, whereas in a colder zones we plant the eyes 2 in. deep. The quality of the soil can affect the ability of the peonies to grow.

Kristin Yanker-Hansen: Is it temperature related?

Roy Klehm: Peonies to overcome dormancy should have 600 h below 32F ideally. Knowledge is needed on the growing of peonies in warmer climates.

Roger Slaby: I have a question regarding daylilies. We used to get brilliant reds and the cultivar brought to this part of Washington tends not to have a deep red and the assumption was that the summer temperatures in Illinois brought those color pigments. Have they overcome that problem with some of the newer hybrids?

Roy Klehm: That's a good question. I think daylilies do better where the summer nights are warm. I analyze daylilies everyday and it's amazing how they respond to different temperature and moisture patterns. Some days you can go out and look at them and they are all ugly and other days you go out and they are all champions. I think the better cultivars would perform well over different geographic areas, but I don't think anyone has addressed that specific question. In England they don't do as well because the evenings are not warm enough for them to really respond.

Kathy Echols: When you are working with the gibberellic acid, have you found that it affects certain plants in different ways? Have you written up the research that you have done?

John Schroeder: Different species have different responses. The same plant requires different rates of gibberellic acid from the beginning of the year to the end of the year to get the same results so it's full of variables right now. We will continue to refine the research and we will make it available.

Kathy Echols: With the use of gibberellic acid, are you finding that after the plant has gone through a period does it return to its original growth habit?

John Schroeder: The *Veronica austriaca* ssp. *teucrium* 'Crater Lake Blue' grew taller than you would normally expect, but for most of the plants it speeds the rate at which they get to their ultimate height and then they stop and everything else catches up later.

Steve McCulloch: Is the agar substitute commercially available in the United States?

Ronald DeFossard: Yes, from an American firm, FMC. They are very active in pharmaceuticals and they have a variety of these colloids.

Bruce Briggs: We have trouble in our country with some of the synthetic types with vitrification especially when trying to grow conifers and some other plants. We haven't had the problem with the plants we grow at the lab. There was some work done over in Europe where they cooled off the bottom and there was moisture formed in the jar. Did you have that problem or did you grow plants that do not have that problem?

Ronald DeFossard: I didn't have the problem. I didn't look for it either. I might say that the new gels are incredibly cheap. We pay less than \$30 (Australian) per kilogram. Without the freight costs, I think it would be less than \$20 (U.S.) per kilogram.