

SATURDAY MORNING

October 5, 1963

The meeting convened at 8:30 A.M. with Robert Snodgrass, Moderator, presiding.

MODERATOR SNODGRASS: We all have our secrets. We know how we grow plants. We know what works for us. You know, meetings like this one are real healthy for the industry. I think not long ago, less than ten years ago, such a thing as our session this morning would not have been possible. I know we used to snoop around a little and ask questions of the old timers, and the new timers who were growing things, and, boy, it was like prying secrets out of you know who — you just didn't learn anything because they figured — but actually education has proven otherwise — they figured, "Golly, I know this and I'm not going to tell anybody because I'm the only guy that can grow this." Well, with our organizations, such as the organizations of nurserymen which each of the states have and now with the Plant Propagators' Society, we've found that if we share our secrets it helps us, it helps the other fellow because the more we know, the better job we do, the more plants we can produce, the more efficient we become, and the more money we all make because there's room for all of us. I don't think anybody around here has a good looking, well-grown plant left at the end of the season. so it's a healthy thing — this Plant Propagators' Society is a very healthy thing. We'll swing around into some of the secrets probably as the program progresses. We do have a very fine panel lined up, and they are going to share some of their knowledge with us this morning. We'll start this morning with a talk by Ed Wood on low-voltage bottom heat.

LOW VOLTAGE BOTTOM HEAT

E. A. WOOD

Wood Floral

Portland, Oregon

The basic reason I investigated the use of low-voltage bottom heat was the cost. Since the advent of the better types of plastic-coated wire and the ability to run more lineal feet from one thermostat this is no longer so important.

In our latest installation we made and used this plastic-insulated cable under two inches of sand. Since we use perlite for our rooting media, we are having the best results by placing the cable in sand which gives better lateral distribution of heat. To protect the cable from being moved or broken we use saran screening on top of the sand and the perlite is then placed above

that where it can be cleaned out easily without disturbing the cable.

I first heard about low voltage bottom heat in a short note stating that the Europeans were using it; I wondered why didn't we use it. At the time, I was installing 1000 sq. ft. of propagating area and, after pricing lead-covered heating cable, I thought the subject worth looking into. Cornell University a little later reported on some research on low-voltage heating cables. The work they did, which I read, did not include the use of a thermostat, which I felt I wanted. I had a local electrical firm wind a transformer to reduce a line voltage of 220v to 30v in the secondary. The reason I had one wound, rather than using a standard model was that I wanted to have two tap switches above and below the 30v setting. My reasoning was that on a hot day I could switch down and keep it from turning on and off so much and thereby protecting the thermostat. As it turned out, the heat was more even than I had anticipated, and I didn't need the extra voltage taps. It also seemed cheaper and more reasonable to purchase a contactor to carry the "on" and "off" lead than to purchase a thermostat that would have to take the full 220 line voltage. I guess I was right because in five years of operation I haven't had to touch it.

For our resistance cable we used #9 galvanized wire which we placed in the bed with lines three inches apart. Each two wires were in reality a loop down the bed 100 feet and then back. The two ends were bolted and soldered on 1/2 inch copper tubing which we used as a buss bar. The two copper tubes were connected to the different sides of the transformer by standard car-starter cables. By this placement of the wire, with one end of each loop connected to the different sides of the transformer, we achieved a good distribution of heat.

The galvanized wire had to be replaced after four years of constant use. This was fairly simple as we had just used fence staples to hold the wire to the bottom of the bed. Many standard 5 kilowatt transformers are on the market and can be purchased at relatively reasonable cost. The only trouble we encountered was the overheating and eventual burning out of the starter cables. We overcame this by using two parallel cables from each side of the transformer to the copper tubing. Our total outlay for a 500 sq. ft. installation was about \$150.00. One of the main advantages of the low voltage installation that I can see is that there is no chance of a shock even when you put your hand directly across one of the loops. Whether this system would be worthwhile under today's prices of 110v heating cable would have to be determined by each individual.

MODERATOR SNODGRASS: We're always looking for new things whether it be in ornamentals, trees, or whatever in plant life, and one of the men in our area who is always looking for and is growing these new things is the next speaker. He is going to talk on new conifer selection. Harry Carlson!