

will arise from the wounded area. We have very few roots from the back side of the cuttings, for example.

DR. HESS: Tom, what is weblite and secondly what do you attribute that big drop in rooting in November to?

DR. CANNON: Weblite is a sintered clay shade. This is the description that was given me. Actually it is a clay-shade combination that has been ground and then heated. It is through the heating process that it is expanded to some extent. It provides very excellent aeration and moisture control in the medium. In other words the particles will hold a considerable amount of water but yet provide the aeration that is necessary. We feel that aeration was the cause of the difference we got between the media.

The drop in November we felt was primarily the vigor of the cuttings. These November cuttings were quite large as compared to the thin cuttings that we had taken in the other months. We think it was the vigor of the stock plants. The November cuttings were from fertilized plants in the nursery row. As it happened the man who cut the cuttings couldn't get up the mountain to get the cuttings in November so he took them from nursery rows.

HANS HESS: The next topic is a new misting nozzle with self contained, adjustable timer. Our speaker is Mr. Werner Rexer.

NEW MISTING NOZZLE WITH SELF CONTAINED ADJUSTABLE TIMER

WERNER REXER
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A few years ago, it got into my mind, that all the intermittent-misting units are operated by a solenoid and some kind of a device. The solenoid-valve itself, the way it is designed, needs little power, the water supply line, thinking in the way of hydraulics, can be boosted to create power, a thousand times stronger than needed.

From the day this idea entered my mind, I had only one thought, to design and build a valve, powered by the supply of water, and operated by the evaporation of water, fully adjustable, for misting, light and heavy field irrigation. I was fully aware of the difference between theory and practice, and such a valve may have to be rebuilt a hundred times before being practical for production. I decided then, that just to prove my point that such a valve could be built, and to stay within my budget, to design a small valve for one nozzle only, with adjustable timing, all in one unit.

This type of nozzle, would be impractical for the use in large scale propagation, however, it would be handy for experimental purposes, and for isolated patches of cuttings, since each

nozzle is individually adjustable, and the cost of such a nozzle will be only a fraction of any standard intermitting misting system now available.

When we think of a timing mechanism, especially adjustable, we think of many wheels and springs, that are required to make it work. In modern inventions, we often overlook the ways and means our ancestors lived by, the timing device in this valve is based on the theory, that when one opens a valve where there is water under pressure, and set it to a steady drip, it will continue to do so, the more the tap is opened the faster the water will drip.

In this nozzle, the water dripping through the valve, is compressed by means of a piston with two different diameters, the small one faces the full pressure of the line, and acting as the spring, the large one is facing the steady buildup of water, fed from the valve, making the piston move slowly, a part of a small and simple designed valve follows the move of the piston, and when the chamber is filled to a certain point, the valve opens, forcing the water out, and closing again.

I am not sure yet, of how and when the hydraulic system will find its place in our industry, but I do know, the advantages and the uses are many, the installation alone is like placing a tap in the line.

VOICE: The question I have regarding the adjustment of that valve. How long does it take to adjust that valve?

WERNER REXER: You can adjust it for one second or two seconds, anywhere up to 10 minutes. This is for the time off. The time on will always be the same.

HANS HESS: May I ask you this question? What approximately will be the cost of this valve?

WERNER REXER: This would depend upon the material used to make the valve. We could make it out of aluminum alloy, but that would wear too fast. I do not have much on the way of cost as yet.

HANS HESS: I along with many others will look forward to when you will have the nozzle ready for the market. Our next topic is success and failure in the propagation of *Tsuga canadensis* by cuttings. Mr. Carl Grant Wilson of Cleveland, Ohio.

SUCCESS AND FAILURE IN ROOTING TSUGA CANADENSIS

CARL GRANT WILSON
Cleveland, Ohio

The following is such a peculiar observation that if I had not observed it myself I would discount it 100%. But it occurred under my direct observation.

I am sorry I cannot deliver this paper in person but the illness of my wife makes it imperative that I get her out of this