

- DeBie, and G. Giannini. 1977. *Pressurized injections of aqueous solutions into tree trunks*. *Sci. Hort.* 6:297-310.
17. Sachs, R. M., and H. Hield. 1978. Bark banding with chemicals to inhibit tree growth (RP 380-1). Final Report. Electrical Power Research Institute, Palo Alto, CA 94304.
18. Vite, J. P. 1959. *Observations on the movement of injected dyes in Pinus ponderosa and Abies concolor*. *Contrib. Boyce Thompson Inst.* 20:7-26.
19. Vite, J. P., and J. A. Rudinsky. 1959. *The water conducting system in conifers and their importance to the distribution of trunk injected chemicals*. *Ibid.* 20:27-38.
20. Zimmerman, M. H., and C. L. Brown. 1971. *Tree Structure and Function*. Springer-Verlag, NY. 336 pp.

*Department of Ornamental Horticulture  
University of California  
Davis, California 95616*

## USE OF TREE GROWTH REGULATORS AT SOUTHERN CALIFORNIA EDISON<sup>1</sup>

by C. J. Pilkerton

To create a mental image of the unique line clearing aspects of Southern California Edison, visualize the following: (1) A service territory of 50,000 square miles, topography ranging from the Pacific Ocean to the alpine mountain ranges of the High Sierras, low desert regions of Palm Springs to inland agricultural valleys of the San Joaquin. Climatic zones of frost-free subtropical areas with year-around growing conditions to severe low temperature areas with a growing period of two to three months. (2) Our trimming

cycle is 12-18 months, with some of our fast growing tropical species being trimmed every six months. With these line clearing problems, you can appreciate that Southern California Edison is enthusiastic about the potential help that the growth regulators might offer.

Our company started a tree growth retardant program in February, 1977; at which time 2500 Athel trees were foliar sprayed by Arbor Tree Company in the Palm Springs District with Maintain CF125. The project was a success as

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evidenced by a written report from the Line Clearing Inspector indicating a savings of approximately \$30,000. In 1978 the same contractor treated a total of 15,000 trees with a foliar spray of Maintain CF125 and Slo-Gro in three divisions.

Prior to the first systematic program of foliar treatment, the company was cooperating with the University of California at Riverside on research methods for applying tree growth regulators to the trunks of trees, in an attempt to successfully use the chemicals in metropolitan areas. By 1979, all five of our divisions were involved in pilot growth retardant programs using the foliar application method where environmental conditions would permit. Where they would not, the bark application method was used.

The use of Slo-Gro and Maintain CF125 continued to increase in all the divisions until 1981 when the program experienced a major setback. The U.S. Borax Company discontinued the manufacture of Maintain CF125 and later sold the patent rights to Uniroyal, who then continued with the manufacture of the chemical. Edison's projection at the beginning of that year was to treat 80,000 trees that had been trimmed to the desired stage of growth with an estimated savings of \$720,000. Even with this obstacle, approximately 57,000 trees were sprayed with Slo-Gro where foliar application was possible.

In 1982 we treated a total of 59,632 trees with Maintain CF125 or Royal Slo-Gro. Maintain CF125 was primarily used for bark application in restrictive areas and Royal Slo-Gro as a foliar spray where environmental conditions were

favorable.

Our program continued through 1983 with growing evidence of damage to thin bark trees, such as Shamel ash, with repeated treatments of the Maintain CF125 solution.

In 1984, we discontinued the bark application of Maintain CF125 and continued with the foliar spraying in rural areas where conditions for such treatment were favorable. We then started other tree growth regulator tests using Atrinal, Clipper and Prunit applied with trunk injection, soil injection, and bark application.

Southern California Edison, along with several other electric utilities, are presently involved in a research project with the University of California to test a number of chemicals, using different carriers to achieve successful absorption of the active ingredient to reduce the growth rate by applying them to the bark or trunk injection.

In concluding this presentation, I would emphasize three points to developing a successful tree growth retardant program: 1) never underestimate the importance of training personnel involved in the program as much as possible, 2) a well managed line clearing program is essential, since the use of PGR's is a long range operation, and 3) use more than one chemical and method of application to maximize the potential benefit from PGR's in your line clearing program.

*Southern California Edison Co.  
4930 N. Earle Ave.  
Rosemead, California 91770*