Table 1. Influence of preharvest applications of Ethrel on Montmorency cherry maturity and abcission (mechanically harvested July 30, 1968).

Treatment [a]	Abcission [b]	Soluble solids	Absorbance [c]
	(grams pull)	(percent)	(percent)
Control	160[d]	13.6	12.5
250 ppm	120[de]	15.5	14.5
250 ppm + urea 6lb/100 gal.	98 [e]	14.6	16.0
500 ppm	115[de]	15.6	12.0
500 ppm + urea 6lb/100 gal.	106[de]	15.3	14.0
1000 ppm	78 [e]	16.9	14.5
1000 ppm + urea 6lb/100 gal.	86 [e]	15.9	15.5
2000 ppm	88 [e]	16.4	16.5
2000 ppm + urea 6lb/100 gal.	94 [e]	16.1	14.0

[a] Each treatment was applied to 4 single tree plots.

[b] Values are averages of 10 readings per tree. Values having the same letter superscript are not significantly different at the 5% level.

[c] 50% ethanol extract measured at 400 mμ with Beckman DU spectrophotometer.

Table 2. Effect of Ethrel on Montmorency Cherry Trees.

Treatment	Percent defoliation when shaken by mechanical harvester [a, b]	Gum extrusion [b]
Control	< 5	none
250 ppm	< 5	none
250 ppm + urea 6lb/100 gal.	< 5	none
500 ppm	5-10	negligible
500 ppm + urea 6lb/100 gal.	5-10	negligible
1000 ppm	10-20	slight
1000 ppm + urea 6lb/100 gal.	10-20	slight
2000 ppm	20-50	moderate
2000 ppm + urea 6lb/100 gal.	20-50	moderate

[a] Data recorded 5 days after treatment, at time of harvest.

[b] Estimated by visual observation.

Phytotoxicity Studies with Tetrachloroisophthalonitrile (Termil*) on 12 Cultivars of Poinsettia *(Euphorbia pulcherrima)*

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In the past two years a new concept of thermal dusting with Tetrachloroisophthalonitrile (Termil) for the control of *Botytris cinerea* on greenhouse crops of geranium (*Pelorgonium hortorum*) has proven to be very successful and practical. This fungus frequently causes leaf and bract injury to crops of poinsettia (*Euphorbia pulcherrima*) in greenhouses in late November and December. This study was initiated to determine the phototoxicity of the commercial product Termil used with the special alcohol burner and applied as a thermal dust.

Twelve cultivars of poinsettia in bloom were obtained for this study[3] (Table 1). The study was made at the Soil and Plant Laboratory, Orange, California. The pots were 5-inch size and contained 3 single stem plants. In the initial experiment, one pot of each variety was treated the first night, two the second night, and three the third night. Therefore, one-fourth of the plants received 3, 2, 1, and zero treatments.

The greenhouse used for treatment had a volume of 4400 cubic feet. The temperature of the greenhouse was 70°F at night and 75°F during the day. The weather during the period of this experiment was continually sunny with no cloudy days during the entire period. The plants were maintained on a constant liquid feed program of 200 ppm N, 20 ppm P, 132 ppm K. The commercial Termil tablets contain 8 grams of the active ingredient. Each tablet weighed approximately 9 grams and the recommended rate is one tablet per 4000 cubic feet for geraniums. This rate was used and 10.3 grams were sublimed, using 40 ml of denatured alcohol on the nights of December 27, 28, and 29, 1967. The results were evaluated on January 2, 1968. Following the completion of the first experiments the untreated plants were again removed and on January 3, Termil was used at the rate of 20.7 grams/4400 cu. ft., a double-strength treatment. The same dosage was applied the following night. On January 8, the untreated plants were treated by burning 100 ml of isopropyl alcohol and no Termil.

The final treatment was made to all the plants, including the check, using a 2 X dosage of Termil sublimed with 100 ml of isopropyl alcohol. The alcohol recommended is denatured (ethyl) alcohol, but our interest in isopropyl stemmed from the fact that in a case of injury observed earlier, isopropyl alcohol was used.

The results of the initial experiment are reported in Table 1. A value of zero (0) indicated no injury and a value of 9 the most severe. The injury symptom can best be described as a change in color from red to grey and then to brown in the affected spots (Fig. 1). Microscopic examination of the infected spots indicated a general collapse of the upper epidermal cells and loss of the colored pigment in the cells beneath. Any degree of injury from slight to severe would destroy the appearance of the bract and reduce the grade and even the marketability of that pot. The ratings in Table 1 were made after the initial treatments which originally were to conclude this experiment.

The double-dosage treatments on January 3, 4, and 12 did not injure the resistant cultivars in Table 1, nor did it appear to increase the amount of damage already present on the three susceptible cultivars. Also, neither the isopropyl alcohol alone nor the isopropyl plus Termil had any effect on the resistant cultivars.

*Registered trade name of Diamond Alkali Company, Cleveland, Ohio

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[3]Plant material supplied by Paul Ecke, Jr., Encinitas, California

The susceptible cultivars (Barbara Ecke Supreme, Elizabeth Ecke and Indianapolis) are tetraploids and the others are diploids. In earlier trials, however, we observed some injury on a few other varieties. In the present study no injury was apparent after one month and after heavy dosages on any other varieties except the three tetraploids mentioned above.

It appears from the results of this study that a varietal difference exists with regard to resistance to injury from Termil. The three susceptible cultivars in this study are tetraploids and those showing no injury are diploids. Further study is needed to determine if the relationship is constant, and before using this product on other varieties. Further investigations are needed and one important area would be treatment at other temperatures.

This report covers only one set of conditions on the varieties mentioned, and all of the varieties had fully expanded bracts at the time of application. No injury to green leaves was observed. Therefore, treatment of poinsettias prior to bract formation appears to be safe.

Table 1. Injury rating following Termil treatments of Poinsettia *

Variety		1	2	3	check
Tetraploids:					
Barbara Ecke Supreme		3	4	4	0
Elizabeth Ecke		4	6	7	0
Indianapolis		5	9	9	0
Diploids:					
Eckepoint B-7	(Red)	0	0	0	0
Eckepoint C-1	(Red)	0	0	0	0
Eckepoint C-35	(Red)	0	0	0	0
Eckepoint C-54	(Pink)	0	0	0	0
Eckepoint C-64	(White)	0	0	0	0
Ecke White		0	0	0	0
Mikkelpink		0	0	0	0
Paul Mikkelsen		0	0	0	0
Stoplight	(Red)	0	0	0	0

* 0 = no injury; 9 = severe injury

Fig. 1. Symptoms of injury by Termil application to susceptible cultivar Indianapolis.