

Effect of Chlormequat and Shoot Tipping on

Set of Cardinal and Ribier

Fred Jensen, Extension Viticulturist, SJVAR&EC, Parlier
Bill Peacock, Farm Advisor, Tulare County
Harry Andris, Staff Research Associate, SJVAR&EC, Parlier

Because of the possibility of improved set with chlormequat and shoot tipping, trials were established in two vineyards with a history of straggly fruit.

1. Cardinal - KHFS, Parlier

- A. Procedure - Randomized complete block with single vines as replicates, seven replications.
- B. Vines were sprayed with chlormequat on May 2 using 1/4 gallon per vine.
- C. Shoots were tipped by 2 inches on May 20 when bloom stage was 50%.
- D. Chlormequat damage - little at 500 ppm except marginal leaf chlorosis. At 2000 ppm more severe marginal leaf chlorosis, some blooms dehisced, sideshoots developed with additional second crop.
- E. Results - Table 1 shows that shoot tipping and chlormequat at 500 ppm increased the weight of well-filled clusters but not significantly so because yields varied tremendously from vine to vine.

Both rates of chlormequat were excessive as shown by reduced berry size, lower soluble solids, and retarded color development. Lower rates might be beneficial, something in the range of 50-150 ppm possibly.

Shoot tipping did appear to be beneficial.

Table 1. Effect of shoot tipping Cardinal grapes during bloom and pre-bloom chlormequat sprays on set and yield, KHFS, harvested Aug. 2, 1977.

Treatment	Pounds per vine			Berry weight grams	Soluble solids °Brix
	Well filled	Straggly	Total		
1. Control	25.17a	25.08a	50.24a	6.31a	15.2a
2. Shoots tipped	39.16a	19.07a	58.23a	6.46a	14.7a
3. Chlormequat, 500 ppm	38.77a	13.29a	52.06a	5.59 b	13.9 b
4. Chlormequat, 2000 ppm	32.19a	18.92a	57.12a	5.32 b	13.2 b

2. Ribier, Sadoian, Monson

- A. Procedure - RCB with single vines as replicates, 8 replications of each treatment.
- B. Vines were sprayed with chlormequat on May 2 at a rate of 1/4 gallon per vine. Vines were in 40% bloom on May 19.
- C. Chlormequat symptoms were mild. A few sideshoots developed at the tip with 150 ppm and more at 300 ppm. No growth retardation could be noted.
- D. Results - Fruit was not harvested. Observation on Aug. 22 indicated that some improvement in set may have resulted at 150 ppm but that even this rate was probably excessive. Three hundred ppm produced excessive set of fruit with retarded color and maturity.