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BLOOM SPRAY THINNING OF PERLETTE GRAPES

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SUMMARY

A type of gibberellin, GA_{4-7}, was applied at rates of 10 to 40 parts per million during bloom to Perlette grapes in Riverside, Kern, Tulare and Fresno Counties. In none of the six trials was any reduction of fruit set observed. Rates of 30 ppm and above produced an increase in shot berries.

The commercially available gibberellin, GA_3, was also used in the trials at a rate of 20 ppm. Neither was a benefit obtained with this material.

In 1981, an experimental type of gibberellin, GA_{4-7}, produced acceptable thinning of Perlette grapes when applied midbloom at rates of 20 or 30 ppm in dilute sprays. This trial was located at the Kearney Horticultural Field Station on a small number of vines.

In view of these promising results, the experimental use of GA_{4-7} was expanded into trials in commercial vineyards in 1982 in the principal producing areas.

Methods

Trials were established as follows: three in the Coachella Valley, one in Kern County, one in Tulare County and one in Fresno County at the Kearney Horticultural Field Station. In all locations, except at Kearney where there were not enough vines, each trial design was a randomized complete block with eight replications of each treatment using single vines as replications.

The vines were sprayed at a rate of about 200 gallons per acre.

In the Coachella Valley, treatments were as follows:

1. Check (no treatment)
2. 10 ppm GA_{4-7}
3. 20 ppm GA_{4-7}
4. 20 ppm GA_3
5. 30 ppm GA_{4-7}
6. 40 ppm GA_{4-7}

Sprays were applied at each of two dates in each locations as follows:

Location 1	April 13 - 40% bloom
	April 15 - 70% bloom
Location 2	April 12 - 60% bloom
	April 14 - 90% bloom
Location 3	April 13 - 25% bloom

In the San Joaquin Valley, the trial plans were similar but some additional treatments were also applied. These included double application of GA_{4-7}, 10 ppm plus 10 ppm and 15 ppm plus 15 ppm. Also included was

Promalin® (a mixture of GA_{4-7} and benzyl adenine) at 20 ppm and NAA (napthalene acetic acid) at one ppm alone and with GA_{4-7} at 20 ppm.

Times of applications of treatments in the San Joaquin Valley were:

Location 4 - Kern County	May 5 - 30% bloom
	May 7 - 90% bloom
Location 5 - Tulare County	May 12 - 30% bloom
	May 15 - 75% bloom
Location 6 - Fresno County	May 15 - 60% bloom

Results

Observation of the fruit was sufficient to determine that no reduction in fruit set was obtained with any treatment. Except for some increase in shot berries with GA_{4-7} rates of 30 and 40 ppm, it was impossible to distinquish between the treated vines and those not treated.

Because of these results, further work with GA_{4-7} for thinning Perlettes will not be attempted except on a very small scale. It may be that the material is effective some seasons but not in others. However, unless the material is fairly effective every year, it has no commercial potential.