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TRIALS WITH GIBBERELLIN ON RUBY SEEDLESS

Effect of Pre-Bloom and Bloom Gibberellin Treatments in Producing Looser Clusters in Ruby Seedless Grapes

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The table variety, Ruby Seedless, may set fairly tight clusters. Such clusters require extensive hand thinning to produce the looseness desired. One grower tried a pre-bloom 10 ppm gibberellin spray in the spring of 1972. This treatment produced straggly clusters with excessive shot berries.

1973 Trial

In 1973, we applied gibberellin at rates of 2 1/2, 5, and 10 ppm, on three dates: 1). Pre-bloom, shoots 15-18" long, 2). Bloom, 30% caps off, and 3). Bloom, 60% caps off. While eight replications of each treatment were applied, samples were not harvested because observation alone was sufficient to evaluate the trial.

All the pre-bloom treatments produced straggly clusters with many shot berries. In both bloom treatments, 5 and 10 ppm GA produced too many shot berries. The 2 1/2 ppm bloom treatments produced cluster loosening with little indication of shot berries. The 60% bloom treatment appeared superior to the 30% stage.

1974 Trial

In 1974, we treated vines only in the late bloom stage using gibberellin at 0, 1, and 2 ppm. Design was a randomized complete block using single vines for treatments with 15 replications. Fifty berries

were harvested from each vine for berry weight and maturity. The cluster looseness was estimated separately by three observers. A scale of 1 to 5 was employed with the higher numbers denoting increasing looseness, with favorable looseness in the range of 3 to 4.

The results in Table 1 show no difference in berry weight, slight increase in soluble solids with gibberellin, but significant benefit in looseness. The most favorable response was secured with 1 ppm. Clusters in this treatment were generally loose without being straggly. With 2 ppm, many clusters were thinned excessively.

We also estimated incidence of shot berries but found no consistent differences between treatments.

We conclude that 1 ppm was the best treatment in producing looser but not straggly clusters.

Table 1

Effect of Bloom-Time Gibberellin Treatment on
Ruby Seedless Grapes

Treatment Gibberellin Conc.	Berry Weight grams	Soluble Solids °Brix	Looseness Index ^{2/}
1. 0 ppm	3.35 a ^{1/}	15.2 a	2.87 a
2. 1 ppm	3.33 a	15.5 ab	3.80 b
3. 2 ppm	3.42 a	15.7 b	4.43 c

^{1/} Mean separation by Duncan's multiple range test, 5% level.

^{2/} Rated on an arbitrary scale of 1 to 5 with looseness indicated by higher numbers.

NOTE: Treated May 17 - 70% bloom stage.
Harvested Aug. 2.