

REPORT OF WORK

PRIMARY FIELD Viticulture

Continuing

Period covered by Report 11/1/62 to 10/31/63

COMPONENT Grape Production - Marketing

DATE OF WRITING November 18, 1963

CROSS REFERENCE _____

COPIES TO: George Alcorn

SUBJECT OF REPORT Gibberellin Trials in Grapes

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PROCEDURE USED:

Two gibberellin field trials were established in Fresno County in 1963. The purpose of the experiment was to evaluate repeated post-bloom gibberellin sprays in girdled Thompson Table grapes. The tests were conducted in the John Weber vineyard near Sanger, and the T. Apkarian & Son vineyard near Reedley. Treatment data and trial design are given with the results in Tables 1 and 2.

RESULTS:

Field Trials: The effect of the different gibberellin treatments on berry size and soluble solids are given in Tables 1 and 2. The results indicate two post-bloom 20 ppm gibberellin applications about four days apart were not quite as effective as a single 40 ppm treatment. Likewise, three 20 ppm treatments about four to five days apart were not as effective as one 60 ppm spray. Observations indicate the fruit was more uniform in the single spray treatments than in the multiple application treatments.

The results also show berry size is increased as the concentration or total amount of gibberellin applied is increased. It is interesting to note the 20 ppm treatment applied by the growers produced larger berries than the 20 ppm treatment applied in the

comparative tests. Perhaps better coverage was obtained with the power sprayers used by the growers.

EDUCATIONAL:

Suggestions on the use of gibberellin treatments were provided to growers in our newsletters, "Vinelines", and "FOB Fresno County", on three radio broadcasts and two TV broadcasts. Also, numerous copies of our county publications on the use of gibberellin in Zante Currants and Thompson Table grapes were distributed.

CONCLUSIONS:

When applied at normal girdling time, two 20 ppm gibberellin spray applications about four days apart, will not produce larger berries than a single 40 ppm spray. Likewise, when applied during the normal girdling time period, three 20 ppm gibberellin spray applications, about four days apart will not produce larger berries than a single 60 ppm spray.

Table 1. Data for Girdled Thompson Seedless Table Grapes
Treated with Gibberellin Sprays

John Weber, Sanger, 1963

Plot No.	Row 13 Vine Nos.	Gibberellin Spray Treatment (Conc-Date)	<u>1/</u> % SS	Av. Berry <u>1/</u> Wt. Gms.
1	1-8	Untreated Check	17.9	3.42
2	9-16	40 ppm - 6/8	17.3	4.51
3	17-24	20 ppm - 6/8 & 6/12	17.5	4.16
4	25-32	60 ppm - 6/8	15.6	5.08
5	33-40	20 ppm - 6/8, 6/12, & 6/17	16.9	3.91
6	41-48	20 ppm - 6/8	17.4	3.81
-	Row 14 all sample vine 10-20	20 ppm growers <u>2/</u>	15.8	4.36

Remarks: Vines girdled 6/9, thinned 6/5. 7' x 11' planting, 8 liters spray used/8 vines and all plots sprayed in morning of respective spray date.

1/ Sampled August 13.

2/ Sprayed afternoon of 6/7. 200 gals. per acre applied with boom sprayer.

Table 2. Data for Girdled Thompson Seedless Table Grapes
Treated with Gibberellin Sprays

T. Apkarian & Sons, Reedley, 1963

Plot No.	Row Nos.	Vine Nos.	Gibberellin Spray Treatment (Conc.-Date)	% SS ^{1/}	Av. Berry ^{1/} Wt. Gms.
1	5&6	1-4	Untreated Check	15.8	3.34
2	5	5-12	40 ppm - 6/5	15.5	4.60
3	5	13-20	20 ppm - 6/5 & 6/10	15.2	4.41
4	6	5-12	60 ppm - 6/5	14.8	4.84
5	6	13-20	20 ppm - 6/5, 6/10, & 6/14	15.2	4.64
6	5&6	21-24	20 ppm - 6/5	16.2	3.76
-	4	all Sample vine 10 - 20	20 ppm growers ^{2/}	15.4	4.76

Remarks: Vines girdled 6/6, thinned 6/5. 7' x 12' planting, 10 liters spray used/8 vines and all plots sprayed in morning of respective spray date.

^{1/} Sampled August 14

^{2/} Sprayed night of 6/4. 210 gals. per acre applied with inverted U shape boom.