

February 24, 1993

RESEARCH PROPOSAL

California State University, Fresno
School of Agricultural Sciences & Technology
Viticulture & Enology Research Center
Fresno, CA 93740-0089
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TITLE: Evaluation of Spray-N-Grow Micronutrient
Complex Liquid Foliar Spray

PRINCIPLE
INVESTIGATORS: R. Keith Striegler
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SUBMITTED TO: Bill Muskopf
Spray-N-Grow
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OBJECTIVE:

To evaluate the effect of Spray-N-Grow on the physiology and productivity of French Colombard and Thompson Seedless grapevines in the San Joaquin Valley of California over a two to three year period.

EXPERIMENTAL PROCEDURES:

Experiments will be conducted on the CSU, Fresno Campus Vineyard using Thompson Seedless and French Colombard commercial blocks. The campus vineyard is actively transitioning to sustainable/IPM methods of production. Our normal fertilization practice is 40-50 units of N per acre at post harvest. The experiment will be set up using a randomized complete block experimental design with five blocks.

Treatments will be:

- 1) Spray-N-Grow applied at a minimum concentration of 1 oz formulated product per gallon of water.
- 2) Control - no treatment.

Three applications on each variety will be made. Spray-N-Grow will be applied at bud break, berry set, and veraison. Warm water (80-100 F) will be used and pH of the water will be tested before each application. Applications will be made with three gallon hand sprayers. Foliage will be sprayed to the point of runoff.

DATA COLLECTION:

The following data will be collected:

- 1) Vine Nutritional Status - petiole samples will be taken at bloom and veraison and analyzed for macro and micro nutrients.
- 2) Yield - yield and components of yield will be collected at harvest.
- 3) Fruit Composition - berry samples (100 berries) will be collected for analysis at harvest. Berry weight, % soluble solids, titratable acidity, and pH will be determined on these samples.
- 4) Pruning Weight - dormant season pruning weights will be collected to determine treatment effects on vine growth.
- 5) Raisin Quality - USDA analysis will be done on the raisins made from the Thompson Seedless variety.

TIMELINE:

Design & lay out of plot	Late February 1993
Bud break applications	Early March 1993
Inspection of plots	March to September
Collection of bloom petiole samples	May
Berry set applications	May
Collection of veraison petiole samples	July
Veraison applications	July
Measurement of fruit composition	September
Harvest	September
Production of raisins	September
Preparation of petioles & analysis	October to December
Determination of raisin quality	October to December
Statistical analysis of data	October to December
Pruning	October '93 to January '94
Continued data analysis & writing report	January/February '94

BUDGET:

	Requested <u>1993</u>	Projected <u>1994</u>
I. Personnel (student/technician)	\$ 3,255	\$ 3,385
II. Fringe	340	354
II. Supplies	175	182
III. Equipment	-0-	-0-
IV. Travel	-0-	-0-
V. Professional Services	1,750	1,820
VI. VERC Administration	552	574
VII. Direct Costs	6,072	6,315
VIII. Indirect (CSUF Foundation)	911	947
TOTAL	<u>\$ 6,983</u>	<u>\$ 7,262</u>