

## PLANT PRODUCTION

### **Effects of Thiourea, Potassium Nitrate and Gibberellic Acid on Bud Break, Yield and Berry Quality of Thompson Seedless Grapevines (*Vitis vinifera* L.)**

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**Abstract.** Trials were carried out to study the effect of spraying Thompson seedless grapevines with a solution containing Thiourea (1% or 2%) ( $\text{H}_2\text{NCSNH}_2$ ),  $\text{KNO}_3$  (2% or 4%) or  $\text{GA}_3$  (0.1% or 0.2%) on bud break, yield and berry quality during 1995 and 1996 seasons. The vines were 15 - year - old and trained to the cane system (60 buds/vine). All chemical agents exhibited bud break in the first date sampling after application compared to the control in both seasons, except with 0.2%  $\text{GA}_3$  in the second season. Also, Thiourea treatments promote the bud break greater than  $\text{KNO}_3$  or  $\text{GA}_3$ , while the  $\text{GA}_3$  had the same effect of  $\text{KNO}_3$ . No significant difference was obtained in leaf area as affected by different chemical agents, while they reduced cane length. Control treatment produced the highest pruning wood weight, while 1% Thiourea and 0.1%  $\text{GA}_3$  gave the lowest values.  $\text{KNO}_3$  at 4% increased total yield/vine in the first season, while  $\text{GA}_3$  at 0.1% increased it in the second season. The data showed no significant difference between Thiourea and  $\text{KNO}_3$  treatments in yield/vine in both seasons. As for physical and chemical fruit properties, data showed no clear response as affected by the used different chemical in this study.