

**Project Title** : A Comparison of Organic and Conventional Production Systems in Round Seedless Cultivation for Table Grape and Raisin

**Start /End Date** : 2000-2003

**Supporting Body** : GDAR

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**Summary** : Four different fertilization programs such as green manure + farmyard manure, green manure +farmyard manure +certificated organic fertilizer (E-2001), green manure +certificated organic fertilizer and untreated control were applied in two round seedless vineyards planted as self-rooted and grafted on American rootstock to compare the treatments with each other between 2000 and 2002. Comparison parameters were vine growing, yield and quality criteria of table grape and raisin, effects of treatments on physical, chemical and microbiological properties of soil, macro and micro element contents of plants, some important physiological parameters of plants, incidence of diseases, and population densities of pests and beneficial insects. Dust or WP Sulfur for Powdery mildew, the major disease, and *Bacillus thuringiensis* for Grapevine moth were used. Some quality criteria related to table and raisin grape were analyzed. The difference between self-rooted and grafted vineyards is not important statistically. The contents of plant nutrients were sufficient in leaf samples. Nitrogen and phosphorus were insufficient in leaf petiole samples on the contrary of other nutrients. In general, green manure+ farmyard manure+ E-2001 application caused higher nutrient contents in the petioles than the others. This application also affected protease and dehydrogenase activities and N-mineralization in the soil of self-rooted vineyard, positively. Different fertilization programs affected the incidence of Powdery mildew in grafted vineyard, statistically. The incidence of the disease on bunches increased in fertilized treatments except control treatment in self rooted vineyard. Grafted vineyard generally had the lowest damage rates by Grapevine moth. Accordingly, results were analyzed statistically, but not important. Higher damage may be resourced from the higher vegetative growth and humidity around the bunches which makes them more suitable for copulation and egg laying in self rooted vineyard.