EFFECT OF PP333 ON TREE GROWTH AND NUT QUALITY

G. S. Sibbett, G. C. Martin

Objective: To observe and evaluate effects of the plant growth regulator PP333 on tree growth, nut quality of walnut, and pistillate flower and abscission.

Procedure: Heavily pruned Serr and Tehama walnut trees were treated by soil injection in spring of 1982 with either 1, 2, or 4 lbs/Ac PP333. In spring of 1983 one-half of the 1982 treatments were retreated in addition to a new similar experiment initiated that year. Observations of growth suppression were made each year, and nuts were sampled to determine effects on quality. In 1983, measurements of flower abscission were made.

Results - Growth Retardation: Walnut tree growth is suppressed 45-60%, according to visual observations and ratings, up to 2 years following treatment. Suppression is beginning to diminish in the Tehama cv treated with 1 lb/Ac in 1982. Continued growth suppression is occurring in all other treatments.

Nut Quality: Nuts harvested in 1982 & 1983, and submitted to Diamond Walnut Growers were lower in quality when treated with PP333. We surmise greater exposure to sun when growth is suppressed to be the reason.

Pistillate Flower Abscission: No effect of PP333 on pistillate flower abscission in 1983 could be measured due to treatment of either Serr or Tehama cv in 1982.

Conclusion: Due to limited size of this observation plot, the only conclusion that can be drawn is that PP333 can cause substantial growth suppression in walnut. This material may eventually have promise in ultra high density planting sclerosis and future work should include such trees.