Maturity, quality, and production of "Thompson Seedless" grape as affected by frequency of giberllic acid sprays with and without naphthaleneacetic acid

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Thampson seedless grape is commercially sprayed with GA to increase berry size. Application of 20 to 40 ppm Ga at the fruit set stage increases size. Table grape growers of the southwest United States routinely apply GA but there is no consensus on the frequency of GA sprays needed for increaseing berry size, maturity and yield. Effects of frequency and timing of gibberllic acid (GA) with and without naphthaleneacetic acid (NAA) on time of harvest, yield, berry maturity and quality of "Thampson Seedless" grape *(Vitis vinifera)* under the desert conditions of southwest Arizona over two growing seasons were studied.

Vines sprayed with GA at bloom and/or fruit set had smaller and more tender berries with higher soluble solids concentrations (SSC). Color, and SSC/acid ration, thus higher number of harvestable clusters and yield at the first harvest than those which received a higher number of GA sprays. Three GA sprays (at bloom, at fruit set, and a week later) showed overal satisfactory yield, berry maturity and quality, and thus are recommended for the condition of this experiment. A fruit set condition of NAA to 5 frequent GA sprays tended to enlarge berries over control on one GA spray treatments and to increase SSC over 5 frequent or infrequent GA spray alone. Five sprays of GA alone delayed berry maturity, without any yield or quality advantages over 3 GA sprays, and thus are not recommended.