

Chemical regulation of fruit drop by NAA, 2,4-D, CCC and study of flower induction in Mango (*Mangifera indica* L.)

E. Sabeki

Sistan, Balochestan Agriculture Research Center, Iranshahr.

Mango is one of the most important tropical fruits in southeast provinces of Iran (Sistan Balochestan and Hormozgan). It is grown extensively in these areas because of the favourable coastal climatic conditions. Although this crop has an economical potential no documented research work has been reported.

One of the prime problems in this crop is extensive fruit drop which drastically reduces the yield. Therefore, experiments were conducted in two separate areas a: in the Chahbahar experiment station, b: in a private orchard in Rask, on 14 to 16 years old trees of uniform growth and vigour of cv. Sandri using three growth regulators NAA, 2,4-D and CCC to evaluate the effects of these plant growth regulators on fruit retention. The hormones were applied once at pea stage, (5-6 mm diameter), twice at pea stage and 28 days later. The experiment was laid out in a completely randomized design with four replications.

Results indicated that growth regulators significantly improved fruit retention and physico-chemical composition of fruit i.e., length, diameter, weight, volume, total soluble solids and total yield. Best results were obtained with once or twice spray of 25 and 50 ppm NAA, twice spray of 10 and 20 ppm 2,4-D, once spray of 20 ppm 2,4-D and once or twice spray of 100 and 200 ppm CCC, respectively.

Laboratory work was also carried out to find out the approximate time of flower bud induction and differentiation. For that from September on every two weeks, two branches on each tree were selected and defoliated halfway and ringed. At the same time, buds were collected for microscopical study of flower bud differentiation.

Results indicate that in cv. Sandri, 4 to 6 weeks before anthesis, flower induction occurs and flower differentiation continues without interruption.