Post harvest chemical induction of vegetative growth and its physiological behavior in relation to regulation of flowering in 'Alphonso' mango (*Mangifera indica* L.)

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Acta Horticulturae 992: 193-200. 2013.

Abstract

The influence of nutrients and different chemicals (KNO_3 – 3%, $NH_4(NO_3)_2$ – 2%, Thiourea – 0.5%, Urea – 2%, GA_3 – 50 ppm, Hydrogen cyanamide – 2%, Ethrel – 3000 ppm) and cultural treatments (light pruning, irrigation) applied at post harvest stage on old and new shoots, was investigated on 34 years old mango during 2008-09 in randomized block design with three replications with the aim to induce post harvest early vegetative growth, followed by flowering. All the treatments significantly influenced the duration and percentage of post harvest vegetative growth and flowering along with yield. Among the treatments, Potassium nitrate (3%) showed significant effect on early induction and higher percentage of vegetative growth in both the types of shoots (Old: 87.67% and New: 55.67%) over control (65% and 40.33%) followed by 2% ammonium nitrate (76.67%) and 2% urea (77%). Both the sources of nitrogen i.e., thiourea (0.5%) and potassium nitrate (3%) resulted in significantly higher flowering percentage (77.17% and 67.5%) over rest of the treatments, whereas KNO_3 induced early flowering by 19.87 days, over control. Similarly, KNO_3 (3%) retained significantly higher number of fruits per panicle (4.20), followed by light pruning (4.13) over control. GA_3 and foliar spray of urea resulted significant increase in chlorophyll content up to flowering and gradually decreased with advancement of flowering. The C:N ratio estimated at four stages revealed that old shoots (12.95, 12.72, 9.60, 8.75) significantly recorded higher C:N ratio over group of new shoots (12.69, 12.30, 9.58, 11.74) except at the fruit bud stage.