

ABSTRACT

The Effects of Potassium Nitrate and Boron on Flowering
and Fruit Set of Two Mango (*Mangifera indica* L.)

Cultivars in Dominica, West Indies

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In high rainfall areas, sparse, irregular flowering, low fruit retention and a short harvest season are among the major agronomic constraints to the commercial production of certain mango cultivars with export potential. The objective of this study was to evaluate the efficacy of potassium nitrate (KNO_3) and boric acid on flowering, fruit retention, yield and fruit quality of cultivars, 'Julie' and 'Tommy Atkins' in Dominica.

The effects of foliar applications of 6% KNO_3 and 0.3% boric acid on "off-season" flower induction, fruit retention and yield in cultivar 'Tommy Atkins' were evaluated over a two year period. Treatments were applied on September 17, 1990 and September 26, 1991 to twelve-year old trees in a pure stand orchard at Palm Tree, Woodford Hill. Rainfall receipt was 2,466 and 2,074 mm in 1990 and 1991, respectively. In both years KNO_3 significantly ($P < 0.001$) increased the number of panicles, fruit retention and the number of fruits produced per

tree. Boric acid had no significant effect on any of these parameters.

ACKNOWLEDGEMENTS

The effects of 6% and 8% KNO_3 on flowering, fruit retention, yield and fruit quality on cultivar 'Julie' were examined at Fond Canie during the "on-season". Treatments were applied on February 5, in 1991 and 1992, to trees in a seven-year old pure stand orchard. Rainfall receipt was 1,700 and 1,426 mm in 1991 and 1992, respectively. There were no significant responses to the treatments.

Express my appreciation to Biometricians, Mr. Bruce Lauckner and Dr. Lystre Paul (CARDI), and Dr. Isaac

Beke. It was concluded that KNO_3 has potential to increase yield in cultivar 'Tommy Atkins' by induction of "off-season" bearing and by increasing fruit retention. The absence of flowering and yield responses in cultivar 'Julie' during the "on-season" requires further investigation.