Flowering induction with potassium nitrate in litchi in India

In litchi yields are often irregular and suffer from alternate bearing. Productivity in off-years is unacceptably low. Therefore the effects of Ethephon (0.4 ml/L), Potassium nitrate 1% and TIBA (tri-iodobenzoic acid) 0.1% on flowering and fruiting in India were studied over 4 years. Treatments were applied by 4 sprayings at 30-days intervals, in the months September to December.

Potassium nitrate could replace the need for vegetative dormancy period, and induced higher flowering rates than plant growth regulators (Figure 1). The higher flowering resulted in higher yields, mainly in “off” years and thus produced highest yields also on 4-years basis, 52% higher than the control (Figure 2).

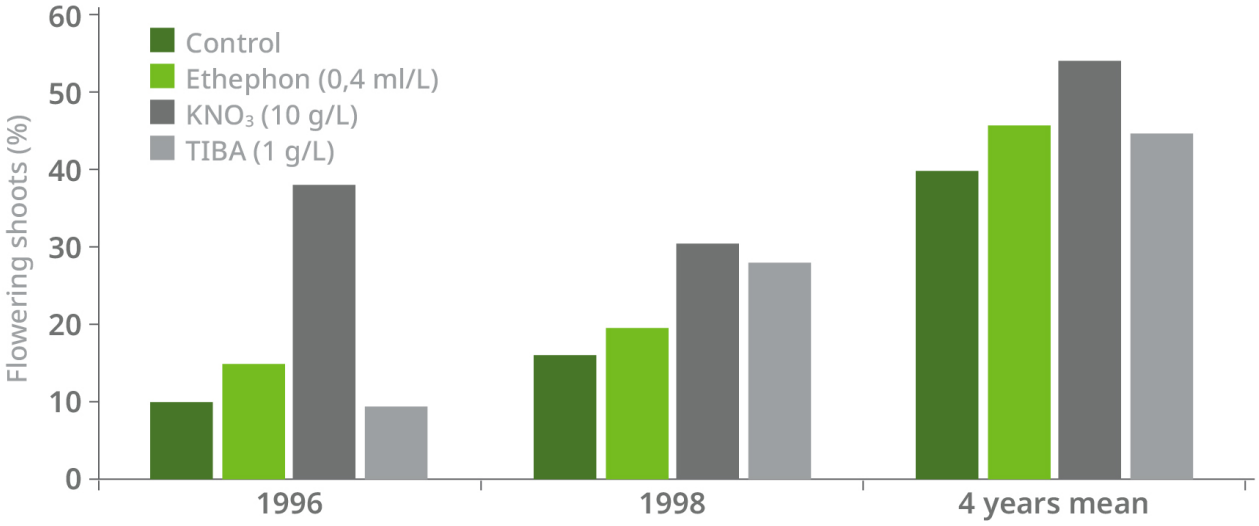

Figure 1.Effect of flower induction treatments on flowering shoots (%) in litchi trees in ‘off’-years.

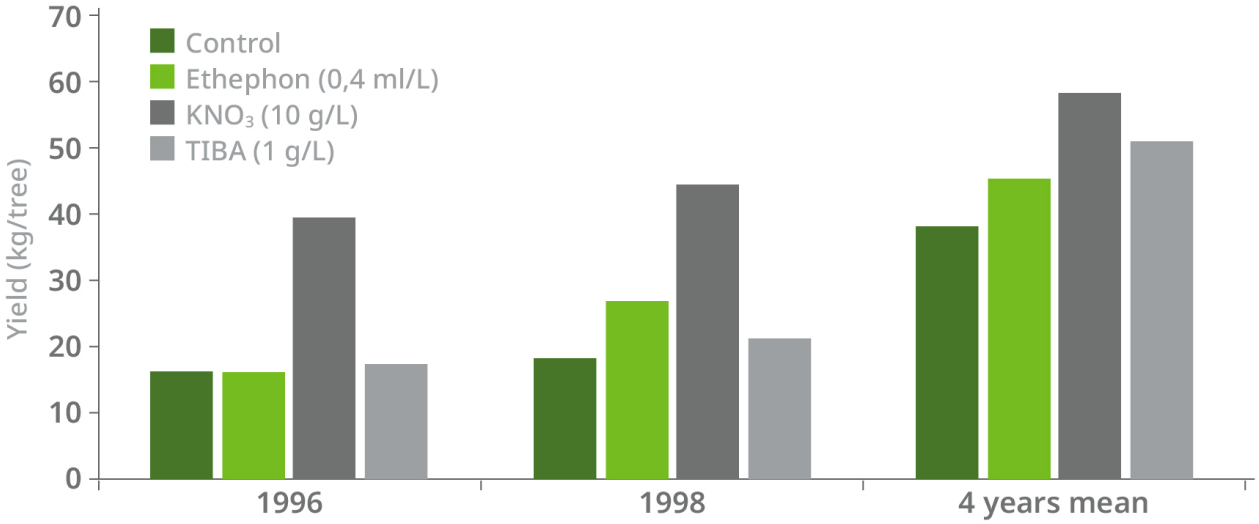

Figure 2. Effect of flower induction treatment on the yield of litchi trees in 'off'-years.