



## Thesis Abstract

### **Use of Trunk Injection Technique and Alternative Compounds in Promoting Flowering of *Carabao* Mango (*Mangifera indica* L.)**

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A trunk injection technique is a feasible alternative of applying flower inducers in mango trees. Injecting four ml of paclobutrazol (25% SC at 1g a.i. per meter canopy) in two 4mm holes (bored at 45° angle, 2.5cm depth) to 4-5 year old *Carabao* mango trees grown in polybags resulted to shorter shoot length and wavy leaves, indicating uptake of the compound. Injecting 2ml of Ethrel (48% SC), four months later resulted in 70% flowering, compared to the Ethrel-sprayed trees with 5%, and water-injected control with 0%. Starch and nitrogen levels in the leaf tissues of treated trees were low. Morpho-anatomical study confirmed the efficiency of trunk injection as a feasible alternative to spraying of Ethrel in mango.

Spraying of alternative bud break agents in paclobutrazol treated trees showed that nitrogen-based compounds ( $\text{Ca}(\text{NO}_3)_2$ ,  $\text{NH}_4\text{NO}_3$ , and  $\text{NaNO}_3$ ) induced 22-50% flowering compared to 10-12.5% flowering from potassium-based compounds ( $\text{K}_2\text{SO}_4$ , and  $\text{KCl}$ ). Control trees gave no response. The positive control,  $\text{KNO}_3$ , which exhibited 77.5% flowering, is still the best bud-break agent for mango.