

## **An investigation of induction of flowering in vanilla (*Vanilla fragrans*) using foliar fertilizer**

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Vanilla is a tropical climbing orchid which belongs to the family Orchidaceae. *Vanilla fragrans* is by far the most economically important species as a source of natural vanillin. The major problem in vanilla cultivation in Sri Lanka is low yield due to unavailability of sufficient number of flowers for pollination even after adopting recommended cultural practices. Therefore, this study was undertaken to investigate the feasibility of enhancement of flowering and yield in vanilla by application of foliar fertilizers.

The experiment was conducted in Rambukkana using 6-8 year-old well-grown vanilla plantation established under coconut plantation. Well grown six vines with five loops were taken for a plot. These vines were looped on trellis and they were allowed to droop after 5-6 feet. Shade was reduced to receive 70-80% sunlight and vines were pruned by removing 4-5 nodes in January. Flowers were pollinated in April – May. Two different foliar fertilizers i.e., (a) NPK 20:20:20 (b) Foliar fertilizer NPK 13:27:27 were applied in 10 day intervals from January 2003 to end of 2005. Control vines were sprayed with water without fertilizer. All treatments were replicated 4 times and experimental design used was RCBD. Data were collected on number of flower clusters and number of pods developed. Pod length and pod weight were taken and recorded at the harvesting stage. Data on length and weight were analysed using ANOVA and LSD was used to compare the treatment differences. Data

on counts (number of clusters and pods) were analysed using non-parametric method (Kruskal Wallis test).

Flowers initiated in March and pollinated in the same day of opening. Significant difference was found only in number of pods per plot in 2005. The number of pods was significantly higher in vines sprayed with fertilizer 13:27:27 (166.3 pods per plot). High phosphorous and potassium were known to be inducing flowering in plants. However similar trend was not observed in the data in 2005 due to interruption of the dry period in January-February. As a result, more vegetative buds were produced instead of flower buds in vanilla. Very poor vanilla production was reported in other areas in the country during the year 2005.

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