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**Comparison of different training systems and effects of foliar fertilizer  
on growth and yield of vanilla (*Vanilla fragrans*).**

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The major problem in vanilla cultivation is low yield due to the unavailability of flower clusters for pollination, even after adopting recommended cultural practices. Therefore this study was undertaken to compare the different training systems and effects of foliar fertilizer on the growth and yield of vanilla. The experiment was conducted at the Export Agriculture Research Station, Matale. *Gliricidia* shade trees were established at 8' x 5' spacing in early 2004 and vanilla cuttings were planted. Two different training systems were adopted i.e., single (individual) system and trellis system. A trellis was made by tying up two adjoining *gliricidia* branches. All management practices were adopted according to the recommendations. When the vines reached a height of 5-6 ft they were allowed to droop on individual trees as well as on the trellis. Shade was reduced by pruning of *gliricidia* branches to receive 70-80 % sunlight and vines were pruned by removing 4-5 nodes in January for induction of flowering. Two different foliar fertilizers (each at two levels) were applied to the vines i.e., Maxi-crop (0 g/l and 2 g/l) and foliar fertilizer with N:P:K 13:27:27 (0 g/l and 2 g/l). These two foliar applications were sprayed rotationally at two week intervals after six months of establishment of the vines.

Seven vines were used per plot and a total of 84 vines were used for the experiment. All treatments were replicated three times. The experimental design used was the Randomized Complete Block Design (RCBD). The number of flower clusters, number of flowers pollinated, number of pods developed and final yield with fresh weight and length of a pod were recorded. First flowering was observed in 2006 after 2 years of establishment. The number of flowering seasons varied from 1-3 per year i.e., one flowering season in 2006, 2009 and 2010, two flowering seasons in 2007, three flowering seasons in 2008. The highest flowering and yield within the period of 2006-2010 was obtained in 2009 with a single flowering season. The five year cumulative yield (fresh weight) from 2006-2010 were 2,672.4 kg/ha single vines system with fertilizer, 3,387.4 kg/ha single vine system without fertilizer, 3,300.0 kg/ha trellis system with fertilizer and 2,643.2 kg/ha trellis system without fertilizer. Significant differences were not found among the treatments. A distinct drought period of two months from February to March is required for flower initiation in vanilla. The increased concentration of peroxidase within the vine is believed to be the factor for induction of flowering in vanilla.