INFLUENCE OF NITROGEN FERTILIZER ON GROWTH AND YIELD OF BEAN (PHASEOLUS VULGARIS L.) IN THE UP-COUNTRY INTERMEDIATE ZONE

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Bean (Phaseolus vulgaris L) is one of the most extensively cultivated vegetable crops in the up-country intermediate zone, receiving considerable quantities of chemical fertilizer. While about 140 kg N/ha is currently recommended for bean, the available information on the behaviour of the plant to the application of nitrogen is very scarce. A field experiment was conducted at Rahangala to determine the effects of different levels of nitrogen on the growth of bush bean and pole bean.

Pod yield and number of pods per plant in bush bean increased linearly to the addition of up to 120 kg N/ha. Root nodule dry weight reduced significantly as the level of nitrogen increased beyond 40 kg/ha.

Pod yield of pole bean increased linearly to the addition of nitrogen but yield increases from 40 to 120 kg/ha were not statistically significant. The number of pods per plant increased with increasing addition of nitrogen although the differences were not statistically significant. Root nodule dry weight reduced significantly as the level of nitrogen increased beyond 40 kg/ha.

While pod yield of pole bean was about twice as high as that of bush bean, the fetilizer nitrogen requirements for pole bean was lower than that for bush bean. One of the reasons for this differential nitrogen response may be attributed to the much higher nodulation observed in the pole bean cultivar tested.