

**EFFECT OF DIFFERENT FERTILIZER LEVELS ON  
GROWTH CHARACTERISTICS AND QUALITY  
SEED YIELD OF YARD LONG BEAN  
(*Vigna unguiculata* Subsp. *Sesquipedalis* L.)**

A dissertation submitted to the  
Faculty of Animal Science and Export Agriculture  
Uva Wellassa University  
In partial fulfillment of the requirements for the award of  
Bachelor of Science in Export Agriculture

By  
**HANGIDI GEDARA SAMAN THUSHARA  
KARUNARATHNA**

**Export Agriculture Degree Programme  
Faculty of Animal Science and Export Agriculture  
Uva Wellassa University of Sri Lanka**

**2014**

## ABSTRACT

Yard long bean, is one of the extensively grown crops in South Asia as a high protein crop. It belongs to the family Fabaceae (formerly Leguminosae). Although, there is a shortage of quality seeds for yard long bean cultivation, limited research has been conducted on quality seed production in Sri Lanka. Fertilizer effect on quality seed production is not explored so far. A study was initiated with the aim of investigating the quality and quantity of seeds produced upon different fertilizer levels. An experiment was conducted using with nine different treatments in a Randomized Complete Block Design (RCBD) with three replicates at the field of Horticultural Crop Research and Development Institute (HoRDI), Gannoruwa during May to September 2014. Growth parameters such as plant height, leaf number, internodal length, number of side branches, leaf area were measured at different age of crop. Reproductive growth parameters such as days taken to 50 % flowering, number of pods per plant, pod length, and number of seeds per pod was recorded. Apart from that seed quality parameters such as 100 seed weight, seed length, width, germination percentage and seedling vigor were assessed. The data were exposed to Analysis of Variance (ANOVA) using Minitab statistical package. Results revealed that changing of fertilizer levels may not significantly ( $P > 0.05$ ) affected to the plant height, internode length, leaf area, days taken to 50 % flowering, pod length, number of seeds per pod and germination percentage and seedling vigor index. Also higher level of N increased the number of side branches and higher level of N:P:K had significantly ( $P < 0.05$ ) increased the number of pods and seeds per plant. Further, increasing the level of K in Department of Agriculture (DOA) recommendation had resulted in higher 100 seed weight. Considering quality and quantity parameters, it can be concluded that increasing the N:P:K level than the present fertilizer recommendation could enhance the both seed yield and quality. Increasing only K level of the present fertilizer recommendation could enhance the quality of seed yield.