

**EFFECTS OF MAIZE PLANTING PATTERN ON MAIZE AND BEAN  
PRODUCTIVITY IN AN INTERCROP**

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**INTRODUCTION.**

Most crop recommendations are for monocropping although intercropping is commonly practised by the smallholder who grows the bulk of food crops in the tropics. The objective of the trial described here was to evaluate the effects of growing beans in association with maize, using the sole crop maize planting patterns recommended for Tanzania.

**MATERIALS AND METHODS.**

A field trial was conducted between 1988-91 at two locations: Lambo Estate near Moshi (1020 metres above sea level), and at the Agricultural Research Institute, Selian (1370 metres above sea level). Two bean cultivars: Lyamungu 85, (LY.85), a Calima of growth habit type I and Masai Red (M.Red) a red haricot of growth habit type III were grown in association with maize as indicated in Table 1.

Table 1. Summary of planting patterns used.

Treatment No.	Inter-row spacing (cm)	Intra-row spacing (cm)	No. of plants per stand
1	90	25	1
2	90	50	2
3	75	30	1
4	75	60	2

Beans in association with maize in all treatment combinations were grown in a single row between two rows of maize; and the planting density was the same for all treatments and for both cultivars. Beans in monoculture were sown in rows 50cm apart with an intra-row spacing of 20cm, with two seeds per stand. The treatments were replicated three times, and both crops were fertilized according to recommended practices.

**RESULTS AND DISCUSSION.**

Combined analysis of bean yield showed that there were no significant differences between the two locations. However, differences between the bean genotypes and genotype x location interactions were significant. Planting pattern had no significant effect on bean yield (Fig 1 ). Maize yields were not significantly different between the two bean cultivars (Fig 2). The results of this trial showed that, in this instance, the recommendations for monocrop maize were equally applicable to the maize intercrop.

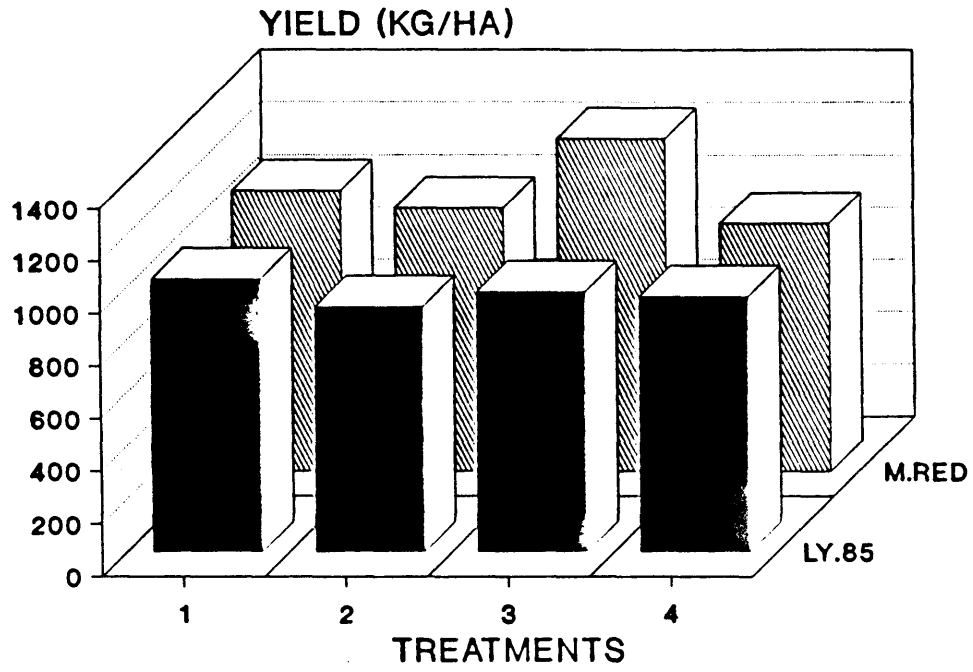


FIG. 1 BEAN YIELD

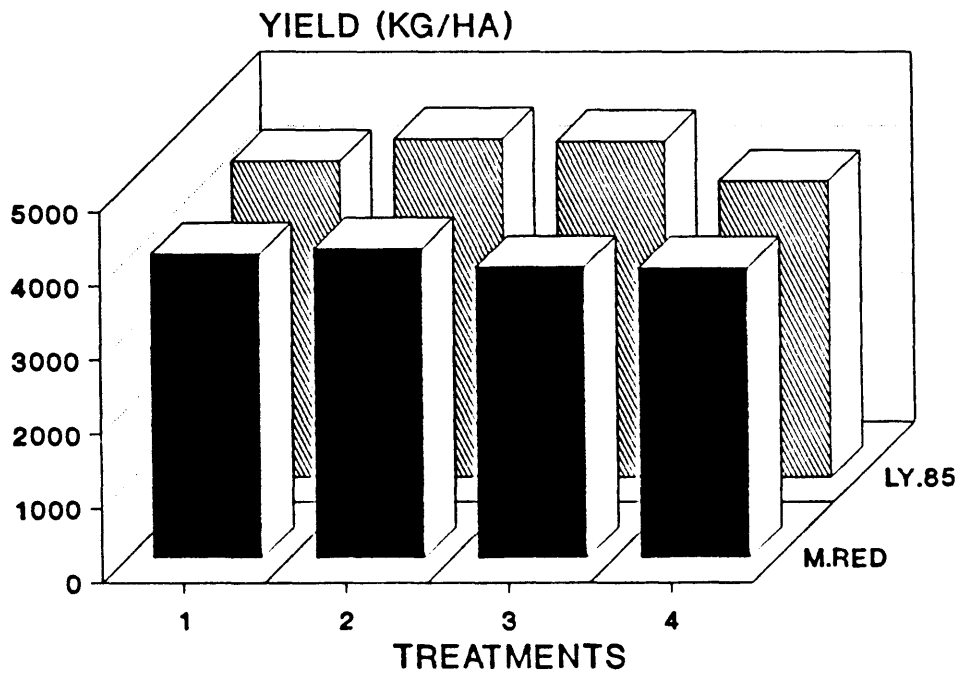


FIG. 2 MAIZE YIELD