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Introduction

Cassava in Uganda is propagated by 25 – 30cm long stem cuttings which are bulky, wasteful and result in a low seed multiplication ratio, a key constraint to cassava seed systems. The quality of cassava seed can be reduced by pathogens, mites and insect attacks. Treating short cassava seed pieces with a combination of fungicides and insecticides reduces the incidence of pests and diseases. Additionally, sprouting and vigour are increased leading to enhanced yield and multiplication rate of cassava seed.

Materials and methods

Stem cuttings of 12cm, 16cm and 24cm of the cassava varieties NASE 14, NASE 19 and NAROCASS 1 were treated with different plant protection products (Figure1: A & B). The experiment was established in three locations. Data was collected on sprouting count, vigour, plant height (Figure 1C) and termite incidence (Figure 5B) at 1, 3 and 6 months after planting.



Figure 1: Activities (A) Treating stems (B) Treated stems (C) Data collection

Results

Short, treated (12cm) stem pieces showed the same or better plant density (Figure 2 & 3), sprouting (Figure 4A) and plant height (Figure 4B) against long (24cm) untreated stem pieces. Seed treatment increased plant vigour (Figure 3) and reduced termite incidence. (Figure 5A)

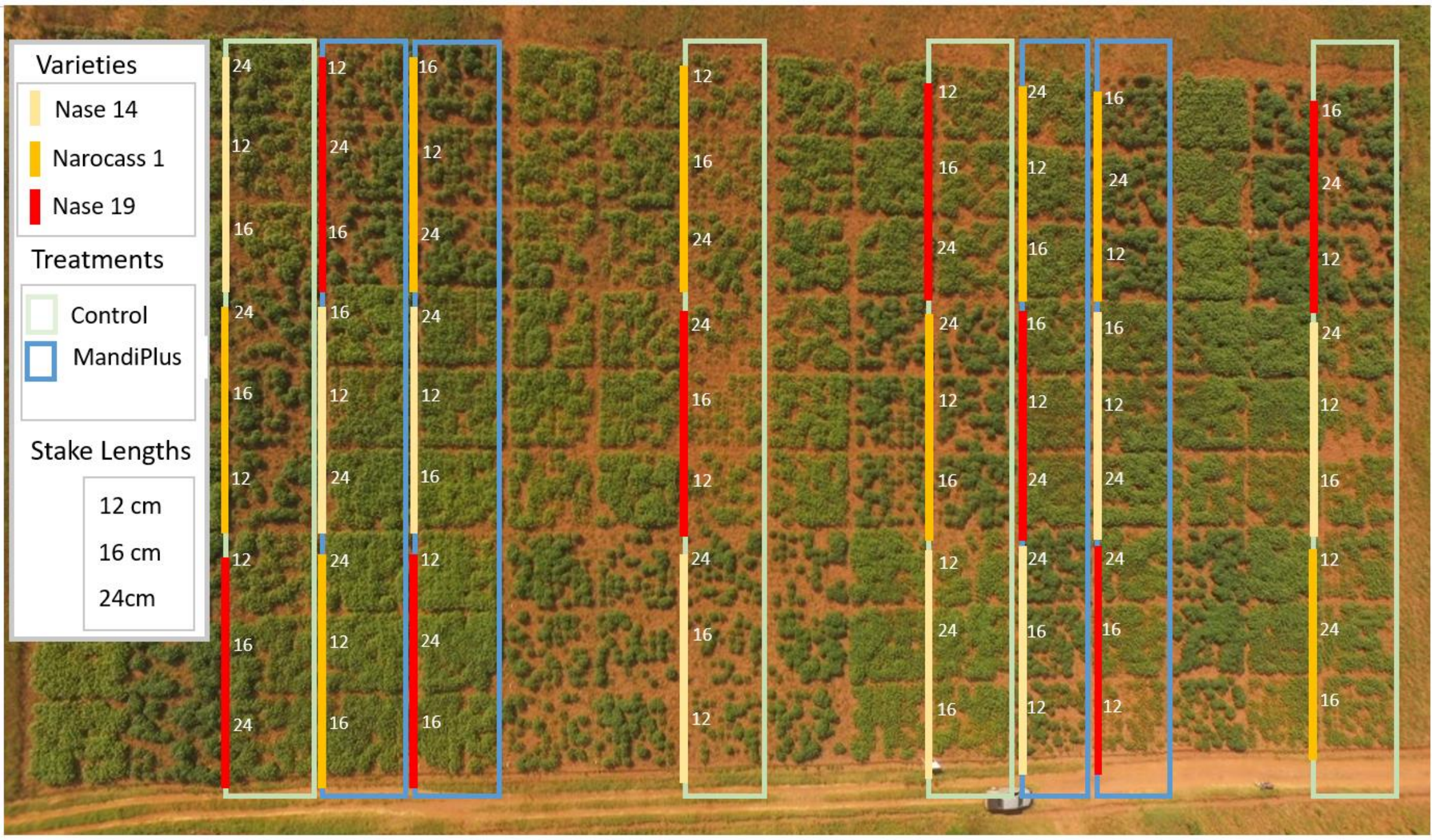


Figure 2: Aerial image showing plant density variation across treatment, variety and seed piece length



Figure 3: A marked difference in vigour and plant density between treated and untreated 12cm stem pieces

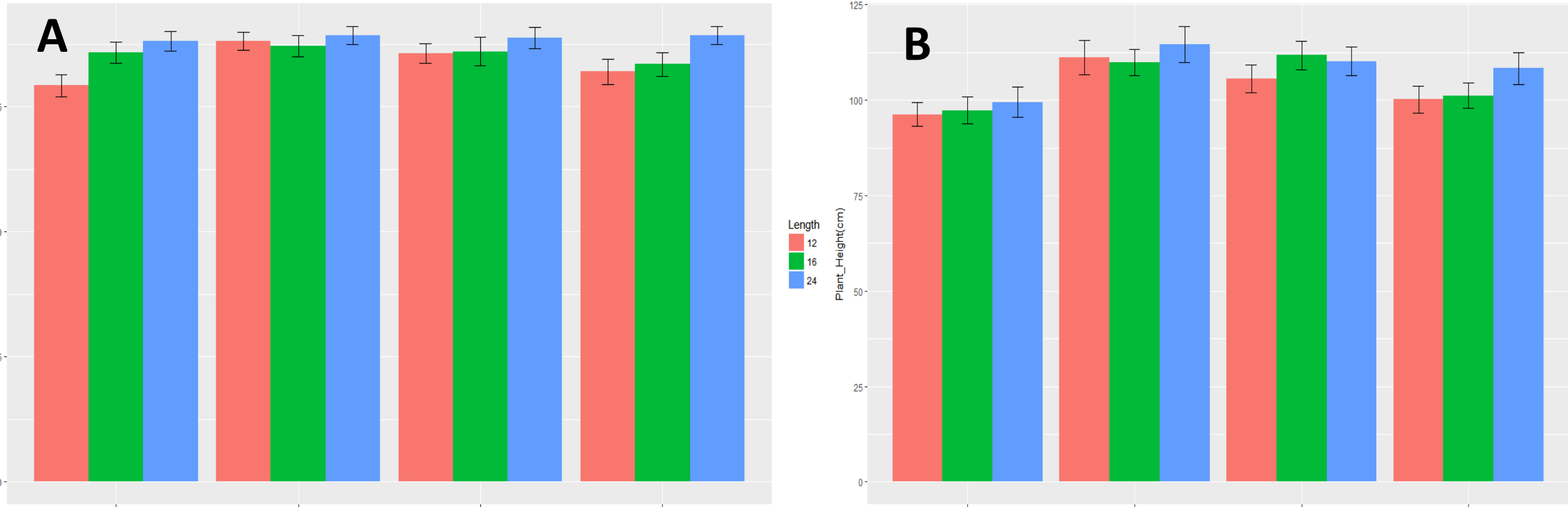


Figure 4: Treatment enhanced percentage sprouting (A) and plant height (B) in short stem pieces

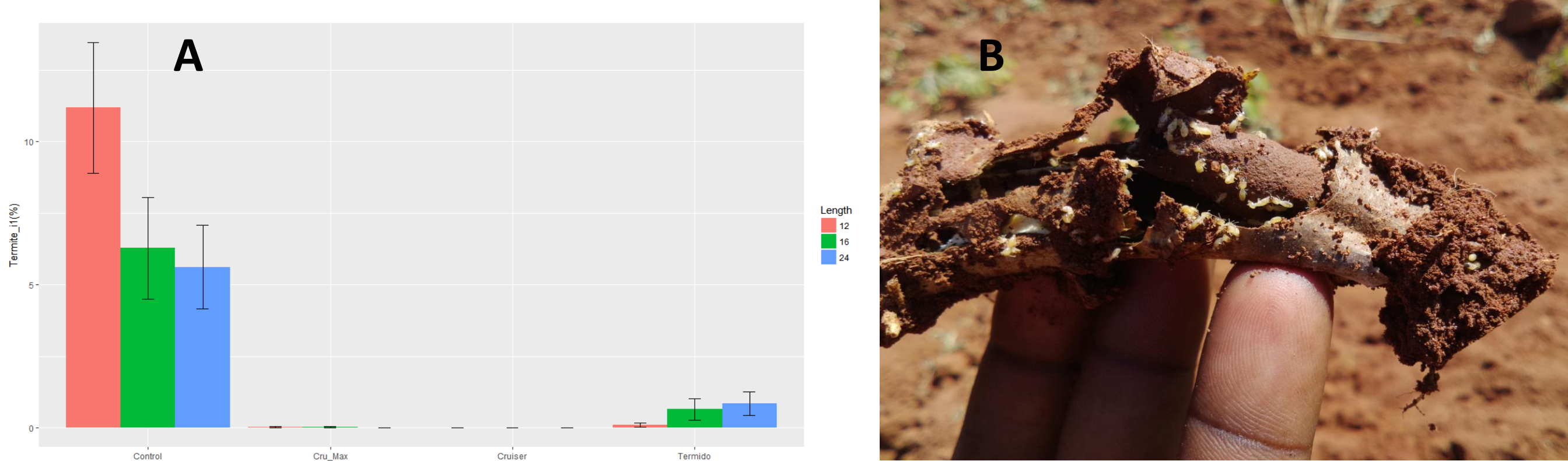


Figure 5: Termite damage control (5A) Treatment highly reduced termite incidence (5B) Untreated stem piece eaten by termites

Conclusions

Improved sprouting percentage, early vigour and plant height through “MandiPlus” treatments are early indicators of increased seed yield and seed multiplication rate. Doubling or tripling the seed multiplication rate using “MandiPlus” seed piece treatment can be achieved.