

IMPACT OF MANAGEMENT INTENSITY AND SHADING LEVEL ON GROWTH AND YIELD OF COFFEE GROWN UNDER *Cordia africana*

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Abstract (C2079)

This study was conducted to investigate the impact of management intensity and shading level of *Cordia africana* on growth, clean bean yield and % grade 'A' beans of coffee (variety K7). The trials were set up at the Coffee Research Foundation (CRF) demonstration farm and two smallholder coffee farms in Namwela, Bungoma county. The three farms represented high, medium and low management intensity treatments, respectively. The distance from the shade tree trunk (0-2.5m, 2.5 – 5 m, 5 -7.5 m and full sun) represented different shading level treatments. The objective was to assess the extent to which shading could be used to complement or offset low intensity management. High management intensity coffee farm was subjected to all agronomic practices recommended by CRF, medium intensity management farm received minimal amounts of inputs (fertilizers and pesticides) while low management intensity farm was not supplied with external inputs. Management intensity and shade level had significant effects on length of primary branches, number of nodes, clean bean yield and % Grade 'A' beans. Clean coffee yields were significantly higher under high management intensity than under medium and low management intensities. Shaded coffee had significantly higher clean bean yields than unshaded coffee under medium and low management intensities. There were no bean grade differences among shading levels in high and low management intensities, while higher shading levels (0-2.5 m, 2.5-5 m) had significantly higher % Grade 'A' coffee beans than unshaded trees. These findings suggest that shading can be used to enhance coffee yields without loss in quality, especially under smallholder low input conditions.

Key words: Shade, *Cordia africana*, management intensity, coffee, nodes