

The Effect of Green Manure Application to Coffee Plants Growth, Yield and Quality in Kenya

J. K. KIMEMIA¹, J. A. CHWEYA², J. O. NYABUNDI³

¹Coffee Research Foundation P.O. Box 4 Ruiru, Kenya

²Department of Crop Science, University of Nairobi P.O. Box 30197 Nairobi, Kenya

³Department of Horticulture and Environmental Studies,
Maseno University College Private bag, Maseno

ABSTRACT

Green manures from leguminous plants have been used extensively as source of plant nutrients mainly in annual food crops. The current study focused on whether they can be used successfully in coffee in order to reduce the heavy costs associated with fertiliser application. Green manures from different leguminous plants were applied to young coffee plants at establishment phase at Coffee Research Station, Ruiru, Kenya between 1992 and 1997. The coffee plants were planted at a plant density of 2500 trees/ha while the green manure plants were either interplanted with the coffee or grown outside the coffee plots. Foliage from the plants was cut at three-month intervals and the foliage applied around the coffee trees as mulch.

The applied green manures except that from desmodium did not significantly affect the coffee plant height, stem diameter, number of primaries or nodes per primary. Application of the green manures did not significantly affect clean coffee yields, bean size, coffee liquor qualities during the first production cycle. They can therefore be recommended for use in coffee production. Further work on their management, decomposition and nitrogen mineralization and utilisation is suggested.