

Mugendi DN, Mochoge BO, Coulson CL, Stigter CJ and Sang FK 1994. Decomposition of *Cassia siamea* in the semiarid Machakos, Kenya. *Arid Soil Research and Rehabilitation* 8:363-372.

Abstract

The rate of decomposition of Cassia siamea Lam. prunings in an alley cropping system was investigated using litter bags in the semiarid area of the Machakos District, Kenya, during the short rains of 1988 and the long rains of 1989. Cassia siamea had been grown as the hedgerow species since 1983. Loppings were used as mulch incorporated into the soil for green manuring. Approximately 70–90% of the loppings could decompose exponentially within 60 days, a relatively low rate. Younger material decomposed faster in the long rains than older material in the short rains. Nitrogen content and C/N ratios explain this result. They also meet critical values in the literature for nitrogen availability to the crop. Position in the alleys had no significant influence on decomposition. Outside the rainy seasons, termite activity appreciably influenced diminution of decomposing material. Fungi had a role throughout, but bacteria may be supposed to be the predominant agent within the rainy seasons.