

Effect of incorporating *Cassia siamea* prunings on maize yield in an alley cropping trial in semiarid Kenya

Mugendi, D.N.; Mochoge, B.O.; Coulson, C.L.; Stigter, C.J. & Sang, F.K.

### **Abstract**

The influence of soil-incorporated *Cassia siamea* prunings on nutrient status of maize leaves, grain and yield was studied in an alley cropping experiment in semiarid Machakos, Kenya, during the 1988 long and short rainy seasons. The trial was established in 1983 and in all the seasons Katumani composite B maize was sown, except in the short rains of 1988 when Hybrid 511 was planted. Plots consisted of 3 cropped alleys between cassia hedges spaced at 3.6 m apart. The hedges were lopped at the beginning of every season (on-set of rains) and the prunings incorporated into the alleys one day before maize seeds were sown. The control plots had no hedges and hence no prunings were incorporated. Incorporation of prunings into the soil increased nutrient concentration in the maize leaves, grains and soil in the treatment plots compared to the controls. Maize grain yield on a per row basis was also higher in the plots that received prunings application compared to the controls. However, on an area basis, the yield increase was insufficient to compensate for the area lost to the *Cassia siamea* shrubs.

### **Keywords**

Agroforestry, hedge row intercropping, cassia shrubs