

Effects of Soil Type and Manure Level on the Establishment and Growth of *Moringa oleifera*

Abstract

Moringa oleifera is considered one of the most useful trees being promoted across the world for its nutritional value. However, the production requirements of this crop are seldom known. The study was conducted to investigate the effects of soil type and cattle manure on initial establishment and growth of *M. oleifera*. Greenhouse experiments were conducted at Africa University, Zimbabwe in a 4×4 factorial treatment structure laid in a randomized complete block design replicated 3 times. Sandy, sandy loam, clay loam and clay soils were used while cattle manure was applied to all the soils at levels of 0, 10, 20 and 40% on mass to mass basis. Results showed that, plant height, number of branches, basal stem diameter, root, shoot and total dry biomass significantly increased ($p < 0.05$) with an increase in the amount of cattle manure applied. An increase of 173% in *M. oleifera* height was recorded where 40% manure was applied. Clay loam soils significantly increased ($p < 0.05$) *M. oleifera* growth rate. The study showed that application of cattle manure in acidic granitic sandy soils enhances the production of *M. oleifera*. A combination of clay loam and 40% manure was concluded as the best for *M. oleifera* establishment and growth.