

Growth and phenology of a three- to four-year-old *Sclerocarya birrea* international provenance trial in Malawi

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Indigenous wild fruits of *Sclerocarya birrea* have been used to supplement diets in time of critical food shortage, generate income when sold and as a source of raw materials for natural food-based industries in many developing countries. However, the widespread clearing of woodlands for agricultural production and settlement threatens not only the woodland ecosystem but also the gene pool it houses. For this reason, an international provenance *cum* family trial of *Sclerocarya birrea* was established to ascertain the natural variability in wild populations by evaluating growth and fruiting parameters. Twenty-two provenances of *Sclerocarya birrea* were assessed for height, root collar diameter and number of branches at three years of age at Palm Forest Reserve in Mangochi, Malawi. Other assessments included flowering and fruiting time and prevalence of pest and diseases after four years of growth. There was significant variability ($p \leq 0.01$) between the 22 provenances in root collar diameter, height and number of branches. The Marracuene provenance from Mozambique was the most outstanding in all the three parameters measured attaining mean height, root collar diameter and number of branches of 2m, 8cm and 10, respectively. The Marracuene (Mozambique), Mali and Namibia provenances started flowering at three years with flowering at this site starting around September and by December the trees were in fruit. In terms of fruit quantities, the Marracuene provenance from Mozambique was outstanding with 1 120 fruits followed by Tanzanian provenances, whereas the Malian was least productive in terms of fruiting. The damage caused by pests and/or diseases was apparent mostly in the foliage. Therefore it is recommended that future assessments should measure the effect of pests and diseases on fruit production. Future studies should also investigate the correlation of growth parameters and fruit production.