Adoption of drought-tolerant crops such as cassava can help alleviate food insecurity in sub-Saharan Africa. However, production is constrained by lack of disease-free planting materials. This can be circumvented through tissue culture but the technology is costly limiting its adoption. There is therefore, need to put in place interventions that will reduce the cost of production hence making tissue culture products affordable. In this research, a low cost protocol for cassava tissue culture was developed and used to regenerate two farmerpreferred cassava varieties, KME 1 and Muchericheri. Easygro® vegetative fertilizer, a locally available foliar feed was used as an alternative source for conventional MS salts. Nodal explants were initiated on a low cost medium containing 2 g/L of Easygro® vegetative fertilizer supplemented with 30 g/L of table sugar and 9 g/L of agar and conventional medium containing MS salts supplemented with 30 g/L of sucrose and 9 g/L of agar. The conventional MS medium was used as the control. The number of leaves, nodes, roots and average plant heights for the resultant plantlets were determined and compared. The variety Muchericheri had a significantly higher regeneration index compared to KME 1 having produced a mean of 6.8 nodes on the low cost medium and 5.6 nodes on the conventional medium compared to KME 1 which had a mean of 5.6 nodes on the low cost medium and 4.5 nodes on the conventional medium.