

Abstract

Cleome gynandra (L.) is a weed that grows throughout the tropics and sub-tropics. In Kenya it is gradually being domesticated and grown as a vegetable that is used in many culinary systems for its remarkable nutritional and medicinal properties. However, the seed planted by farmers has a germination that is erratic and occurring over an extended period. The maturity stage and postharvest handling of *Cleome* seeds could be contributing to the poor quality of seeds planted by farmers. The aim of this study was to investigate the effects of seed maturity stage, desiccation and storage period on the quality of *Cleome* seed. To achieve the above objectives, *Cleome* was harvested at three developmental stages characterized by pod colour: yellow; yellow-green; green. The seeds were then dried above silica gel to 20%, 10%, 5% and 2% moisture contents. For each maturity stage and moisture content level, initial viability and vigour tests were conducted prior to storage. Viability and vigour tests were then conducted after three and six months of storage. Data was subjected to analysis of variance (ANOVA) using statistical package for social scientists (SPSS). The findings showed that *Cleome* seeds harvested from yellow pods maturity stage tolerated desiccation to 5% moisture content and recorded the highest seed quality after six months of storage.