Design of a vacuum seed metering system for kenaf planting

ABSTRACT

In this study, a vacuum seed metering system was designed and developed based on physical and aerodynamic properties of kenaf seeds (Hibiscus cannabinus L.). The kenaf vacuum seed metering system was evaluated in the laboratory by using kenaf seeds. For laboratory tests, a completely randomized design (CRD) with three replications was chosen. The data were analyzed by Statistical Analysis Software (SAS) program version 9.1 and means separation test were done by using Duncan's multiple range test (DMRT). The study results showed that the most suitable opening diameter and opening angle for planting kenaf seeds were 2.5 mm and 120°, respectively, which having the minimum missing and multiple indices with optimum quality of feed index.

Keyword: Kenaf; Physical and aerodynamic properties; Design and development; Seed metering system