

Abstract: Effects of gibberellic acid (GA₃) on dormancy termination, sprouting and quality of potato (*Solanum tuberosum* L.) seed tubers stored for 12 weeks in Diffused Light Store (DLS) and for 2 weeks in pit were determined. Potato genotypes (Tigoni, Asante, Dutch Robyn, Kenya Karibu and Kenya Sifa) and GA₃ at 0, 10, 20 and 30 mg kg⁻¹ were used. Dormancy period was reduced to three weeks in all genotypes except Kenya Sifa, which sprouted after seven weeks following GA₃ treatments in DLS. Increasing GA₃ concentrations increased sprouting (%), number of sprouts per tuber, sprout length and vigor score. However differences among GA₃ concentrations for these parameters were not observed. In the pit, the potato seed tubers sprouted within the two weeks of storage. Except for Kenya Sifa, GA₃ had no effect on sprouting and vigor score; however, it increased number of sprouts per tuber and sprout length. Increase in GA₃ concentration led to increase in rotting at 30 mg kg⁻¹ of GA₃ for Tigoni, Kenya Sifa and Kenya Karibu genotypes, under DLS. It is suggested that lower levels of GA₃ of up to 20 mg kg⁻¹ should be adopted for promotion of sprouting of potato seed tubers.

Key words: Gibberellic acid, sprouting, potato, seed, pit, diffused light