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Full Length Research Paper

Comparative studies of seed priming and pelleting on percentage and meantime to germination of seeds of tomato (*Lycopersicon esculentum* Mill.)

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Abstract

The effect of seed priming and pelletting on germination percentage and mean time to germination of local cultivars (cv.) of tomato (*Lycopersicon esculentum* Mill.) was studied in 2006 in Mauritius. Osmopriming with Polyethylene Glycol (PEG), at -1.25 MPa for 2 days resulted in significantly ($P < 0.01$) higher germination percentage (79.1%) than untreated control seed (62%) of the tomato cv. Sirius which is considered satisfactory for tomato. Besides, seeds primed for 2 days emerged earlier than seeds primed for 7 days. Acacia (*Acacia nilotica)* leaf powder which is locally affordable was used for the pelleting of the tomato seeds. The assay on seed pelleting proposed a formulation ratio (g/ml/ml) of seed: acacia powder: water of 10:3:22. Mean time to germination of the coated seeds was significantly different from that of the uncoated seed. However, meantime to germination significantly decreased in decoated seeds as compared to coated seeds. These results imply that seed coating presumably acts as a barrier that delays the emergence of tomato seedlings. Hence, pelleted seeds require decoating for enhanced germination and seedling emergence. This study concludes that seed priming and pelleting can be used to improve germination rate of seeds of locally grown tomato cultivars. These seed enhancement techniques can be adopted to standardize tomato transplant quality hence contributing to uniform crop stand in Mauritius.

Key words: Tomato, seed priming, pelleted seeds, seed germination percentage.

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