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Comparative longevity and viability modeling of *Solanum macrocarpon* L. seeds

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Abstract

In a first experiment following a controlled deterioration (CD) protocol proposed by the Millennium Seed Bank Project (MSBP), seeds of six accessions of *Solanum macrocarpon* were stored at 45°C / 60% RH and seed germination data was taken at intervals for 100 days to estimate comparative seed longevity among the accessions. The mean absolute seed longevity (P_{50}) was 47.41±12.20 days indicating intermediate longevity between the two marker species proposed in the MSBP protocol. In a second experiment, seeds of one accession were stored at seed moisture contents between 2.5 and 11.2% at 10, 20 and 45°C to estimate seed viability constants for *S. macrocarpon*. Estimates of K_E = 5.166, C_W = 3.009, C_H = 0.094, C_Q = 0.0019 were derived, suggesting that the seeds exhibited less sensitivity to storage conditions in terms of K_E and C_W than the two marker species, but longevity responses to storage temperature were comparable to other orthodox species.