A STUDY OF THE LONG-TERM STORAGE BEHAVIOUR OF *Chenopodium quinoa* WILLD. SEEDS

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ABSTRACT

A rapid ageing experiment was carried out with *Chenopodium quinoa* Willd. vars. Imbaya and Cochasquí seeds, stored at 6.4% and 12.7% moisture content and 15, 25, and 35°C. Viability was assessed at intervals of 21 days. All the storage enviroments caused a progressive decline in viability, and survival curves were used to establish provisional viability constants for this species. These viability constants KL and C_1 and C_2 were high compared with other species. Reduction of moisture content and temperature therefore are especially important in prolonging their storage life. The relationship was examined between viability and parameters of deterioration: radicle length, abnormal seedlings, tetrazolium staining, electroconductivity, germination rates and chromosomal abnormalities.

High correlations were observed between chromosomal aberrations and all parameters of seed deterioration, suggesting that deterioration of seeds may be a consequence of abnormal cell division, which is reflected in aberrant anaphases.

Saponin on the seed had no effect on germination or deterioration of quinua seeds during storage. Tolerance of desiccation was studied and very low moisture content did not affect viability. Long term storage prospects for seed of this crop appear promising.