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Effects of storage conditions on the germinability of seeds of three different browse plants

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Introduction The longevity of seeds in storage is a good indicator of seed quality and vigour in many crops . Studies have shown that environmental factors , period of storage , genetic make-up , storage conditions and storage containers are factors affecting seed viability and vigour , since seed storage environments are seldom optimal (Ellis and Roberts , 1980) .

Materials and methods 210 seeds of three different browse plants namely *Albizia saman* , *Enterolobium cyclocarpon* and *Leucaena leucocephala* were stored under four different storage conditions ie dry storage , refrigerator , deep freezer and in bottles kept on the shelf for seven months . The daily cumulative percentage germination was calculated to determine the effects of the storage conditions on the seed germination using Minitab computer package (1998) .

Results and discussion The lowest germination of seeds of all species was observed where the seeds were just left on the shelf . The highest germination took place when the seeds were stored in dry storage conditions , except for the seeds of *Leucaena leucocephala* which had the highest cumulative germination when the seeds were stored in the refrigerator . The low storage temperatures in the refrigerator and in dry storage may have been beneficial (Ellis and Roberts , 1980) .

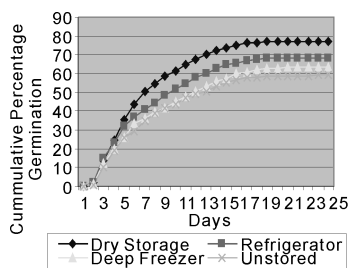


Figure 1 Effects of different storage methods on *Albizia saman* seeds .

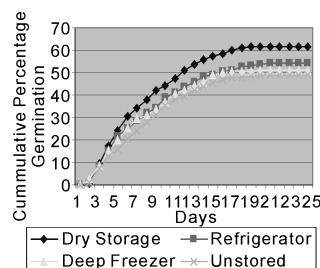


Figure 2 Effects of different storage methods on *E. cyclocarpon* seeds .

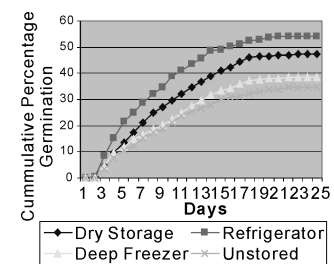


Figure 3 Effects of different storage methods on *L. leucocephala* seeds .

Conclusion All seeds of browse plants must be properly stored (eg in dry storage or in a refrigerator) since many unfavourable factors endanger seed quality .

References

- Ellis , R . H . and Roberts , E . H . 1980 . Improved Equations for the prediction of seed longevity . *Annals of Botany* , 45 , 13-30 .
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