

Practical Considerations for Genebank Design. (C08-walters162527-Oral)

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Abstract:

Ex situ genebanks are used to conserve genetic diversity. They provide a safe, replenishable supply of germplasm for agricultural or land restoration efforts. Genebank operations require technological sophistication to ensure that germplasm remains viable and genetically representative of the parent population from which it was collected. The three main considerations for genebank design are how long the germplasm must remain viable, how much germplasm will be processed and what resources are available. The purpose of the genebank and the intended use of the germplasm drive all of these questions, but especially the first. Procedures to place germplasm into suspended animation are rapidly improving, but infinite longevity cannot be achieved. When working with materials harvested from the wild, the range of seed quality and heterogeneity must be taken into consideration. Knowledge of the genetic diversity within and among accessions of a collection is needed to develop rational collection, storage and regeneration strategies.

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