

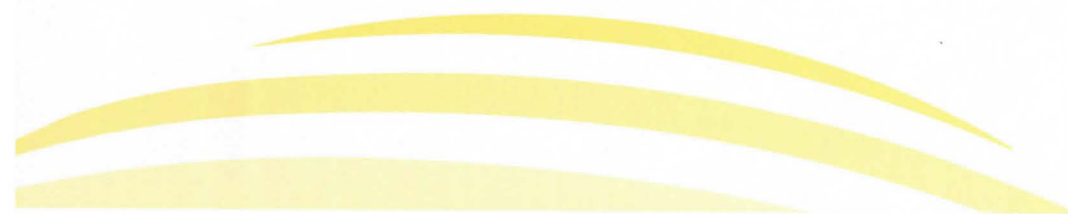
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## Strategies for conservation of genetic resources in relation with their utilization

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### Abstract:

The general interest for genetic resources is based on the opportunities offered by their utilization. Genetic resources are a necessary starting point for plant improvement. Up to now, reflection on the management of genetic resources considered a three-step linear model :

conservation → evaluation → utilization

In this system, it is expected that genetic resources are kept in a gene bank, in the best possible way, i.e. using methods maintaining over time the initial genetic state of the accessions and conferring them the longest life possible. In this system, important characteristics of conservation of genetic resources are stability and availability. We present a choice of methods of conservation directed to the maintenance of genetic stability of accessions. We present also methods of conservation in relation with the availability of the genetic material for the various utilizations by the plant breeder.

Complementary methods are now proposed for the conservation of genetic resources. These methods correspond to a modified version of the linear model, with interactions between conservation, evaluation and utilization. These new methods place less emphasis on the conservation of genetically well defined accessions but promote genetic mechanisms allowing evolution of these accessions. This evolutionary conservation is obtained by management of experimental populations, or by " on-farm " management of landraces, relying on knowledge and activity of farmers, and on local breeding. For the wild relatives of crops, an *in situ* management is to be considered. Using some examples, we discuss the constraints of these new modes of genetic resources conservation and utilization.

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