

## **Current status of adoption of the safety duplication principles and lessons learnt from their application**

### **Introduction**

Safety duplication to secure duplicates of germplasm to mitigate the risk of its partial or total loss is a common activity across all CGIAR genebanks. While recognising that the exact methods will vary from crop to crop, between wild and cultivated accessions within and between crops and genebank to genebank, the collective action activity on safety duplication analysed current options and developed a set of principles to guide management decisions and recommended best practices. A template legal agreement for safety duplication arrangements was also developed by colleagues in the Bioversity policy group.

The documents were shared with all Centres in late 2008 and posted on the Crop Genebank Knowledge Base. A consultation was held with the leaders of genetic resources from crop centres in June 2009 to assess the status of adoption and lessons learnt from application of the principles.

### **Current status of adoption of the principles**

While all Centres surveyed indicated that they had read and considered the principles, none of them had actively carried out safety duplication in the six months of the assessment period, other than to Svalbard, which has its own special arrangements and agreement. Safety back-up tends to be done on a routine basis but at irregular intervals when a batch of materials have been regenerated and are ready for duplication, therefore the testing of the principles and recommendations will take longer than one year. Many Centres are continuing to use the standards (FAO/IPGRI, 1994) already in place rather than the new recommended best practices.

However, based on the principles, CIP and ILRI both changed packaging and ordered thicker packages for long term storage and safety duplication. The benefits of this change are not yet apparent in the short time but viability loss using better packaging will be monitored in the long term. CIP is also following the new principles in the minimum number of seeds per sample to be used in future.

### **Lessons learnt**

Although there was little practical experience with use of the new recommendations and draft agreement by Centres, some issues were discussed:

- Centres would be more likely to use the new recommendations and agreement if approved by the Secretariat of the International Treaty on Plant Genetic Resources for Food and Agriculture. It was suggested that copies of agreements could be deposited with the Secretariat to show our commitment to implementation of the Treaty.
- The draft agreement is currently being assessed by USDA legal experts to determine if it could be used for safety duplication in the USA as a test case.
- The principles are very generic and may be difficult to implement for some species due to the inherent biology of the samples, e.g. short lived seeds, large seeded species where space and cost may be limiting.
- More careful tracking of shipments and monitoring of viability is important to ensure seeds of high viability reach the duplicate site. However, since most samples are in black box storage and viability cannot be checked on arrival, this raises a logistic problem. It is proposed that monitoring samples should routinely be included in the shipment and

agreements reached with the recipient institution on monitoring viability or returning samples for monitoring to the sender.

- Issues of liability were raised related to sending samples in sealed black box conditions. One issue is on liability for contents of the sealed box and handling by customs and other authorities for entry to a country. In some cases boxes are opened and special seals are applied by the authorities to confirm that the samples are not medicinal or other prohibited plants. Another issue raised was on liability of the recipient institution should material be damaged or lose viability earlier than expected due to poor storage conditions.
- Some additional public awareness on the recommended best practices and draft agreement is needed for partners to promote use of the best practices and agreement. It was agreed to do this through the release and promotion of the Crop Genebank Knowledge Base.