

A roadmap for germplasm characterization and evaluation, including fingerprinting

Elements of the roadmap	Current resources and status	Actions to achieve full implementation
Characterization		
<ul style="list-style-type: none"> • Descriptors 	<ul style="list-style-type: none"> • IITA/CIAT/Embrapa list (50) • <i>Key access and utilization descriptors</i> (Bioversity) (23) 	<p>Need to consider especially traits that are of combined use for genebanks, and users</p> <p>Need to be related to farmer criteria for distinguishing varieties, and especially for traits of most value</p> <p>Take the basic descriptors (10-12?) at the time of collection. If material is introduced as in vitro culture, it is costly to take it out of in vitro to the field.</p> <p>Need to be updated periodically</p> <p>Incorporation into an international database</p>
<ul style="list-style-type: none"> • Fingerprinting 	<ul style="list-style-type: none"> • Sequencing based technology 	<p>Needs to be done before entering the genebank</p> <p>Develop a centralized service for the countries of the region to access fingerprinting</p> <p>A pilot study should be conducted to determine most effective</p>

		system for recommended adoption
Evaluation		
<ul style="list-style-type: none"> • Preliminary evaluation 	<ul style="list-style-type: none"> • Farmers and breeders' criteria 	Should be a joint effort between the genebank and the breeder/multidisciplinary team

Purposes of Characterization:

- To verify genetic integrity
- To detect mixtures
- To identify duplication