



## Visions for a Sustainable Planet

ASA, CSSA, and SSSA International Annual Meetings

Oct. 21-24, 2012 Cincinnati, Ohio

**Start**

**Browse by  
Section/Division of  
Interest**

**Author Index**

### 259-3 Identification of Diverse Trait-Specific Germplasm for Use In Crop Improvement Using Mini Core Strategy.

See more from this Division: [C08 Plant Genetic Resources](#)

See more from this Session: [Symposium--Putting Collections to Work: Focused and Adaptive Strategies](#)

Tuesday, October 23, 2012: 2:40 PM

Duke Energy Convention Center, Room 264, Level 2

[Share](#) |

**Hari Upadhyaya**, International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Hyderabad, India

Plant genetic resources form the raw material for developing high yielding cultivars. About 7.4 million accessions of various economically important crops have been conserved globally. However, in most cases <1% accessions have been used in crop improvement, mainly due to lack of knowledge on traits of economic importance. The genebank databases do not have information that meets breeders' needs on trait-specific, genetically diverse and agronomically desirable accessions that can be used as parents in breeding programs. To meet such needs, multilocational replicated evaluation is required which is not feasible with large germplasm collections. The mini core collections (10% of core or 1% of entire collection) serves as an efficient and convenient option for extensive evaluation and identification of accessions with desirable agronomic traits including resistance to abiotic and biotic stresses and for nutritional quality traits. Using the mini core collection approach, the researchers at ICRISAT and in national programs have identified diverse sources of resistance/tolerance for many biotic and abiotic stresses, and for agronomic and quality traits in chickpea, groundnut, pigeonpea, sorghum, pearl millet, foxtail millet and finger millet. This is expected to enhance the use of germplasm in crop improvement. Molecular characterization of the mini core collections have resulted in identification of genetically diverse trait-specific germplasm lines meeting the needs of breeders for use in developing high yielding cultivars with a broad genetic base.

See more from this Division: [C08 Plant Genetic Resources](#)

See more from this Session: [Symposium--Putting Collections to Work: Focused and Adaptive Strategies](#)

[<< Previous Abstract](#) | [Next Abstract >>](#)

© Copyright 2012 - [Copyright Information](#), [Privacy Statement](#), and [Terms of Use](#)  
[American Society of Agronomy](#) | [Crop Science Society of America](#) | [Soil Science Society of America](#)  
 5585 Guilford Road | Madison, WI 53711-5801 | 608-273-8080 | Fax 608-273-2021  
[Certification](#) 608-273-8085 | Fax 608-273-2081