Establishing a Core Collection for Comprehensive Evaluation of US Rice Germplasm. (C08-yan174620-Oral)

Authors:

- W.G.Yan* - *USDA-ARS, DB National Rice Research Center*
- J.N.Rutger - *USDA-ARS, DB National Rice Research Center*
- H.E.Bockelman - *USDA-ARS, National Small Grains Collection*
- T.Tai - *USDA-ARS, Davis, California*

Abstract:

The core subset strategy should increase efficiency in germplasm evaluation and management. A rice core subset was established by the stratified random sampling method: 1) recording the number of accessions from each country of origin; 2) calculating the logarithm (log) of the number of accessions from each country; 3) randomly choosing the accessions within each country based on the relative log number, with a minimum of one accession per country; and 4) removing duplications. This core collection has 1,687 accessions coming from 106 countries, and is about 10% of the whole US rice collection of 17,359 accessions. Theoretically, the core subset should represent over 70% of genetic diversity in the collection. Seed stocks of the core are being prepared for comprehensive evaluation of characters for agronomic performance, morphology, grain quality, disease and insect resistance, stress tolerance, and DNA patterns for molecular marker analysis. An information network containing all the data from the evaluation will be a subset in the GRIN for rice research nationally and internationally.

Corresponding Author Information:

Wengui Yan
USDA-ARS, DB National Rice Research Center
P. O. Box 1090
Stuttgart, AR 72160

phone: 870-672-9300
fax: 870-673-7581
e-mail: wyan@spa.ars.usda.gov

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