High Level of Genetic Diversity Detected in Cowpea, Sorghum and Spruce Accessions using ISSR and RAPD Markers. (C08-nkongolo092437-Poster)

Authors:

- K.K.Nkongolo - *Laurentian University*
- P.Michael - *Laurentian University*

Abstract:

In the present study, we have used both RAPD and ISSR-fingerprinting data to examine the level of genetic variations within and among several cowpea and sorghum populations from different agroecological areas in Malawi. In contrast with the previous generalization that cowpea accessions lack genetic variation, both random and ISSR primers revealed 80.5 and 75.1 % polymorphism, respectively, among 143 and 98 genetic loci from 37 cowpea landraces. Moreover, dendrograms constructed from RAPD and ISSR data showed similar topologies. Genetic analysis of sorghum accessions revealed an overall genetic variation of 50 and 51 % based on RAPD and ISSR markers, respectively. The analysis of molecular variance revealed that the within-region (amon accessions) variations accounted for 96 and 93 % of the total molecular variance for cowpea and sorghum data, respectively. Observed variations in allelic frequency was not related to agroecological differences. There were no correlations between morphological and genetic data. Observed variation in allelic frequency was not related to agroecological differences. These genetic data were useful in the development of appropriate breeding and conservation strategies.

Corresponding Author Information:

Kabwe Nkongolo
Laurentian University
Department of Biology,
Laurentian University
Sudbury, ON P3E 2C6
Canada

phone: (705) 675 1151 ext. 2307
fax: (705) 675 4859
e-mail:
knkongolo@nickel.laurentian.ca

Presentation Information:

Presentation Date: Wednesday, November 13, 2002
Presentation Time: 4:15-6:00 pm

Poster Board Number: 933

Keywords:
ISSR, RAPD, Genetic Diversity, Cowpea, sorghum, spruce