

FAO/IAEA International Symposium on Plant Mutation Breeding and Biotechnology



Contribution ID: 204

Type: Poster

MUTATION BREEDING FOR RESISTANCE TO STRIGA HERMONTHICA (DEL.) BENTH. IN SORGHUM FOR FOOD SECURITY IN BURKINA FASO

Sorghum bicolor (Linn.) Moench is the staple crop in terms of cereal production and per capita consumption in Burkina Faso. Sorghum production is highly affected by *Striga hermonthica* which is a major biotic constraint. This study aims at inducing *Striga*-resistance in popular indigenous Sorghum varieties while maintaining the good qualities of the parents. Dry seeds of two Sorghum varieties Sariaso14 and ICSV1049 were irradiated with 200, 300, 400 and 500 Gy. The irradiated seeds and controls were sown. M1 panicles were harvested, and planted as M2 panicle-to-one progeny. M2 plants were selected and advanced to M3 and then M4 generations using pedigree selection method based on plant vigour, tiller number, early maturity and grain and panicle types as selection criteria. M4 mutants of Sariaso14 (derived from the treatments 96/200 Gy, 120/300 Gy, 122/400 Gy and 164/500 Gy and one ICSV1049 mutant derived from the treatment (84/500 Gy) were screened for *Striga* tolerance in rain-fed cropping conditions. Sorghum hills were artificially infested with at least 103 *Striga* seeds/hill-1 at planting. As results, no *Striga* plants emerged around the hills of 5 of the M4 plants of which one Sariaso14 mutant, two Sariaso14 mutants and two ICSV1049 mutants. Field experiments will be repeated 3 times along with bioassays before multi-location evaluation.

Country or International Organization

Burkina Faso

Author: Dr YONLI, Djibril (Insitut de l'Environnement et de Recherches Agricoles (INERA))

Co-authors: Dr TRAORE, Hamidou (Institut de l'Environnement et de Recherches Agricoles (INERA)); Dr OUEDRAOGO, Nofou (Institut de l'Environnement et de Recherches Agricoles (INERZA)); Mr NIKIEMA, Philippe (Institut de l'Environnement et de Recherches Agricoles (INERA))

Presenter: Dr YONLI, Djibril (Insitut de l'Environnement et de Recherches Agricoles (INERA))

Track Classification: Mutation breeding for adaptation to climate change in seed propagated crops