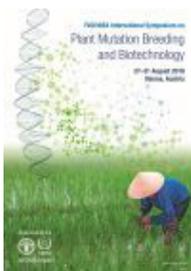


# FAO/IAEA International Symposium on Plant Mutation Breeding and Biotechnology



Contribution ID: 91

Type: Poster

## CLOSE SESAME: MERELY MAGIC OR AN EFFICIENT SCIENTIFIC TECHNIQUE?

Sesame (*Sesamum indicum* L.) is an ancient oilseed crop still very much appreciated and is suitable to different crop management systems in tropics and subtropics. Despite this antiquity, the main problem in its cultivation is the shattering at maturity by splitting of the fruits; the so-called capsules along their sutures and spreading of the seeds to ground. This wild plant characteristic prevents its harvest by combine and requires manual harvest which is expensive and time-consuming. Since the only spontaneous non-shattering mutant found in Venezuela in 1943 not satisfactory in terms of yield, many programs over the globe intended to induce such mutants. The first non-shattering closed-capsule induced mutants were obtained experimentally for the first time by gamma rays in Turkish genetic-backgrounds in the frame of an IAEA Coordinated Research Project. Despite their low fertility and weak agronomic performance at the beginning, modification has been possible in the changed genetic backgrounds and through forced recombination by irradiation. The trait was recessive and allelic to the known spontaneous *id* gene. The aim of this communication is to present all story of selecting closed capsule mutants and its repeatable success both in Turkish and African backgrounds with the conclusion that selecting unique induced closed capsule mutants is not a matter of "lucky chance" but irradiating with effective doses of gamma rays to yield loss of function mutations; growing quite large M2 populations, preferably in plant progeny rows; and careful screening.

### Country or International Organization

Turkey, Akdeniz University

**Primary author:** Prof. CAGIRGAN, M. Ilhan (Antalya Mutation Project, Department of Field Crops, Faculty of Agriculture, Akdeniz University, Antalya-Turkey)

**Presenter:** Prof. CAGIRGAN, M. Ilhan (Antalya Mutation Project, Department of Field Crops, Faculty of Agriculture, Akdeniz University, Antalya-Turkey)

**Track Classification:** New challenges and technologies in plant genomics and breeding