

FAO/IAEA International Symposium on Plant Mutation Breeding and Biotechnology



Contribution ID: 152

Type: Oral

INDUCTION AND SELECTION OF MANDARIN MUTANTS WITH FRUITS CONTAINING LOW NUMBER OF SEEDS

The Brazilian citrus industry has a worldwide presence for production and exportation of sweet orange juice but it has little expression in production of fruits for fresh fruit market. One requirement of this market is the production of seedless fruits. The Fremont IAC 543 mandarin produces fruits with good commercial qualities and presents as an innovative feature, resistance to *Alternaria brown spot* (ABS), an important disease presents in several countries. However, Fremont IAC 543 mandarin naturally produces fruits with large numbers of seeds (10-12), an undesirable characteristic. The objective of this work was to induce and select mutants of Fremont IAC 543 mandarin using induced mutagenesis (gamma-rays) to obtain seedless fruits or fruits with low number of seeds. The GR30 and GR50 doses for buds were defined as 29.9 and 49.9 Gy of gamma-rays. After irradiation and grafting of 2,000 buds with each mutagenic dose, nine (9) branches were selected during harvesting period because they produce seedless fruits. After vegetative propagation of these buds, mutation stability was evaluated in another experiment. Mutant clone (# 5) showed plants with good productivity and fruits containing one seed on average, whereas two other mutated clones (# 7 and # 9) had fruits with average of 3 seeds each. All nine mutant clones are in advanced agronomic evaluation experiments, with a greater number of replicates, in order to evaluate productivity, disease resistances and organoleptic quality of the fruits.

Country or International Organization

Brazil

Primary author: Dr PIO, Rose Mary (Centro de Citricultura Sylvio Moreira / IAC)

Co-authors: Mr TULMANN NETO, Augusto (CENA/USP); Mr SOUZA, Paulo Sérgio (IF-Suldeminas); Mr ROCHA LATADO, Rodrigo (Centro de Citricultura Sylvio Moreira / IAC); Ms N.P. BARROS, Vera Lucia (APTA Sudoeste Paulista)

Presenter: Mr ROCHA LATADO, Rodrigo (Centro de Citricultura Sylvio Moreira / IAC)

Track Classification: Mutation breeding for ornamental and vegetatively propagated crops