

ABSTRACT BOOK

SUSTAINABLE CITRICULTURE: The role of applied knowledge

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C898 (coded as 11AF7P12) presents fruits characterized by intense pigmented flesh. Such mutation seems stable since we observed highly pigmented fruits for three consecutive production cycles. The improved clone is being propagated for further tests in different environments.

Financial support: RGV-FAO.

Keywords: mutation breeding; anthocyanins; gamma rays.

S7-93

DEVELOPMENT OF TAHITI ACID LIME [*Citrus latifolia* (YU. TANAKA) TANAKA] BUDDED TREES IN COMBINATION WITH DIFFERENT ROOTSTOCKS

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The study evaluated in the municipality of Capitão Poço-PA, Brazil, the development of Tahiti acid lime budded trees in combination with eight rootstocks selected by the Citrus Breeding Program of Embrapa Cassava & Fruits - CBP, namely: Sunki Tropical mandarin, Indio citrandarin, besides the hybrids HTR - 053, TSKC x (LCR x TR) - 059, TSKC x (LCR x TR) - 073, TSKC x TRFD - 003, TSKC x TRFD - 006 and LVK x LCR - 038. Morphological evaluations were carried out on the development of nucellar seedlings of the different rootstocks and check the percentage of success in grafting. The characters evaluated at the development phase of rootstocks were: plant height, stem diameter, number of leaves and number of thorns. The genotypes that stood out for these traits were 'Indio' citrandarin, TSKC x (LCR x TR) - 059 and TSKC x TRFD - 006. Rootstocks that had greater success in grafting were: TSKC x (LCR x TR) - 059 with 100% success, TSKC x (LCR x TR) - 073 with 98,1% success and LVK x LCR - 038 with 96,9% success.

Financial support: Fazenda Lima and Embrapa.

Keywords: *Citrus* spp.; *Poncirus trifoliata*; hybrids.

S7-94

MORPHOAGRONOMIC CHARACTERISTICS OF TAHITI ACID LIME [*Citrus latifolia* (YU. TANAKA) TANAKA] BUDDED TREES IN COMBINATION WITH DIFFERENT ROOTSTOCKS

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A decisive factor in the implementation of a commercial orchard is the proper selection of varieties, scions and rootstocks, besides the correct choice of the budded trees. This study aimed to evaluate, in the municipality of Capitão Poço-PA, the vegetative growth of Tahiti acid lime budded

trees in combination with eight rootstocks selected by the Citrus Breeding Program of Embrapa Cassava & Fruits - CBP, namely: Sunki Tropical mandarin, Indio citrandarin, besides the hybrids HTR - 053, TSKC x (LCR x TR) - 059, TSKC x (LCR x TR) - 073, TSKC x TRFD - 003, TSKC x TRFD - 006 and LVK x LCR - 038. The grafting method was the budding, utilizing buds of a local Tahiti variety. The characters evaluated were height of the budded trees, basal stem diameter of the budded trees, stem diameter below the grafting line and stem diameter above the grafting line. The rootstocks that determined best vegetative development to the budded trees of 'Tahiti' acid lime were: 'Indio' citrandarin, LVK x LCR - 038 and TSKC x TRFD - 006.

Financial support: Fazenda Lima and Embrapa.

Keywords: *Citrus* spp.; *Poncirus trifoliata*; hybrids.

S7-116

DEVELOPMENT OF TRIPLOID CITRUS BY IMMATURE SEED CULTURE

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Seedless is a very important characteristic in citrus because consumers like seedless fruit. Most of citrus hybrids have seeds therefore citrus breeders have conducted diverse research to make seedless citrus cultivar. One of the methods to produce seedless citrus is a development of triploid plants. Triploid plants have trouble making a gamete, which leads to infertility. Most triploid is induced by crossing the tetraploid and diploid, or diploid and tetraploid. But it's difficult to get the high quality tetraploid that was used to crossing parents. Another method to produce triploid is obtained from immature seed culture. This method is known as triploid acquisition rate is about 3 to 7%. In this study, triploid acquisition rate was surveyed in 2,387 immature seeds of 25 crossing combinations, which were cultured *in vitro* media. 18 combinations of 25 crossing combinations germinated and seed germination rate was 1.5% up to 92.9%. The 34 triploids were identified among 348 germinated plants and triploid acquisition did not correlate with germination rate. KG03 (*Citrus hybrid*) x Mihaya (*C. reticulata*) combination showed the highest triploid acquisition rates that was 27% (7 plants) next, W Murcott (*C. reticulata*) x Mihaya (*C. reticulata*) was 10.6% (5 plants). The average of the triploid acquisition rate was 1.4%, which was lower than the figures previously reported.

Financial support: RDA (Project n°. PJ01027303).

Keywords: triploid; seedless; immature seed.

S7-119

DEVELOPMENT OF RED FLESH TETRAPLOID CITRUS USING PROTOPLAST FUSION TECHNIQUE

Park SM, Park JH & Yun SH