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BREEDING ZIZIPHUS JUJUBA CULTIVARS WITH HIGH FRUIT QUALITIES IN NIKITA BOTANICAL GARDENS

Dr. Elena Shishkina, Crimea, Yalta, Russian Federation; fruit_culture@mail.ru (Presenting author)
Dr. Irina Chernobay, Nikita, Yalta, Russian Federation; Chernobaj52@mail.ru

Breeding new *Ziyiphus jujube* Mill. cultivars with high taste qualities has been carried out in the Nikita botanical gardens since 50-s of last century. Cultivars for fresh use might be large- or middle-sized, quite attractive with the juicy nice sour-sweet or sweet pulp. Cultivars good for candied and dried fruits must have large-sized fruits, small stone, high content of sugar and mealy pulp. Selection of seedlings of the open pollination and method of traditional hybridization were used to get cultivars with high quality fruits. Besides hybridization, method of radiation mutagenesis with γ-irradiation was applied to increase intraspecific changeability of hybrid seedlings. Dry jujuba seeds without endocarp were treated with caesium-137. Dose rate 1560 r/min, irradiation dose ranged from 5 to 100 Gr. Seeds of 7 jujuba cultivar forms were involved into the experiment. It was found out that irradiation of jujuba seeds stimulates fruit bearing of all study cultivar forms. Four years later a number of fructiferous plants in study groups was higher than in a control one – 3,5 - 46%. γ-radiation before sowing favored getting much starting selection material. Preselection conducted according to fruit size, concentration of biologically active substances and crop capacity made it possible to mark out 96 plants for specified investigation. Cultivars Tsukerkovy, Meteor, Sinit, meant for fresh use, are characterized by the highest-quality fruits. The large-fruited cultivar Koktebel is recommended for candied fruits.

Keywords: jujube, variety, selection, mutagenesis, fruit quality