

Abstract text:

Prof. Dr SALİH KAFKAS

Department of Horticulture

Çukurova University. Adana, Turkey

Email: skafkas@cu.edu.tr

Office Phone: +90 322 338 6030

Office Phone: +90 322 338 6388 Extension: 2158

Fax Phone: +90 322 338 6030

Web: <https://avesis.cu.edu.tr/skafkas>

Cultivar-breeding program in pistachio by marker assisted selection

There is a very limited number of pistachio cultivars in the World for the production. Most of them are natural selections done by the growers or scientists. Juvenility period of pistachio is very long and takes 5-10 years for the first flowering. Therefore, a cultivar breeding program takes a very long period in pistachio. Molecular markers are powerful tools for early selections of desired genotypes in a breeding program. Pistachio is a dioecious species and half of the progenies are male and other half are female in F1 populations of a breeding program. Therefore, we firstly developed female-specific markers in pistachio for marker-assisted selection. Then we have started a new cultivar cross-breeding program in pistachio to develop pistachio cultivars with high-yield and nut quality. We obtained about 22.000 progenies from 54 different populations. We discarded most of the males by marker-assisted selection. We established a breeding orchard in Gaziantep province of Turkey with about 10.000 progenies (about 8.000 females and 2.000 males) in December 2017. We obtained the first flowering progenies in the spring of 2022 at 5th leafing stage.