

Report on the sexual changing of male inflorescence to the perfect inflorescence in Percian walnuts (*Juglans regia*)

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Walnut tree, is considered as a monoecious, which means that, the pollen-bearing male flowers and nut-bearing female flowers are borne separately on the same tree. usually, male flowers are developing laterally on the previous season's grown and females flowers are producing both laterally and terminally on the current year growth, depending on the varieties. In an exceptional case, in Kahriz walnut's collection, on the trees belonging to the K21 B21 genotype, most of catkins (staminate) have been activated to different extents of growth. this modified catkins have many small perfect flowers, each consisting of 6 sepals, more than 20 anthers and 1 ovary with 2-3 featured stigma. this was occurred in different forms with or without normal nuts.

on the base of our observations each of catkins floret may have an extinguished ovary that may become active in some unrecognized conditions with ability to produce nuts.

It must be cited that this type of flowering is completely different from lateral bearing habit of some varieties, so that as far as basic science and economical aspects are concerned it's of great importance to find out it's causes.