

**OUTCROSSING ON MALE STERILE PLANTS OF COMPOSITE BARLEY
(*Hordeum vulgare* L.) POPULATIONS**

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ABSTRACT

This study was conducted at two different environments, representing low and high rainfed and temperature conditions, in the West Mediterranean region of Turkey with eight composite barley populations carrying male sterility genes in order to compare their outcrossing rates for applying male sterile facilitated recurrent selection. It was found that outcrossing rate of male sterile composite barley populations changed with both floral structure and environmental factors and also outcrossing rate in the high rainfed environment was higher than that in the low and irregular rainfed environment. Early flowering genotype, Population-5, had the highest natural outcrossing rate due to avoiding from drought stress effects in low rainfed environment where precipitation was not sufficient. Whereas Population-4N (naked-seeded) had the lowest outcrossing rate in low rainfed environment, having the highest rate in the high rainfed environment.