

**EFFECT OF GENE DOSE ON BROOMRAPE RESISTANCE IN  
SUNFLOWER**

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**ABSTRACT**

Increasing the genetic resistance of sunflower to broomrape using various approaches attracts breeders from different seed companies. In our work, we studied the effect of the homo- and heterozygous state of the *Or7* gene on the degree of resistance to broomrape race G in 12 sunflower breeding genotypes. The resistance was assessed under the conditions of a climatic chamber in the phase of 3 pairs of true leaves in a box with peat soil for growing plants with the addition of 0.2 g of broomrape seeds per 1 kg of soil. Five homozygous susceptible genotypes (*or7or7*) showed the degree of damage from 14 to 38 broomrape nodules per plant. For two resistant homozygous genotypes (*Or7Or7*), the infection rate was 2 nodules per plant. Five heterozygous genotypes (*Or7or7*) were characterized by a wide variation in broomrape damage values from 2 to 29. Therefore, depending on the combination of crossing, the *Or7* gene in the heterozygote was dominant, intermediate, and recessive. The data obtained indicate the presence of other mechanisms of resistance to broomrape race G, additional to the *Or7* gene.

**Key words:** heterozygote, homozygote, genotype, seed, race, dominant, recessive