

USING WILD SUNFLOWER TO IMPROVE RESISTANCE OF CULTIVATED SPECIE TO THE PARASITE BROOMRAPE (*OROBANCHE CUMANA* WALLR.)

Gabriel Florin ANTON^{1,2*}, Maria JOIȚA-PĂCUREANU¹,
Luxița RÎȘNOVEANU^{3,4}, Alexandru BRAN^{2,5}, Elisabeta SAVA⁵

¹ National Agricultural Research and Development Institute, 1 Nicolae Titulescu Street, Fundulea, Călărași County, Romania

²University of Agronomic Sciences and Veterinary Medicine of Bucharest, 59 Mărăști Blvd, District 1, Bucharest, Romania

³Agricultural Research Development Station Brăila, Viziru km. 9 Street, Brăila, Brăila County, Romania

⁴„Dunărea de Jos” University of Galați, Engineering and Agronomy Faculty of Brăila, Agronomy Center for Research and Consultancy and Environment „Lunca”, 29 Călărași Street, Brăila, Brăila County, Romania

⁵The State Institute for Variety Testing and Registration, Bucharest, Romania

*Corresponding author: gabi22mai@yahoo.com

Abstract

The parasitic plant *Orobanche cumana* (broomrape) is the most important biotic constraint to the production of sunflower, in all counties where this crop is grown, excepting North and South America.

The aim of our study was evaluation of populations of some wild *Helianthus* species to broomrape populations that are highly virulent in Romania. Evaluation was done in green house using pots infested with broomrape seeds collected from naturally infested fields from Brăila and Constanța areas. Plant material for evaluation included 24 populations, derived from crosses of 4 wild *Helianthus* with cultivated sunflower. Results of the experiment showed that 7 populations were resistant, in case of broomrape coming from Constanța region and only one population was resistant to broomrape coming from Brăila region. All resistant populations were the result of crosses with *H. debilis* and *H. maximiliani*.

Testing of populations indicate the possibility to obtain source of resistance to broomrape populations present in Romania, but also in countries situated around Black Sea region.

Keywords: sunflower, broomrape, resistance, wild species, sources of resistance