

**INVESTIGATION ON THE RESISTANCE OF NEW BULGARIAN SUNFLOWER  
HYBRIDS TO ECONOMICALLY IMPORTANT DISEASES AND THE PARASITE  
*OROBANCHE***

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**Abstract**

The investigation involved the new Bulgarian sunflower hybrids Sevar and Dea developed at Dobrudja Agricultural Institute – General Toshevo (DAI). After having shown excellent results in the experimental fields of DAI, these hybrids were provided to the company Saaten Union – Romania for registration. Following a three-year testing within the official variety testing system of Romania, they were included in the European varietal list with certificates №4934/09.06.2015 (Sevar) and 4935/09.06.2015 (Dea). This investigation considered the resistance of the above hybrids to the parasite *Orobanche* and to downy mildew, phoma and phomopsis. The materials were examined through field and laboratory methods in three countries: Bulgaria, Romania and Ukraine. The evaluation for resistance to *Orobanche* was carried out according to a standard methodology (Panchenko, 1975) using a 0-100% scale. Inoculation with downy mildew was done according to Vear and Tourvielle (1987), also using a 0-100% scale. The evaluation for resistance to Phoma was performed under field conditions in an artificial infection field. The attack by this pathogen was read according to a scale from 1/3 to 3/3 using the method of Fayzalla and Maric (1981). The evaluation for resistance to phomopsis was carried out in an infection field in Bulgaria. The inoculation method of Encheva and Kiryakov (2000) was applied, using a 0-4 scale. The hybrids Sevar and Dea demonstrated excellent and very good resistance to the above diseases and the parasite *Orobanche*, which is a prerequisite for their introduction in production.

**Keywords:** *Orobanche*, downy mildew, new hybrids, sunflower, diseases