

DRUŠTVO GENETIČARA SRBIJE

SERBIAN GENETICS SOCIETY



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III KONGRESA GENETIČARA SRBIJE

Subotica, 30. novembar – 4. decembar 2004. godine

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OF THE III CONGRESS OF SERBIAN GENETICISTS

held in Subotica (Serbia) on November 30 – December 4, 2004.



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MOGUĆNOST GENETIČKE KONTROLE OTPORNOSTI PREMA VOLOVODU (*Orobanche cumana* L.) NA SUNCOKRETU KOD NAS I U SVETU

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Suncokret napada volovod (*Orobanche cumana* L.). Glavni centri napada volovoda na suncokretu su zemlje oko Crnog Mora (Rusija, Ukrajina, Moldavija, Rumunija, Bugarska i Turska). Drugi centar gde volovod napada suncokret i nanosi značajne ekonomske štete je Španija, a treći Izrael. U predhodne dve godine volovod je pronađen na suncokretu i u zapadnom delu Kine. Volovod je prenet u našu zemlju najverovatnije iz Bugarske ili Rumunije, gde je *Orobanche cumana* L. znatno ranije bio prisutan.

Orobanche cumana L. je stranooplodna parazitna cvetnica i pojava novih rasa je stalno prisutna.

Izvori otpornosti prema volovodu se nalaze u više divljih vrsta suncokreta, ali je najveća frekvencija gena za otpornost prema volovodu prisutna u *H. tuberosus*.

U Evropi je dugo bila prisutna samo jedna rasa volovoda (rasa A) koju kontroliše jedan dominantni gen Or_1 . Polovinom 20-og veka naglo se proširila rasa B. Otpornost kod suncokreta prema rasi B kontroliše jedan dominantni gen (Or_2). U drugoj polovini 20-og veka došlo je do pojave novih rasa C (Or_3), D (Or_4) i rase E (Or_5).

Dugo godina u našoj zemlji je bila dominantno prisutna rasa B prema kojoj su otporne ruske sorte i novosadski hibridi. Pred kraj 20-og veka kod nas se takođe proširila rasa E (Bačka i Banat). Prema rasi E su otporni hibridi Bačvanin i Perun i velik broj novih inbred linija.

POSSIBILITIES FOR GENETIC CONTROL OF SUNFLOWER RESISTANCE TO BROOMRAPE (*Orobanche cumana* L.) AT DOMESTIC AND INTERNATIONAL LEVELS

The sunflower is attacked by broomrape (*Orobanche cumana* L.). The main centers of broomrape attacks against sunflower are Black Sea countries such as Russia, the Ukraine, Moldova, Romania, Bulgaria and Turkey. The second major region where broomrape attacks this crop species and causes significant economic damage is Spain, while the third is Israel. Over the last two years, broomrape infestations of sunflower have been reported in western China as well. Broomrape was most probably introduced to Serbia and Montenegro from Bulgaria or Romania, where it had been present for quite some time before that.

Orobanche cumana L. is an open pollinated floriferous parasite and new races of it appear all the time.

Sources of resistance to broomrape can be found in several wild sunflower species, but the greatest frequency of these genes is found in *H. tuberosus*.

For a long time, Europe had only one broomrape race (A), resistance to which is controlled by a single dominant gene called Or_1 . In the mid 20th century, however, a new race (B) appeared and spread rapidly. Sunflower resistance to race B is controlled by the dominant gene Or_2 . In the latter part of the 20th century, several more races of this parasite appeared, namely races C (Or_3), D (Or_4) and E (Or_5).

For many years, Serbia and Montenegro was dominated by broomrape race B. Resistance to this race is present in Russian cultivars and Novi Sad hybrids. At the close of the 20th century, race E also appeared in the country and spread across the regions of Bačka and Banat. Resistance to race E exists in the hybrids Bačvanin and Perun and a large number of new inbred lines.