

## REAKCIJA GENOTIPOVA SOJE NA ZARAZU SA *Phomopsis longicolla* Hobbs

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Zaštita od bolesti jedan je od osnovnih problema koje donosi povećanje proizvodnih površina pod sojom (*Glycine max* (L.) Merrill). Nekoliko bolesti javlja se gotovo redovito u našim agroekološkim uvjetima: plamenjača (*Peronospora manshurica* (Naum.) Syd. ex Gaum.) i bolesti uzrokovane gljivama iz *Diaporthe/Phomopsis* kompleksa.

Cilj ovoga istraživanja bio je provjeriti reakciju pet domaćih genotipova soje (OS-8, OS-49, OS-101, OS-109 i OS-139) na zarazu sa *Phomopsis longicolla* Hobbs, uzročnikom truleži sjemena soje, kroz pokuse sa umjetnom zarazom sjemena u vlažnoj komori i posudama sa sterilnom zemljom. Testirani genotipovi, grupa zriobe od 0-I, stvoreni su u okviru oplemenjivačkog programa soje na Poljoprivrednom institutu Osijek. Gljiva je izolirana iz sjemena soje sa simptomima koji odgovaraju zarazi sa *Phomopsis longicolla* Hobbs i izdvojenog iz uzoraka prikupljenih tijekom tri godine (2000-2002) sa 10 lokacija iz široke proizvodnje. Procjena patogenosti mjerena je brojem klijavih i neklijavih (trula+neklijava zrna) zrna, dužine klice i nekroze klice testiranih genotipova.

Prema dobivenim rezultatima iz pokusa u vlažnoj komori, broj klijavih i neklijavih zrna testiranih genotipova se značajno razlikovao ( $P=0.05$ ). Odnos između umjetno zaraženih zrna i kontrole u pokusu pokazuju značajne razlike za svaki genotip ( $P=0.05$ ). Svi genotipovi u kontroli imali su zadovoljavajuću klijavost i nisu zabilježene značajne razlike između broja trulih, klijavih i neklijavih zrna. Među testiranim genotipovima, OS-49 i OS-109 mogu se smatrati otpornijim na zarazu sa *P. longicolla*.

Rezultati pokusa u posudama pokazuju da je broj zrna umjetno zaraženih genotipova bio značajno različit ( $P=0.05$ ) tijekom cijelog pokusa dok su svi genotipovi u kontroli niknuli zadovoljavajuće i među njima nije bilo značajnih razlika. Prema dobivenim rezultatima, genotip OS-8 može se smatrati otpornijim na zarazu sa *P. longicolla*.

Oba pokusa pokazuju uspješnost umjetne zaraze, kao i razlike u otpornosti testiranih genotipova soje na zarazu ovom gljivom.

Ključne riječi: soja (*Glycine max* (L.) Merrill), otpornost/tolerantnost, genotipovi, zrno, *Phomopsis longicolla* Hobbs, umjetna zaraza

**RESPONSE OF SOYBEAN GENOTYPES  
ON INFECTION WITH *Phomopsis longicolla* Hobbs**

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Disease control is one of the basic problems which bring increasing acreages under production of soybean (*Glycine max* (L.) Merrill). There are some diseases which almost regularly appear in our agro-ecologic conditions: downy mildew (*Peronospora manshurica* (Naum.) Syd. ex Gaum.), and diseases caused by fungus from *Diaporthe/Phomopsis* Complex.

The aim of this investigation was to check reaction of five domestic soybean genotypes (OS-8, OS-49, OS-101, OS-109 and OS-139) on infection with fungus *Phomopsis longicolla* Hobbs casual agent of soybean seed decay through seed artificial infection in wet chamber and pots with sterile soil. Tested genotypes, maturity group 0-I, are created in frame of soybean breeding program at the Agricultural Institute Osijek. Fungus was isolated from soybean seed with symptoms of *Phomopsis longicolla* Hobbs and separated from samples that were collected during three years (2000-2002) from large-scale production out of 10 locations. Evaluation of pathogenicity was measured by number of germinated and non-germinated (rotten + healthy non-germinated seed) seed, germ length and germ necrosis of tested genotypes.

According to obtained results from wet chamber trial, number of germinated and non-germinated seeds of tested genotypes was significantly different ( $P=0.05$ ). Relation between artificially infected seed and control in trial shows significant differences for each genotype ( $P=0.05$ ). All genotypes in control had satisfactory germination and there are no significant differences in number of rotten seeds, germinated seeds and number of non-germinated seeds. Among tested genotypes, OS-49 and OS-109 could be considered more resistant to infection with *P. longicolla*.

Results from pot trial shows that number of emerged seeds for artificially infected genotypes was significantly different ( $P=0.05$ ) during all period of trial while all genotypes in control emerged satisfactory and there are no significant differences among them. Regarding to these results, genotype OS-8 could be considered more resistant to infection with *P. longicolla*.

Both trials show success of artificial infection as well as differences in resistance among tested soybean genotypes on infection with this fungus.

Key words: soybean (*Glycine max* (L.) Merrill), resistance/tolerance, genotypes, seed, *Phomopsis longicolla* Hobbs, artificial infection