



*Društvo za zaštitu bilja Srbije*

Plant Protection Society of Serbia

*Novi linije ovisne pšenice sa  
potečisanom otpornošću prema obligatnim  
parazitima*

## **V KONGRES O ZAŠTITI BILJA**

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## 2.42. NOVE LINIJE OZIME PŠENICE SA POBOLJŠANOM OTPORNOŠĆU PREMA OBLIGATNIM PARAZITIMA

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Sorta Lovrin 25 i linija FR 81-19 uzete su kao izvori otpornosti prema *Blumeria graminis tritici* i *Puccinia triticina* na osnovu višegodišnjih testiranja u poljskim uslovima. Ukrštanja sa dve izuzetno osetljive sorte (Skopljanka i Barbee) prema obligatnim parazitima izvršena su 1990. godine. Kao rezultat, ovih ukrštanja, stvorene su NS RZL 225 i NS RZL 253 linije koje su posedovale odličnu otpornost ali loš tehnološki kvalitet i ostala agronomska svojstva. U 1997 godini novostvorene RZL linije ukrštene su sa, dve prinodne i raširene sorte u proizvodnji, Pesmom i Pobedom. Rezultat ovih ukrštanja su linije NS 3-4731 i NS 3-5255 razvijene u oplemenjivačkom delu programa ozime pšenice u Naučnom institutu za ratarstvo i povrtarstvo koje se odlikuju odličnom otpornošću prema obligatnim parazitima, visokim prinosom i odličnim tehnološkim kvalitetom.

U pretkomisijskim ogledima u četiri lokaliteta (Pančevo, Sombor, Sr. Mitrovica, Novi Sad) linija NS 3-4731 ostvarila je prosečan prinos od 98-105% u odnosu na standard (Pobeda). Po ostalim parametrima: visina biljke, dužina klasa, broj zrna po klasu, zapreminska masa, masa 1000 zrna je na nivou ili bolja od standarda. Po parametrima tehnološkog kvaliteta (20 parametara) je na nivou ili bolja od standarda. Prosečan koeficijent infekcije (ACI), prema *B.graminis tritici* linije NS 3-4731 kreće se od 5-20% u zavisnosti od lokaliteta, a *P. triticina* bila je registrovana u tragu.

Linija NS 3-5255 u lokalitetu Novi Sad u 2004. godini ostvarila je prinos od  $9.79 \text{ t ha}^{-1}$  što je identično sa standardom ali je po pokazateljima zapreminske mase od 87.3kg i mase 1000 zrna od 47.4g bila znatno bolja od standarda (85.7 kg i 41.4g). Prosečan koeficijent infekcije (ACI), prema *B.graminis tritici* linije NS 3-5255 kreće se od 10-25%, a *P.triticina* od tragova do 25%.

## 2.42. NEW WINTER WHEAT LINES WITH IMPROVED RESISTANCE TO OBLIGATE PARASITES

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Based on the results of the trials carried out under field conditions during several years the variety Lovrin 25 and line FR 81-19 were taken as a source of resistance to *Blumeria graminis tritici* and *Puccinia triticina*. Two varieties (Skopljanka and Barbee) particularly sensitive to obligate parasites were crossed in 1990. As a result of these crossings new lines NS RZL 225 and NS RZL 253 having excellent resistance but poor technological quality and other agronomical traits were developed. Newly developed RZL lines were crossed with two high yielding varieties Pesma and Pobeda widely used in production. The results of these crossing were lines NSA 3-4731 and NS 3-5255 developed in the breeding section of the Winter Wheat Program in the Research Institute of Field and Vegetable Crops and they had excellent resistance to obligate parasites, high yielding capacity and excellent technological quality.

On average the yield of NS 3-4731 line ranged from 98-105% compared with the control variant (Pobeda). This line was grown on four locations (Pancevo, Sombor, Sremska Mitrovica, Novi Sad) in trials preceding Commission approval. According to some other parameters such as plant height, ear length, number of grains per ear, volume mass, 1000-seed weight and the parameters of technological quality (20 parameters) it was at the level of the control variant or even exceeding it. The average coefficient of infection (ACI) of NS 3-4731 line caused by *B. graminis tritici* ranged from 5-20% depending on the locality and *P. triticina* was found in trace amounts.

The yield of NS 3-5255 line on the locality of Novi Sad was 9.79 t/ha-1 in 2004, which was identical to the control variant but according to the parameters such as volume mass of 87.3 kg and 1000-seed weight of 47.4 g it was much better than the control variant (85.7 kg and 41.4 g). The average coefficient of infection (ACI) of NS 3-5255 line caused by *B. graminis tritici* ranged from 10-25% and by *P. triticina* from trace amounts to 25%.