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## TRITICALE REACTION TO SOME PROMINENT PARASITES

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### Summary

The wheat-rye allotriploid Triticale has a number of positive characteristics among which is its resistance to diseases. This research has been aimed to investigating and determining reaction of the various Triticale genotypes in our agro-ecological conditions.

The tests were done in 1989 at the Center of Small Grains Research in Kragujevac. We tested the resistance of the mature plants of 18 Triticale genotypes to the following parasites: *Erysiphe graminis tritici*, *Puccinia recondita tritici*, *Puccinia graminis tritici*, *Septoria* spp. and *Fusarium* spp. Testing to the obligatory parasites was done in conditions of artificial inoculation with prevalent genotypes in, so called, „rust and powdery mildew nurseries”.

The obtained results showed that Triticale is more resistant to more diseases than wheat. France 12 variety is the only one that demonstrated high sensitivity. The other two (Mexico 1 and Mexico 10) are medium-sensitive and the rest varied from „very resistant” to „the resistant”.

There were genotypes resistant and the genotypes sensitive to *Puccinia recondita tritici* and *Puccinia graminis tritici*. We have found that Triticale is less resistant to the causes of leaf rust and leaf spot than to the powdery mildew. In some genotypes we recorded the necrotic spots in infected parts which further indicates that they incorporate the genes carrying a hypersensitive form of the resistance. A complex resistance to the powdery mildew, leaf and stalk rust was found in Triticale 4, Triticale 18, Mexico 3, Lasko, France 17, Kg 58, Kg 156 and S 344. As far as the leaf spot is concerned we recorded both the resistant and the sensitive genotypes. „Very resistant” genotypes were Mexico 10, France 17, S 344 and Rus 3, while „the resistant” were Triticale 4, Mexico 3, Lasko, France 4, Kg 58, AD 664, AD 666 and others. There were no genotypes immune to *Fusarium* spp.

All of the above indicate that the new donors of the genes resistant to the parasites of *Fusarium* genus will have to be found.

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**THE INTERNATIONAL PROGRAM WHEAT VARIETIES (IWWPMP\*)  
RESISTANCE TO THE POWDERY MILDEW CAUSING AGENT**

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**S u m m a r y**

IWWPMP (International Winter Wheat Powdery Mildew Program) is being conducted over a long period of time and our team is involved in it for over two decades. In the last couple of years, the Coordinator of this program has been Dr. S t e v a n L e a t h from the North Carolina State University, U.S.A. The attached paper discloses the 1990-1992 results obtained in the localities of Kragujevac and Novi Sad.

Our investigations revealed that not all the varieties included in this program are resistant to Powdery Mildew. In the three years of our investigations (1990-1992) at the two localities (Kragujevac and Novi Sad), the number of resistant and the number of susceptible varieties has been approximately the same.

We established the different reactions of individual genotypes that varied from year to year and from one locality to another, and that were caused by specific ecological conditions and virulence of the parasite population.

Effectiveness of the individual Pm resistance genes was not satisfactory.

The isogenic line CI 14189 with Pm 7 gene was resistant in 1990 but susceptible in the other two years. Amigo (Pm9) and Coker 983 (Pm 5 + Pm 6) varieties demonstrated a good resistance. In addition to them the resistance was also demonstrated by the following genotypes: GA 83125-C3-1, GA 821066-1-7-2-1, GA 85323-C15-2, GA 83213-13-1-5, GA 83228-4-4-2, GA 841465-2-1-1-3, GA 841465-2-1-1-4, GA 84034-1-4-3-1, VA 85-52-24, VA 85-54-290, VA 90-52-82, VA 90-52-49, VA 90-52-93, TX 88D3592, MD 80127-33, MD 81128-49, MD 81179-15, MD 81220-44, 862982, SC 870087, SC 880258, SC 880831, FR 89.5, FR 89.14, FR 89.16, FR 90.8, FR 91.6, FR 91.16, CH 75108, CH 75448 and others.

Many of the above listed genotypes are used in our selection programs as donors of the genes resistant to the agent causing powdery mildew.

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