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Wheat fungal parasites resistance – from the aspect of the integrated protection in Serbia

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The resistance to the *Puccinia triticina* is of the highest importance for the product quality because of the appearance time. Relative short filling period and early maturation is often even without rusting. In years for rust development expected higher wheat yields are also impossible without mentioned resistance. On the May 25th when the attack is usually around 10 (modified Cobb scale by Melchers and Parker, 1922) on susceptible varieties and the progress in some years very quick, possibilities for the chemical reduction are poor because of carence. Even if the chemicals were applied, the benefit is not so predictable (Jerkovic, 1997). So if we have to have some resistance to parasites in Serbian wheat varieties it is to the leaf rust cause.

Nowadays, the different types of the resistance to *Puccinia triticina* are present in most of the widespread varieties. Uncomplete resistance expressed through low infection efficiency is prevalent. Only on few varieties, hypersensitivity appeared at the seedling stage (Pesma, Anastasia, Selekt). They do not possess Lr 1 or some of the Lr 2 multiple allelic serial of resistant genes to the often races 2 or 167, or Lr 9, Lr 19 and Lr 24 that are resistant to pathotypes of the race 77. Their resistance was explained on not single gene basis (Micanovic, 2002). The differences in genetics control of the resistance were investigated and mostly present, so, the applied wheat varieties assortment is in direction of mentioned character durability (Jerkovic and Jevtic, 2002).

The chemical protection of Scab also can be problematical. Mostly, when the visible symptoms appear on the spikes it is too late. The higher intensity average is once in five years according the last twenty years.. Long and opened flowering of the varieties with high density spiklets improve the risk and lead to preventive treatments.

Best time for the infection by spraying with conidia suspension of different varieties in order for resistance investigations generally is when the grain reach the third part of the glumae length. The resistance to the Scab of our varieties was compared with varieties Amigo, Frontana and Sumei 3 in controlled conditions. Every spike was infected at the same mentioned phase by spraying with suspension of conidia. The characters of morphological resistance connected with spike architecture are present in variety Evropa 90. Varieties like Jarebica, Renesansa nad Tera as the some new lines do not have such characters, were less damaged in comparison with other 20 varieties, but more than resistant controls according to percent of infected spiklets, average length of the 7 days seedlings and percent of the germinated seeds in controlled conditions. That level of the relative disease decrease in trials is in correlation to less toxins content in the seed that is mostly allowed, when the complete agrotechnics measures were applied and the yields were between 8-10 t/ha in the last five years. The risk in the production is low, except probably in the cases of permanent corn wheat rotation using the noncertificated wheat seed.

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