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
Agriculture and Forestry

**Genetics and Breeding for Durable Resistance to Leaf and Stripe Rusts in
Wheat**

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 [Keywords](#)
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Abstract: Singh, R.P., J. Huerta-Espino and H.M. William. 2004. Genetics and breeding for durable resistance to leaf and stripe rusts in wheat. Turk. J. Agric. For. 28: xxx-xxx. Yellow (or stripe) and leaf (or brown) rusts, caused by *Puccinia striiformis* and *P. triticina*, respectively, are important diseases of wheat worldwide. Growing resistant cultivars is the most economical and environmentally safe control measure and has no cost to growers. Wheat (*Triticum aestivum*) cultivars that have remained resistant for a long time, or in other words carry durable or race-nonspecific resistance, are known to occur. Inheritance of resistance indicates that these cultivars often carry a few slow rusting genes that have small-to-intermediate, but additive, effects. Our genetic studies show that a high level of resistance (approaching immunity) to both rusts could be achieved by accumulating from 4 to 5 such genes. We recommend that a group of winter and spring wheat cultivars known to carry adequate levels of durable resistance to yellow and/or leaf rusts are assembled and further evaluated in the region to identify those cultivars that show resistance stability. Resistance from these cultivars should then be transferred in a planned manner to the susceptible but locally adapted cultivars through a 'Single Backcross Breeding Approach', that allows the simultaneous accumulation of desired number of slow rusting genes with increased grain yield potential and other traits.

Key Words: *Puccinia triticina*, *Puccinia striiformis*, *Triticum aestivum*, resistance, rust

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