Stripe Rust Resistance in Chinese Common Wheat Cultivars and Advanced Lines

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Identification of stripe rust resistance genes is extremely important for developing new resistant cultivars to control the disease. A total of 98 Chinese wheat cultivars and advanced lines were inoculated with 26 isolates of *Puccinia striiformis* f. sp. *tritici* (PST) for postulation of stripe rust resistance genes at seedling stage. The results indicated that 42 cultivars and lines possess the resistance gene *Yr9*, either independently or in combination with other resistance genes. Nineteen accessions carry *Yr24* or *Yr26*. Seven entries showed resistant to the 26 isolates tested, whereas, six cultivars and lines were susceptible to all of them. It was indicated in the test that *Yr10, Yr15, Yr24,* and *Yr26* were effective resistance genes against Chinese PST isolates, while *Yr1* and *Yr6* were susceptible to them. *Yr24* and *Yr26* are probably common genes according to their reaction patterns to the 26 isolates tested, as well as their chromosome location and their origins. SSR analysis indicated that *Yr26* is closely linked to *Xgwm498* and *Xwms273*, with genetic distances of 1.6cM and 2.7cM, respectively. In addition, a new stripe rust resistance gene on Chromosome 7BL was detected in the Chinese wheat line Zhou8425B, which is closely linked to *Xcfa2040* and *Xbarc32*, with genetic distances of 1.4cM and 4.8cM, respectively.

Additional keywords: common wheat (*Triticum aestivum* L.), stripe rust, *Puccinia striiformis* f. sp. *tritici*, gene-for-gene specificity, SSR marker