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Study on reaction of late and moderately maturing maize hybrids and lines to Fusarium ear rot in Iran

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Fusarium ear rot is one of the most important diseases through out the world. Using resistant cultivar is the best way for controlling this disease. In order to evaluate late and moderately maize maturity lines and hybrids to Fusarium ear rot, an experiment was carried out in Karaj and Sari stations with 14 lines and 15 hybrids in 2013 and, 15 lines and 20 hybrids in 2014 respectively. In these investigations all ears of plants were inoculated by nail punch technique at flowering stage. At physiological maturity, evaluation was conducted by using disease severity index (1-6). The results of combined analysis showed that there is a significant difference among lines and hybrids on disease severity. In 2013, the majority of hybrids were tolerant to disease that the highest was K47/2-2-1-3-3-1-1-1 × K166A (KSC710). In this experiment two hybrids with NO.12 with pedigree KLM 77021/4-1-2-1-2-4-1 × A679 and NO.1 with pedigree K47/2-2-1-3-3-1-4 × MO17 (KSC703) were resistant to disease. Among 14 lines two lines with NO.1 with pedigree K47/2-2-1-3-3-1-1-1 and line K18 were categorized as resistant groups. Among examined hybrids in 2014, two resistant hybrids with NO.20 with pedigree KLM 77021/4-1-2-1-2-4-1 × A679 and NO.11 with pedigree XTO3 × K166B obtained disease and categorized in resistant group (R). Among 15 lines, two lines with NO.15 with pedigree K3547/4 and line NO.4 with pedigree K18 categorized in resistant group (R).

Biography

Majid Zamani is currently working at Seed and Plant Improvement Institute, Iran. He is involved in developing pathology-breeding projects to employ conventional methodologies and molecular technologies to identify genotypes for resistance to major diseases such as Fusarium ear rot and corn common smut.

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