

Survey of Rust and Septoria Leaf Blotch Diseases of Wheat in Central Ethiopia and Virulence Diversity of Stem Rust *Puccinia graminis* f. sp. *tritici*

Wheat is one of the most important cereal crops in Ethiopia and produced across large area of the country. Production of the crop constrained by several infection diseases including rust and Septoria leaf blotch diseases which are the major bottle neck of wheat production in Ethiopia. The objective of this study was to assess distribution, incidence and severity of wheat rusts and Septoria leaf blotch in west and South West Shewa zones and identification of *Puccinia graminis* f.sp. *tritici* virulences in Ethiopia. The survey was made in 2013 main cropping season (from September to October) following the main roads and accessible routes in each survey district, and stops were made at every 5 km intervals based on vehicles odometers as per wheat fields available. Five stops were made in each wheat field by moving "W" fashion at each stop interval using quadrants and data were collected from each. Race analysis was carried out by inoculating single uredinial isolates on to the 20 differential hosts. The result indicated that, stem, leaf and yellow rust mean incidence value 54.7%, 19.4% and 7.7% were recorded in the surveyed areas, respectively and mean severity value of 7.0%, 9.7% and 5.5% in the same order. Septoria leaf blotch was the most prevalent disease with 100%. Mean incidence of 83% and 0.44 disease index of Septoria leaf blotch were recorded. The most widely grown Varieties Digelu and Kakaba showed susceptible reaction to stem and leaf rust whereas Meda wolabu were free both rusts. Variety Kubisa were susceptible to the three rusts (stem, leaf and yellow). Out of 20 isolates, two races namely TTKSK and TKTF were identified. Race TTKSK was the most frequent with 95%. Stem rust resistance genes Sr36, SrTnp and Sr24 were effective against TTKSK and while, Sr8a, Sr24 and Sr31 were effective against TKTF (Digelu race). Most of the genes possessed by the differentials were ineffective against one or more of the tested isolates except Sr24. Sr24 which confer resistance against most of the races detected and prevalent in Ethiopia can be used in breeding for resistance to stem rust in the country.

Ethiopian Institute of Agricultural Research, Ambo Plant Protection Research Center, P.O. Box 37, Ambo, West Shewa, Ethiopia

Abstract :

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Key Word :

Race; *Puccinia graminis* f. sp. *tritici*; Sr genes