

The Field Reaction of Long-Staple Cotton (*Gossypium barbadense* L.) Genotypes to Natural Infection of *Alternaria* Leaf Spot Disease in Ogun State, Nigeria

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Abstract: Twenty-five genotypes of cotton were assessed in a randomized complete block design experiment with three replications at two locations for their reaction to natural infection by *alternaria* leaf spot under field conditions. Disease incidence was assessed at seedling and square formation stages. Other parameters measured were the lesion diameter, days of first symptom appearance, plant height, number of bolls, and seed cotton yield. Results showed that locations, genotypes and their interactions produced significant effect ($P \leq 0.05$) on seed cotton yield. Number of bolls and plant height were significantly ($P \leq 0.05$) affected by location, while days of first symptom appearance and lesion diameter were only significantly affected by type of cotton genotypes. GIZA 69, PIMA S4 and BAR XL 7(79)6 had the highest average lesion size of 1.20 mm diameter in Abeokuta while PIMA S4, BAR 14/25 (81)1 and BAR XL 7(79)6, with an average lesion size of 1.18mm diameter, had the largest lesion size in Ayetoro. BAR XL 7 (79) 33, BAR XL 7 (79) 25 and PIMA S2 had a smaller lesion size (0.77 – 1.00 mm diameter) and a relatively higher yield, ranging between 824.89 – 976.96 kg ha⁻¹ in both locations. Seed cotton yields of 871.56 kg ha⁻¹ and 976.97kg ha⁻¹ for accession BAR XL 7 (79) 33 were the highest in both locations, while GIZA 68 and PIMA S1 had the lowest seed cotton yield of 283.33 kg ha⁻¹ and 347.90 kg ha⁻¹ in Abeokuta and Ayetoro respectively.

Keywords: *Alternaria* Leaf Spot; Disease Reaction; Cotton; Nigeria