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Distribution, incidence and severity of *Fusarium wilt* on cotton in Benin

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Abstract

Cotton cultivation contributes 46 % of Benin foreign exchange earnings. It is cultivated by 325,000 farmers and plays a major role in sustaining food security in the country because it serves as a means through which fertilisers are provided to other food crops such as maize, sorghum and rice. However, very little attention has often been paid to diseases and other pests that constitute a limiting factor in cotton production; especially diseases such as fusariosis caused by *Fusarium oxysporum* f.sp. *vasinfectum* which is one of the most threatening factors in large cotton production area. A field survey was conducted in 2022 in 50 sites of 15 districts of all cotton production areas in Benin to assess *Fusarium* infestation levels. At least two sites were surveyed per district and on each site, 20 plants were inspected and evaluated randomly along the two diagonals of a cotton field, respectively for the incidence and the severity of the disease. The results showed that *Fusarium wilt* was present in 11 out of 50 sites. The highest means for incidence (31,25 %) and severity (13,25 %) were observed in the agroecological zone four with the maximum incidence in the district of Dassa (48,33 %). The agroecological zone two recorded the lowest incidence (0,27 %) and severity (0,16 %). Across the different cotton varieties in use, the variety OKP 768 was the most susceptible showing the highest incidence (17,03 %) and severity (9,77 %). Finally, the disease is present in Benin with various rate of incidence and severity which are high in the centre part of the country. There is an urgent need of deep understanding of the phenomena as it will contribute to a proper management of the disease that can quickly spread.

Keywords: Benin, cotton, *Fusarium oxysporum*, incidence, severity