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First report of Okra leaf virus (OLCV) in Benin its distribution and farmers' cultural practices for the disease management

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ABSTRACT

Objective: *Okra leaf curl virus* (OLCV) transmitted by *Bemisiatabaci* strongly compromises Okra production throughout the world, and particularly in tropical and subtropical regions with yield losses of up to 70%. This study aims to assess the distribution and level of endogenous knowledge of producers in different localities in Benin.

Methodology and Results: A Survey was conducted on OLCV during the flowering and fruit development stage on 76 okra production sites of 24 communes in Benin in order to determine the incidence and severity index of the disease. In addition, the endogenous knowledge of the producers on the disease was assessed. Seventy five(75) % of the field survey were infected with OLCV and confirmed via DNA amplication by PCR. The incidence varied from 5 to 100% and the severity index from 2.5 to 73.13%per commune. There is a significant interaction between incidence, severity index and field maintenance on one side, and between incidence and crop association with okra on the other.

Conclusions and application of findings: Recent complaints from consumers and producers were related to quality and quantity of okra. Many factors can be the cause but the presence of Okra leaf curl Virus (OLCV) was discovered in the farmers' fields. Therefore, important is to get knowledge on this virus through its characterization. Okra leaf curl virus was confirmed in the collected leave samples using Polymerase chain reaction. This finding is a prerequisite for any control strategy. Moreover, knowing the effect of intercropping and field maintenance on the spread of the disease will help advise the farmers on which type of crop to consider and which behaviour to adopt to keep Okra a valuable crop and source of income to farmers with its nutritional role in Benin.

Keywords: Benin, okra, Okra leaf curl virus, begomovirus, *Bemisiatabaci*.