

CITRULLUS COLOCYNTHIS AND CALOTROPIS PROCERA AS SOURCE OF ANTIFUNGAL AGENTS AGAINST *FUSARIUM OXYSPORUM* F. SP. *ALBEDINIS*

Noureddine BOULENOUAR^{1,2}, Abderrazak MAROUF² and Abdelkrim CHERITI¹

¹Phytochemistry and Organic Synthesis Laboratory (POSL), Bechar University, Bechar 08000, Algeria

²Laboratory of Plant Biochemistry and Natural Substances, Oran University, Oran 31000, Algeria.

noureddine.boulenouar@gmail.com

ABSTRACT:

In the present study, two poisonous plants from the Algerian Sahara (South-West of Algeria): *Citrullus colocynthis* (L.) Schrad and *Calotropis procera* Ait., were used to evaluate their extracts for antifungal activity against *Fusarium oxysporum* f. sp. *albedinis* (Foa), the causal agent of the most dangerous disease of date palm (*Phoenix dactylifera* L.). Two parts from each plant were used for extraction by four solvents: methanol, ethyl acetate, dichloromethane and hexane. The antifungal test was realized using disc diffusion technique and relative virulence (RV) test (on potato tuber tissue). For both tests, four extract quantities were used (200, 400, 800 and 1600µg). The relative virulence was presented as necrotic tissue weight (mg) of potato tuber tissue. Among all solvents, methanol gave the best extraction yield (21.91%). The results of disc diffusion assay showed that the most important effect on Foa was observed for methanolic extracts of *Citrullus colocynthis* (leaves and stems). The virulence test showed a decrease in RV below 50% for methanolic and dichloromethanic extracts of *Citrullus colocynthis* (leaves and stems). Coupling the effect of plants extracts on Foa growth and virulence, *Citrullus colocynthis* extracts showed great efficacy than did the other plant.

KEYWORDS: *Fusarium oxysporum* f. sp. *albedinis*, *Phoenix dactylifera* L., poisonous plants, pathogenicity, virulence.