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Fungal pathogenicity in plants

PENJA PEPPER UNDER THREAT IN CAMEROON

S. PETCHAYO TIGANG¹, J. NGUEFACK¹, V.C. MFEGUE², B.A.D. BEGOUDE³,
D.M.M. NDOUNGUE², J.F. DJEUGAP⁴, G.M. TEN HOOPEN⁵

¹departement de biochimie, The Biotechnology Center/University of Yaoundé i,
Yaoundé, Cameroon

²Plantes perennes,

Institut de Recherche Agricole pour le Développement (IRAD) B.P. 2067 Yaoundé Ca
meroun, Yaoundé, Cameroon

³Plantes perennes phytopathologie,

Institut de Recherche Agricole pour le Développement (IRAD) B.P. 2067 Yaoundé Ca
meroun, Yaoundé, Cameroon

⁴Département de Protection des Végétaux Laboratoire de Phytopathologie,

Faculté d'Agronomie et des Sciences Agricoles Université de Dschang B.P. 222 Dsch
ang Cameroun., dschang, Cameroon

⁵UR106 Bioagresseurs: analyse et maîtrise de risque,

Centre de Coopération Internationale en Recherche Agronomique pour le Développe
ment (CIRAD) B.P. 2572 Yaoundé Cameroun, Yaoundé, Cameroon

Background

“Penja Pepper” (*Piper nigrum* L.) is cultivated in the Penja region of Cameroon. It is famous for its exceptional aroma and taste. However, in Cameroon pepper is attacked by various diseases. Moreover, the support tree used for growing pepper vines in Cameroon, *Spondias mombin*, is also subject to disease attacks.

Objectives

In order to maintain the viability of Penja Pepper cultivation, these diseases must be identified and controlled. The aim of this study was to identify the principal pathogens of black pepper vines and its support tree.

Methods

Samples from pepper vines, *S. mombin* and the soil were collected from various fields in the Penja region. Using a combination of baiting and selective agar medium techniques several potential causal agents were isolated. The isolated microorganisms were identified based on morphology as well as ITS sequencing.

Conclusions

Eight oomycete isolates were obtained from pepper and 18 basidiomycete isolates from either pepper or *S. mombin*. The eight oomycete isolates of Pepper were tentatively identified as *Phytophthium vexans* and/or *P. cucurbitacearum*. The morphological identification of the basidiomycete isolates show that it is an *Armillaria* sp. Pathogenicity tests were carried out with 180 days old pepper plants. The plants were inoculated with discs of mycelium introduced in the soil and on the collar. This is the first time that *Armillaria* is found to be pathogenic to pepper as well as its support

tree *Spondias mombin*. The importance of these finding for controlling these diseases to safeguard the sustainable production of the Penja Pepper of Cameroon is discussed