



ISBN 978-85-66836-16-5

DECIPHERING THE SUPPRESSIVENESS OF FUSARIUM WILT IN BANANA WITH ORGANIC RESIDUES / Decifrando a supressividade à murcha de Fusarium da bananeira com resíduos orgânicos. D.W. HECK¹; R. GHINI¹; W. BETTIOL¹; ¹Universidade Estadual Paulista “Júlio de Mesquita Filho”, FCA, 18603.970, Botucatu, SP, Brazil; ²Embrapa Meio Ambiente, CP 69, 13820.000 Jaguariúna, SP, Brazil. E-mail: daniel.heck@ufv.br

The use of organic residues in agriculture can contribute for the management of plant diseases and soil fertility. However, their effects are poorly understood for banana Fusarium wilt (FW), caused by *Fusarium oxysporum* f. sp. *cubense* (Foc). In this study was evaluated the biotic and abiotic effects on soil suppressiveness to banana FW after incorporation of composted sewage sludge, biochar, shrimp peel and mussel shell into the soil. Residues were incorporated (0, 1, 2, 3, 4, and 5%, v:v) in soil previously infested with Foc. Plantlets of banana cv. ‘Silk’ (AAB) were transplanted seven days after residues incorporation in 2 L pots. The assays were conducted in greenhouses located at the Embrapa Meio Ambiente, Jaguariúna, São Paulo, Brazil. A completely randomized experimental design with ten replicates was adopted and was repeated twice. Sewage sludge at 4% and 5% reduced plant disease and increase plant growth, standing out from other residues and concentrations studied. In the intermediate group are all concentrations of biochar, as well as sewage sludge at 2% and 3%. The disease severity and plant growth were similar to the control in plants grown on soil containing shrimp peel and mussel shell. Negative correlations were found between disease parameters and soil basal respiration, bacterial population, electrical conductivity, pH, V%, CTC, P, K, Ca, Mg, Zn, Mn and B.

Key words: Sewage sludge; Biochar; Shrimp peel; Mussel shell; Panama disease.

Support: CAPES, CNPq and FAPEMIG.