

PHYSICAL PROPERTIES AS SOIL HEALTH INDICATORS FOR FUSARIUM WILT OF BANANAS

PROPIEDADES FÍSICAS COMO INDICADORES DE LA SALUD DEL SUELO PARA LA MARCHITEZ POR *Fusarium* DE LOS BANANOS

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Fusarium wilt (FW) of banana, caused by *Fusarium oxysporum* f. sp. cubense (FOC), is a major constraint for banana production in Brazil. Edaphic conditions may act as driving factor of FW intensity and may even result on soil suppressiveness. However, the complex environment of soils and the specificity of physical, chemical and biological interactions, requires integrated approaches to better understand suppressive and conducive soils. Therefore, developing management practices based on soil health are extremely dependent high quality site-specific information of soil and the production systems. This work is part of a set of research actions to identify soil health indicators in banana plantations affected by FW in São Paulo. A survey was carried out in three representative regions of different production systems at Vale do Ribeira, São Bento do Sapucaí and Penápolis. In each region, areas with high (FOC+) and low (FOC-) incidence of FW were selected. Soil density, porosity (total porosity, macro and micropores), penetration resistance (field and laboratory), moisture and texture were evaluated. There were no significant differences on soil texture when FOC+ and FOC- areas were compared in all regions. Soil porosity was also similar in the FOC+ and FOC- areas, as well as the resistance to penetration measured in the field. However, soil density and resistance to penetration assessed at laboratory were significantly lower in FOC- areas. The potential of these traits to be part of a set of soil health indicators for FW in banana is further discussed.

Keywords: Epidemiology, Panama disease, *Fusarium oxysporum* f. sp. cubense
