

CONFERENCIA Sociedad Brasileira de Genética

A UNIQUE INSECT-FUNGAL INTERACTION LEADS TO POKKA BOHENG DISEASE IN SUGARCANE

Silva-Filho M.¹, F.P. Franco¹, D.Z. Gallán¹, F.G. Gonçalves¹, A.P. Favaris¹, W.S. Leal², D.S. Moura¹, J.M.S. Bento¹. ¹Universidade de São Paulo; ²University of California, Davis.

mdcsilva@usp.br

Colonization of sugarcane stalk by opportunistic fungi, such as *Fusarium verticillioides*, usually occurs in association with *Diatraea saccharalis* (Lepidoptera: Crambidae) caterpillars attack. It has long been assumed that *F. verticillioides* is an opportunistic fungus in sugarcane since it takes advantage of the openings left by caterpillars attack to infect the plant. Herein we establish a new role for the insect-fungi association in sugarcane. We show that *F. verticillioides* has a dual effect on *D. saccharalis* caterpillars: fungal volatile emissions promoted a strong attraction to insect larvae and also increased *D. saccharalis* feeding and weight gain in diets supplemented with fungi. We also demonstrate that *F. verticillioides* is vertically transmitted to insect offspring when caterpillars fed on *F. verticillioides*-colonized diet. Our data alter the current understanding of *F. verticillioides* infection and suggest a synergistic relationship between *D. saccharalis* and *F. verticillioides* to promote Pokka Boheng Disease in sugarcane.
