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## Larval movement of fall armyworm on BT cotton landscapes with seed contamination: Consequences to resistance evolution

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The impact of seed contamination on transgenic crops that express genes of *Bacillus thuringiensis* (or BT), such as Bt cotton, on insect movement and survival has been a subject of relevant international scientific discussions. Under tropical conditions is possible that caterpillars with some level of tolerance to BT cotton, when they start feeding on cotton plant Non-BT may disperse and feed on BT cotton plants, survive, reach adulthood and produce offspring, increasing probability of occurrence of individuals with the resistance allele in a higher frequency than expected. In this context, studies in this direction are especially valuable because information about larval mobility in tropical conditions is still scarce. The presentation will be based on data about behavior ecological traits of *Spodoptera frugiperda* in the laboratory and field conditions (micro-landscapes); in addition, we developed a population genetic computer model combined with Bayesian inference to study the impact of active (treated as walking movement) and passive movement (called here as ballooning) of *S. frugiperda* associated with contaminated areas on resistance evolution. Interesting results will be presented and discussed, such as the findings of fitness cost on larval behavior traits of *S. frugiperda* due to BT resistance and the possible impact on resistance evolution. These data are extremely important to understand the resistance evolution, as well as, provides foundations for resistance management programs in different tropical scenarios and/or similar conditions.

### Biography

José Bruno Malaquias, Professor, Luiz de Queiroz College of Agriculture, Brazil. Has experience in Agronomy, focusing on Agricultural Entomology.

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