

Occurrence of *Faustinus* sp. (Coleoptera: Curculionidae) in Southeastern Brazil tomato crops

Ocurrencia de *Faustinus* sp. (Coleoptera: Curculionidae) en tomate en el Sureste del Brasil

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ABSTRACT

Occurrence of *Faustinus* sp. (Coleoptera: Curculionidae) in tomato (*Solanum lycopersicum* L.) plantations in the State of Espírito Santo, Brazil, was confirmed through field observations carried out between April 2006 and March 2008. Larvae of *Faustinus* sp. bore the stems of tomato plants, whereas adults feed on the leaves. Bored stems are then easily broken by the wind, by manual handling or by plant weight itself. Crop rotation and removal of crop residues may help reduce pest population levels.

Palabras clave: *Solanum lycopersicum*, Curculionidae, stem borer.

RESUMEN

Se constató la aparición de *Faustinus* sp. (Coleoptera: Curculionidae) atacando hojas y tallos de tomate (*Solanum lycopersicum* L.) en el estado de Espírito Santo, en el sureste del Brasil, entre los meses de abril de 2006 y marzo de 2008. Las larvas de *Faustinus* sp. perforan los tallos de la planta, mientras que los adultos se alimentan del follaje. Los tallos perforados se quiebran fácilmente con el viento, la manipulación, o el propio peso de la planta. La rotación de cultivos y eliminación de residuos de cosecha pueden ayudar a reducir el nivel poblacional de la plaga.

Key words: *Solanum lycopersicum*, Curculionidae, broca del tallo.

Introduction

Tomato (*Solanum lycopersicum* L.) is one of the most important crops of Brazil, which stands among the ten largest world producers (Almeida *et al.*, 2009). However, a number of insects can reduce crop yield (Maluf *et al.*, 2007), including Coleoptera species such as *Agathomerus sellatus* (Chrysomelidae) (Bavaresco and Pilati, 2005), *Trichobaris championi* (Curculionidae) (Paniagua *et al.*, 2004), *Epicauta atomaria* (Meloidae) (Netto and Guilhem, 2000) *Faustinus cubae*, *F. apicalis* and *F. rhombifer* (Curculionidae). These species have been described in several solanaceae, mainly in Argentina, Colombia and Venezuela (Davis, 1996; Ohashi and Urdampilleta, 2003).

Knowledge on the occurrence of insects that are potentially harmful to tomato crops is important as they can become a significant problem in the future. Such is the case of *T. championi*, which has turned into one of the most important pests of Mexican tomato crops since the 1990s

(Paniagua *et al.*, 2004). Though not abundant in Brazil, *Faustinus* sp. (Coleoptera: Curculionidae), reduces crop yield by boring tomato stems, sometimes causing plant death. In addition, since larvae live inside the stems and adults hide in the leaves (Gallo *et al.*, 2002), they hinder control methods, which stresses the importance of developing management strategies to deal with this pest. Frequent incidence of *Faustinus* sp. damaging tomato plants was confirmed in an organic tomato plantation in the north of Espírito Santo, southeastern Brazil (18°40' S; 40°50' W, altitude between 150 and 240 m).

The adult is a 5-6 mm long beetle with distinct and quite narrow pronotum, elongated head and rostrum curved downwards. Regarding color, head and pronotum are dark, while the legs are light. Abdomen and rear parts of elytra show longitudinal furrows with short bristly hairs and irregular dark stains. The insect possesses nocturnal

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habits and hides under the leaves during the day. Using the rostrum, females make a hole in the plant stems and lay their eggs isolated or in groups. After some days, the larvae are born and start making galleries inside the stem, finally reaching the root of the plant. Larvae are apode, curved, lacteous-white and have chitinized dark head. In the last instar, the larvae reach a 4 mm average length and turn into 5 mm long pupas in a pupal chamber constructed inside the galleries at the base of the stems. After 3 months in average, the insect completes its cycle (Fig. 1). The bored stems are easily broken in the wind,

by handling or because of plant weight. Stem boring also causes remarkable withering during the warmest hours of the day. Thus, even without breaking the stem, borers can cause plant death, thus reducing crop yield.

Infestation and damage caused by *Faustinus* sp. can be reduced through crop rotation, making sure to avoid successive cultivation of Solanaceae in the same areas. Diversifying the production system and removing crop residues can also contribute to keep the insect's population at non-harmful levels.



FIGURE 1. Adult (A, B) and last larval instar of *Faustinus* sp. (Coleoptera: Curculionidae) (C), galleries within the main stem of a tomato plant (D).

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