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Evaluation of different insecticides and application methods for control of *Diloboderus abderus*

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Diloboderus abderus (Coleoptera: Melolonthidae), commonly known as "isoca", is an insect that lives in the natural field, fulfilling the function of recycling nutrients. It is an important soil pest for crops such as corn, wheat, oats and natural and cultivated grasses in countries such as Argentina, Paraguay, Uruguay and southern Brazil. In the last five years, Montes del Plata has recorded significant losses in young plantations associated with soils with a history of farms, mainly in the southwest region of the country. This damage is associated with the larval phase of the isoca, which develops in the A horizon of the soil, feeding on the roots of the recently planted eucalyptus seedlings, which can cause the death of the tree. For this reason, the objective of this work was to evaluate the control effectiveness of three active ingredients (Imidacloprid, Acetamiprid and Thiamethoxan), and the best application method (foliar, surface application to the soil and root immersion) that would allow protecting the plants in their critical stage. The evaluation was carried out on *Eucalyptus* plants in pots where three stage-three isocas larvae were placed. After 30 days, the plants were dug up and plant survival, root damage, and larval mortality were evaluated. The results indicated that the three active ingredients were efficient in control, with survival rates of isoca of less than 30%. Thiamethoxan was the most efficient with 100% control of isocas, regardless of the application method. The foliar application method showed the best results with isocas survival rates of less than 15%, regardless of the active ingredient applied. Although it is necessary to continue the research by evaluating different site conditions, application times and doses of active ingredients, the results achieved indicate that the application of Thiamethoxan on the plantation line is the profitable alternative to mitigate losses.

Keywords: root damage, soil insect, isoca

