

Leaves border necrosis and growth delay in sugarcane (*Saccharum sp. hybrid*) planted the lower Yaracuy area, Venezuela

J. Hernández, L. Zérega y A. Ordosgoitti

Abstract

Near "Agua Negra", Veroes country, there are around 1,300 ha of sugarcane affected with necrosis of the tip and border of the leaves together with a variable degree of growth delaying of the crop depending on the sugarcane variety planted. A diagnostic of the crop sanitary conditions as well as the analyses of foliage, soil, table water and of an artesian well were done. Likewise, a 50 sugarcane varieties adaptation assay was carried out to evaluate the origin of the necrosis and a scale was designed in order to determine the behavior of different sugarcane varieties. The scale had 5 degrees: 1 (Highly Resistant =HR); 2 (Resistant=R); 3 (Moderately Resistant =MR); 4 (Susceptible=S) and 5 (Highly Susceptible =AS). In accordance with the analyses done, it was determined that the cause of the abnormality had its origin on the high concentration of sodium sulfate (Na_2SO_4) and sodium chlorine (NaCl) salts, specially the last one, and on the electric conductivity (EC) measured in the saturated extract of soil samples taken from the water table. The effects varied according to the variety planted and the levels of EC present at the time. The sugarcane varieties that showed acceptable levels of resistance to the mentioned conditions were: B49119; B64129; B82157; C37167; Co421; CP5659; CP742005; M3145; MY5514; N55805; PR 61632; PR692176; RAGNAR; SP711486; V68-78; V74-7; V77-17 and V77-24. The designed evaluation scale will be an important aid in assays planted under similar soil conditions.

Key words: Necrosis, growth delay, sugarcane, *Saccharum sp.*, salts, resistance levels.

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1. FONAIAP, CIAE-Yaracuy. Km 3, Vía Aeropuerto, Sector La Ermita, San Felipe, estado Yaracuy. Venezuela. Apdo 110. Telf. (054) 311136, Fax (055) 312265. E-mail: ciaey@reacciun.ve