

FIRST REPORT OF BINUCLEATE *RHIZOCTONIA* CAUSING DAMPING OFF IN TOBACCO SEEDLINGS IN CUBA

Marleny González García,¹ Elda Ramos Ramos,¹ Osmani Chacón Chacón,² Yamilka Pérez Bocourt¹ y Rebeca Ramírez Ochoa¹

¹ Instituto de Investigaciones de Sanidad Vegetal. Calle 110 no. 514 e/ 5.^a B y 5.^a F, Playa, Ciudad de La Habana, CP 11600

² Instituto de Investigaciones del Tabaco. Carretera El Tumbadero Km 8½, San Antonio de los Baños, La Habana

Damping off on tobacco seedlings in floating trays were observed in the provinces of Pinar del Río and La Habana, main Cuban areas for tobacco production. In order to know the causes of that problem, thirteen samples of seedlings and substrate were collected and processed using mycological methods. All the samples showed a typical mycelium described for *Rhizoctonia* complex [Sneh *et al.*, 1991]. Four isolates had multinucleates hyphae and were classified as *Rhizoctonia solani* anastomosis group 4 (AG-4). The nine remaining isolates showed binucleates somatics cells and had more than 90% of homology in ITS region with the genus *Ceratobasidium* Roger (anamorph: *Ceratorhiza* R. T. Moore). Four binucleates isolates were associated with AG-R and the other five with AG-G by sequences comparison.

Pathogenicity test were carried out using 21 days old seedlings of tobacco (var. Criollo 98). The inoculum consisted in a mixture of corn meal and sand colonized with each binucleate isolates separately. Each inoculum was mixed with sterile soil, dampened and the seedlings were planted on it and incubated at 25°C. Control seedlings were treated in a similar way in sterilized soil. About two weeks later damping off was observed. All the isolates were able to cause the disease including those obtained from substrate. Stems of noninoculated seedlings were free of lesions. Cultures of each *Rhizoctonia* group were re-isolated from inoculated seedlings. So far, the only report of a binucleate

Rhizoctonia affecting tobacco was made in Zimbabwe but the author do not specified the anastomosis groups involving in the diseases [Mazuca, 1998]. The AG-G and AG-R of binucleate *Rhizoctonia* have been previously reported in strawberry, peanut pods and cucumber [Ogoshi *et al.*, 1983; Sneh *et al.*, 1991, Hyakumachi *et al.*, 2005, Matsumoto and Yoshida, 2006]. This is the first report of binucleate *Rhizoctonia* (AG-G and AG-R) causing damping off on tobacco seedlings in Cuba.

REFERENCES

- Hyakumachi, M.; A. Priyatmojo; M. Kubota; H. Fukui: «New Anastomosis Groups, AG-T and AG-U, of Binucleate *Rhizoctonia* spp. Causing Root and Stem Rot of Cut-Flower and Miniature Roses», *Phytopathology* 95 (7):784-792, The American Phytopathological Society (APS Press), EE.UU., 2005.
- Masuka, A.: «Binucleate *Rhizoctonia* on Tobacco in Zimbabwe. Disease Notes», *Plant Disease* 82 (2): 263, The American Phytopathological Society (APS Press), EE.UU., 1998.
- Matsumoto, M.; T. Yoshida: «Characterization of Isolates of Binucleate *Rhizoctonia* spp. Associated with Strawberry Black Root Rot Complex Using Fatty Acid Methyl Ester (FAME) Profiles», *Journal of General Plant Pathology* 72 (5):318-322, Japón, 2006.
- Moore, R. T.: «The Genera of *Rhizoctonia*-Like Fungi: *Ascorhizoctonia*, *Ceratorhiza* gen. nov., *Epulorhiza* gen. nov., *Monillioopsis*, and *Rhizoctonia*», *Mycotaxon* 29:91-99, CAB International, Kew, Inglaterra, 1987.
- Ogoshi, A.; M. Oniki; T. Araki; T. Ui: «Studies on the Anastomosis Groups of Binucleate *Rhizoctonia* and Their Perfect States», *Journal of the Faculty of Agriculture, Hokkaido University* 61 (2):244-260, Japón, 1983.
- Sneh, B.; L. Burpee; A. Ogoshi: *Identification of Rhizoctonia species*, The American Phytopathological Society, APS Press, EE.UU., 1991.