NEMATICIDAL ACTIVITY EVALUATION OF *Bacillus thuringiensis* NATIVE AND COLLECTION STRAINS AGAINST ROOT-KNOT NEMATODE (*Meloidogyne incognita*)

Juan Jaramillo-Pineda, Lucia Palacios-Cortez, Martha Guerrero-Olazarán, José M. Viader-Salvadó, Katiushka Arévalo-Niño, Lilia H. Morales-Ramos,
Instituto de Biotecnología, F.C.B., U.A.N.L., Pedro de Alba s/n Cd. Universitaria, San Nicolás de los Garza N. L. Tel/fax (81) 8376 4537.
e-mail: juanjp84@hotmail.com

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Introduction. Nematode *Meloidogyne* spp is infesting the roots of important crops, resulting in annual losses of 50 billion USD per year worldwide. *Bacillus thuringiensis* (*Bt*) produces crystal parasporal inclusions (Cry δ-endotoxins) some are toxic to nematodes. Studies with culture supernatants of *Bacillus* indicate catabolic enzymes (proteases, chitinases and glucanases), secreted peptides or small molecules can contribute to the activity against phytopathogenic nematodes.
The aim of the present was to identify in collection and native strains of *Bt*, some with high nematicidal activity against *Meloidogyne incognita*

Methods. The nematicidal effect of 18 complete cultures of *Bt* strains was studied in vitro against *Meloidogyne incognita* as well as the nematicidal effect of supernatants with mortality greater than 60%. The supernatant was characterized for proteolytic activity and total protein composition. To identify the species of *Meloidogyne* we were working whit, the conserverd portion of gene encoding the 18S ribosomal RNA was amplified, which was ligated into the pGEM ®-T vector, propagated and purified for sequencing and identity analysis using the BLAST program.

Results.

Table 1. Mortality of *Meloidogyne incognita* in complete culture (CC) and culture supernatants of *Bacillus thuringiensis*.

STRAINS	MORTALITY % CC	MORTALITY % SUPERNATANTS
HD-1	83	30
GM-2	86	42
GM-34	78	35
HD-37	62	5
HD-59	81	46
GM-70	84	41
HD-73	67	6
HD-116	72	16
Medium	5	0
Water	7	6

Immobilized nematodes were counted as dead
Mortality of nematodes = # deaths / total x 100%
Data are averages of replicas

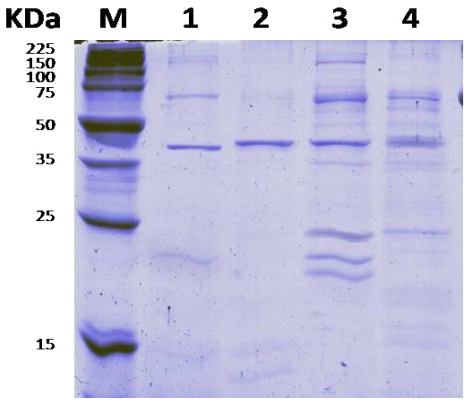

Fig.1 SDS-PAGE of the from selected *B.t. strains*. Lane M: represents pre-stained protein marker. Lanes 1-4 represent the strains HD-1, GM-2, HD-59 y GM-70 respectively. The protein gel was stained by coomassie blue stain.

Conclusions. strains HD-1, GM-2, HD-59 and GM-70 showed more than 80% mortality at complete culture, and GM-2, HD-59, GM-70 had a nematicidal effect greater than 40% in culture supernatants. In the characterization of the supernatants of strains with improved activity were found to have proteolytic activity and SDS-PAGE in a band contained between 41-43 kDa. The gene portion exhibits a similarity of 99% with respect to a gene sequence belonging to Meloidogyne incognita.

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