NEMATROPICA

Una Revista Científica Internacional de Nematología Tropical y Subtropical Publicada por ONTA
An International Scientific Journal of Tropical and Subtropical Nematology Published by ONTA

VOL. 34, No. 2

Diciembre – 2004 – December

Printed by
E. O. Painter Printing Co.
P. O. Box 877
4900 US Highway 17 North
DeLeon Springs, Florida 32130, U.S.A.

two English populations. Forty-two major bands were detected. Some bands were common to most populations, while others were population-specific. Eight population clusters were identified. A group belonging to *H. avenae sensu stricto* consisted of fourteen populations (nine of which were Norwegian). Two Norwegian and one Swedish population were confirmed as belonging to *H. filipjevi*. Three Swedish populations, preliminarily classified as H. avenae and recognised as pathotypes Knislinge, Ringsåsen and Våxtorp, differed from the *H. avenae* and *H. filipjevi* populations. Several Norwegian populations had a similar protein pattern to theVåxtorp population; their species status is still uncertain. One Norwegian population (Brekstad) differed from all Swedish, Danish and Israeli populations but showed some similarity to the English *H. mani* population. Biotests with the sixteen Norwegian populations grouped them according to their virulence on barley differentials. This revealed the occurrence of two pathotypes, Ha 11 and the closely related Ha 12. The two *H. filipjevi* populations were close to the Swedish "western" pathotype. The Brekstad population differed from all others in not reproducing on oats. This, in combination with its protein profile, may indicate that it belongs to a so far undescribed species in the cereal cyst nematode complex.

EXPLORACIÓN DE FITONEMATODOS EN TERRENOS DE LOMAS DE SAN JUAN DE LA UNIVERSIDAD AUTÓNOMA CHAPINGO [A PLANT NEMATODE SURVEY AT THE EXPERIMENTAL STATION "LOMAS DE SAN JUAN" OF THE UNIVERSITY AUTONOMOUS CHAPINGO]. **M. Palomares-Pérez y C. Carrillo-Fonseca, Coordinación de Campo Agrícola Experimental y Depto. de Parasitología Agrícola, Universidad Autónoma Chapingo, Chapingo Edo. De México, km 38.5 carretera México-Texcoco, CP 56230, Mexico.**—El propósito del presente trabajo es conocer los nematodos existentes en los terrenos productivos del Campo Agrícola Experimental de la Universidad Autónoma Chapingo. Se llevó a cabo un muestreo preliminar, completamente al azar en agosto de 2003, y se tomó la décima parte de 135 lotes. La muestra se extrajo a una profundidad de entre 10 y 20 cm, recolectando aproximadamente 1 kg. Cada lote presentó características particulares de suelo. La extracción, conteo e identificación de nematodos a nivel de género se hicieron mediante la utilización de técnicas tradicionales. A los datos se les aplicó una estadística básica para obtener el número de muestras y la dispersión presente en las tablas. Los géneros encontrados fueron; Saprófitos, *Tylenchorhyachus, Heterodera, Aphelenchus, Nacobbus, Trichodorus, Helicotylenchus, Boleodorus, Tylenchus, Paratylenchus, Dorylaimus, Criconemella, Ditylenchus* y *Pratylenchus*. Se identificaron 13 géneros de fitonematodos, de los cuales Tylenchorhynchus sp fue el que se presentó en número mayor de individuos y se localizó en mayor número de lotes. La dispersión mostrada en los géneros fue de agregada, regular y al azar.

THE EXTENT OF NEMATODE INFECTION OF GERMPLASM IMPORTED FROM CANADA IN THE QUARANTINE LABORATORY OF EMBRAPA [EL GRADO DE INFECCIÓN POR NEMATODOS EN LA GERMOPLASMA IMPORTADA DE CANADA EN EL LABORATORIO DE CUARENTENA DE EMBRAPA]. **Vandor R. V. Rissoli[1], Renata C. V. Tenente[2] and Henrique I. do Nascimento[3]. [1]Universidade Católica de Brasilia, QS 07-Lote 01 (70.022-900), Taguatinga, DF, Brasil, [2]Embrapa Recursos Geneticos e Biotecnologia, C.P. 02372 (70770-900), Brasília, DF, Brasil and [3]Undergraduate System Analysis, União Pioneira Integração Social, Brasília, SGAS Quadra 913 Conj. B, Brasília, DF, Brasil.**—Stem and bulb nematode *Ditylenchus dipsaci*, is the major plant-parasitic nematode that infests potato material imported from Canada. Potato races (I and II) occur in potato only in a few areas around the world. A computer system for the recording and registration of plant material imported from any country, including Canada, has been developed using a database of nematological germplasm analysis based at Embrapa Genetic Resources and Biotechnology, Brazil. This database is fed into a Germplasm Information System (SIG) that takes into account whether the commodity is infected by nematodes or not, donor and receptor institutions, and the year of accession introduction. The System is a strong tool in the provision of advice on risk categories to researchers and farmers. The results of the SIG survey showed that, from 24 different plant materials, only two were infected by imported plant-parasitic nematodes. Potatoes have been found infested with an important quarantine nematode (*D. dipsaci*, four accessions) and *Datura* with *Aphelenchoides besseyi* (one accession). The oth-

er 22 different botanic materials considered were free from nematodes. These materials included barley, lentil, oat, triticale, wheat, various pasture species and vegetables, *Pinus* and turf. Although there are several species of nematodes of quarantine importance in Canada, the donor institutions have been taking precautions against the possibilities of spreading these parasites into new areas in different countries. The SIG has been giving reliable and accurate information on nematological analyses and thereby lending strong support to Brazilian Agriculture.

RECORDS OF NEMATODES FOUND IN BRAZIL IN PLANT EXPORTS FROM THE U.S.A., AS RECOVERED USING THE GERMPLASM INFORMATION SYSTEM FROM EMBRAPA GENETIC RESOURCES AND BIOTECHNOLOGY [NEMATODOS ENCONTRADOS EN BRAZIL ENTRE PLANTAS EXPORTADAS DE LOS U.S.A. RECOBRADOS POR MEDIO DEL SISTEMA DE INFORMACION DE EMBRAPA, RECURSOS GENETICOS Y BIOTECNOLOGIA]. **Renata C. V. Tenente[1], Vandor R. V. Rissoli[2], Juvenil E. Cares[3] and Henrique I. do Nascimento[4], [1]Embrapa Recursos Geneticos e Biotecnologia, C.P. 02372 (70770-900), Brasília, DF, Brasil, [2]Universidade Católica de Brasilia, QS 07-Lote 01 (70.022-900), Taguatinga, DF, Brasil, [3]Universidade de Brasília, Fitopatologia, Caixa Postal 4457, Campus Darcy Ribeiro, Brasília, DF, Brasil, 70910-900 and [4]Undergraduate System Analysis, União Pioneira Integração Social, Brasília, SGAS Quadra 913 Conj. B, Brasília, DF, Brasil.**— Plant material interchange is important in the development of Brazilian Agriculture. It allows new plant varieties to be introduced into areas of the country that they would otherwise be slow to reach, resulting in good production and many other improvements but also increasing the risks of introducing new pests. In this context, Embrapa Genetic Resources and Biotechnology has developed, through its Quarantine Laboratory, faster procedures for phytosanitary analyses and a database system that permits the tracking of any introduced plant material that has been registered for nematode analysis. Using this system, it was possible to survey and recover all available data related to plant material infected with nematodes that came into Brazil from the USA during 1998 to 2003. The major economic nematodes species and hosts registered were: *Anguina* sp. (*Hordeum vulgaris*), *Aphelenchoides besseyi* (*Sorghum* sp.), *A. spinosus* (*Lactuca sativa*), *Ditylenchus obesus* (*Vigna unguiculata*), *Ditylenchus dipsaci* (*Guizotia abyssinica, Hordeum vulgare, Sorghum* sp.), *D. parvus* (*Oryza sativa*), *D. terricolus* (*O. sativa*), *Meloidogyne* sp. (*Solanum* spp.), *Paurodontus gracilis* (*Pinus* spp., *Sorghum* sp.), *Pratylenchus* sp. (*Annona* sp., *Averrhoa carambola, Manilkara zapota*), *Tylaphelenchus* sp. (*Pinus taeda*), and *Xiphinema* sp. (*Vitis vinifera*). The first report of seed-borne nematodes was made for *Ditylenchus obesus, D. parvus* and *D. terricolus*. This computer system has been shown to be very useful in the recovery of such data in an organized and safe manner, representing a great improvement in the organization and regulation of Brazilian Agriculture. The use of this system has also demonstrated that the benefit:cost ratio of such analyses was positive and of significance for agriculture in general.

SENSIBILIDAD *IN VITRO* DE EXTRACTOS VEGETALES PARA EL CONTROL DE *MELOIDOGYNE INCOGNITA* [*IN VITRO* SENSIVITY OF VEGETAL EXTRACT FOR CONTROL *MELOIDOGYNE INCOGNITA*] **Cristóbal-Alejo J.[1], N. Marbán-Mendoza[3], M. Gamboa-Ángulo[2], J. M. Tun-Suárez[1] y W. Mena Sierra[1], [1]Instituto Tecnológico Agropecuario No. 2. Conkal, Yucatán, [2]Centro de Investigación Científica de Yucatán y [3]Universidad Autónoma Chapingo, Mexico.**—Se evaluó *in vitro* el efecto de extractos de raíces, tallos y hojas de 14 especies vegetales nativas de Yucatán México, un testigo sin extracto y un testigo químico con Furadán L contra juveniles de segundo estadio (J_2) de *Meloidogyne incognita*. Se colocaron por siracusa 20 J_2 en cuatro replicas; 0.250 µg más 0.750 µl de agua destilada estéril, obteniéndose una mezcla de 250 ppm de bionematicida; la misma dosis se empleo para el nematicida químico. Se evaluó el porcentaje de mortalidad y recuperación de viabilidad de los nematodos a las 24, 48 y 72 hrs. posteriores a la exposición de los extractos y final del conteo de mortalidad, respectivamente. Después de 24 hrs de exposición no se detectaron diferencias estadísticas de mortalidad entre tratamientos, sin embargo, a las 48 hrs extracto que mayor porcentaje de mortalidad presentó correspondió a *Calea urticifolia* Mill proveniente de hoja con una mortalidad del 76.67% y el testigo químico con 100%, le siguieron extractos de hoja de *Eugenia winzerlingii* Stand con