

Distribution Maps of Plant Diseases

Compiled by CAB INTERNATIONAL in association with EPPO

Map No. 900

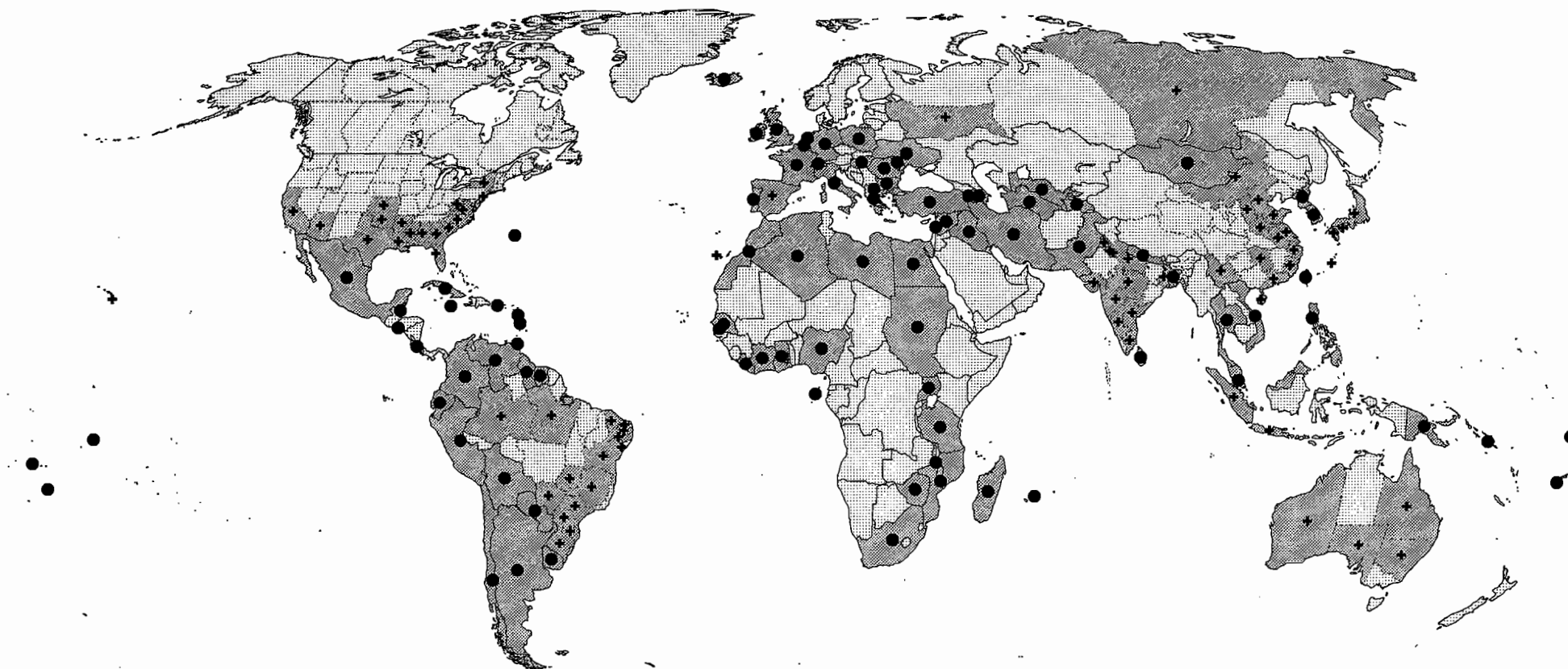
Edition 1

Issued October 2003

Meloidogyne arenaria (Neal) Chitwood

Nematoda: Meloidogynidae

Extremely large host range.



● Present: national record

■ Present: subnational record

CABI/EPPO (2003) *Meloidogyne arenaria*. Distribution Maps of Plant Diseases No. 900.
CAB INTERNATIONAL, Wallingford, UK.

Note: Syn. *Heterodera arenaria* (Neal) Marcinowski. See C.I.H. Description of Plant-parasitic Nematodes No. 62.

Records are based on bibliographic data from the CAB ABSTRACTS database and plant quarantine information compiled by EPPO

X: Present, no details A: Present, widespread B: Present, restricted distribution C: Present, few occurrences (D): Absent, formerly present (E): Eradicated (F): Intercepted only

| EUROPE | | | | | | | |
|-----------------|---|---|--|----------------|---|---|---|
| Belgium | - | X | BGARC (1972) Report for 1971, 123-141. Government Agricultural Research Centre, Gent, Belgium. | Switzerland | - | X | Nico, A. I.; Rapoport, H. F.; Jimenez-Diaz, R. M.; Castillo, P. (2002) Plant Disease 86 (10), 1075-1079. |
| Bulgaria | - | X | Katalan-Gateva, Sh.; Milkova, M. Ts. (1982) Acta Zoologica Bulgarica 20, 84-88. Samaliev, H. (1997) Bulgarian Journal of Agricultural Science 3 (3), 357-362. Stoyanov, D. (1980) Rasteniev'dni Nauki 17 (3), 65-78. | UK | - | X | Vallotton, R. (1981) Revue Suisse de Viticulture, d'Arboriculture et d'Horticulture 13 (4), 229-235. Robinson, A. J.; Stone, A. R.; Hooper, D. J.; Rowe, J. A. (1996) Fundamental and Applied Nematology 19 (2), 109-117. |
| France | - | X | Brun, P. (1992) Arboriculture Fruitiere 456, 28-30, 64. | Ukraine | - | X | Volodchenko, Z. G. (1975) VII Nauchnaya Konferentsiya Parazitologov Ukrainy, (Tzwisy dokladov), Donetsk, Sentyabr', Ukraine 1975, 27-30. |
| Germany | - | X | Scott La Massese, C.; Minot, J. C.; Voisin, R.; Castaing, L. R. M.; Fabre, A. (1988) Acta Oecologica, Oecologia Applicata 9 (2), 137. | ASIA | | | |
| Greece | - | X | Zunke, U. (1981) Deutscher Gartenbau 36 (1), 11-13. | Armenia | - | X | Pogosyan, E. E.; Karapetyan, D. A. (1976) Biologicheskii Zhurnal Armenii 19 (2), 85-95. |
| | - | X | Kollopanos, C. N.; Vovlas, N. (1977) Nematologia Mediterranea 5 (2), 207-215. [Mainland Greece.] | Azerbaijan | - | X | Kasimova, G. A.; Atakishieva, Ya. Yu. (1978) Problemy pochvennoi zoologii 110-111. |
| | - | X | Pyrowolakis, E. (1975) Zeitschrift fur Pflanzenkrankheiten und Pflanzenschutz 82 (11/12), 750-755. [First record from Crete.] | | | X | Treskova, V. S.; Sadykhov, D. M.; Gus'kova, L. A.; Venetskaya, A. L. (1979) Gallovye nematody sel'skokhozyaistvennykh kul'tur i mery bor'by s nimi. Materialy simpoziuma, Dushanbe, 25-27 sentyabrya 1979, 47-50. Donish, Dushanbe, Tajikistan. |
| Hungary | - | X | Amin, A. W.; Budai, C. S. (1994) Pakistan Journal of Nematology 12 (1), 59-65. | Bangladesh | - | X | Choudhury, B. C. (1981) Proceedings of 3rd Research Planning Conference on root-knot nematodes, Meloidogyne spp., Region VI, Jakarta, Indonesia, 20-24 July 1981, 142-147. North Carolina State University, Raleigh, NC, USA. |
| Iceland | - | B | Budai, C. (1980) Noveinyvedelem 16 (3), 117-118. | China | - | X | |
| Ireland | - | X | Siggeirsson, E. I.; Riel, H. R. van (1975) Rannsóknastofnunin Nedri As, Hveragerdi, Island Skyrsla No. 20. [In greenhouses and warm soil around hot springs.] | Anhui | | X | Chen, P. S. (et al.) Plant Protection 12 (1), 5-8. |
| Italy | - | X | Davide, R. G. (1979) Plant Disease Reporter 63 (3), 207-211. | Fujian | | X | Li, M. S.; Yan, S. P.; Zhang, L.; Zhong, J. X. (2001) Fujian Journal of Agricultural Sciences 16 (2), 28-31. |
| | - | X | Caroppo, S.; Ambrogioni, L.; Pelagatti, O.; Silva, J. de; Lamberti, F. (1998) Nematologia Mediterranea 26 (Suppl.), 33-37. [Mainland Italy.] | | | | Pan, C. S.; Lin, J.; Wang, S. Y.; Wu, S. Z. (1994) Wuji Science Journal 12C, 149-157. |
| | - | X | Tacconi, R. (1981) Informatore Fitopatologico 31 (10), 11-19. [Mainland.] | Guangdong | | X | Zeng, Y. S.; Liang, C. T.; Chen, X. F.; Liang, G. S. (1999) Journal of South China Agricultural University 20 (3), 23-27. |
| | - | X | Vito, M. di; Saccardo, F.; Zaccheo, G. (1993) Afro-Asian Journal of Nematology 3 (2), 135-138. [Mainland Italy.] | Hainan | | X | Ying, Y. Q.; Yang, B. J.; Wang, Q. L. (1994) Journal of South China Agricultural University 15 (1), 22-26. [Race 1.] |
| Macedonia | - | X | Dautova, M.; Gommers, F. J. (2000) Nematologia Mediterranea 28 (1), 121-128. | Hebei | | X | Shen, C. X. (1992) Acta Phytopathologica Sinica 22 (3), 263-264. [Race 2.] |
| Moldova | - | X | Batyr, A. K.; Nesterov, P. I. (1980) IX Konferentsiya Ukrainskogo Parazitologicheskogo Obshchestva. Tezisy dokladov. Chast' 1, 58-59. "Naukova Dumka", Kiev, Ukraine. | Henan | | X | Zhang, X. W.; Qian, X. L.; Liu, J. W. (1989) Journal of Fruit Science 6 (1), 33-38. [Race 2.] |
| | - | X | Kozhokaru, G. I.; Nguen Chung Tu (1976) Fitoparaziticheskie i svobodnozhivushchie nematody, 42-46. Izdatel'stvo "Shtiintsa", Kishinev, Moldova. [First record.] | Hunan | | X | Fang, Y. Z. (et al.) (1991) Hunan Agricultural Science 4 (4), 40-42. [Race 2.] |
| Netherlands | - | X | Brinkman, H. (1975) Gewasbescherming 6 (4), 57-64. | Jiangsu | | X | Sun, S. Y.; Shen, B. K.; Tong, R. H.; Zhu, J. (1991) Forest Pest and Disease 3, 24-26. |
| Poland | - | B | Kornobis, S. (2001) Progress in Plant Protection 41 (1), 189-192. [Restricted to glasshouses.] | Nei Menggu | | X | Zhang, X. Q.; Wang, D. S.; Shi, A. X.; Li, Q. Y. (1998) Forest Research 11 (2), 175-178. |
| Portugal | - | X | Lamberti, F.; Lemos, R. M.; Sasanelli, N.; Molinari, S.; Abrantes, I. M. de O.; Silva, J.; Villalobos, A. (2001) Nematologia Mediterranea 29 (1), 67-76. [Mainland. Race 3.] | Shandong | | X | Gao, Q. K.; Zhao, H. H.; Xu, M. E.; Liu, W. Z. (2000) Acta Phytopathologica Sinica 30 (2), 162-165. |
| | - | X | Santos, M. S. N. de A.; Abrantes, I. M. de O.; Fernandes, M. F. M. (1987) Ciencia Biologica, Ecology and Systematics 7 (1/2), 37-43. [Mainland. Race 2.] | Shanxi | | X | Wang, R. X.; Chen, Z. A. (1989) Acta University, Septentrionali Occident Agriculture 17 (2), 115-116. [Race 2.] |
| Romania | - | B | Romascu, E.; Ivan, M.; Lemeni, V.; Romascu, G. (1977) Analele Institutului de Cercetari Pentru Protectia Plantelor 12, 267-281. [First record. In glasshouses.] | Yunnan | | X | Yu, S. F.; Xia, B. (1987) Journal of Yunnan Agricultural University 2 (1), 35-40. |
| Russia | - | X | | Zhejiang | | X | Huan, J. (1983) Acta Agriculture Universitatis Zhejiangensis 9 (4), 343-359. |
| Central Russia | | X | Mar'enko, A. Y. (1989) Byulleten' Vsesoyuznogo Instituta Gel'mintologii im. K. I. Skryabina 50, 28-32. [First record from glasshouses in the Moscow region. Race 1.] | India | - | X | Rong, W. Z.; Juan, J.; Zhang, K. S. (1984) Acta Phytopathologica Sinica 14 (4), 225-232. |
| Eastern Siberia | | B | Mukhina, T. I. (1977) Parazitologiya 11 (1), 79-83. | Andhra Pradesh | | X | Prasad, D.; Rangappa, T. (1994) Annals of Plant Protection Sciences 2 (2), 37-42. |
| Spain | - | X | | Delhi | | X | Singh, B.; Choudhury, B. (1972) Haryana Journal of Horticultural Science. 1 (1/4), 63-68. |
| Canary Islands | | X | Taylor, A. L.; Sasser, J. N.; Nelson, L. A. (1982) International Meloidogyne Project. Department of Plant Pathology, North Carolina State University & US Agency for International Development, Raleigh, USA. | Gujarat | | X | Patel, B. A.; Patel, D. J.; Sharma, S. B.; Patel, H. V.; Patel, S. K. (1996) International Arachis Newsletter 16, 38-39. |
| Mainland Spain | | X | Castillo, P.; Vito, M. di; Vovlas, N.; Jimenez-Diaz, R. M. (2001) Plant Disease 85 (3), 277-281. [First record on Morus alba in Europe. Race 2.] | Haryana | | X | Kumar, S.; Singh, S.; Vats, R.; Jain, R. K.; Bajaj, H. K. (1999) Proceedings of national symposium on rational approaches in nematode management for sustainable agriculture, Anand, India, 23-25 Nov. 1998, 110-112. Nematological Society, New Delhi, India. [First record from Haryana.] |
| | | X | Navas, A.; Castagnone-Sereno, P.; Blazquez, J.; Esparrago, G. (2001) Nematology 3 (3), 243-253. | Karnataka | | X | Hussaini, S. S.; Krishnamurthy, G. V. G. (2002) Indian Journal of Nematology 32 (1), 20-22. |
| | | X | | Madhya Pradesh | | X | Siddiqui, M. R.; Siddiqui, Z. A.; Husain, S. I. (1989) International Nematology Network Newsletter 6 (1), 30. |

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X: Present, no details A: Present, widespread B: Present, restricted distribution C: Present, few occurrences (D): Absent, formerly present (E): Eradicated (F): Intercepted only

| | | | | | | |
|------------------------------|---|--|---------------|---|---|---|
| Maharashtra | X | Darekar, K. S.; Shelke, S. S.; Mhase, N. L. (1990) <i>Bioved</i> 1 (1), 99-100. | Philippines | - | X | Taylor, A. L.; Sasser, J. N.; Nelson, L. A. (1982) International Meloidogyne Project. Department of Plant Pathology, North Carolina State University & US Agency for International Development, Raleigh, USA. |
| | | Darekar, K. S.; Shelke, S. S.; Mhase, N. L. (1990) <i>International Nematology Network Newsletter</i> 7 (4), 5-6. | | | | |
| Punjab | X | Sharma, N. K.; Sharma, S. K.; Midha, S. K. (1978) <i>Indian Farming</i> 28 (2), 19, 21. | Sri Lanka | - | X | Lamberti, F.; Ekanayake, H. M. K. (1982) <i>Nematologia Mediterranea</i> 10 (2), 227-228. |
| | | Sharma, S. K.; Sakhuja, P. K.; Singh, I.; Sultan, M. S. (1988) <i>Indian Journal of Nematology</i> 18 (2), 371. [First record on peach in India.] | | | | Lamberti, F.; Ekanayake, H. M. R. K.; Sasanelli, N.; Zacheo, F. (1993) <i>Nematologia Mediterranea</i> 21 (2), 227-234. |
| Tamil Nadu | X | Alice, D.; Sivaprakasam, K. (1996) <i>Journal of Ecobiology</i> 8 (2), 99-103. | Syria | - | A | Tayar, A. (1982) Proceedings of 2nd Research Planning Conference on root-knot nematodes, Meloidogyne spp., Region VII. North Carolina State University Graphics, Raleigh, USA. |
| Uttar Pradesh | X | Hasan, N.; Jain, R. K. (1998) <i>Indian Journal of Nematology</i> 28 (2), 125-131. | Taiwan | - | X | Cheng, Y. H.; Cheng, A. H.; Chen, S. S.; Tu, C. C. (1989) <i>Journal of Agricultural Research of China</i> 38 (3), 353-364. |
| West Bengal | X | Khan, A. A.; Khan, M. W.; Badshah Khan (2000) <i>Indian Journal of Nematology</i> 30 (2), 186-188. | | | | Wang, K. C. (1978) <i>Kasetsart Journal</i> 12 (1), 36-42. |
| Indonesia | - | Sen, K.; Dasgupta, M. K. (1976) <i>Indian Journal of Nematology</i> 5 (1), 128-129. | Tajikistan | - | X | Kulichin, O. A. (1981) <i>Izvestiya Akademii Nauk Tadzhikskoi SSR, Biologicheskii Nauki</i> 2 (83), 84. [First record on <i>Amygdalus</i> sp. in the Shaartuz region.] |
| Java | X | Hadisoeaganda, A. W. D. (1981) Proceedings of 3rd Research Planning Conference on root-knot nematodes, Meloidogyne spp., Region VI, Jakarta, Indonesia, 20-24 July 1981, 149-162. North Carolina State University, Raleigh, NC, USA. | Thailand | - | A | Taylor, A. L.; Sasser, J. N.; Nelson, L. A. (1982) International Meloidogyne Project, Contract No. AID/ta-c-1234. Department of Plant Pathology, North Carolina State University & US Agency for International Development, Raleigh, North Carolina, USA. |
| Sumatra | A | Hadisoeaganda, A. W. D. (1981) Proceedings of 3rd Research Planning Conference on root-knot nematodes, Meloidogyne spp., Region VI, Jakarta, Indonesia, 20-24 July 1981, 149-162. North Carolina State University, Raleigh, NC, USA. | Turkey | - | X | Elekcioglu, I. H. (1995) <i>Nematologia Mediterranea</i> 23 (2), 213-215. |
| Iran | - | X | Turkmenistan | - | X | Erdel, F.; Dumus, F.; Kepenekci, I.; Okten, M. E. (2001) <i>Turkiye Entomoloji Dergisi</i> 25 (1), 49-64. |
| | | Maafi, Z. T.; Mahdavian, S. (1997) <i>Applied Entomology and Phytopathology</i> 65 (1), 1-3. [First record on kiwifruit in Mazandaran. Race 2.] | | | | Arutyunov, A. V. (1988) <i>Byulleten' Glavnogo Botanicheskogo Sada</i> 143, 67-71. |
| Iraq | - | X | Uzbekistan | - | X | Sakchiev, A. (1969) <i>Izvestiya Akademii Nauk Turkmenskoi SSR, Biologicheskii Nauki</i> 6, 63-66. |
| | | Al-Sabie, R. F.; Ami, S. N. (1990) <i>Arab Journal of Plant Protection</i> 8 (2), 83-87. [First record of race 2.] | | | | Allamuratov, Sh. T. (1986) <i>Uzbekskii Biologicheskii Zhurnal</i> 6, 28-30. |
| Japan | - | X | | | | Khurramov, Sh. Kh. (1990) <i>Zashchita Rastenii (Moskva)</i> 4, 12-13. |
| | | Katcho, Z. A. (1972) <i>Plant Disease Reporter</i> 56 (9), 824. [First record.] | Vietnam | - | X | Narbaev, Z. N.; Allamuratov, Sh. T. (1988) <i>Uzbekskii Biologicheskii Zhurnal</i> 3, 40-43. |
| Honshu | X | Yaegashi, T.; Toida, Y. (1997) <i>Japanese Journal of Nematology</i> 26 (1/2), 32-35. | | | | Fam Tikhan' Bin' (1990) <i>Zoologicheskii Zhurnal</i> 69 (4), 128-131. |
| Kyushu | X | Iwahori, H.; Sano, Z.; Torigoe, H. (2001) <i>Kyushu Plant Protection Research</i> 47, 112-117. | | | | |
| | | Orui, Y.; Nishi, T.; Matsuzawa, H. (1996) <i>Applied Entomology and Zoology</i> 31 (2), 225-231. | AFRICA | | | |
| Ryukyu Archipelago | X | Orui, Y.; Nishi, T.; Matsuzawa, H. (1996) <i>Applied Entomology and Zoology</i> 31 (2), 225-231. | Algeria | - | C | Beek, J. G. van der (1986) <i>FAO Plant Protection Bulletin</i> 34 (4), 187-191. |
| Shikoku | X | Orui, Y.; Nishi, T.; Matsuzawa, H. (1996) <i>Applied Entomology and Zoology</i> 31 (2), 225-231. | | | | Sellami, S.; Lounici, M.; Eddoud, A.; Benseghir, H. (1999) <i>Nematologia Mediterranea</i> 27 (2), 295-301. |
| Korea Dem. People's Republic | - | A | Cote d'Ivoire | - | X | Merny, G. (1976) Proceedings of the research planning conference on root-knot nematodes, Meloidogyne spp., 7-11 June 1976, Ibadan, Nigeria, 60-65. IITA, Ibadan, Nigeria. |
| | | Choi, Y. E. (1981) Proceedings of 3rd Research Planning Conference on root-knot nematodes, Meloidogyne spp., Region VI, Jakarta, Indonesia, 20-24 July 1981, 20-30. North Carolina State University, Raleigh, USA. | Egypt | - | X | Hashem, E. K. (1997) <i>Alexandria Journal of Agricultural Research</i> 42 (1), 185-193. |
| Korea Republic | - | X | | | | Ibrahim, I. K. A.; Rezk, M. A. (1988) <i>Advances in plant nematology</i> , 81-98. |
| | | Cho, H. J.; Kim, C. H.; Park, J. S.; Jeoung, M. G. (1987) <i>Korean Journal of Plant Pathology</i> 3 (3), 159-163. [First record of race 1.] | Gambia | - | A | Ejunjobi, O. A. (1985) <i>An advanced treatise on Meloidogyne Vol. 1</i> , 353-360. A Cooperative publication of the Department of Plant Pathology and Genetics, North Carolina State University and US Agency for International Development, Raleigh, USA. |
| | | Choo, H. Y.; Choi, Y. E. (1979) <i>Korean Journal of Plant Protection</i> 18 (4), 169-176. [First record in Jeju Province.] | Ghana | - | A | Ejunjobi, O. A. (1985) <i>An advanced treatise on Meloidogyne Vol. 1</i> , 353-360. A Cooperative publication of the Department of Plant Pathology and Genetics, North Carolina State University and US Agency for International Development, Raleigh, USA. |
| | | Kim, D. G. (2001) <i>Research in Plant Disease</i> 7 (2), 69-79. [Widespread in glasshouses. Race 2.] | | | | |
| Lebanon | - | X | | | | |
| | | Kim, D. G.; Ferris, H. (2002) <i>Journal of Nematology</i> 34 (1), 43-49. | Liberia | - | C | Lamberti, F.; Boiboi, J. B.; Ciancio, A. (1988) <i>Nematologia Mediterranea</i> 16 (1), 5-6. |
| | | Khelu, A. Zh.; Zaets, V. G.; Shesteporov, A. A. (1989) <i>Byulleten' Vsesoyuznogo Instituta Gef'mintologii im. K. I. Skryabina</i> 50, 85-89. | Libye | - | X | Dabaj, K. H.; Jenser, G. (1987) <i>International Nematology Network Newsletter</i> 4 (3), 28-33. |
| | | Macaron, J. (1975) <i>Nematologia Mediterranea</i> 3 (1), 35-41. | Madagascar | - | X | Baudin, P.; Huu-Hai, V. (1973) <i>Agronomie Tropicale</i> , 11 (2), 189-207. |
| | | Sead, A. T.; Tanveer, M. (1972) <i>FAO Plant Protection Bulletin</i> 20 (2), 31-35. | Malawi | - | X | Msku, W. A. B.; Saka, V. W.; Mbalule, J. C.; Kamwanba, S. (1990) <i>Zimbabwe Journal of Agricultural Research</i> 28 (1), 15-21. |
| Malaysia | - | X | | | | |
| | | Muhammad, K. (1992) <i>Quarterly Newsletter, Asia and Pacific Plant Protection Commission</i> 35, 33-34. | Mauritius | - | X | Lamberti, F.; Di Vito, N. M.; Scranio, L.; Chinappen, M.; Bucha, J. (1987) <i>FAO Plant Protection Bulletin</i> 35 (2), 43-50. |
| Mongolia | - | X | | | | |
| | | Zhang, X. Q.; Wang, D. S.; Shi, A. X.; Li, Q. Y. (1998) <i>Forest Research</i> 11 (2), 175-178. | Morocco | - | X | Taylor, A. L.; Sasser, J. N.; Nelson, L. A. (1982) International Meloidogyne Project. Department of Plant Pathology, North Carolina State University & US Agency for International Development, Raleigh, USA. |
| Nepal | - | X | | | | |
| | | Bhardwaj, L. N.; Hogger, C. H. (1984) <i>Nematologia Mediterranea</i> 12 (1), 155-158. | Mozambique | - | A | Martin, G. C.; Armstrong, A. M. (1975) <i>Technical Bulletin, Rhodesia Agricultural Journal</i> 11, 27-31. |
| Pakistan | - | X | | | | |
| | | Gul, A.; Saeed, M. (1990) <i>Sarhad Journal of Agriculture</i> 6 (5), 495-502. | | | | |
| | | Maqbool, M. A. (1981) <i>Nematologia Mediterranea</i> 9 (2), 211-212. [First record.] | | | | |
| | | Pathan, M. A.; Jiskani, M. M.; Wagan, K. H. (2000) <i>Pakistan Journal of Phytopathology</i> 12 (2), 125-129. | | | | |

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X: Present, no details A: Present, widespread B: Present, restricted distribution C: Present, few occurrences (D): Absent, formerly present (E): Eradicated (F): Intercepted only

Nigeria - X Babatola, J. O. (1984) *Tropical Pest Management* 30 (3), 256-265.
Ogbuji, R. O. (1980) *Plant Disease* 64 (4), 381-382.

Sao Tome & Principe - X Abrantes, I. M. de O.; Vovlas, N.; Santos, M. S. N. de A.; Espirito Santo, S. N. (1994) *Nematologia Mediterranea* 22 (1), 115-118.

Senegal - X Prot, J. C. (1984) *Revue de Nematologie* 7 (1), 23-28.

South Africa - X Loubser, J. T. (1988) *South African Journal of Entology and Viticulture* 9 (2), 21-27.
Riekert, H. F.; Henshaw, G. E. (1998) *African Crop Science Journal* 6 (4), 377-383.

Sudan - X Yassin, A. M. (1974) *Nematologia Mediterranea* 2 (2), 103-112.

Tanzania - X Runkulatlle, H. H. E.; Teri, J. M. (1990) *Proceedings of global status and prospects for integrated pest management of root and tuber crops in the Tropics, 25-30 Oct. 1987, Ibadan, Nigeria. IITA, Ibadan, Nigeria.*

Uganda - X CABI (2003) SQWORM nematode identification database. CABI Bioscience, Egham, UK.

Zimbabwe - X Shepherd, J. A.; Coombs, R. F. (1981) *Zimbabwe Journal of Agricultural Research* 19 (1), 123-125.

NORTH AMERICA

Mexico - X Carrillo-Fasio, J. A.; Garcia-Estrada, R. S.; Allende-Molar, R.; Marquez-Zequera, I.; Cruz-Ortega, J. E. (2000) *Revista Mexicana de Fitopatologia* 18 (2), 115-119.
Cid del Prado-Vera, I.; Tovar-Soto, A.; Hernandez, J. A. (2001) *Revista Mexicana de Fitopatologia* 19 (1), 32-39. [Race 2.]
Ramirez Arredondo, J. A.; Cid del Prado Vera, I.; Teliz Ortiz, D.; Zavaleta Mejia, E. (1995) *Agricultura Tecnica en Mexico* 21 (2), 107-116. [Race 1.]

USA - X

Alabama - X Kokalis-Burelle, N.; Mahaffee, W. F.; Rodriguez-Kabana, R.; Kloepper, J. W.; Bowen, K. L. (2002) *Journal of Nematology* 34 (2), 98-105.
Vargas-Ayala, R.; Rodriguez-Kabana, R.; Morgan-Jones, G.; McInroy, J. A.; Kloepper, J. W. (2000) *Biological Control* 17 (1), 11-22.

Arizona - A Walters, S. A.; Barker, K. R. (1994) *Plant Disease* 78, 772-774.

Arkansas - A Walters, S. A.; Barker, K. R. (1994) *Plant Disease* 78, 772-774.

California - X Anwar, S. A.; McKenry, M. V. (2001) *International Journal of Nematology* 11 (1), 1-7.
McKenry, M. V.; Kretsch, J. (1987) *Nematologica* 33 (3), 343-354.

Florida - X Freitas, L. G.; Dickson, D. W.; Mitchell, D. J.; Hewlett, T. E. (2000) *Nematologia Brasileira* 24 (2), 157-166. [Race 1.]
Freitas, L. G.; Dickson, D. W.; Mitchell, D. J.; McSorley, R. (2000) *Nematologia Brasileira* 24 (2), 147-156.

Georgia - X Timper, P.; Minton, N. A.; Johnson, A. W.; Breneman, T. B.; Culbreath, A. K.; Burton, G. W.; Baker, S. H.; Gascho, G. J. (2001) *Plant Disease* 85 (7), 767-772.
Williams-Woodward, J. L.; Davis, R. F. (2001) *Journal of Nematology* 33 (4 (Suppl.)), 332-337.

Hawaii - A Walters, S. A.; Barker, K. R. (1994) *Plant Disease* 78, 772-774.

Kansas - X Walters, S. A.; Barker, K. R. (1994) *Plant Disease* 78, 772-774.

Louisiana - A Walters, S. A.; Barker, K. R. (1994) *Plant Disease* 78, 772-774.

Mississippi - A Walters, S. A.; Barker, K. R. (1994) *Plant Disease* 78, 772-774.

New Jersey - X Walters, S. A.; Barker, K. R. (1994) *Plant Disease* 78, 772-774.

New York - X Walters, S. A.; Barker, K. R. (1994) *Plant Disease* 78, 772-774.

North Carolina - X Koenning, S. R.; Bailey, J. E.; Schmitt, D. P.; Barker, K. R. (1998) *Journal of Nematology* 30 (4), 643-650.
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X: Present, no details A: Present, widespread B: Present, restricted distribution C: Present, few occurrences (D): Absent, formerly present (E): Eradicated (F): Intercepted only

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