

Root-knot Disease of Cabbage and Lettuce from Tripoli Province— A New Record for Jamahiriya

I. S. FARAJ, M. WAJID KHAN AND KHALIFA H. DABAJ¹

Vegetables constitute one of the most suitable host crops for root-knot nematodes. Cruciferous vegetables, though not considered as good hosts as solanaceous, leguminous or malvaceous vegetable crops, are attacked by root-knot nematodes almost all over the world (2,4). The information available about the root-knot disease in Libyan Jamahiriya indicates that the disease is prevalent on a variety of crops (1,3). In 1968 many plants were enlisted as hosts of 4 major species viz. *Meloidogyne javanica* (Trueb) Chitwood; *M. incognita* (Kofoid and White) Chitwood; *M. hapla* Chitwood; *M. arenaria* (Neal) Chitwood, recognised to occur in the country (1).

No information is available regarding the root-knot disease of cruciferous vegetables in Jamahiriya. Although Pucci (5) casually enlisted and observed root-knot on cabbage and lettuce but he did not recognise the infecting species and did not describe the symptoms. There appears to be no established record of its occurrence in Tripoli Province.

During the winter of 1979-80, some field-plots of cabbage and lettuce plants in Ainzara were observed to have poor top growth. Examination of the roots of the plants revealed the presence of numerous galls on the roots.

Roots of cabbage, *Brassica oleracea* var. *capitata* L. were heavily galled and showed stunted growth and bushy appearance (Fig. 1). Galls contained numerous mature females of *M. javanica*. The morphological features of the nematode especially the perineal pattern fully resembled those described for the species (6) (Fig. 3).

In the same locality in a few plots, some plants of lettuce, *Lactuca sativa* L. were observed to have galled roots. Galls were comparatively fewer than cabbage. Egg-masses were protruding at the root surface (Fig. 2). The morphological characteristics of the species infecting lettuce was identical to those of *M. incognita* as given by Williams (6) (Fig. 4).

This study established the first report on the presence, in the Jamahiriya, of *M. javanica* and *M. incognita* infecting cabbage and lettuce respectively.

The extent of infestation is not known at this stage, but a preliminary survey by Khan and Dabaj (3) has revealed that, besides cabbage and lettuce, other cruciferous vegetables are also infected with root-knot nematode in Jamahiriya. In other parts of the world, *M. incognita*, *M. javanica*, *M. arenaria*, *M. naasi*, *M. artiellia* and *M. thamesi* are known to infect cabbage. *M. arenaria*, *M. incognita* and *M. hapla* are well known parasites of lettuce in different parts of the world. A thorough survey of these vegetables in different parts of the country may indicate the existence of other species of *Meloidogyne* on these crops.

¹Department of Plant Protection, Faculty of Agriculture, University of Al-Fateh, Tripoli, S.P.L.A.J.

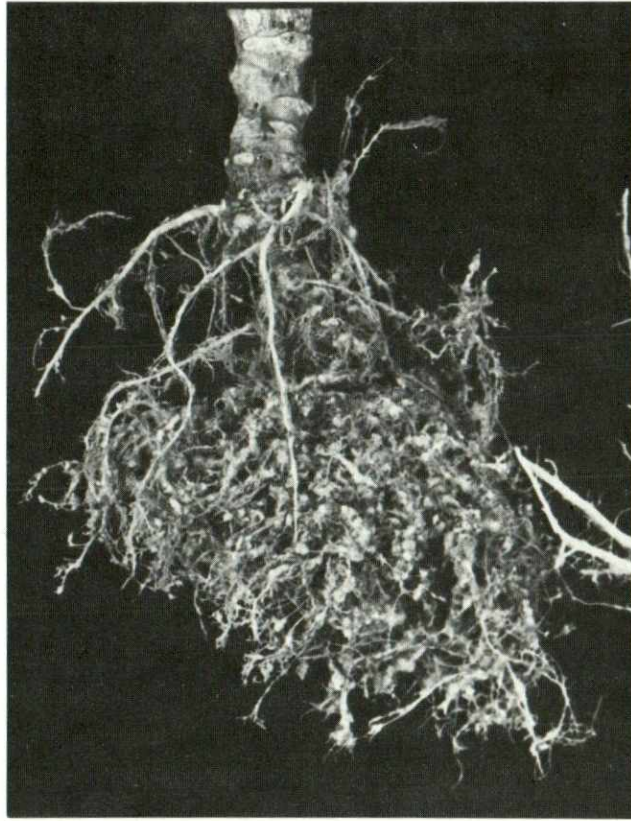


Fig. 1. Severely galled root of cabbage infected with *Meloidogyne javanica* showing bushy appearance.

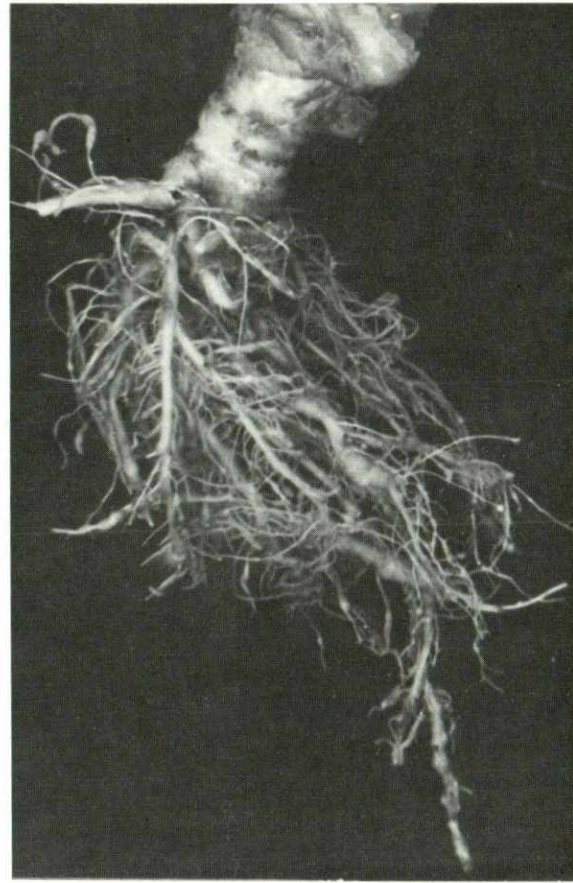


Fig. 2. Lettuce root with galls caused by *Meloidogyne incognita* infection.



Fig. 4. Perineal pattern of *Meloidogyne incognita* from lettuce.

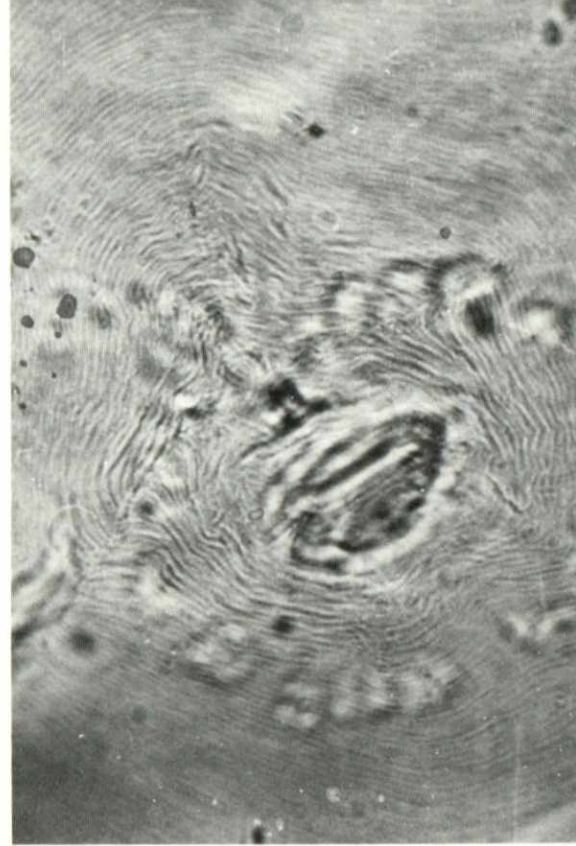


Fig. 3. Perineal pattern of *Meloidogyne javanica* from cabbage.

LITERATURE CITED

1. Anon. 1968. List of plant diseases recorded in Libya. Minisgry of Agriculture and Animal Wealth. Plant Protection Department Memograph.
2. Jensen, J. H. 1972. Nematode pests of vegetables and related crops. In 'Economic Nematology' (Ed. J. M. Webster) pp. 377-408. Academic Press. London and New York.
3. Khan, M. Wajid and Khalifa H. Dabaj. 1980. Some preliminary observations on root-knot nematodes of vegetable crops in Libyan Jamahiriya. Libyan J. Agr. 9: 127-136.
4. Lamberti, F. 1979. Economic importance of *Meloidogyne* spp. in sub-tropical and mediterranean climates. In "Root-knot nematodes (*Meloidogyne* species)—systematics, biology and control" (Ed. Lamberti, F. and Taylor, C. E.) pp. 341-357. Academic Press, London, New York, San Francisco.
5. Pucci, E. 1963. Actual situation of major plant diseases in Libya. Ministry of Agriculture and Animal Wealth. Department of Plant Protection Memograph.
6. Williams, K. J. 1972. *Meloidogyne incognita*, *Meloidogyne javanica*. C. I. H. descriptions of plant parasitic nematodes set 2 No. 18; set 1 No. 3.

مرض تعقد الجذور على الكرنب والخس
في منطقة طرابلس ، تسجيل جديد بالجمهورية

* ————— *

عيسى صالح فرج
محمد واجد خان
خليفة دعجاج

المستخلص

وجدت أعراض مرض تعقد الجذور على نباتات الكرنب والخس خلال
شتاء عام ١٩٨٠/٧٩ في منطقة عين زاره بطرابلس وكانت المعلومات المتوفرة
تدل على انتشار هذا المرض في الجمهورية العربية الليبية الشعبية
الاشتراكية .