

# Soybean Cyst Nematode Introduced into Ohio

R. B. HAMMOND, Assistant Professor, Department of Plant Pathology, Ohio Agricultural Research and Development Center, Wooster 44691, P. H. KAUFFMAN, Plant Pathologist, Ohio Department of Agriculture, Reynoldsburg 43068, R. M. RIEDEL, Associate Professor, Department of Plant Pathology, Ohio State University, Columbus 43210, and R. E. HITE, Adjunct Associate Professor, Ohio State University and USDA-APHIS, Columbus 43210

## ABSTRACT

Hammond, R. B., Kauffman, P. H., Riedel, R. M., and Hite, R. E. 1981. Soybean cyst nematode introduced into Ohio. *Plant Disease* 65:846.

The soybean cyst nematode, *Heterodera glycines*, was introduced into Ohio in the spring of 1980. No known soybean field infestations, however, have been found at this time. Cysts of this nematode were transported into the state in soil adhering to tomato transplants. Two fields are known to have been planted to these tomato transplants and are assumed to have cysts disseminated throughout. Additional fields that received transplants from the same location are being sought.

The soybean cyst nematode (SCN), *Heterodera glycines* Ichinohe, is perhaps the most economically important cyst nematode in the United States (2). It occurs in numerous southern and midwestern states and has recently been found on soybeans in Minnesota (1) and Iowa. It was also reportedly introduced into Wisconsin (Craig Grau, *personal communication*). No soybean infestations have previously been known to occur in Ohio.

Approved for publication as Journal Article 210-80 of the Ohio Agricultural Research and Development Center, Wooster 44691.

Accepted for publication 9 March 1981.

The publication costs of this article were defrayed in part by page charge payment. This article must therefore be hereby marked "advertisement" in accordance with 18 U.S.C. § 1734 solely to indicate this fact.

0191-2917/81/10084601/\$03.00/0  
©1981 American Phytopathological Society

SCN, however, was recently introduced into Ohio in soil adhering to roots of tomato transplants, and cysts were found in piles of soil near two tomato fields near Tipp City in Miami County. The tomato transplants, shipped from the same source in Tennessee, arrived in Ohio in the spring of 1980. Before planting, the excess soil adhering to the tomato roots was shaken free and allowed to fall on the ground. SCN cysts were first found in two soil piles. One was located in a grassy area about 4.5 m from the edge of the field. The other was 3 m within the field and positioned so that any vehicle driving along the edge of the field would have been driven through it. Extraction procedures revealed up to 60 cysts per 100 cm<sup>3</sup> of soil in one of the piles.

Additional investigations revealed another location. Soil that had remained in the plant-holding box on the planter during tomato planting also contained

many cysts. Identification of SCN was made by William Friedman (*personal communication*). It is our judgment that any soil that adhered to the roots of the transplants during planting probably served as a means of transport throughout these two fields.

Soybeans (Williams variety) were planted in the greenhouse in soil from the soil piles. Forty days after planting, plants were removed and the soil was gently washed from the roots. Plant roots were examined for mature female cysts. SCN cysts were found, confirming the earlier determinations.

We are trying to identify the areas that received tomato transplants from the contaminated source in Tennessee. These areas will be surveyed to determine the extent of the SCN introductions and to delineate any known soybean infestations. The SCN races will also be determined.

## ACKNOWLEDGMENT

We thank W. Friedman of the Plant Nematology Laboratory, USDA-SEA, Beltsville, MD, for confirming the identification of SCN.

## LITERATURE CITED

1. MacDonald, D. H., Noel, G. R., and Lueschen, W. E. 1980. Soybean cyst nematode, *Heterodera glycines*, in Minnesota. *Plant Dis.* 64:319-321.
2. Sasser, J. N., and Krishnappa, K. 1980. The development of nematology on a world basis. *J. Nematol.* 12:153-158.