PLANT-PARASITIC NEMATODES IN IRRIGATED SOILS OF ALBERTA

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In 1971, a survey nroqram was bequn for the purpose of compiling an inventory of the plant parasitic nematodes in irrigated soils of southern Alberta.

Materials, methods, and results

The top 4-inch layer of soil in each of 72 irrigated alfalfa fields was sampled in the following manner. Five samples, each weiahinq rouahly 100 q, were taken at approximately equal intervals along each leg of a fiaure ^^ coverinq an entire field. These samples were bulked, passed through a 4-mesh-ner-inch sieve, and thoroughly mixed. A 250-q portion was then processed by the centrifugation-flotation method used by Jenkins (1) to recover soil-borne nematodes. Stvlet-bearing forms were identified to qenus except where their numbers warranted more complete identification (Table 1).

The 197% survey was extended to include fields where specialty crops were qrown on irriqated fields (Table 2).

Table 1. Stylet-bearing nematodes in irrigated soils planted to alfalfa (Medicago sativa L.), 1971

Identification	Percentage of fields infested
Paratylenchus projectus	56
Ditylenchus dipsaci	75
Tylenchorhynchus acutus	75
Aphelenchoides	40
Aphelenchus	89
Tylenchus	100
Xiphinema	21
Pratylenchus	8

Surveys will be continued in 1973 and 1974 with special attention being given to fields where peas, beans, suqar beets, corn, and carrots are qrown.

Table 2. Stylet-bearing nematodes in irrigated soils planted to different crops?, 1972

	Percentage of fields infested						
Identification	Alfalfa 11*	Pea 28	Green bean 2	Sugar beet 27	Potato 3	Field corn 2	Carrot 1
Paratylenchus projectus	38	57	100	67	67	100	0
Ditylenchus dipsaci	85	93	100	100	100	100	100
Tylenchorhynchus acutus	86	68	100	33	33	0	0
Aphelenchoides	70	61	50	85	67	50	100
Aphelenchus	95	89	100	89	67	100	100
Tylenchus	90	61	50	56	33	100	100
Pratylenchus	9	4	0	15	0	0	0

* Number of fields sampled.

† Alfalfa - Medicago sativa L., pea - *Pisum* sativum L., green bean - Phaseolus *vulgaris* L., sugar beet - Beta vulgaris L., potato - Solanum tuberosum L., field corn - Zea mays L., carrot - Daucus carota L. var. sativa DC.

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Literature cited

1. Jenkins, W. R. 1964. A rapid centrifugation–flotation technique for separating nematodes from soil. Plant Dis. Rep. 48:692.