

Lettuce

Nematodes

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Identification and Life Cycle

Several species of nematodes can cause economic damage to lettuce in the High Plains production region, including root lesion and root-knot nematodes. Other nematode species have not been studied extensively in the High Plains and are not known to cause economic damage to lettuce in this region. The life cycles of different nematode species vary, and may include feeding on the outside of roots or penetration and development within roots. Nematodes survive between susceptible crops by feeding on other crops and weeds, and are spread in contaminated soil on machinery, windblown soil, and infested transplants.

Plant Response and Damage

Root-knot nematodes cause round to spindle-shaped galls on roots. Aboveground symptoms of nematode injury appear as patches of stunted or dying plants. Infected plants may wilt when stressed by high temperature or moisture extremes.

Management Approaches

Biological Control

Incorporation of green manure crops such as sudangrass, sesame, rapeseed, white mustard, or perennial ryegrass the season before a lettuce is planted can reduce some nematode populations.

Cultural Control

Prevent the introduction of nematodes in clean fields by thoroughly cleaning equipment between fields. Plant transplants free from nematodes. Avoid the reuse of irrigation water. Provide adequate fertilizer and irrigation for crop development to reduce the impact of nematode feeding. Sprinkler irrigation tends to be more effective than furrow irrigation for supplying even water to nematode-damaged plants. Practice a three-year or longer crop rotation to non-hosts such as small grains. Control weeds that may serve as alternate hosts of nematodes. Promptly incorporate crop residues after harvest to limit nematode reproduction. If available, plant lettuce varieties less susceptible to nematodes.

Chemical Control

Nematicides and soil fumigation effectively suppress many nematode species, but are most effective when combined with cultural practices that reduce nematode populations. Nematode injury often only occurs in localized areas in fields, and these areas can be effectively managed by spot-treatments with nematicides.

Trade Name	Product per acre	Remarks
Fumigants		
Telone II	9-15 gal	Restricted use; Preplant application, aerate 7-14 days.
Telone C-17	10-17 gal	Restricted use; Preplant application, aerate 7-14 days.
Vapam/Busan	40-100 gal	Restricted use; Preplant application, aerate 7 days.

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Categories: Lettuce, Disease, Nematodes

Date: 04/01/2007