

Cole Crops

Nematodes

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Identification and Life Cycle

Several species of nematodes can cause economic damage to cole crops in the High Plains production region, including sugarbeet cyst and root-knot nematodes. Other nematode species are not known to cause economic damage to cole crops in the High Plains. 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 seed pieces.

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 cole crop 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.

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.

Product List for Nematodes:

Pesticide	Product per acre	Remarks
Insecticide/Nematicide		
Mocap 15% Granular	13 lbs	Registered for cabbage; Restricted use; preplant incorporate 2 to 4" deep.
Mocap EC	2.4 fl oz/1000 ft banded	
	3.33 qts broadcast	Registered for cabbage; Restricted use; preplant incorporate 2 to 4" deep.
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	40-100 gal	Restricted use; Preplant application, aerate 7 days.

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