

Mint XXXI-5

Cutworms and Loopers

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Army Cutworm, adult.



Cabbage Looper (from USDA Bull. 1271)

Cabbage Looper

Army Cutworm, Looper

Identification (life cycle and seasonal history)

Complex: Foliage feeding cutworms and armyworms are comprised of a complex of species that include the variegated cutworm and other foliage-feeding cutworms such as spotted and variegated cutworm, western yellow striped armyworm, and the Bertha armyworm. These different cutworm species may occur together in the same field with larval feeding damage overlapping in the early spring.

Loopers: The alfalfa looper and the cabbage looper are both known to feed and damage mint. Larvae of the looper species vary in color from light to very dark green with mature larva ranging in size from 1 to 1 1/2 inches long. Loopers are distinguished from cutworms and armyworms by their characteristic "looping" motion because they have only two pairs of abdominal prolegs. Both species overwinter as pupae and adults emerge as temperatures warm typically in late March or April. The first generation occurs on weed hosts, especially mustards but the second generation may cause significant damage to mint from May through early July. Larvae of the looper species may occur at the same time as the variegated and spotted cutworms and the western yellow striped and Bertha armyworms.

Cutworms and armyworms have four pair of abdominal prolegs. Cutworms generally have a V-shape pattern that runs down the center of their back and range in color from gray to brown with variable light colored markings. Cutworm larvae characteristically curl into a 'C' shape when disturbed.

Plant Response and Damage

Cutworms larvae feed at night and are considered either climbing or subterranean, feeding on above ground foliage or severing stems below ground, respectively. Climbing cutworm species such as army cutworm and looper species defoliate mint and the

severity of their damage is related to the growth stage and amount of mint foliage. Subterranean cutworm species that sever stems result in wilted plants and reduced stands.

Management Approaches

Alfalfa and cabbage looper larvae and variegated cutworm sampling is usually conducted in mid to late summer using sweep net (loopers) and ground search (cutworms). Sweep samples can be used to detect looper species by collecting 10 sweeps at 5 different sites in fields up to 30 acres (Oregon State University). Because lower, shaded leaves are shed by the plant before harvest, early season looper populations may not need to be controlled.

Cutworms: One square foot soil sample per every 1 to 2 acres (minimum 25 samples per field) to a depth of 2 to 3 inches should be taken to verify the presence of a cutworm species. One ground search sample per 5 acre is taken for 4th – 6th instar larval populations by shaking foliage and inspecting a 1000cm² sample of the soil surface. Treatment is recommended when mixed worm populations reach 1 - 4 / sq ft. depending on the value of mint oil. When leaf chewing is quite evident and cutworm counts from ground searches are low, consider returning after dark and sampling with a sweep net when the larvae actively feed on the foliage.

Sequential sampling plans have been developed at Oregon State University for **variegated cutworm** using sweep net samples to estimate larvae (instars 2 to 4) and for ground search samples (1000 cm²) to estimate larval instars 4 to 6. Using these plans, treatment of larval instars 2 to 4, sampled with a sweep net, is recommended if 60 larvae are collected from a minimum of 11 different field sites (a minimum of 10 sweep net samples should be taken at each site). Treatment is not recommended if fewer than 44 larvae are collected in sweep net samples. For ground search sampling, treatment of larval instars 4 to 6 is recommended if 24 larvae are collected in 1000 cm² samples taken from a minimum of 18 different sites. Treatment is not recommended if fewer than 17 larvae are collected in the 1000-cm² samples.

Pheromones are available for some cutworm and looper species and can be used to detect cutworm adult moths and signal when field inspections for larvae should begin.

Cultural Control

Growers may want to consider harvesting earlier to avoid further crop injury.

Biological Control

Naturally occurring predators and parasites play an important role in suppressing cutworm populations with parasitism rates usually greater than 50% in most fields. Parasitized larvae have reduced feeding consumption. Parasitized larvae can be distinguished from non-parasitized larvae only by dissection.

Product list for Cutworms and Loopers:

Pesticide	Product per Acre	Preharvest Interval, Remarks
Acephate ²	1 1/3 lbs 75WSP	14 days. Do not graze treated

Product list for Cutworms and Loopers:

Pesticide	Product per Acre	Preharvest Interval, Remarks
	16 oz 97UP	areas. Do not apply more than 2 2/3 lbs/season
Confirm 2F	6 – 8 oz early season 8 – 16 oz mid-late season, higher populations	14 days. Do not apply more than 16 oz/application. Do not apply more than 64 oz/A/season.
Dipel DF ^{1,2}	½ - 1 lbs Dipel DF ¼ - 1 ½ lbs(Javelin)	0 days. Loopers and armyworms and cutworms. Do not apply more than 2 lb ai/A.
Chlorpyrifos ^{1, R}	4 pt/A (4E) 2.67 lbs (75WG)	Cutworms. 90 days. Apply as a foliar with at least 10 gal of water/A. Use low rate for larvae less than 0.75 in. and high rate for larvae larger than 0.75 in. Only application per growing season.
Lannate ^R	1 lb (Lannate SP)	14 days. 48 hr REI. Alfalfa looper and variegated cutworm. Do not apply more than 1.8 lbs ai/A/crop. Do not make more than 4 applications/crop.
Pyrethrins	2-16 oz (Evergreen EC 60-6)	Loopers: 1 days, 12 hr REI. Relatively non-toxic to bees. Highly toxic to fish; do not apply directly to water.

¹ Label allows chemigation

² Generic active ingredient several formulations available, see labels for rates

^R Restricted use pesticide

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