WEBBING CLOTHES MOTH (WCM) *Tineola bisselliella*

Description:

Adults:

Gold colored with reddish-golden hairs on top of its head and fringed wings, 0.25 in (6-7 mm) in length, and a wingspan of 0.47-0.51 in (12-13 mm). Weak flyer and not attracted to light, therefore it can usually be found in dark places with low ventilation, such as closets.

Eggs:

Eggs are oval and white. Attached with an adhesive secretion to fabric threads. Females lay 40-50 eggs each.

Larvae:

Larvae are cream-colored with dark head capsules. Can be easily detected by the trail of excrement covered webbing left behind. Cases take on the color of the fabric being consumed.

Pupae:

Pupation occurs inside silken cocoon.

Left: Adult WCM (source: Vlad Proklov); Right: WCM adult, larvae, and pupa (source: Blake Layton, Mississippi State Extension).

Hosts:

Animal fibers, especially wool, fur, silk, feathers, felt, and leather. Can feed on cotton and synthetic fibers only if they are blended with wool.

Damage:

- Adults do not feed and cause no injury to fabrics.
- Larvae feed within folds of fabric and other concealed areas, creating threadbare spots where fibers are removed at the base. Larval feeding weakens the strength of materials.
- Fecal pellets and excrement from feeding can contain dyes from the cloth fibers the larvae have eaten.

Left: Nap of wool eaten away in damaged spots (source: NJ Extension); Right: WCM larva and fecal pellets left after feeding (source: University of Kentucky Entomology).

Left: larval feeding damage and webbing (source: Oklahoma State University Extension). Right: larval damage to stored almonds (source: action pest).

Phenology:

Adult Lifespan	2-3 weeks
Eggs	4-10 days
Larvae	67 days-2.5 years
Pupation	8-30 days
Larval Instars	5-45 molts, depending on indoor temperature and food availability

Usually has two generations per year.

Lure Type and Maintenance:

** Please note that the lure recommendations can change depending on the trap being used.*

- ***STORGARD® WCM controlled release lure.***
  - Replace STORGARD® WCM lures every 4-8 weeks or according to individual package instructions.
- ***STORGARD® COMBI™ WCCM lure.***
  - Replace STORGARD® COMBI™ WCCM lures every 4-8 weeks or according to individual package instructions.

Lure Storage:

- Store in unopened factory sealed packages in a cool place (< 74° F or 24° C maximum).
- Refrigerate or freeze unopened packages to carry over for annual storage.

Trap Design:

- STORGARD® II, STORGARD® III, STORGARD® THINLINE III, or PHEROCON® 1C.

Placement Time:

- In heated residences, warehouses, facilities or in warm climates a year-around monitoring program is essential for early detection.

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Placement Pattern:

- Place one trap per small closet or place two traps per small room.
- Tighten the grid as needed to pinpoint the source of an infestation.
- Traps should be placed near suspected sources of susceptible hosts, such as in or around residences, apartment building, storage areas, trophy animal displays, or museums.

Trap Density:

- In larger areas, space 30-50 ft (10-20 m) apart.
- Increase trap density near traps with initial high capture rates to pinpoint contaminated areas.
- Concentrate traps in high-risk areas.

Trap Maintenance:

- At a minimum, check traps weekly.
- In high damage areas, checking traps daily may be necessary.
- Webbing clothes moths are active at night therefore checking traps in the morning is ideal.
- Replace traps every 4-6 weeks or when fouled with dust or insect debris.

Recommendations:

- As with most stored product or structural pests', prevention is the best program:
  - Prevention can be achieved by maintaining a clean product storage environment with low humidity.
  - Vacuum removal of all dust, dander, and hair is critical in storage spaces.
  - Keeping vulnerable products in airtight packaging if possible.
- Once an infestation detection has been made there are cultural and chemical control methods that can be used.
  - Cultural control options include dry-cleaning or laundering, heat treatments (above 50°C for 30 min), freezing (below -8°C for several days), dry-ice fumigation, and/or removal of infested items from other susceptible items.
  - Chemical control should only be used when cultural control is not an option. Pyrethroid commercial products are available for direct application to fabrics and rugs. However, special attention should be paid to adjuvants in the insecticidal product to avoid using products that contain oils that can cause further damage to the product.

Source: Recommendations and certain other sections were sourced from University of California "Pests of Homes, Structures, People, and Pets: Clothes moths" and University of Kentucky "Home and Health Pests: Clothes moths".

Note, always:

- Use only one pheromone lure per trap.
- Count and record captures as recommended.
- Change trap as needed.
- Discard lures in trash far from the area of use and remove trash afterwards.
- Follow recommendations.
- Contact local extension authorities and consultants for regional advice.

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