

Indianmeal Moth (IMM)

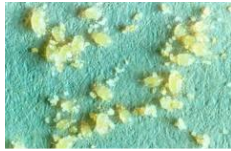
Plodia interpunctella

STORGARD® II for IMM IPM PARTNER® Guidelines for Use

Description:

Adults: Wingspan: 19mm. Forewings: silver-gray. Distal two-thirds of the forewings, red- to copper-brown. Hindwings, dull white. Short-lived. Adults do not feed.

Eggs: 300-400. Laid on or near stored cereal, flours, or other larval food sources. 0.3-0.5mm Long. Oval. Reticulated chorion. White to yellow-white.



IMM Eggs



IMM Adult

Larvae: Growth to 12.5mm. White when eggs hatch. During development, hues of yellow, green, tan, and pink. Mature larvae, dull white. Mature larvae live and feed in spun-silk cocoons.



IMM Larvae

Pupae: Slightly larger in size than larvae. Light brown.

Host: All types of stored-grains, especially food-products high in carbohydrates and proteins: corn meal (Indianmeal), cereals, packaged cereals, flours, beans, candies, chocolate, nuts, and dried fruits and meats.



Cornmeal



Cereal

Cause of Damage:

Consumption of stored grain by larvae; infests field crops such as drying and dried raisins, cherries, apricot and peach pits. Contaminates stored products with silken web and frass.



IMM Larvae Damage



IMM Infestation

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*Phenology*¹:

Life cycle	28-35 days ²
Eggs Hatch	2-22 days
Larvae (while feeding)	21-240 days
Pupae	4-9 days
Mating/oviposition	1-2 days after eclosion
Adult life-span	2-30 days
Threshold temperature	15°-32°C (59°-90°F)

STORGARD® II

Program Initiation – Use Pattern

- Initiate monitoring program with a full-area survey for at least one month while there is insect activity.
- Monitor incoming commodities and off-loading areas aggressively.
- Position traps in grid pattern.
- Space traps 16-20m apart.
- Mark traps and map location of traps. Use the map to pinpoint areas of infestation for future reference.
- Decrease space between traps with high capture rates as insects are first captured in order to pinpoint contaminated areas.
- Reduce the number of traps after the initial survey. Concentrate traps in high risk areas.
- Monitor on continuing basis.

Lure Maintenance:

- Store unopened in factory-sealed package. Store in a cool, dry place. Storage-temperature not to exceed 23.9°C (75°F).
- Freeze carryover stock (-10°C) to maintain full potency.
- Replace every 6-8 weeks or according to individual package instructions.

Trap Maintenance:

- Use STORGARD Lures.
- Check traps 1-2 times weekly. Remove trapped insects and debris.
- Replace STORGARD® II trap every 6 weeks. Dusty conditions: change trap more frequently.

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Keeping Records:

- Use a record sheet.
- Average STORGARD® trap moth-counts over small, homogeneous area in order to best pinpoint infested areas and isolate problem areas.

Monitoring Results – Interpretation and Solutions:

It's a sign that closer attention needs to be paid to your monitoring program if you're finding a few insects in scattered locations. Increases in the number or areas of significant insect populations will require swift action to avoid complete plant/warehouse shut down. Use the guidelines below to focus your treatment program. Monitor on a continuing basis, regardless of the frequency and rate of capture. Count traps routinely and replace when needed.

Occasional Low Capture

Capture Frequency: Occasional

Capture Rate: Low

Management Protocol:

- Tighten STORGARD® trap-grid in areas showing marked or general increase.
- Check inventory for at-risk infested commodities.
- Remove/clean contaminated commodities.
- Check for outside sources of infestation.
- Review sanitation program and continue to monitor for infested commodities.

Treatment:

- Delay insecticide treatment until there is evidence of a significant population change.

Constant Low Capture

Capture Frequency: Constant

Capture Rate: Low

Management Protocol:

- Tighten STORGARD® trap-grid areas of marked increase only.
- Check for at-risk infested commodities.
- Remove/clean contaminated commodities.
- Check for outside sources of infestation.
- Review sanitation program and continue to monitor for infested commodities.

Treatment:

- Delay insecticide treatment until there is evidence of a significant population change or spot-treat areas considered susceptible or especially valuable.

Occasional High Capture

Capture Frequency: Occasional

Capture Rate: High

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Management Protocol:

- Tighten STORGARD® trap-grid in areas showing marked or general increase.
- Remove/clean contaminated commodities.
- Review sanitation program and continue to monitor for infested commodities.

Treatment:

- Initiate insecticide treatments in areas considered susceptible or especially valuable.

Constant Localized High Capture

Capture Frequency: Constant

Capture Rate: High and localized

Management Protocol:

- Tighten STORGARD® trap-grid in areas showing marked or general increase.
- Remove/clean contaminated commodities.
- Review sanitation program and continue to monitor for infested commodities.

Treatment:

- Initiate insecticide treatments in areas considered susceptible or especially valuable.

Constant High Capture

Capture Frequency: Constant

Capture Rate: High

Management Protocol:

- Remove/clean contaminated commodities.
- Review sanitation program and continue to monitor for infested commodities.

Treatment:

- Initiate insecticide treatments immediately.
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Note, Always:

- Use only one Pheromone lure changed as recommended
- Count as recommended
- Record trap counts
- Change lures as recommended
- Change traps when needed
- Discard lures in trash far from the area of use. Remove trash afterwards.
- Follow recommendations

Notes concerning phenology:

¹In the absence of definitive date, Trece, Incorporated, offers this concept of phenology from available sources and field experience.

²As many as 8 overlapping generations per year.