

## Potato Tuber Moth

*Phthorimaea operculella*



Mode of Action:  
Active Components:

Active Life:  
Shelf Life:

Sex Pheromone attractant  
(E,Z)-4,7-tridecadienyl acetate  
E,Z,Z)-4,7,10-tridecatrienyl acetate  
8 weeks  
2 years under recommended storage

### Pest Details

**Egg:** Females deposit single, pearly-white eggs (under 0.5 mm across) on leaf surfaces, stems, or in soil crevices near the plant base. Under warm conditions (around 23 °C), eggs hatch in about 6–8 days, though higher temperatures can shorten this to 4–5 days.

**Larvae:** Larvae are initially whitish with brown heads, turning pinkish or greenish as they undergo four instars for a period of 15–18 days. The first instar larvae are about 1.5 mm long, while mature larva reach up to 12 mm in length.

**Pupa:** Mature larvae spin silken cocoons, incorporating soil particles for camouflage, on or just below the soil surface. Pupae measure 8–10 mm, beginning light brown and darkening as they develop. Pupation lasts 8–10 days at 23 °C, though cooler conditions can extend this period.

**Adult:** Emerging adults are slender moths about 8–10 mm long, with wingspans of roughly 12 mm. Their forewings are yellowish-gray or light brown, marked by faint darker speckles—males often show two or three tiny black spots, while females may display a subtle “X” pattern. Hindwings are pale gray with fringed margins. Adults are nocturnal, flying shortly after dusk and living about 12–17 days, during which females lay 100–200 eggs each.

**Host:** Potatoes, tomatoes, eggplant and tobacco.

### Crop symptoms

- Irregular, translucent blotches in leaves, leading to weakened plants and lower yield.
- Pinprick entry holes and frass in stems that can stunt or kill young shoots.
- Shallow to deep galleries in tubers, frass-filled cavities, external entry holes with dark rings and silk, and subsequent secondary rot in storage.

### Recommended Trap



Delta Trap

### Trap Positioning

Secure delta traps to a stable support structure at approximately 1 meter (about 3.3 feet) above ground level. Ensure they are not positioned more than 2 feet above the crop canopy to optimize pest attraction.

### Trap Density

4 - 5 traps per hectare for monitoring.  
5-10 traps per hectare for mass trapping.

### Trap Maintenance

Inspect the traps on a regular basis. For delta traps, replace the sticky cards once they become coated with dust or crowded with trapped insects. Replace the pheromone dispensers every 8 weeks to achieve optimum results.

### Storage

Keep refrigerated at 4°C for a shelf life of 18 months or freeze for an extended life of 24 months. Keep out of reach of children.