

Bad Bugs...

Does Mating Disruption or Confusion Occur When Using Webbing Clothes Moth Traps?



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With the use of mating disruption (MD) products for the management and control of food infesting moths, discussions have ensued regarding the potential effect of using too many traps in a home location to capture Webbing Clothes moths. I receive calls from home owners who state that their PCO said not to use too many traps in a room because it can "confuse" the moths. A common belief by many non-entomologists is that all moths respond to pheromones the same way, which is certainly not true.

Food moth mating activity can be disrupted by suppressing flight activity in males, or redirecting males to synthetic lures rather than females (sometimes called a 'Confusion' technique). Food moths, including Indianmeal moths, almond moths, Mediterranean flour moths, and warehouse moths, are extremely active fliers and are attracted to the smallest amounts of pheromone in the air. Female moths quickly disperse from infestations to locate new food

sources then position themselves on a nearby wall or ceiling and release their pheromone to attract males. The males will fly long distances to seek the calling females. Too many of these food moth lures in a home situation can certainly attract food moths from outside.

Webbing clothes moths (WCM) however, do not fly well and cannot fly for long distances in a single attempt. They can certainly move through a home with time and several short flights through rooms or hallways. Females produce pheromone to attract males and males use clicking noises to attract females. Females will fly away from food sources to search for new locations, usually when the existing one is nearly consumed or they are disturbed. Pheromone is continually deposited on infested materials and accumulates over time. Articles that have been frozen, but not cleaned (like feather materials) continue to attract moths and can quickly become reinfested because the pheromone has not been removed. This moth behavior is very different from food moths, and the placement of numerous traps in a closet will not cause confusion or even create mating disruptions. Webbing clothes moths favor enclosed spaces, with little disturbance and can respond to strong pheromone cues and sound signals to find each other without difficulty.



Webbing Clothes Moth
(Tineola bisselliella)

To prove this point, Insects Limited performed several 'closet tests' to determine if a small population of larvae could be controlled with 'mating disruption' conditions. In 2 separate trials, 50 larvae were placed in a sealed closet (100ft³) with food and 4 additional uninfested food sources. Pheromone lures that released pheromone in excess of the EPA limits for mating disruption, were used. The initial population of 50 larvae went through two adult generations (4-6 months) with final populations of 727 (trial 1) and 1338 (trial 2). All food sources were infested and there was clearly no significant Mating Disruption effect.

An additional 'closet test' was done in a 150 ft² room where 10 traps were placed at different heights and locations on floor, desks and shelves with a single Webbing Cloth moths culture as the infestation source. Over 700 moths were caught in 10 days in all the traps. This test also confirmed that hanging a WCM trap reduces the capture rate. Traps on shelves, floor and horizontal surfaces caught the most webbing clothes moths; and there was no confusion effect since all the traps were easily found by the moths. Webbing clothes moths seldom live outdoors, so use of numerous traps in a home will not bring any in from outside. In fact using more traps in one location will catch more moths faster.