

Early Warning Monitoring Systems

Technical Bulletin

STORGARD® QUICK-CHANGE™ ULTRA-COMBI™ Moth & Beetle Monitoring System with STORGARD II or STORGARD III TRAP

The STORGARD QUICK-CHANGE ULTRA-COMBI monitoring system is a pre-baited, multispecies, cost-effective method for detecting moth AND beetle activity at the earliest possible stages. It utilizes synthetic sex pheromones and kairomones that attract several moth and beetle species into a specially designed trap that contains a sticky capture surface. Early detection of moth and beetle activity allows control measures to be employed before large quantities of stored food products are contaminated by larvae. Each STORGARD QUICK-CHANGE ULTRA-COMBI kit contains enough materials for up to twelve weeks of continuous monitoring depending upon environmental conditions. Some facilities may require four to eight week replacement schedules due to environmental conditions.

Pheromone Attractant

The STORGARD QUICK-CHANGE ULTRA-COMBI attractant contains: Indianmeal moth, Almond moth, Raisin moth, Tobacco moth and Mediterranean flour moth sex pheromones, as well as Cigarette beetle, Khapra and Warehouse beetle sex pheromones, along with two proprietary kairomones. One kairomone attracts Cigarette beetle males and females and a second kairomone is a multi-species/multi-gender attractant. STORGARD QUICK-CHANGE products are also available for Indianmeal moth, Confused/Red flour beetle, Cigarette beetle, Khapra/Warehouse beetle and Webbing Clothes moth as individual monitoring systems.

*Pheromones are chemical secretions derived from inside the specific insect's adult body produced to communicate with insects of the same species. They can be alarm, trail, aggregation or sex pheromones.

*Kairomones are defined as a food or chemical attractant for male and/or female insects.

Trap Design

STORGARD II trap has been used extensively for monitoring many stored product insects and was selected for the STORGARD system because of its efficacy in capturing flying insects. It features a diamond style shape and is the standard in the professional pest management industry. STORGARD III trap is a relatively new design used for monitoring stored product insects when a need for inconspicuous placement arises. It features a fold-over design, release liner and opens for easier identification of captured insects. The QUICK-CHANGE product line utilizes (L2) long-life controlled-release lure technology that is already installed onto the adhesive surface when you receive your traps.

When to Monitor

As a general rule, most insect development slows at average temperatures below 12°C. In heated facilities, or in warmer climates, a year-round monitoring program is essential for early detection of stored product insects. Even in unheated storage areas in cold climates, it is important to recognize locations that may provide sources of heat. For example, temperatures surrounding machinery may be sufficient to promote insect development even though temperatures nearby are below the 12°C threshold. Anytime susceptible food products or commodities are stored, there is a possibility of stored product insect infestation.

Trap Density and Placement

When beginning a monitoring program, place traps in a grid pattern at intervals of 9 to 15 metres (1 trap every 100 sq.metres). Tighten the grid to pinpoint the source of an infestation. Additional areas where traps should be placed are near suspected sources of contamination, high risk areas, such as in or around equipment and close to ducts where dust may accumulate. The main criteria for selecting trap placement is convenience for monitoring personnel, placement near susceptible food products and protection against damage by equipment, water and cleaning procedures or agents.

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Trap Density and Placement

Pheromone and Kairomone monitoring systems serve three primary functions:

1. Detect the presence of stored product insects
2. Gauge the abundance of the insect population
3. Verify corrective actions

Trap Height

The main criteria for selecting trap height are convenience for monitoring personnel and protection against damage by equipment, water, etc. In general placement should be made around the average height of the pest management professional.

Trap Inspection

Traps should be inspected at least once a week and twice weekly if an infestation is suspected. In some situations, it may be desirable to check traps every day. Since moths are active at night, daily inspections should be made in the morning. Keep a record of the number of insects caught in each trap and the monitoring site.

Service and Storage

STORGARD QUICK-CHANGE ULTRA-COMBI monitoring systems require a minimum service. However, it is important to replace the entire trap every four to twelve weeks since their attractant properties eventually degrade. Removal of dead insects and debris when traps are inspected is an option. Replace the trap more often under extreme conditions.

Please note: Kit packages should be stored in a cool place. For longest possible storage life, you may store kit packages in a refrigerator and be sure to keep their foil packages sealed. Like film, batteries and similar products, pheromone products should be be stored in a cool place.

STORGARD systems are also available for monitoring insects of the Tribolium (Confused/ Red Flour) beetles and Oryzaephilus (Sawtoothed/Merchant Grain) beetles. Their use is described in a separate bulletin.



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INSECT PHEROMONE & KAIROMONE SYSTEMS

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