

# MONITORING GUIDE

## An Overview of Monitoring Traps & Attractants Storage & Grain Beetles

PC Floor Trap



Window Trap



Detector Trap



PC Pitfall Trap



### GENERAL INFORMATION

Several different types of traps are available for monitoring beetles in storage areas, but deciding which trap is most effective and appropriate for any given situation means examining the advantages and disadvantages of each trap type. This guide highlights the features of each trap, so that technicians can choose the most appropriate monitoring trap for their situation.

When monitoring for a known insect, a pheromone lure is usually the best choice, however, when monitoring for the first time in a building, the use of a food attractant will give a broader picture of which insects are present. The food attractant may be less effective if the premises are already full of equally attractive foodstuffs, just as the pheromone traps will be if the storage beetles have already aggregated in certain food areas. In dusty locations, sticky traps will quickly dry out and become less effective, but these dusty conditions may not always be obvious at the time of setting up the traps. So, the choice of trap and attractant has to be made carefully by the technician once the pattern of operations has been studied.

### PC FLOOR TRAP

This trap was developed by a government research Institute in the UK, and we have been testing it for the past two years. The food bait was also developed in the UK and we have found it to attract a number of different insects under our Canadian conditions. The trap is a tight fitting 2-piece plastic trap (similar to the PC Pitfall trap) with a perforated lid, which allows insects, attracted by the bait inside, to crawl into the trap. Since there is a coating of PTFE on the inside, the insects are unable to crawl back out through the holes, and remain alive inside the trap. It is therefore up to the technician to open the trap and identify the catch, which means that a magnifying lens and insect reference guide may be needed, and possibly a jar of soapy water in which to dispose of the live insects.

### Pros

- The trap is washable and re-usable.
- It performs well under dusty conditions.
- It attracts and captures a range of different insects, and is very visible
- Can be used with a food attractant, a pheromone lure or both together.
- The client can be shown a convincing example of the pest problem.

### Cons

- The single application cost is higher, so the trap has to be re-used to become cheaper.
- The contents of the trap have to be identified and the live insects disposed of carefully.
- Because of the tight fitting nature of this trap, the set-up time and inspection time may take longer.

### WINDOW TRAP

This is a disposable card trap that gets its name from the clear plastic sheet on the top of the trap, which allows the observer to check the contents of the trap without touching it. The lip of the trap makes it easier for insects to climb into the trap, but more difficult for them to climb out again. The inside floor of the trap has a sticky surface which is well protected from dust by the 'window'. The usual source of attractant is a pheromone lure.

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**Pros**

- Good dust protection of the sticky surface.
- Easy to see what has been caught without opening the trap.
- Reasonable price with minimum assembly required.

**Cons**

- Not a re-usable trap.
- Generally used with a pheromone lure, so it attracts targeted pests only.

**DETECTOR TRAP**

This is a simple, inexpensive card trap that uses a pheromone lure on a sticky base surface. It is well suited for most applications, but is more prone to dust than other traps because of the open sides. Once the pest problem is identified, it is a good trap with which to maintain an on-going monitoring program.

**Pros**

- Simple and cheap to apply, with minimal assembly required.
- Can be used with either a pheromone lure or food attractant.
- The insects are permanently caught on the glue-coated trap base.

**Cons**

- In extremely dusty locations, the glue surface may become coated with dust and dry out.

**PC PITFALL TRAP**

This trap is similar in design to the PC Floor Trap, but is only used for monitoring grain beetles in bulk grain stores. The trap is usually baited by putting a small amount of crushed grain in the trap and then inserting the entire trap below the level of the grain in the storage container. A small flag, which stays on the surface of the grain, is attached to the trap so that it is easy to retrieve for monitoring. This plastic trap allows for washing and re-use.

**DISH TRAPS & WALL TRAPS**

Also available on the market are a number of open dish-type traps using a liquid attractant. These are probably best suited to domestic kitchens, since they are very prone to dust and dirt contamination as well as evaporation, and require more care in setting up. Also, pest identification is usually more difficult with wet specimens, and spillage can be a problem. The attractant in most of these traps is usually a food attractant such as wheat germ or sesame oil.

**BLUNDER TRAPS**

This is a term usually given to un-baited sticky traps. They are often used in museum display cases in the hope that any beetles present may blunder onto them by accident. Because of the rare nature of artefacts in museums, curators are anxious not to attract any additional beetles into the display cases by using a trap with an attractant. Clearly, the blunder trap isn't an effective monitoring system, but developed as a compromise that appealed to curators. It is now generally thought that a baited trap would be preferable in those situations.

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