

Case Study: Storage moth infestation in a breakfast cereal plant

The Scenario

A manufacturer of muesli and granola products had despatched retailer-branded product infested with Indian meal moths. The subsequent recall had entailed direct costs of around £700k associated with the return and disposal of product, plus significant indirect costs associated with the tying up of the time of technical staff in managing the incident, and overtime for hygiene and production employees. A pest control contractor was already employed on site, their remit including moth monitoring and control. They were recommending installation of a pheromone-based, mating-disruption programme, at a cost of £10k per annum.

The Challenge

An initial inspection by an Acheta consultant revealed a well-established moth infestation, with several key features:

- Controls on raw materials were poor, with first-in, first-out principles not being followed, and older infested pallets of ingredients being stored next to new stocks.
- Infested test kitchen and marketing samples, some long beyond their use by date, were present in the warehouse.
- Part used bags of ingredients were not adequately sealed after use.
- Warehousing, production and cleaning staff had no understanding or appreciation of the nature or importance of storage moth infestation.
- Moth infestation was widely evident on the packing plant, including larvae actually within the Ishida weigher-bagging units.

The pest control contractor had an inadequate number of funnel type monitors in place, which were inspected just 8 times per annum. Records of pheromone lure renewal and trap catch were inadequate, and no effort was being made to use the catch data to direct the control programme, or to highlight trends.

The Solution

A multi-faceted approach was adopted to resolve this issue:

- We installed a monitoring system based on the 'demi-diamond trap'. Our trials have revealed this to be a highly sensitive monitor.
- The manufacturer's own staff were trained to inspect these, and a spreadsheet provided to record and graph catches.
- Catch was recorded weekly, and used to direct the site's cleaning programme.
- A moth 'action plan' was drawn up detailing what levels of moth catch would trigger what specific actions, and who was responsible for reporting and taking the defined action.
- Pest awareness training was undertaken to ensure all staff had an appropriate appreciation of moth infestation, and its potential implications for the business.

- Raw material suppliers were reviewed and risk assessed. The highest risk suppliers were asked to supply details of their moth monitoring programmes, and catch records. Those who refused, or whose records suggested a moth problem, were inspected by an Acheta consultant. As a result, several suppliers were de-listed, and others required to take remedial action.
- A new pest control contractor was engaged, one with more experience of dealing with cereal-based food manufacture.
- Acheta continue to inspect the site on a six-monthly basis, providing two of the required four field biologist inspections.

The Benefits

The direct costs of implementing the new moth monitoring and control regime were estimated to initially be around 25% higher than previous. However, the level of moth activity dropped rapidly as root causes were identified and action taken to rectify them. After six months it was possible to scale back the monitoring input, though still maintaining a far superior programme to that originally in place. In the 8 years since we commenced working with the site they have experienced no further recall incidents.