The mating disruption system

with 17 years practical experience
What is Dismate?

Dismate PE (*Plodia & Ephestia*) is a powerful non-toxic mating disruption system used to combat food moths in food processing and manufacturing facilities. It is a proven system with real life experience over 17 years in manufacturing facilities across Europe. By reducing the likelihood of successful mating, Dismate PE rapidly and substantially decreases the resident population food moths such as *Plodia* and *Ephestia* species and prevents a subsequent population from becoming established. When applied as recommended, Dismate can permanently remove and prevent moth infestations in food processing and storage premises.

How does Dismate work?

Dismate PE works by releasing pheromones from strategically placed Dismate PE dispensers to disorient male moths. When a male moth detects the pheromone, he immediately begins to flutter around looking for the female, using up his energy and dying before he has the opportunity to mate. As female moths lay fewer and fewer eggs the longer they wait to mate, and any eggs that are produced are of poor quality, the resident moth population can be effectively and efficiently removed. The system then provides permanent protection from a further resident population developing.

Benefits of Dismate PE

Dismate PE is an environmentally-friendly year round system that disrupts mating without the use of harmful chemicals or fumigation. It is used as both a curative and preventative alternative to methyl bromide fumigation and other poison treatments, with none of the associated downtime.

Dismate PE is a cost-effective professional use solution to the problem of moth infestations in food processing and storage areas such as:

- Breakfast cereal manufacturing facilities
- Chocolate factories
- Large scale commercial food processing factories
- Nuts and dried grain storage
- Warehouses with grain silos
- Flour mills
- Bakeries
Dismate PE is a ready-to-use system of dispensers in 4 distinctive primary colours, one for each season of the year. The simple and intuitive system ensures full process control. Each dispenser releases a steady amount of pheromone over 3 months, which overpowers the male moths’ senses, causing them to use up their energy trying to find a female in vain and dying without mating.

Dismate PE is specially designed to control all of the key moths which affect food processes and stored products:

- Indian Meal Moth *Plodia interpunctella*
- Warehouse Moth *Ephestia elutella*
- Mill Moth *Ephestia kuehniella*
- Tropical Warehouse Moth *Ephestia cautella*
- Raisin Moth *Cadra figulilella*

The system complies fully with HACCP regulations and is:

- Metal-detectable
- Non-toxic
- Cost effective
Optimise monitoring of moth activity

Russell IPM recommends the use of the Xlure RTU Monitor alongside the Dismate PE system. This ready-to-use diamond monitoring trap comes with stored product insect pheromone integrated within the adhesive layer of the trap. The traps increase the efficiency of monitoring thanks to Russell IPM’s new technology, Pherogel™. Pherogel™ is the advanced formula for pheromone-controlled release, meaning that the gel matrix releases the pheromone(-s) at an even rate, regardless of temperature spikes or other environmental fluctuations, allowing 8 full weeks of active life for the Xlure RTU. When used in conjunction with Dismate, Xlure RTU Monitor will provide accurate monitoring of moth populations and highlight problem areas. The Xlure RTU trap comes loaded with Pherogel™ and pheromone for the most common moths found in the food processing and stored product areas.

The Xlure trap comes loaded with Pherogel™, which can be infused with a number of different pheromones, targeting the following insects:

- Indian Meal Moth
- Mediterranean Flour Moth
- Raisin Moth
- Tobacco Moth
- Cigarette Beetle
- Khaphra Beetle
- Warehouse beetle
Proven results

Case Study 1
In 2010, Dismate PE dispensers were installed at the mating-disruption designated premises of 9500 sq.m. of a large Greek brand manufacturer of biscuits, flour, semolina, chocolate and related commodities to control a stored product insect infestation. The main target species present was *E. kuehniella*; there was only a small number of adults of the Indian meal moth, *Plodia interpunctella*. An adjacent facility (approx. 500 m from the main facility) was used as a control (no Dismate PE). The application of the Dismate PE dispensers decreased the number of moths in the traps to <1 moth/trap (Figure 1). On the other hand, in the control area, the number of adults found was continuously high, with some trap catches exceeding 10 moths/trap (Figure 2).

At the control (non Dismate PE) space captures were continuously high, even during fall and winter months (in many cases >5 moths/trap). This is indicative of the reduction on the number of captured individuals that occurred in the Dismate PE-treated area after the application of the dispensers.

*Figure 1. E. kuehniella adults/trap in the Dismate PE area, during May 2010 and January 2011. The arrow indicates the date of the placement of the Dismate PE dispensers.*

*Figure 2. E. kuehniella adults/trap in the untreated (control) area during May 2010 and January 2011.*
Case Study 2

In 2010 a large foodstuff manufacturer in mainland Europe was struggling to control moth populations. Every thirteen weeks production would cease and four days of deep cleaning and chemical treatments would be employed to control the moth population. At the same time management were seeking an improved regime, preferably a non-toxic solution to their moth infestation. Dismate PE was installed every seven meters and the dispensers were changed every three months. Dismate PE was installed and the chemical treatments and deep cleaning were suspended. Daily hygiene regimes were reinforced and over the next three years the moth population was reduced significantly; currently, to less than one percent of pre-2010 levels. In addition, moth-related customer complaints have been reduced to zero.

Chart Shows Decline of Annual Moth Counts Over a Three Year Period

Dismate PE is not a replacement for good hygiene practice; however, when combined with a quality, efficient hygiene regime, impressive results can and have been achieved.
Dismate PE features summary:

- Proven food moth control system with a 17-year track record
- Curative and preventative replacement to Methyl Bromide and other toxic treatments without downtime
- Zero residue in treated areas
- Non-Toxic
- Continuous preventative control
- Cost effective efficient control of Plodia Ephestia
Russell IPM’s pheromone-based natural trapping and monitoring systems cover the full spectrum of stored product insects. Semio-chemical solutions are target-specific, effective at very low concentrations and non-toxic to plants and insects. Our mating disruption systems provide proven performance for pest controllers, hygiene officers, auditors and businesses. All stages of food production, transit and storage are susceptible to pest infestation. Therefore, stored food handlers should be proactive in monitoring and protecting against stored product insects. Public health professionals and food processing business managers can conduct an accurate and effective integrated pest management programme and evaluation and have a peace of mind, knowing that our products give them extra protection against insect infestations.

For a complete solution to all of your stored products insects monitoring and trapping needs, contact your local Russell IPM distributor or the British manufacturer via the contacts below.

45, First Avenue, Deeside Industrial Park
Flintshire, CH5 2NU, United Kingdom
Tel: +44 (0)1244 281 333
Fax: +44 (0)1244 281 878
Mail: info@russellipm.com
www.russellipm.com