



*Everything you should
know about pantry
moths.*

Instructions

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The included product instructions and all contained information are the results of many years of our experience, research, and endless dialogues with customers. The knowledge cumulated in this document is commonly accessible.

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All tips and hints included in this document are applied at the user's own risk. MothOut owner is not responsible for any damage caused by the cleaning techniques, insect extermination methods provided in this document.

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Introduction

Thank you very much for selecting the MothOut product and downloading this guide. After many years of experience with moths, we've learned that correct identification, understanding moths nature and taking the right course of action is the key to succeeding in the uneven battle with pantry moths.

This short guide will enable you to understand what moths are, how they cause damage, how moths are attracted to MothOut traps and how to treat moths infestation.

What are pantry moths?

In order to fight pantry moths, it's good to understand what they actually are, how they entered your house and why they like living in your kitchen. Before you begin a treatment process you need to learn what they look like and what to look for.

Pantry moths

Indian meal moths (*Plodia interpunctella*)



Indian Meal moths are also known as grain moths. These moths don't natively occur in India as the name would suggest, these were named after being noted for feeding on Indian meal. Adults are 8–10 millimetres (0.31–0.39 in) long with 16–20 millimetres (0.63–0.78 in) wingspans. They have bronze coloured heads, bronze shoulders and dark banding separating the beige top half of the wing from the reddish-brown on the bottom.

Their eggs are greyish white, length between 0.3 and 0.5 mm, and can be found directly on the food source. Females may lay between 100 and 300 eggs at the time, singly or in groups, in locations where grain is present, and temperature

within a grain is above 10°C. The entire life cycle of this species ranges between 30 and 300 days and the typical life cycle is 50 days.

Indian meal moths feed on plant-based foods such as flour, bread, cereal, rice, pasta, dry pet food, soup mixes, birdseed, spices, dried fruits, nuts. The larvae of this moth can bite through plastic and cardboard, so even a sealed container isn't a barrier for them.

Tobacco Moths (*Ephestia Elutella*)



Tobacco Moths are also known as warehouse moths or cocoa moths. Adults are smaller than Indian Meal moths and have 14-20 millimetres (0.55-0.78 in) wingspans. Eggs are oval, ivory and 2mm long. Females may lay 20-120 eggs singly or in groups. Eggs hatch faster in warmer months – from 3 to 5 days and up to 7 days in cooler months. Larvae feed and become mature in 25 to 64 days. That depends on humidity, temperature, and food quality.

These moths feed on dry plant products such as cocoa beans, tobacco, cereals, dried fruit and nuts, less usual dried meat, and dry wood.

Flour Moths (*Ephestia Kuehniella*)



Flour moths are pale grey with a black zigzag pattern on their wings. These are larger than Indian Meal moths, the wingspan of these moths ranges 15-26 millimetres. You can easily identify them because unlike other pantry moths these are known by the characteristic pose – the moth extends its forelegs while raising its head. Only the Flour moth does this.

Flour moths particularly enjoy inhabiting flour mills and bakeries because heat allows them to breed year-round. Female lay 100-600 eggs.

Flour moths feed on grain products, primarily infest flour, but they can be found in a variety of cereal grains.

Almond Moths



Almond moths are light brown and have smaller hind grey wings. These moths are 12-15 millimetres long, with a wingspan ranging from 14 to 22 millimetres. Almond moths feed on flour, bran, oats, and other grains, as well as dried fruits.

MothOut pantry moth traps are designed to target and eliminate the 4 moth species shown on pages 4 - 6. **Pantry moths**, however, **can be easily mistaken with clothes moths**. Similar colour, shape, size it is not making the task easy. **We can help identify your moths** based on the photograph provided, then suggest the best course of action.

Clothes moths shown below can be eliminated by using MothOut Clothes Moth Traps.

Clothes moths identification



Common Webbing Moth (Tineola Bisselliella)

These moths are small, 6–7 mm (0.24–0.28 in) body length and 9–16 mm (0.35–0.63 in) wingspan (most commonly 12–14 mm or 0.47–0.55 in). Bright, golden colour wings and red/orange hair on the head.



Case-Bearing Moth (Tinea Pellionella)

These moths are the same small size as Common Webbing Clothes Moths. Grey/brown colour wings with one large spot and a few smaller, indistinct black spots.

Sometimes you can find pantry moths pupae nearby wardrobe, around clothing causing the pantry moth to be confused with a clothes moth, but you can find out more about it from the [Life cycle](#) section of this eBook, so please continue reading.



Where do pantry moths come from

Once you realise pantry moths are present in your house, you start wondering what brought these pests indoors. An infestation is not a sign of your poor housekeeping, in most cases it occurs at a commercial food processing and comes into your home from packaged foods. So unfortunately, it's likely that you brought moths home yourself.



Life cycle

Understanding the pantry moths life cycle will help you monitor the situation and act accordingly in order to prevent a pantry moth infestation in your home.

The whole pantry moth life cycle ranges between 30 and 300 days depending on the conditions, temperature, and food availability. The warmer the temperature, the faster the cycle completes. A typical life cycle is 50 days.

Like other moths, pantry moths have four following life stages:

- Egg stage
- Larvae stage
- Pupae stage
- Adult stage

Egg stage

The first sign of a pantry moth infestation is often the sight of adult moths flying around our kitchens. Females lay between 100 and 600 eggs directly on the food source that will be used by the larvae. This requires the female moth to be able to find a food source. If there is no food source, there are no larvae. The moth can lay eggs all at once or over 18 days. Those eggs begin to hatch in approximately two to fourteen days.

Larvae stage

The pantry moth larvae stage is the feeding stage when moths do the most damage. Depending on the conditions and food availability, the larval stage usually lasts for about 2 to 3 months. Larvae are about 12 mm long and have prolegs for movement. Fully-grown larvae can spin webs and leave silk threads in their path of travel. Pantry moth larvae have white colour, but that depends on the food source and can be light green, pale pink or even brown.

Pupae stage

The pantry moth pupae stage lasts from 15 to 20 days. During this time, the larvae can be found lying in the open but usually, they make cocoons around their bodies and start transforming into adult pantry moths. Moth pupae are around 1/4 – 1/3 of an inch long. Moth larvae don't always make cocoons near their food source. Sometimes the pupae can be found on pantry shelves or seams of doorways. In some cases, the pupae will be nearby wardrobes, around clothing, causing the pantry moth to be confused with clothes moths.

Adult stage

The adult stage is the final part of the pantry moth life cycle. It starts when the moth erupts from the cocoon and starts flying towards the light source. Pantry moth flying around has only one mission: to create more moths! They fly around looking for a mate. The female moth releases a pheromone scent helping male moths locate her. She then lay eggs and the entire life cycle begins again. Adult moths live 1 to 2 weeks because they don't have mouths and don't feed.

To summarize: the full life cycle of a pantry moth is from 30 to 300 days. 7 to 9 generations of pantry moths can be born and die in a single calendar year. Cold weather will greatly hinder this process. That is why moths are rarely seen when the temperature drops below 10 degrees C.

Understanding moth infestation - How to get rid of pantry moths

Pantry moths can get into our house through the open doors and windows, but it's most likely they are introduced to the home as eggs or caterpillars in dried foods. If you have some unsealed containers full of food and your house is warm, it becomes an ideal place for female moths to lay eggs.

If you wonder if finding one single moth is worthy of concern, please know that even one adult pantry moth raises the chance of an infestation. When a pantry moth arrives in your kitchen and starts through the pantry moth life cycle, you soon have hundreds of pantry moth larvae feeding on your foods.

The first step is identifying the moth type, and you have already learned this from the Introduction. Now we will tell you what to look for. Follow these steps to get rid of pantry moths:

1. Look for moths' activity and place where infestation began. Check inside food packaging for moth adults, larvae, skin shells, webbing, and weird odours. You should apply traps in place, where you find packages with moths larvae crawling inside.
2. Before you can apply the traps, you need to clean the areas where food goods are stored. This might sound excessive, but you should throw away all food from your shelves, drawers, cabinets, and pantry, especially the one which is not stored in hard plastic sealed containers. If you found one infested package it's more likely that moths are in other packaged foods. Remember to take the food outside to dispose of.
3. Once foods are gone, please vacuum, then clean tops, sides and bottoms of all shelves, cabinets, and pantries where foods are stored, including floor, walls, and corners. Do one section at a time using warm water and dish detergent. Remember to dispose of the contents of the vacuum as well as wipes outside your house.
4. Repackage untouched items within solid airtight containers. Do not use disposable containers because pantry moths can get inside them.
5. Once this work is complete, all you need to do is deploy Pantry MothOut Traps.

Repeat the process until the pantry moths are gone. Keep monitoring pantry moths activity and capture remaining stragglers with pantry MothOut traps.



How MothOut Pantry Traps work - instructions

Moth traps



The inner side of the trap is covered with **glue containing pheromones** to attract and catch male moths.

We are using the perfume-like substance naturally produced by moth females attracting males to start the mating process and the new life cycle. Pheromones are fragrance-free for humans but very intensive to moths. They are tuned to discover them and find their source. **The moths are tricked into the trap, thinking they smell a mate, but when they arrive at the source of the pheromone, they get trapped** on the sticky surface instead.

MothOut traps are easy to build:



Remove the trap from sealing foil

Remove protective layer sheet

Fold and tuck in place forming tent shape

Each of our traps is sealed in foil to guarantee effectiveness, and once opened works for up to 3 months.

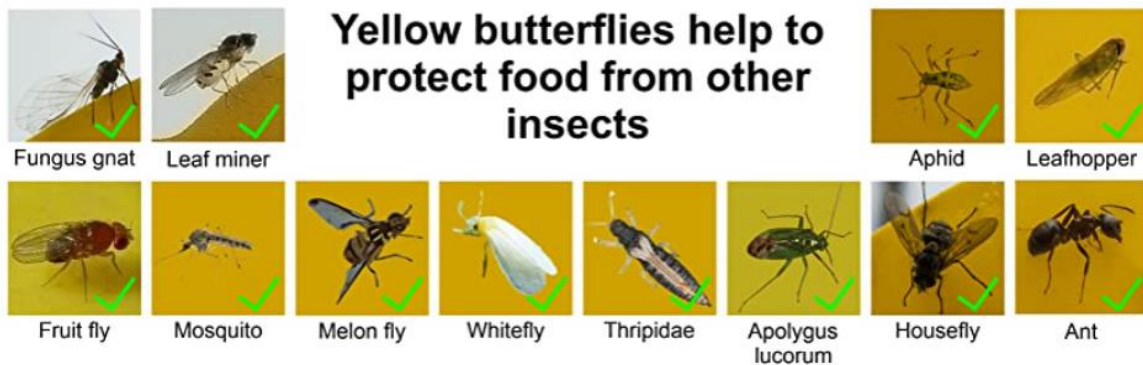
For the best results, use one trap per room or keep at least 3 meters gap between them. Moths will identify the source of pheromones more precisely and will be lured to the trap faster. Too many pheromone sources in the small area may confuse moths.

Butterfly – yellow moths/insect traps



Butterfly traps included in the MothOut Pantry Moth Traps are poison-free and have one role – catch and monitor bugs flying in your kitchen. These traps catch Fungus gnats, Aphids, Houseflies, Whiteflies, Fruit flies, Ants, Wasps, Leaf miners, Mosquitos, Leafhoppers, Thripidae, Melon Flies. Glue keeps them from escaping. Traps are UV resistant and waterproof, can be used indoor and outdoor in your home and garden.

Placed on the window in plant pot, will catch food & plant munchers trying to enter the house.



Light stickers



Moths are attracted to the light. This happens because they use the moonlight to navigate. The attached stickers absorb light during the day and emit it back at night.

These lights can be stuck onto the moth traps as well as the yellow butterfly insect traps. Combined with fly traps stickers increase the trapping time and work also after the dusk, when the yellow trap colour becomes less intense.



* Please note. Traps to be used in dark places don't require light stickers.



Tips & hints to get rid of moth infestation!!!

Steps to take to speed up moth extermination and prevent future infestations.

When it comes to moths, prevention is very important. Here are several things you can do to remove and keep these winged pests away:

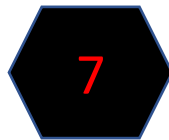
- **Keep your food sealed** – place your food in airtight packaging, glass or plastic containers are the best. Pantry moths can chew through plastic and paper bags.
- **Regularly vacuum** and empty your vacuum bag outside, preferably after each vacuuming to make sure you remove larvae and eggs from your property.

- **Wipe all newly purchased food bags and cans** – shops and warehouses are the perfect places for the moths, full of food! Inspect foods for possible infestation before purchase. Look for small holes and webbing on the packaging.
- **Clean your cupboards and drawers with vinegar** – use the water and vinegar mix to clean foods storage.
- **Clean food containers before refill** – to prevent moth`s eggs and larvae to be missed and transferred to the newly purchased food.
- **Freeze dry food** – seal dried food in the container and put them in the freezer for at least a week to kill eggs and larvae.
- **Control and protect pet food and birds seeds** – pantry moths like munching on pet food or birds seed too. Please be vigilant whilst shopping for those as it`s easy to bring moths home from garden centres as well as grocery shops. Store pet food and birds seeds in sealed plastic containers. These also can be frozen before use to eliminate the risk.
- **Repel moths from your kitchen** – use cloves or bay leaves to drive away moths, they have an aroma that is disliked by moths. Place these in drawers and kitchen shelves. It`s an unexpensive and natural way to repel moths from the pantry.
- **Use MothOut Pantry Moth Traps regularly** – be vigilant and as soon as you see any signs of moths, react immediately. Moth Traps are also great prevention, will guard the home 24/7.
- **For the best results, use one MothOut trap per room or keep at least 3 meters gap between them.** Moths will identify the source of

pheromones more precisely and will be lured to the trap faster. Too many pheromone sources in the small area may confuse moths.

- **Warm up your house while using moth traps** – raising temperature at home will make moths more active and force males to search for females to reproduce. Higher temperature will speed up the trapping process.
- **Empty your rubbish bin regularly** – it is important not to leave any leftover food at home.

Pantry moths are not harmful if eaten so don't panic if you eat one accidentally, they will be ingested and there won't be any effects on the physical way. Despite that reassurance, it is pretty gross to think about.



Conclusions

Our home should be a warm, safe, and pleasant place. We should feel happy and spend time with our family and friends in a fantastic atmosphere. Sometimes, however, our peaceful oasis can be disturbed by unwelcomed invaders, which decided to settle in with us and help themselves with our belongings.

Pantry moth infestation can be a horrible and costly experience. If, however, we take prompt action and do the right things, we can win our home back and return peace, love, and happiness back under our roof.

Getting rid of pantry moths is not an easy process. It takes time, effort, and determination, especially when the infestation goes too far. Following this guide, which we prepared to help our customers understand moths nature and control them, will make the extermination process successful and easier to go through.

Please remember: Prevention is always better than cure.

Using MothOut pantry moth traps all year round will help control moths and monitor if they are present around us.

This guide will help you to take steps preventing from pantry moths being introduced to your home.

I strive to deliver the best products and customers service ever. To achieve my goal, I need to understand your needs and expectations. I would love to hear from you with feedback on how you found our product? How did you fare with the Tips & Hints included in this eBook? Even if you just want to say Hello. Your voice is important to us, and you will get a response.

You can contact me at: info@mothout.co.uk

Once again, thank you very much for choosing MothOut product!

Good luck!!!

Tom

MothOut Team