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Controlling Insect Pests Of Home-Stored Foods

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Dry foods stored at home must be protected against insect pests. The main pests of concern are red flour beetle, Indian meal moth, sawtoothed grain beetle and carpet beetles. Erroneously called "flour weevils," these pests frequently infest flour and other dry cereal products in the home. It is important to clean up home infestations as soon as they are found to keep the insects from spreading to non-infested food.

Flour beetles in the kitchen

To minimize or prevent infestations, keep kitchen, pantry, and other food storage areas clean and free of flour or cereal product spillage since this provides a source of food for the pests. Inspect dry food items regularly. When insects are found, locate the source of infestation and destroy the infested food. Food that could be infested or lightly infested can be treated to prevent further damage. After inspection, place other food materials in glass, tin, or plastic containers with tight fitting lids to prevent infestation.



These shells are all that remain after insect pests have feasted on stored wheat.

Pet and livestock foods in the home are often the source of insect problems, especially if they are left neglected in a cupboard or closet. To control flour beetles in kitchen area:

- Step 1. Remove all dishes and foods before cleaning and treating storage for insect control.
- Step 2. Remove paper or oilcloth shelf coverings during cleanup. Insects readily hide under such coverings.
- Step 3. Use a vacuum cleaner to clean the debris from cracks and corners of storage.
- Step 4. Scrub storage space and vicinity with very hot water and a strong detergent solution. Allow to dry.
- Step 5. Spray the cupboards and shelves with one of the pressurized sprays containing baygon, ronnel or diazinon. Follow the directions on the label and be sure that all crevices and joints are thoroughly wetted with the spray. Do not spray food, dishes, or utensils. Do not spray counter tops where food is prepared.
- Step 6. Ventilate room and allow two hours drying and airing time. If using shelf coverings, use new paper or oilcloth coverings.

Inspect your cupboards and storage area regularly to determine if retreatment is necessary. Retreatment may be necessary to kill larvae or beetles that were missed or that emerged from protected egg or pupal shells after the initial spray.

If you do not wish to destroy lightly infested flour or food products, you can treat by:

Heating: Heat oven to 140°. Put flour in shallow pan and place in oven for 30 minutes. This process will destroy the insects and will also destroy the grains' germinating ability.

Freezing: Place small packages in freezer at 0° or below for a minimum of 4 days. Leave larger packages for at least 7 days. This process may cause excessive moisture in the product if it is defrosted in a humid room.

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Insects in wheat, rice, beans

Protect your stored food. This should be a major consideration since improper storage can result in a total loss to insects, rodents or moisture. The best protection available is a good pest prevention program.

Proper buying

Purchase clean insect-free grains. Preferably, obtain those prepared especially for home storage. Some companies have grain available in sealed metal containers, but these are expensive. Bulk buying of specially cleaned grain is acceptable if it is placed in permanent storage containers immediately after purchase. Moisture content should be 10 to 12% or less.

Proper storage

Store grains in airtight containers. Several types of metal or plastic 5-gallon cans are available. Select containers with wide mouths, at least 7-inch diameter. Regardless of type or size of storage can tight fitting lids are a necessity. A 5-gallon can will store approximately 35 pounds of grain.

Store grain in a clean, cool, dry place, off the floor by 18 inches preferably and away from damp areas. Rotate the supply frequently so that the older grain is consumed first.

Food in open containers is almost certain to become infested. Storage in plastic, burlap or cloth sacks is poor protection against insects, mice or moisture.

Keep food storage areas free of spilled food, grain or flour. Keep your wheat grinding equipment clean when not in use. Wipe excess flour from grinder after using. Good housekeeping prevents insect infestations.

Dry ice for home grain fumigation

Since it isn't always possible to purchase insect-free grains and cereal products, or to know if they are free of insect contamination, such products may have to be treated after they are purchased. Dry ice is not the most effective fumigant for controlling stored grain pests but, if used carefully, it is one of the safer compounds available for home use. The cost of fumigating with dry ice varies but is usually not prohibitive.

To fumigate home-stored wheat or similar products, spread about 2 ounces of crushed dry ice on 3 or 4 inches of grain in the bottom of the container, then add the remaining grain to the can until it is at the desired depth. To fumigate large quantities, use 6 ounces for 100 pounds of grain or 1 pound of dry ice for each 30 gallons of stored grain.

Since the fumes from the vaporizing dry ice are heavier than air, they readily replace the existing air in the container. Keep the container lid loose until the dry ice has vaporized and replaced the air. Then place the lid firmly on the container.

If pressure causes the can to bulge after the lid has been put in place, remove the lid cautiously for a few minutes and then replace it. If you have plastic bags in the can, don't seal the bags until the dry ice has vaporized. Carbon dioxide will stay in metal or glass containers for some time if the container lid is tight.

When practical, use the dry ice procedure in a dry atmosphere to reduce the condensation of moisture in the bottom of the can. If it is properly done, one dry ice treatment should be enough. Yearly treatments are not needed unless an infestation is found.

Dry ice will control adult and larval insects present, but may not kill the eggs or pupae. A tight fitting lid placed firmly on the container as soon as the dry ice has vaporized may keep enough carbon dioxide inside to kill the eggs and pupae.

CAUTION: Dry ice should be handled with care. Skin can be severely frozen if dry ice is handled improperly. Dry ice should not be accessible to children or adults who are unaware of its freezing or vaporizing properties. Do not use in closed room where carbon dioxide may replace air and cause asphyxiation.

Trade names are used only to identify chemicals as they are known in the marketplace. This does not imply endorsement by the University.

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