

# Insect Control

Revised 2018

## Insect Infestation & Destruction Temperatures

A common problem associated with food storage is infestation by insects. The presence of insects in food is considered a source of contamination that health authorities consider filthy. If insects or evidence of insect activity is detected in food products, those products are designated as “unfit for human consumption”, and may be destroyed. It should be noted that many insects attack food for the purpose of surviving on the mold or other insects that may be present in the food source, and that the food itself may not offer much nourishment to many of the insects.

Most insects become dormant or inactive at 50 °F (10 °C) or below, including the live insect, larvae or any eggs present, which will not hatch at temperatures below 50 °F (10 °C). Temperatures of 0 °F (-18 °C) or below will kill the insect, larvae or eggs. Consequently, a clean food stored at 50 °F (10 °C) or below will very seldom become infested with insects. If insects are present, they will be destroyed in just a few days at 0 °F (-18 °C). The duration of this exposure will depend upon the quality and quantity of the packaging materials used and the amount and density of the commodity in the package. At higher storage temperatures, death of insects will require longer storage as shown below in the time and temperature storage table:

### Number of Days Exposure Required to Destroy Certain Insects

	0 °F (-18 °C) days	30 °F (-1 °C) days
Almond moth	1	100
Cigarette beetle	1	14
Confused flour beetle	1	12
Granary weevil	1	46
Indian meal moth	1	90
Mediterranean flour moth	1	116
Red flour beetle	1	8
Rice weevil	1	8
Saw-toothed grain beetle	1	23

## Types of Insect Infestation

Not all foods become infested with insects, but following is a list of common foods and the types of insects peculiar to them:

<b>Beans, Peas, and Other Legumes</b>	Indian meal moth Dermestid beetles Mediterranean flour moth Raisin moth Saw-toothed grain beetle Merchant grain beetle
Bean weevil Cowpea weevil Indian meal moth Almond moth Tobacco moth	
<b>Candy, Chocolates and Cocoa Beans</b>	
Tobacco moth Fig moth Indian meal moth Merchant grain beetle Mediterranean flour moth Saw-toothed grain beetle Cigarette beetle Drug store beetle	
<b>Cereal Products, including Breakfast Foods, Crackers, Flour, Macaroni</b>	
Broad-horned flour beetle Cadelle Tobacco moth Confused flour beetle Dark meal worm Drug store beetle Fig moth Merchant grain beetle Indian meal moth Meal snout moth Mediterranean flour moth Raisin moth Cigarette beetle Saw-toothed grain beetle Yellow meal worm Red flour beetle	
<b>Dried Fruit</b>	
Cadelle Tobacco moth Dried fruit beetle	
	<b>Grains and Whole Cereals</b>
	Angoumois grain moth Cadelle Dark meal worm Granary weevil Lesser grain borer Rice weevil Yellow meal worm
	<b>Nuts and Nutmeats</b>
	Broad-horned flour beetle Cadelle Tobacco moth Fig moth Indian meal moth Mediterranean flour moth Saw-toothed grain beetle Navel orangeworm Merchant grain beetle Red flour beetle Confused flour beetle
	<b>Spices</b>
	Tobacco moth Cigarette beetle Drug store beetle
	<b>Tobacco</b>
	Tobacco moth Cigarette beetle

WFLO is indebted to Dr. Robert Davis, formerly with the USDA-ARS, Savannah, Georgia, and Dr. Michael Jahncke, Virginia Seafood Agricultural Research and Extension Center, Hampton, Virginia, for the review and revision of this topic