

Food Defect Levels Handbook

Levels of natural or unavoidable defects in foods that present no health hazards for humans

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INTRODUCTION

Title 21, Code of Federal Regulations, Part 110.110 allows the Food and Drug Administration (FDA) to establish maximum levels of natural or unavoidable defects in foods for human use that present no health hazard. These "Food Defect Action Levels" listed in this booklet are set on this premise--that they pose no inherent hazard to health.

Poor manufacturing practices may result in enforcement action without regard to the action level. Likewise, the mixing or blending of food with a defect at or above the current defect action level with another lot of the same or another food is not permitted. That practice renders the final food unlawful regardless of the defect level of the finished food.

The FDA set these action levels because it is economically impractical to grow, harvest, or process raw products that are totally free of non-hazardous, naturally occurring, unavoidable defects. Products harmful to consumers are subject to regulatory action whether or not they exceed the action levels.

It is incorrect to assume that because the FDA has an established defect action level for a food commodity, the food manufacturer need only stay just below that level. The defect levels do not represent an average of the defects that occur in any of the products--the averages are actually much lower. The levels represent limits at which FDA will regard the food product "adulterated"; and subject to enforcement action under Section 402(a)(3) of the Food, Drug, and Cosmetics Act.

As technology improves, the FDA may review and change defect action levels on this list. Also, products may be added to the list. The FDA publishes these revisions as *Notices* in the *Federal Register*. It is the responsibility of the user of this booklet to stay current with any changes to this list.

PRODUCTS WITHOUT DEFECT LEVELS

If there is no defect action level for a product, or when findings show levels or types of defects that do not appear to fit the action level criteria, FDA evaluates the samples and decides on a case-by-case basis. In this procedure, FDA's technical and regulatory experts in filth and extraneous materials use a variety of criteria, often in combination, in determining the significance and regulatory impact of the findings.

The criteria considered is based on the reported findings (e.g., lengths of hairs, sizes of insect fragments, distribution of filth in the sample, and combinations of filth types found). Moreover, FDA interprets the findings considering available scientific information (e.g., ecology of animal species represented) and the knowledge of how a product is grown, harvested, and processed.

USE OF CHEMICAL SUBSTANCES TO ELIMINATE DEFECT LEVELS

It is FDA's position that pesticides are not the alternative to preventing food defects. The use of chemical substances to control insects, rodents and other natural contaminants has little, if any impact on natural and unavoidable defects in foods. The primary use of pesticides in the field is to protect food plants from being ravaged by destructive plant pests (leaf feeders, stem borers, etc.).

A secondary use of pesticides is for cosmetic purposes--to prevent some food products from becoming so severely damaged by pests that it becomes unfit to eat.

USING THIS FOOD DEFECT ACTION LEVEL BOOKLET

This edition of The Food Defect Action Level includes the source of each defect and the significance of it (i.e., how the defect affects the food). Food processors may find this information helpful as a quality control tool in their operation.

Food commodities (Product) are listed alphabetically. Each listing indicates the analytical methodology (Defect Method) used, as well as the parameters for the defect (Defect Action Level).

The Macroanalytical Procedures Manual (MPM) is out of print. However, it is available on the web at [Macroanalytical Procedures Manual \(/food/laboratory-methods/macroanalytical-procedures-manual-mpm\)](http://www.fda.gov/food/laboratory-methods/macroanalytical-procedures-manual-mpm).

For information on the availability of the Official Methods of Analysis by AOAC International, you may contact them at:

www.aoac.org (<http://www.aoac.org/>) [↗ \(http://www.fda.gov/about-fda/website-policies/website-disclaimer\)](http://www.fda.gov/about-fda/website-policies/website-disclaimer)

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The Glossary describes terms used throughout this booklet.

GLOSSARY

ABUSE

Improper handling.

AESTHETIC

Offensive to the senses.

CONTAMINATION

Addition of foreign material, (e.g., dirt, hair, excreta, non-invasive insects, machinery mold) to a product.

COPEPODS

Small free-swimming marine crustaceans, many of which are fish parasites. In some species the females enter the tissues of the host fish and may form pus pockets.

DAMAGE

Refers to the condition of the product which shows the evidence of the pest habitation or feeding, (e.g., tunneling, gnawing, egg cases, etc.).

DECOMPOSED

Consists of the bacterial breakdown of the normal product tissues and the subsequent enzyme induced chemical changes. These changes are manifested by abnormal odors, taste, texture, color, etc.

ECONOMIC ADULTERATION

Intentional failure to remove inedible materials from the finished product, or the intentional addition or substitution of cheaper food or ingredient to a product.

EXTRANEOUS MATERIALS

Any foreign matter in a product associated with objectionable conditions or practices in production, storage, or distribution. Includes: objectionable matter contributed by insects, rodents, and birds; decomposed material; and miscellaneous matter such as sand, soil, glass, rust, or other foreign substances.

FOREIGN MATTER

Includes objectionable matter such as sticks, stones, burlap bagging, cigarette butts, etc. Also includes the valueless parts of the raw plant material, such as stems.

GUMMY

A resinous glaze on an almond kernel that is induced by an insect injury or mechanical damage.

HARVEST

occurs during the harvesting process.

INFECTION

A condition due to the growth of an organism in a host, (e.g., rot or decay, visible mold mycelia).

INFESTATION

The presence of any live or dead life cycle stages of insects in a host product, (e.g., weevils in pecans, fly eggs and maggots in tomato products); or evidence of their presence (i.e., excreta, cast skins, chewed product residues, urine, etc.); or the establishment of an active breeding population, (e.g., rodents in a grain silo).

MILDEW

Refers to downy mildew which is a fungus infection that causes yellow-brown spots on the leaves of edible greens in the mustard family.

MOLD COUNT

Refers to the results of the Howard mold count method which is reported as the percentage of positive microscopic fields that have been scored as either positive or negative based on the presence or absence of a minimum amount of mold hyphae. Performed only on comminuted fruits and vegetables, and some ground spices. The source of the mold hyphae is rotten raw material that is processed along with sound raw material but is no longer visible due to the comminution process.

MOLDY

Evidenced by the presence of **mold** (mold hyphae and/or spore forming structures) that are visible to the unaided eye. Microscopic examination may be used to confirm the presence of characteristic hyphal filaments and fruiting structures.

POST HARVEST

occurs after harvest, for example:

1. field holding of the harvested crop prior to transit
2. farm storage of harvested crop
3. during transit by truck, ship, rail, etc.
4. at the processing facility, awaiting processing or proper storage

PREHARVEST

occurs while product is in the field, during growth or awaiting harvest.

PROCESSING

occurs while in the processing facility, in storage or during processing.

RANCID

A condition where a product has a disagreeable odor or taste of decomposed oils or fat. For example, rancid nuts frequently are soft, with a yellow, dark, or oily appearance, a bitter taste and a stale odor.

ROT

Plant tissue that is visibly decomposed, usually discolored with disagreeable odors and taste. The plant tissue has been invaded and is being digested by microorganisms. Although rot can also be caused by bacteria and yeasts, these organisms are secondary invaders. Molds are the primary organisms of decomposition and the presence of mold hyphae in the tissue is used to confirm rot.

SHRIVELED

A condition where the nut kernel is shrunken and not fully developed, commonly a result of climatic stress or infection by certain molds.

SIGNIFICANCE OF DEFECT

Refers to the real or potential impact on the consumer due to the presence of a particular defect. A listed defect can have more than one significance to the consumer (e.g., the mold defect of whole cassia has an aesthetic significance, whereas the mold defect of green coffee beans has a potential health hazard significance due to the threat of mold toxins produced by the mold species known to infect coffee beans).

SOUR

In fruits, consists of the bacterial breakdown of the product and the formation of lactic acid and subsequent sour taste.

WATER INSOLUBLE INORGANIC MATTER

A contaminant of the finished product that consists of fine grit that originates from the sand, dirt, and stones that contaminate the raw agricultural product at the time of harvest.

WHOLE OR EQUIVALENT INSECT

A whole insect, separate head, or body portions with head attached.

WORTHLESS

Any condition where the product has been affected by organisms or the environment that it has no food value.

COMMODITIES AND DEFECT ACTION LEVELS

PRODUCT	DEFECT (Method)	ACTION LEVEL
Allspice, Ground	Insect Filth (AOAC 981.21)	Average of 30 or more insect fragments per 10 grams
	Rodent filth (AOAC 981.21)	Average of 1 or more rodent hairs per 10 grams
	DEFECT SOURCE: <i>Insect fragments - pre/post harvest and processing insect infestation. Rodent hair - post harvest and/or processing contamination with animal hair or excreta</i> SIGNIFICANCE: <i>Aesthetic</i>	
Allspice, Whole	Mold (MPM-V32 (/food/laboratory- methods/mpm-v-8-spices- condiments-flavors-and- crude-drugs))	Average of 5% or more berries by weight are moldy
	DEFECT SOURCE: : <i>Preharvest and/or post harvest infection</i> SIGNIFICANCE: <i>Potential health hazard - may contain mycotoxin producing fungi</i>	
Apple Butter	Mold (AOAC 975.51)	Average of mold count is 12% or more
	Rodent filth (AOAC 945.76)	Average of 4 or more rodent hairs per 100 grams of apple butter
	Insects (AOAC 945.76)	Average of 5 or more whole or equivalent insects (not counting mites, aphids, thrips, or scale insects) per 100 grams of apple butter
	DEFECT SOURCE: <i>Mold - post harvest infection. Rodent hair - post harvest and/or processing contamination with animal hair. Whole or equivalent insects - preharvest, and/or post harvest and/or processing insect infestation,</i> SIGNIFICANCE: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Apricots, Canned	Insect filth (MPM-V51 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78))	Average of 2% or more by count has been damaged or infected by insects
	DEFECT SOURCE: <i>Pre-harvest insect infestation</i> SIGNIFICANCE: <i>Aesthetic</i>	
Asparagus, Canned or Frozen	Insect filth (MPM-V93 (/food/laboratory-methods/mpm-v-11-vegetables-and-vegetable-products))	10% by count of spears or pieces are infested with 6 or more attached asparagus beetle eggs and/or sacs
	Insects (MPM-V93 (/food/laboratory-methods/mpm-v-11-vegetables-and-vegetable-products))	Asparagus contains an average of 40 or more thrips per 100 grams OR Insects (whole or equivalent) of 3mm or longer have an average aggregate length of 7mm or longer per 100 grams of asparagus
	DEFECT SOURCE: <i>Pre-harvest insect infestation</i> SIGNIFICANCE: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Bay (Laurel) Leaves	Mold (MPM-V32 (/food/laboratory- methods/mpm-v-8-spices- condiments-flavors-and- crude-drugs).) * _	Average of 5% or more pieces by weight are moldy
	Insect filth (MPM-V32 (/food/laboratory- methods/mpm-v-8-spices- condiments-flavors-and- crude-drugs))	Average of 5% or more pieces by weight are insect-infested
	Mammalian excreta (MPM-V32 (/food/laboratory- methods/mpm-v-8-spices- condiments-flavors-and- crude-drugs))	Average of 1 mg or more mammalian excreta per pound after processing
	DEFECT SOURCE: <i>Mold - preharvest infection. Insect infestation - preharvest and/or post harvest and/or processing insect infestation. Mammalian excreta - post harvest and/or processing animal contamination</i> SIGNIFICANCE: <i>Aesthetic</i>	
Beets, Canned	Rot	Average of 5% or more pieces by weight with dry rot
	DEFECT SOURCE: <i>Preharvest mold infection</i> SIGNIFICANCE: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Berries: Drupelet, Canned and Frozen (blackberries, raspberries, etc.)	Mold (AOAC 955.47)	Average mold count is 60% or more
	Insects and larvae (AOAC 981.20)	Average of 4 or more larvae per 500 grams OR Average of 10 or more whole insects or equivalent per 500 grams (excluding thrips, aphids and mites)
	DEFECT SOURCE: <i>Insects and larvae - preharvest insect infestation. Mold - post harvest infection</i> Significance: <i>Aesthetic</i>	
Berries: Lingon, Canned (European cranberry)	Insect larvae (MPM-V64 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78#v64))	Average of 3 or more larvae per pound in a minimum of 12 subsamples
	DEFECT SOURCE: <i>Insects-pre-harvest insect infestation</i> Significance: <i>Aesthetic</i>	
Berries: Multer, Canned	Insects (MPM-V64 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78#v64))	Average of 40 or more thrips per No.2 can in all subsamples and 20% of subsamples are materially infested
	DEFECT SOURCE: <i>Insects-pre-harvest insect infestation</i> Significance: <i>Aesthetic</i>	
Broccoli, Frozen	Insects and mites (AOAC 945.82)	Average of 60 or more aphids and/or thrips and/or mites per 100 grams
	DEFECT SOURCE: <i>Pre-harvest insect infestation</i> Significance: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Brussels Sprouts, Frozen	Insects (MPM-V95 (/food/laboratory-methods/mpm-v-11-vegetables-and-vegetable-products#v95))	Average of 30 or more aphids and/or thrips per 100 grams
	DEFECT SOURCE: <i>Pre-harvest insect infestation</i> Significance: <i>Aesthetic</i>	
Capsicum Pods	Insect filth and/or mold (MPM-V32 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v32))	Average of more than 3% of pods by weight are insect-infested and/or moldy
	Mammalian excreta (MPM-V32 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v32))	Average of more than 1mg mammalian excreta per pound
	DEFECT SOURCE: <i>Insect infested - preharvest and/or post harvest insect infestation. Mold - preharvest and/or post harvest infection, Mammalian excreta - post harvest and/or processing animal contamination</i> Significance: <i>Aesthetic, Potential health hazard - mold may contain mycotoxin producing fungi</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Ground Capsicum (excluding paprika)	Mold (AOAC 945.94)	Average mold count is more than 20%
	Insect filth (AOAC 978.22)	Average of more than 50 insect fragments per 25 grams
	Rodent filth (AOAC 978.22)	Average of more than 6 rodent hairs per 25 grams
	DEFECT SOURCE: <i>Mold - pre-harvest and/or post harvest mold infection. Insect fragments - pre-harvest and/or post harvest and/or processing insect infestation. Rodent hair - pre-harvest and/or post harvest and/or processing contamination with animal hair or excreta</i> Significance: <i>Aesthetic, Mold may contain mycotoxin producing fungi</i>	
Ground Paprika	Mold (AOAC 945.94)	Average mold count is more than 20%
	Insect filth (AOAC 977.25B)	Average of more than 75 insect fragments per 25 grams
	Rodent filth (AOAC 977.25B)	Average of more than 11 rodent hairs per 25 grams
	DEFECT SOURCE: <i>Mold - pre and/or post harvest mold infection. Insect fragments - pre and/or post harvest and/or processing insect infestation. Rodent hair - pre and/or post harvest and/or processing contamination with animal hair or excreta</i> Significance: <i>Aesthetic, Potential health hazard - mold may contain mycotoxin producing fungi</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Cassia (or) Cinnamon Bark, Whole	Mold (MPM-V32 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v32))	Average of 5% or more pieces by weight are moldy
	Insect filth (MPM-V32 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v32))	Average of 5% or more pieces by weight are insect-infested
	Mammalian excreta (MPM-V32 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v32))	Average of 1 mg or more mammalian excreta per pound
	DEFECT SOURCE: <i>Mold - post harvest mold infection. Insect infestation - post harvest and/or processing. Mammalian excreta - post harvest and/or processing animal contamination.</i> Significance: <i>Aesthetic</i>	
Cinnamon, Ground	Insect filth (AOAC 968.38b)	Average of 400 or more insect fragments per 50 gram
	Rodent filth (AOAC 968.38b)	Average of 11 or more rodent hairs per 50 grams
	DEFECT SOURCE: <i>Insect fragments - post harvest and/or processing insect infestation. Rodent hair - post harvest and/or processing contamination with animal hair or excreta</i> Significance: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Cherries: Brined and Maraschino	Insect filth (MPM-V48 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-42-v-48#v48))	Average of 5% or more pieces are rejects due to maggots
	DEFECT SOURCE: <i>Pre-harvest insect infestation</i> Significance: <i>Aesthetic</i>	
Cherries: Fresh, Canned, or Frozen	Rot (MPM-V48 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-42-v-48#v48))	Average of 7% or more pieces are rejects due to rot
	Insect filth (MPM-V48 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-42-v-48#v48))	Average of 4% or more pieces are rejects due to insects other than maggots
	DEFECT SOURCE: <i>Insect reject - Pre-harvest and/or post harvest insect infestation, Rot reject - pre-harvest mold infection</i> SIGNIFICANCE: <i>Aesthetic</i>	
Cherry Jam	Mold (MPM-V61 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78#v61))	Average mold count is 30% or more
	DEFECT SOURCE: <i>Pre-harvest mold infection</i> Significance: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Chocolate and Chocolate Liquor	Insect filth (AOAC 965.38)	Average is 60 or more insect fragments per 100 grams when 6 100-gram subsamples are examined OR Any 1 subsample contains 90 or more insect fragments
	Rodent filth (AOAC 965.38)	Average is 1 or more rodent hairs per 100 grams in 6 100-gram subsamples examined OR Any 1 subsample contains 3 or more rodent hairs
	Shell (AOAC 968.10-970.23)	For chocolate liquor, if the shell is in excess of 2% calculated on the basis of alkali-free nibs
	DEFECT SOURCE: <i>Insect fragments - post harvest and/or processing insect infestation, Rodent hair - post harvest and/or processing contamination with animal hair or excreta, Shell - processing contamination</i> Significance: <i>Aesthetic</i>	
Citrus Fruit Juices, Canned	Mold (AOAC 970.75)	Average mold count is 10% or more
	Insects and insect eggs (AOAC 970.72)	5 or more Drosophila and other fly eggs per 250 ml or 1 or more maggots per 250 ml
	DEFECT SOURCE: <i>Mold - processing contamination, Fly eggs and/or maggots - post harvest insect infestation</i> Significance: <i>Aesthetic</i>	
Cloves	Stems (MPM-V32 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v32)))	Average of 5% or more stems by weight
	DEFECT SOURCE: <i>Harvest</i> SIGNIFICANCE: <i>Aesthetic, economic adulteration</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Cocoa Beans	Mold (MPM-V18 (/food/laboratory- methods/mpm-v-4- chocolate-sugars-and- related-products))	More than 4% of beans by count are moldy
	Insect filth (MPM-V18 (/food/laboratory- methods/mpm-v-4- chocolate-sugars-and- related-products))	More than 4% of beans by count are insect-infested including insect-damaged
	Insect filth and/or mold	More than 6% of beans by count are insect-infested or moldy NOTE: Level differs when both filth and mold are present
	Mammalian excreta (MPM-V18 (/food/laboratory- methods/mpm-v-4- chocolate-sugars-and- related-products))	Average of 10 mg or more mammalian excreta per pound
	DEFECT SOURCE: <i>Mold - post harvest infection, Insect infested/damaged - post harvest and/or processing insect infestation, Mammalian excreta - post harvest and/or processing animal contamination</i> Significance: <i>Aesthetic, Potential health hazard - may contain mycotoxin producing fungi</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Cocoa Powder Press Cake	Insect filth (AOAC 965.38)	Average of 75 or more insect fragments per subsample of 50 grams when 6 subsamples are examined OR Any 1 subsample contains 125 or more insect fragments
	Rodent filth (AOAC 965.38)	Average in 6 or more subsamples is 2 or more rodent hairs per subsample of 50 grams OR Any 1 subsample contains 4 or more rodent hairs
	Shell (AOAC 968.10-970.23)	2% or more shell calculated on the basis of alkali-free nibs.
	DEFECT SOURCE: <i>Insect fragments - post harvest and/or processing insect infestation, Rodent hair - post harvest and/or processing contamination with animal hair or excreta, Shell - processing contamination</i> Significance: <i>Aesthetic</i>	
Coffee Beans, Graded Green	Grade defects (<u>MPM-V6</u> (<u>/food/laboratory-methods/mpm-v-1-beverages-and-beverage-materials</u>))	Beans are poorer than Grade 8 of the New York Green Coffee Association
	DEFECT SOURCE: <i>Quality - processing</i> Significance: <i>Aesthetic, economic adulteration</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Coffee Beans, Green	Insect filth and insects (MPM-V1 (/food/laboratory-methods/mpm-v-1-beverages-and-beverage-materials))	Average 10% or more by count are insect-infested or insect-damaged Note: If live external infestation is present use the Compliance Policy Guide (CPG) titled " Food Storage and Warehousing-Adulteration-Filth " (CPG 580.100) (/regulatory-information/search-fda-guidance-documents/cpg-sec-580100-food-storage-and-warehousing-adulteration-filth-domestic-and-import), in accordance with " Interpretation of Insect Filth " (CPG 555.600) (/regulatory-information/search-fda-guidance-documents/cpg-sec-555600-filth-insects-rodents-and-other-pests-foods).
	Mold (MPM-V1 (/food/laboratory-methods/mpm-v-1-beverages-and-beverage-materials))	Average of 10% or more beans by count are moldy
	DEFECT SOURCE: <i>Insect infested/damaged - preharvest and/or post harvest and/or processing insect infestation, Mold - post harvest and/or processing infection</i> Significance: <i>Aesthetic, Potential health hazard - mold may contain mycotoxin producing fungi</i>	
Condimental Seeds Other than Fennel Seeds and Sesame Seeds	Mammalian excreta (MPM-V32 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v32))	Average of 3 mg or more of mammalian excreta per pound
	DEFECT SOURCE: <i>Post harvest and/or processing animal contamination</i> Significance: <i>Aesthetic</i>	
Corn: Sweet Corn, Canned	Insect larvae (AOAC 973.61)	Insect larvae (corn ear worms, corn borers) 2 or more 3mm or longer larvae, cast skins, larval or cast skin fragments of corn ear worms or corn borer and the aggregate length of such larvae, cast skins, larval or cast skin fragments exceeds 12 mm in 24 pounds (24 No. 303 cans or equivalent)
	DEFECT SOURCE: <i>Pre-harvest insect infestation</i> Significance: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Corn Husks for Tamales	Insect filth (MPM-V115 (/food/laboratory-methods/mpm-v-11-vegetables-and-vegetable-products#v115))	Average of 5 % or more husks by weight are insect-infested (including insect-damaged)
	Mold (MPM-V115 (/food/laboratory-methods/mpm-v-11-vegetables-and-vegetable-products#v115))	Average of 5% or more husks by weight are moldy
	DEFECT SOURCE: <i>Insect infested - preharvest and/or processing insect infestation, Mold - preharvest and/or post harvest and/or processing infection</i> Significance: <i>Aesthetic</i>	
Cornmeal	Insects (AOAC 981.19)	Average of 1 or more whole insects (or equivalent) per 50 grams
	Insect filth (AOAC 981.19)	Average of 25 or more insect fragments per 25 grams
	Rodent filth (AOAC 981.19)	Average of 1 or more rodent hairs per 25 grams OR Average of 1 or more rodent excreta fragment per 50 grams
	DEFECT SOURCE: <i>Insects and insect fragments - preharvest and/or post harvest and/or processing insect infestation, Rodent hair and excreta fragments - post harvest and/or processing contamination with animal hair or excreta</i> SIGNIFICANCE: <i>Aesthetic</i>	
Cranberry Sauce	Mold (AOAC 970.76)	Average mold count is more than 15% OR The mold count of any 1 subsample is more than 50%
	DEFECT SOURCE: <i>Pre-harvest and/or post harvest infection</i> Significance: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Cumin Seed	Sand and grit (AOAC 975.48)	Average of 9.5% or more ash and/or 1.5% or more acid insoluble ash
	DEFECT SOURCE: <i>Harvest contamination</i> Significance: <i>Aesthetic</i>	
Currant Jam, Black	Mold (MPM-V61 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78#v61))	Average mold count is 75% or more
	DEFECT SOURCE: <i>Post harvest and/or processing infection</i> Significance: <i>Aesthetic</i>	
Currants	Insect filth (MPM-V53 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78#v53))	5% or more, by count, wormy in the average of the subsamples
	DEFECT SOURCE: <i>Pre-harvest insect infestation</i> Significance: <i>Aesthetic</i>	
Curry Powder	Insect filth (AOAC 975.48)	Average of 100 or more insect fragments per 25 grams
	Rodent filth (AOAC 975.48)	Average of 4 or more rodent hairs per 25 grams
	DEFECT SOURCE: <i>Insect fragments - preharvest and/or post harvest and/or processing insect infestation, Rodent hair - post harvest and/or processing contamination with animal hair or excreta</i> Significance: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Date Material (Chopped, Sliced, (or) Macerated)	Insects (MPM-V53 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78#v53))	10 or more dead insects (whole or equivalent) in 1 or more subsamples OR 5 or more dead insects (whole or equivalent) per 100 grams
	Pits (MPM-V53 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78#v53))	2 or more pits and/or pit fragments 2 mm or longer measured in the longest dimension per 900 grams
	DEFECT SOURCE: <i>Insects - preharvest and/or post harvest and/or processing insect infestation, Pits - processing</i> SIGNIFICANCE: <i>Insects - Aesthetic, Pits - mouth/tooth injury</i>	
Dates, Pitted	Multiple (MPM-V53 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78#v53))	Average of 5% or more dates by count are rejects (moldy, dead insects, insect excreta, sour, dirty, and/or worthless) as determined by macroscopic sequential examination
	Pits (MPM-V53 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78#v53))	Average of 2 or more pits and/or pit fragments 2 mm or longer in the longest dimension per 100 dates
	DEFECT SOURCE: <i>Insects, insect excreta, & mold - preharvest and/or post harvest and/or processing, Sour & worthless - preharvest, Dirt - harvest contamination, Pits - processing</i> Significance: <i>Insects, insect excreta, mold, sour & worthless, dirt - Aesthetic, Pits - mouth/tooth injury</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Dates, Whole	Multiple (MPM-V53 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78#v53))	Average of 5% or more dates by count are rejects (moldy, dead insects, insect excreta, sour, dirty, and/or worthless) as determined by macroscopic sequential examination
	DEFECT SOURCE: <i>Insects, insect excreta, & mold - preharvest and/or post harvest and/or processing, Sour & worthless - preharvest, Dirt - harvest contamination</i> Significance: <i>Aesthetic</i>	
Eggs and Other Egg Products, Frozen	Decomposition (AOAC 939.14, 940.36, 940.37)	2 or more cans decomposed and at least 2 subsamples from decomposed cans have direct microscopic counts of 5 million or more bacteria per gram
	DEFECT SOURCE: <i>Processing (incubator rejects)</i> Significance: <i>Economic</i>	
Fennel Seed	Insects (MPM-V32 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v32))	20% or more of subsamples contain insects
	Mammalian excreta (MPM-V32 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v32))	20% or more of subsamples contain mammalian excreta OR average of more than 3 mg of mammalian excreta per pound
	DEFECT SOURCE: <i>Insects - preharvest and/or post harvest insect infestation, Excreta - post harvest and/or processing animal contamination</i> SIGNIFICANCE: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Fig Paste	Insects (AOAC 964.23)	Contains 13 or more insect heads per 100 grams of fig paste in each of 2 or more subsamples
	DEFECT SOURCE: <i>Pre-harvest and/or post harvest and/or processing insect infestation</i> Significance: <i>Aesthetic</i>	
Figs	Insect filth and/or mold and/or dirty fruit or pieces of fruit (MPM-V53 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78#v53))	Average of 10% or more by count are insect-infested and/or moldy and/or dirty fruit or pieces of fruit
	DEFECT SOURCE: <i>Insect infested - Pre-harvest and/or post harvest infestation, Moldy - preharvest infection. Dirt - harvest contamination</i> Significance: <i>Aesthetic, Potential health hazard - may contain mycotoxin producing fungi</i>	
Tullibees, Ciscoes, Inconnus, Chubs, and Whitefish	Parasites (cysts) (MPM-V28 (/food/laboratory-methods/mpm-v-7-seafood#v28))	50 parasitic cysts per 100 pounds (whole or fillets), provided that 20% of the fish examined are infested
	DEFECT SOURCE: <i>Pre-harvest infection</i> Significance: <i>Aesthetic</i>	
Blue Fin and other Fresh Water Herring	Parasites (cysts) (MPM-V28 (/food/laboratory-methods/mpm-v-7-seafood#v28))	60 parasitic cysts per 100 fish (fish averaging 1 pound or less) or 100 pounds of fish averaging over 1 pound), provided that 20% of the fish examined are infested
	DEFECT SOURCE: <i>Pre-harvest infection</i> Significance: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Red Fish and Ocean Perch	Parasites (copepods) (MPM-V28 (/food/laboratory-methods/mpm-v-7-seafood#v28))	3 % of the fillets examined contain 1 or more copepods accompanied by pus pockets
	DEFECT SOURCE: <i>Pre-harvest infection</i> Significance: <i>Aesthetic</i>	
Ginger, Whole	Insect filth and/or mold (MPM-V32 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v32))	Average of 3% or more pieces by weight are insect-infested and/or moldy
	Mammalian excreta (MPM-V32 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v32))	Average of 3 mg or more of mammalian excreta per pound
	DEFECT SOURCE: <i>Insect infestation - post harvest and/or processing, Mold - post harvest and/or processing infection, Mammalian excreta - post harvest and/or processing animal contamination</i> Significance: <i>Aesthetic, Potential health hazard - may contain mycotoxin producing fungi</i>	
Greens, Canned	Mildew (AOAC 967.23)	Average of 10% or more of leaves, by count or weight, showing mildew over 1/2" in diameter
	DEFECT SOURCE: <i>Pre-harvest infection</i> Significance: <i>Aesthetic</i>	
Hops	Insects (AOAC 967.23)	Average of more than 2,500 aphids per 10 grams
	DEFECT SOURCE: <i>Pre-harvest infestation</i> Significance: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Macaroni and Noodle Products	Insect filth (AOAC 969.41)	Average of 225 insect fragments or more per 225 grams in 6 or more subsamples
	Rodent filth (AOAC 969.41)	Average of 4.5 rodent hairs or more per 225 grams in 6 or more subsamples
	DEFECT SOURCE: <i>Insect fragments - preharvest and/or post harvest and/or processing infestation. Rodent hair - post harvest and/or processing contamination with animal hair or excreta</i> Significance: <i>Aesthetic</i>	
Mace	Insect filth and/or mold (MPM-V32 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v32)))	Average of 3% or more pieces by weight are insect-infested and/or moldy
	Mammalian excreta (MPM-V32 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v32)))	Average of 3 mg or more of mammalian excreta per pound
	Foreign matter (MPM-V32 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v32)))	Average of 1.5% or more of foreign matter through a 20-mesh sieve
	DEFECT SOURCE: <i>Insect infestation - preharvest and/or post harvest and/or processing. Mold - preharvest and/or post harvest infection, Mammalian excreta - post harvest and/or processing animal contamination, Foreign matter - post harvest contamination</i> Significance: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Marjoram, Whole Plant, Unprocessed	Insect filth and/or mold (MPM-V32 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v32))	Average of 5% or more pieces by weight are insect-infested or moldy
	Mammalian excreta (MPM-V32 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v32))	Average of 1 mg or more mammalian excreta per pound
	DEFECT SOURCE: <i>Insect infestation - preharvest and/or post harvest and/or processing, Mold - post harvest and/or processing infection, Mammalian excreta - post harvest and/or processing animal contamination</i> Significance: <i>Aesthetic</i>	
Marjoram, Ground	Insect filth (AOAC 975.49)	Average of 1175 or more insect fragments per 10 grams
	Rodent filth (AOAC 975.49)	Average of 8 or more rodent hairs per 10 grams
	DEFECT SOURCE: <i>Insect fragments - preharvest and/or post harvest and/or processing insect infestation, Rodent hair - post harvest and/or processing contamination with animal hair or excreta</i> Significance: <i>Aesthetic</i>	
Marjoram, Unground	Insect filth (AOAC 985.39)	Average of 250 or more insect fragments per 10 grams
	Rodent filth (AOAC 985.39)	Average of 2 or more rodent hairs per 10 grams
	DEFECT SOURCE: <i>Insect fragments - preharvest and/or post harvest and/or processing insect infestation, Rodent hair - processing contamination with animal hair or excreta</i> Significance: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Mushrooms, Canned and Dried	Insects (AOAC 967.24)	Average of over 20 or more maggots of any size per 100 grams of drained mushrooms and proportionate liquid or 15 grams of dried mushrooms OR Average of 5 or more maggots 2 mm or longer per 100 grams of drained mushrooms and proportionate liquid or 15 grams of dried mushrooms
	Mites (AOAC 967.24)	Average of 75 mites per 100 grams drained mushrooms and proportionate liquid or 15 grams of dried mushrooms
	Decomposition (MPM-V100 (/food/laboratory-methods/mpm-v-11-vegetables-and-vegetable-products#v100))	Average of more than 10% of mushrooms are decomposed
	DEFECT SOURCE: <i>Insects - preharvest insect infestation, Mites - preharvest and/or post harvest infestation, Decomposition - preharvest infection</i> Significance: <i>Aesthetic</i>	
Nectars, Apricot, Peach and Pear	Mold	Average mold count is 12% or more
	DEFECT SOURCE: <i>Pre-harvest infection</i> Significance: <i>Aesthetic</i>	
Nutmeg, Whole	Insect filth and/or mold (MPM-V41 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v41))	Average of 10% or more pieces by count are insect-infested and/or moldy
	DEFECT SOURCE: <i>Insect infestation - preharvest and/or post harvest and/or processing, Mold - preharvest and/or post harvest infection</i> SIGNIFICANCE: <i>Aesthetic, Potential health hazard - may contain mycotoxin producing fungi</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Nutmeg, Ground	Insect filth (AOAC 979.26)	Average of 100 or more insect fragments per 10 grams
	Rodent filth (AOAC 979.26)	Average of 1 or more rodent hairs per 10 grams
	DEFECT SOURCE: <i>Insect fragments - post harvest and/or processing insect infestation, Rodent hair - post harvest and/or processing contamination with animal hair or excreta</i> Significance: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL																																							
Nuts, Tree	Multiple Defects (MPM-V81 (/food/laboratory-methods/mpm-v-10-nuts-and-nut-products-methods))	Reject nuts (insect-infested, rancid, moldy, gummy, and shriveled or empty shells) as determined by macroscopic examination at or in excess of the following levels:																																							
<table><tr><th>Nut Type</th><th>Unshelled %</th><th>Shelled %</th></tr><tr><td>Almonds</td><td>5</td><td>5</td></tr><tr><td>Brazils</td><td>10</td><td>5</td></tr><tr><td>Cashew</td><td>--</td><td>5</td></tr><tr><td>Green Chestnuts</td><td>15</td><td>--</td></tr><tr><td>Baked Chestnuts</td><td>10</td><td>--</td></tr><tr><td>Dried Chestnuts</td><td>--</td><td>5</td></tr><tr><td>Filberts</td><td>10</td><td>5</td></tr><tr><td>Lichee Nuts</td><td>5</td><td>--</td></tr><tr><td>Pecans</td><td>10</td><td>5</td></tr><tr><td>Pili Nuts</td><td>15</td><td>10</td></tr><tr><td>Pistachios</td><td>10</td><td>5</td></tr><tr><td>Walnuts</td><td>10</td><td>5</td></tr></table>			Nut Type	Unshelled %	Shelled %	Almonds	5	5	Brazils	10	5	Cashew	--	5	Green Chestnuts	15	--	Baked Chestnuts	10	--	Dried Chestnuts	--	5	Filberts	10	5	Lichee Nuts	5	--	Pecans	10	5	Pili Nuts	15	10	Pistachios	10	5	Walnuts	10	5
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Pistachios	10	5																																							
Walnuts	10	5																																							
DEFECT SOURCE: <i>Insect infested - preharvest and/or post harvest and/or processing, Mold - preharvest and/or post harvest and/or processing infection, Gummy & shriveled - preharvest physiological condition, Rancidity - post harvest</i> Significance: <i>Aesthetic, Potential health hazard - may contain mycotoxin producing fungi</i>																																									

PRODUCT	DEFECT (Method)	ACTION LEVEL
Pitted olives	Pits (MPM-V67 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78#v67))	Average of 1.3 percent or more by count of olives with whole pits and/or pit fragments 2 mm or longer measured in the longest dimension
	DEFECT SOURCE: <i>Processing</i> Significance: <i>Mouth/tooth injury</i>	
Imported Green olives	Insect damage (MPM-V67 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78#v67))	7% or more olives by count showing damage by olive fruit fly
	DEFECT SOURCE: <i>Pre-harvest insect infestation</i> Significance: <i>Aesthetic</i>	
Salad olives	Pits (MPM-V67 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78#v67))	Average of 1.3 or more olives by count of olives with whole pits and/or pit fragments 2 mm or longer measured in the longest dimension
	Insect damage (MPM-V67 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78#v67))	9% or more olives by weight showing damage by olive fruit fly
	DEFECT SOURCE: <i>Pits - processing, Insect damage - preharvest insect infestation</i> SIGNIFICANCE: <i>Pits - mouth/tooth injury, Insect damage - Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Salt-cured olives	Insects (MPM-V67 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78#v67))	Average of 10% or more olives by count with 10 or more scale insects each
	Mold (MPM-V67 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78#v67))	Average of 25% or more olives by count are moldy
	DEFECT SOURCE: <i>Scale insects - preharvest infestation, Mold - post harvest and/or processing infection</i> Significance: <i>Aesthetic</i>	
Imported Black olives	Insect damage (MPM-V67 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78#v67))	10% or more olives by count showing damage by olive fruit fly
	DEFECT SOURCE: <i>Pre-harvest insect infestation</i> Significance: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Oregano, Whole Plant, Unprocessed	Insect filth and/or mold weight (MPM-V32 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v32)))	Average of 5% or more insect infested and/or moldy pieces by weight
	Mammalian excreta (MPM-V32 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v32)))	Average of 1 mg or more mammalian excreta per pound
	DEFECT SOURCE: <i>Insect infested - preharvest and/or post harvest and/or processing, Mold - post harvest and/or processing infection, Mammalian excreta - post harvest and/or processing animal contamination</i> Significance: <i>Aesthetic</i>	
Oregano, Ground	Insect filth (AOAC 975.49)	Average of 1250 or more insect fragments per 10 grams
	Rodent filth (AOAC 975.49)	Average of 5 or more rodent hairs per 10 grams
	DEFECT SOURCE: <i>Insect fragments - preharvest and/or post harvest and/or processing insect infestation, Rodent hair - post harvest and/or processing contamination with animal hair or excreta</i> Significance: <i>Aesthetic</i>	
Oregano, Crushed	Insect filth (AOAC 969.44)	Average of 300 or more insect fragments per 10 grams
	Rodent filth (AOAC 969.44)	Average of 2 or more rodent hairs per 10 grams
	DEFECT SOURCE: <i>Insect fragments - preharvest and/or post harvest and/or processing insect infestation, Rodent hair - post harvest and/or processing contamination with animal hair or excreta</i> Significance: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Peaches, Canned and Frozen	Mold/Insect damage (MPM-V51 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78))	Average of 3% or more fruit by count are wormy or moldy
	Insects (MPM-V51 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78))	In 12 1-pound cans or equivalent, one or more larvae and/or larval fragments whose aggregate length exceeds 5 mm
	DEFECT SOURCE: <i>Mold - preharvest and/or post harvest infection, Insect damage - preharvest insect infestation, Larvae - preharvest insect infestation</i> Significance: <i>Aesthetic</i>	
Peanut Butter	Insect filth (AOAC 968.35)	Average of 30 or more insect fragments per 100 grams
	Rodent filth (AOAC 968.35)	Average of 1 or more rodent hairs per 100 grams
	Grit (AOAC 968.35)	Gritty taste and water insoluble inorganic residue is more than 25 mg per 100 grams
	DEFECT SOURCE: <i>Insect fragments - preharvest and/or post harvest and/or processing insect infestation, Rodent hair - post harvest and/or processing contamination with animal hair or excreta, Grit - harvest contamination</i> Significance: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Peanuts, Shelled	Multiple defects (MPM-V89 (/food/laboratory-methods/mpm-v-10-nuts-and-nut-products-methods#v89))	Average of 5% or more kernels by count are rejects (insect-infested, moldy, rancid, otherwise decomposed, and dirty)
	Insects (MPM-V89 (/food/laboratory-methods/mpm-v-10-nuts-and-nut-products-methods#v89))	Average of 20 or more whole insects or equivalent in 100-pound bag siftings
	DEFECT SOURCE: <i>Insect infested - post harvest and/or processing infestation, Moldy - preharvest and/or post harvest and/or processing infection, Rancid & decomposed - post harvest abuse, Dirty - harvest contamination.</i> Significance: <i>Aesthetic, Potential health hazard - may contain mycotoxin producing fungi</i>	
Peanuts, Unshelled	Multiple defects (MPM-V89 (/food/laboratory-methods/mpm-v-10-nuts-and-nut-products-methods#v89))	Average of 10% or more peanuts by count are rejects (insect-infested, moldy, rancid, otherwise decomposed, and dirty)
	DEFECT SOURCE: <i>Insect infested - post harvest and/or processing infestation, Mold - preharvest and/or post harvest and/or processing infection, Rancid & decomposed - post harvest abuse</i> Significance: <i>Aesthetic, Potential health hazard - may contain mycotoxin producing fungi</i>	
Peas: Black-Eyed, Cowpeas, Field Peas, Dried	Insect damage (MPM-V104 (/food/laboratory-methods/mpm-v-11-vegetables-and-vegetable-products#v104))	Average of 10% or more by count of class 6 damage or higher in minimum of 12 subsamples
	DEFECT SOURCE: <i>Pre-harvest and/or post harvest insect infestation</i> Significance: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Peas, Black-Eyed Peas, Cowpeas, (Succulent), Canned	Insect larvae (MPM-V104 (/food/laboratory-methods/mpm-v-11-vegetables-and-vegetable-products#v104))	Average of 5 or more cowpea curculio larvae or the equivalent per No. 2 can
	DEFECT SOURCE: <i>Pre-harvest and/or post harvest insect infestation</i> Significance: <i>Aesthetic</i>	
Peas and Beans, Dried	Insect filth (MPM-V104 (/food/laboratory-methods/mpm-v-11-vegetables-and-vegetable-products#v104))	Average of 5% or more by count insect-infested and/or insect-damaged by storage insects in a minimum of 12 subsamples
	DEFECT SOURCE: <i>preharvest and/or post harvest and/or processing infestation</i> Significance: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Pepper, Whole (Black & White)	Insect filth and/or insect-mold (MPM-V39 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v39))	Average of 1% or more pieces by weight are infested and/or moldy
	Mammalian excreta (MPM-V39 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v39))	Average of 1 mg or more mammalian excreta per pound
	Foreign matter (MPM-V39 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v39))	Average of 1% or more pickings and siftings by weight
	DEFECT SOURCE: <i>Insect infested - post harvest and/or processing infestation, Moldy - post harvest and/or processing infection, Mammalian excreta - post harvest and/or processing animal contamination, Foreign material - post harvest contamination</i> Significance: <i>Aesthetic, Potential health hazard - mammalian excreta may contain salmonella</i>	
Pepper, Ground	Insect filth (AOAC 972.40)	Average of 475 or more insect fragments per 50 grams
	Rodent filth (AOAC 972.40)	Average of 2 or more rodent hairs per 50 grams
	DEFECT SOURCE: <i>Insect fragments - post harvest and/or processing insect infestation, Rodent hair - post harvest and/or processing contamination with animal hair or excreta</i> Significance: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Pineapple, Canned	Mold (AOAC 970.75, MPM-V73)	Average mold count is 20% or more OR The mold count of any 1 subsample is 60% or more
	DEFECT SOURCE: <i>Processing mold contamination</i> Significance: <i>Aesthetic</i>	
Pineapple Juice	Mold (AOAC 970.75)	Average mold count is 15% or more OR The mold count of any 1 subsample is 40% or more
	DEFECT SOURCE: <i>Processing mold contamination</i> Significance: <i>Aesthetic</i>	
Plums, Canned	Rot (MPM-V51 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78#v51)))	Average of 5% or more plums by count with rot spots larger than the area of a circle 12 mm in diameter
	DEFECT SOURCE: <i>Pre-harvest and/or post harvest infection</i> Significance: <i>Aesthetic</i>	
Popcorn	Rodent filth (AOAC 950.91)	1 or more rodent excreta pellets are found in 1 or more subsamples, and 1 or more rodent hairs are found in 2 or more other subsamples OR 2 or more rodent hairs per pound and rodent hair is found in 50% or more of the subsamples OR 20 or more gnawed grains per pound and rodent hair is found in 50% or more of the subsamples
	Field corn	5% or more by weight of field corn
	DEFECT SOURCE: <i>Rodent excreta - post harvest and/or processing animal contamination, Rodent hair - post harvest and/or processing contamination with animal hair or excreta, Rodent gnawing - post harvest and/or processing damage, Field corn - harvest contamination</i> Significance: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Potato Chips	Rot (MPM-V113 (/food/laboratory-methods/mpm-v-11-vegetables-and-vegetable-products#v113))	Average of 6% or more pieces by weight contain rot
	DEFECT SOURCE: <i>Pre-harvest and/or post harvest infection</i> Significance: <i>Aesthetic</i>	
Prunes Dried and Dehydrated, Low-Moisture	Multiple defects (MPM-V53 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78#v53))	Average of a minimum of 10 subsamples is 5% or more prunes by count are rejects (insect-infested, moldy or decomposed, dirty, and/or otherwise unfit)
	DEFECT SOURCE: <i>Insect infested - preharvest infestation, Moldy & decomposed - preharvest infection, Dirty - harvest contamination, Otherwise unfit - preharvest condition</i> Significance: <i>Aesthetic</i>	
Prunes, Pitted	Pits (MPM-V53 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78#v53))	Average of 2% or more by count with whole pits and/or pit fragments 2 mm or longer and 4 or more of 10 subsamples of pitted prunes have 2% or more by count with whole pits and/or pit fragments 2 mm or longer
	DEFECT SOURCE: <i>Processing</i> Significance: <i>Mouth/tooth injury</i>	
Puree, Apricot, Peach and Pear	Mold (AOAC 982.33)	Average mold count is 12% or more
	DEFECT SOURCE: <i>preharvest and/or post harvest and/or processing infection</i> Significance: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Raisins, Natural & Golden	Mold (MPM-V76 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78#v76))	Average of 10 subsamples is 5% or more, by count, moldy raisins
	Sand and Grit (MPM-V76 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78#v76))	Average of 40 mg or more of sand and grit per 100 grams of natural or golden bleached raisins
	DEFECT SOURCE: <i>Mold - post harvest and/or processing infection, Sand - post harvest contamination</i> Significance: <i>Aesthetic</i>	
Raisins, Golden	Insects and insect eggs (AOAC 969.42 & MPM-V76 (/food/laboratory-methods/mpm-v-9-fruits-and-fruit-products-v-51-v-78#v76))	10 or more whole or equivalent insects and 35 Drosophila eggs per 8 oz.
	DEFECT SOURCE: <i>Post harvest and/or processing infestation</i> Significance: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Sage, Whole Plant, Unprocessed	Insect filth (MPM-V32 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v32))	Average of 5% or more pieces by weight are insect infested
	Mammalian excreta (MPM-V32 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v32))	Average of 1 mg or more per pound after processing
	DEFECT SOURCE: <i>Insect infested - preharvest and/or post harvest and/or processing infestation, Mammalian excreta - post harvest and/or processing animal contamination</i> Significance: <i>Aesthetic</i>	
Sage, Ground	Insect filth (AOAC 985.38)	Average of 200 or more insect fragments per 10 grams
	Rodent filth (AOAC 985.38)	Average of 9 or more rodent hairs per 10 grams
	DEFECT SOURCE: <i>Insect fragments - preharvest and/or post harvest and/or processing infestation, Rodent hair - post harvest and/or processing contamination with animal hair or excreta</i> Significance: <i>Aesthetic</i>	
Sauerkraut	Insects (AOAC 955.45)	Average of more than 50 thrips per 100 grams
	DEFECT SOURCE: <i>Pre-harvest insect infestation</i> Significance: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Sesame Seeds	Insect filth (MPM-V32 (/food/laboratory- methods/mpm-v-8-spices- condiments-flavors-and- crude-drugs#v32))	Average of 5% or more seeds by weight are insect-infested or damaged
	Mold (MPM-V32 (/food/laboratory- methods/mpm-v-8-spices- condiments-flavors-and- crude-drugs#v32))	Average of 5% or more seeds by weight are decomposed
	Mammalian excreta (MPM-V32 (/food/laboratory- methods/mpm-v-8-spices- condiments-flavors-and- crude-drugs#v32))	Average of 5 mg or more mammalian excreta per found
	Foreign matter (MPM-V32 (/food/laboratory- methods/mpm-v-8-spices- condiments-flavors-and- crude-drugs#v32))	Average of 0.5% or more foreign matter by weight
	DEFECT SOURCE: <i>Insect infested - preharvest and/or post harvest and/or processing infestation, Mold - preharvest infection, Mammalian excreta - post harvest and/or processing animal contamination, Foreign matter - post processing and/or processing contamination</i> Significance: Aesthetic	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Spices, Leafy, Other Than Bay Leaves	Insect filth and/or mold (MPM-V32 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v32))	Average of 5% or more pieces by weight are insect-infested and/or moldy
	Mammalian excreta (MPM-V32 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v32))	Average of 1 mg or more of Mammalian excreta per pound after processing
	DEFECT SOURCE: <i>Insect infested - preharvest and/or post harvest and/or processing infestation, Mold - preharvest and/or post harvest and/or processing infection, Mammalian excreta - post harvest and/or processing animal contamination</i> Significance: <i>Aesthetic</i>	
Spinach, Canned or Frozen	Insects and mites (AOAC 974.33)	Average of 50 or more aphids, thrips and/or mites per 100 grams OR 2 or more 3 mm or longer larvae and/or larval fragments or spinach worms (caterpillars) whose aggregate length exceeds 12 mm are present in 24 pounds OR Leaf miners of any size average 8 or more per 100 grams or leaf miners 3 mm or longer average 4 or more per 100 grams
	DEFECT SOURCE: <i>Pre-harvest infestation</i> Significance: <i>Aesthetic</i>	
Strawberries: Frozen Whole or Sliced	Mold (AOAC 952.22)	Average mold count of 45% or more and mold count of at least half of the subsamples is 55% or more
	Grit	Berries taste gritty
	DEFECT SOURCE: <i>Mold - post harvest and/or processing infection, Grit - harvest contamination</i> Significance: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Thyme, Whole Plant, Unprocessed	Insect filth (MPM-V32 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v32))	Average of 5% or more pieces by weight are insect infested and/or moldy
	Mammalian excreta (MPM-V32 (/food/laboratory-methods/mpm-v-8-spices-condiments-flavors-and-crude-drugs#v32))	Average of 1 mg or more mammalian excreta per pound after processing
	DEFECT SOURCE: <i>Insect infested - preharvest and/or post harvest and/or processing infestation, Mold - preharvest and/or post harvest and/or processing infection, Mammalian excreta - post harvest and/or processing animal contamination</i> Significance: <i>Aesthetic</i>	
Thyme, Ground	Insect filth (AOAC 975.49)	Average of 925 or more insect fragments per 10 grams
	Rodent filth (AOAC 975.49)	Average of 2 or more rodent hairs per 10 grams
	DEFECT SOURCE: <i>Insect fragments - preharvest and/or post harvest and/or processing infestation</i> <i>Rodent hair - post harvest and/or processing contamination with animal hair or excreta</i> Significance: <i>Aesthetic</i>	
Thyme, Unground, Processed	Insect filth (AOAC 975.49)	Average of 325 insect fragments or more per 10 grams
	Rodent filth (AOAC 975.49)	Average of 2 rodent hairs or more per 10 grams
	DEFECT SOURCE: <i>Insect fragments - preharvest and/or post harvest and/or processing insect infestation, Rodent hair - post harvest and/or processing contamination with animal hair or excreta</i> Significance: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Tomatoes, Canned	Drosophila fly (AOAC 955.46)	Average of 10 or more fly eggs per 500 grams OR 5 or more fly eggs and 1 or more maggots per 500 grams OR 2 or more maggots per 500 grams
	DEFECT SOURCE: <i>Pre-harvest and/or post harvest and/or processing insect infestation</i> Significance: <i>Aesthetic</i>	
Tomatoes, Canned, with (or) without Juice (Based on Drained Juice)	Mold (AOAC 945.90)	Average mold count in 6 subsamples is 15% or more and the counts of all of the subsamples are more than 12%
	DEFECT SOURCE: <i>Pre-harvest and/or post harvest and/or processing infection</i> Significance: <i>Aesthetic</i>	
Tomatoes, Canned Packed in Tomato Puree (Based on Drained Liquid)	Mold (AOAC 945.90)	Average mold count in 6 subsamples is 29% or more and the counts of all of the subsamples are more than 25%
	DEFECT SOURCE: <i>Pre-harvest and/or post harvest and/or processing infection</i> Significance: <i>Aesthetic</i>	
Tomato Juice	Drosophila fly (AOAC 955.46)	Average of 10 or more fly eggs per 100 grams OR 5 or more fly eggs and 1 or more maggots per 100 grams OR 2 or more maggots per 100 grams, in a minimum of 12 subsamples
	Mold (AOAC 965.41)	Average mold count in 6 subsamples is 24% or more and the counts of all of the subsamples are more than 20%
	DEFECT SOURCE: <i>Fly eggs & maggots - preharvest and/or post harvest and/or processing insect infestation, Mold - preharvest and/or post harvest and/or processing infection</i> Significance: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Tomato Paste, Pizza and other Sauces	Drosophila fly (AOAC 955.46)	Average of 30 or more fly eggs per 100 grams OR 15 or more fly eggs and 1 or more maggots per 100 grams OR 2 or more maggots per 100 grams in a minimum of 12 subsamples
	DEFECT SOURCE: <i>Pre-harvest and/or post harvest and/or processing insect infestation</i> Significance: <i>Aesthetic</i>	
Tomato Puree	Drosophila fly (AOAC 955.46)	Average of 20 or more fly eggs per 100 grams OR 10 or more fly eggs and 1 or more maggots per 100 grams OR 2 or more maggots per 100 grams in a minimum of 12 subsamples
	DEFECT SOURCE: <i>Pre-harvest and/or post harvest and/or processing insect infestation</i> Significance: <i>Aesthetic</i>	
Tomato Paste (or) Puree	Mold (AOAC 965.41 <u>**</u>)	Average mold count in 6 subsamples is 45% or more and the mold counts of all of the subsamples are more than 40%
	DEFECT SOURCE: <i>Pre-harvest and/or post harvest and/or processing infection</i> Significance: <i>Aesthetic</i>	
Pizza and Other Tomato Sauces	Mold (AOAC 945.92)	Average mold count in 6 subsamples is 34% or more and the counts of all of the subsamples are more than 30%
	DEFECT SOURCE: <i>Pre-harvest and/or post harvest and/or processing infection</i> SIGNIFICANCE: <i>Aesthetic</i>	
Tomato Sauce, Undiluted	Mold (AOAC 965.41)	Average mold count in 6 subsamples is 45% or more and the mold counts of all of the subsamples are more than 40%
	DEFECT SOURCE: <i>Pre-harvest and/or post harvest and/or processing infection</i> SIGNIFICANCE: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Tomato Catsup	Mold (AOAC 965.41)	Average mold count in 6 subsamples is 55% or more
	DEFECT SOURCE: <i>Pre-harvest and/or post harvest and/or processing infection</i> SIGNIFICANCE: <i>Aesthetic</i>	
Tomato Powder, Except Spray-Dried	Mold (AOAC 972.42)	Average mold count in 6 subsamples is 45% or more and the mold counts of all of the subsamples are mold than 40%
	DEFECT SOURCE: <i>Pre-harvest and/or post harvest and /or processing infection</i> SIGNIFICANCE: <i>Aesthetic</i>	
Tomato Powder, Spray-Dried	Mold (AOAC 972.42)	Average mold count in 6 subsamples is 67% or more
	DEFECT SOURCE: <i>Pre-harvest and/or post harvest and/or processing infection</i> SIGNIFICANCE: <i>Aesthetic</i>	
Tomato Soup and Tomato Proudcts	Mold (AOAC 945.91)	Average mold count in 6 subsamples is 45% or more and the mold counts of all of the subsamples are more than 40%
	DEFECT SOURCE: <i>Pre-harvest and/or post harvest and/or processing infection</i> Significance: <i>Aesthetic</i>	
Wheat	Insect damage (<u>MPM-V15</u> (<u>/food/laboratory-</u> <u>methods/mpm-v-3-grains-</u> <u>and-grain-products</u>))	Average of 32 or more insect-damaged kernels per 100 grams
	Rodent filth (<u>MPM-V15</u> (<u>/food/laboratory-</u> <u>methods/mpm-v-3-grains-</u> <u>and-grain-products</u>))	Average of 9 mg or more rodent excreta pellets and/or pellet fragments per kilogram
	DEFECT SOURCE: <i>Insect damage - preharvest and/or post harvest and/or processing infestation, Excreta - post harvest and/or processing animal contamination.</i> Significance: <i>Aesthetic</i>	

PRODUCT	DEFECT (Method)	ACTION LEVEL
Wheat Flour	Insect filth (AOAC 972.32)	Average of 75 or more insect fragments per 50 grams
	Rodent filth (AOAC 972.32)	Average of 1 or more rodent hairs per 50 grams
	DEFECT SOURCE: <i>Insect fragments - preharvest and/or post harvest and/or processing insect infestation, Rodent hair - post harvest and/or processing contamination with animal hair or excreta.</i> SIGNIFICANCE: <i>Aesthetic</i>	

May 1995; Revised March 1997 and May 1998;
*February 2005 - Source corrected from MPM-V92 to MPM-V32
**February 2005 - Source corrected from 955.46 to 965.41

Related Information

- [Sanitation & Transportation Guidance Documents & Regulatory Information \(/food/guidance-documents-regulatory-information-topic-food-and-dietary-supplements/sanitation-transportation-guidance-documents-regulatory-information\)](#)

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Yes

No