



U.S. ENVIRONMENTAL PROTECTION AGENCY Office of Pesticide Programs Biopesticides and Pollution Prevention Division (7511P) 1200 Pennsylvania Avenue NW Washington, DC 20460

EPA Reg. Number:

Date of Issuance:

85937-2

MAR 27 2012

Term of Issuance:

Unconditional

Name of Pesticide Product:

Bug Oil Food Use

NOTICE OF PESTICIDE:

X Registration

Reregistration (under FIFRA, as amended)

Name and Address of Registrant (include ZIP Code):

Plant Impact plc

c/o

Exponent

1150 Connecticut Avenue NW

Suite 1100

Washington, DC 20036

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Biopesticides and Pollution Prevention Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This registration does not eliminate the need for continual reassessment of the pesticide. If EPA determines at any time, that additional data are required to maintain in effect an existing registration, the Agency will require submission of such data under section 3(c)(2)(B) of FIFRA. This product is unconditionally registered in accordance with FIFRA Sec. 3(c)(5) provided you:

- 1. Submit and/or cite all data required for registration of your product under FIFRA section 3(c)(5) when the Agency requires all registrants of similar products to submit such data.
- 2. Revise the EPA Registration Number to read, "EPA Reg. No. 85937-2".
- 3. Submit within 1 year after the Date of Registration acceptable data packages for Guideline Studies: Storage Stability study (OPPTS GLN: 830.6317) and Corrosion Characteristics study (OPPTS GLN: 830.6320) for this product.
- 4. Submit two (2) copies of the final printed labeling before you release the product for shipment.

A stamped copy of the label is enclosed for your records.

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Signature of Approving Official:

MAR 27 2012

W. Michael McDavit, Associate Director,

Biopesticides and Pollution Prevention Division

EPA Form 8570-6

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Bug Oil Food Use [Master Label]

Bug Oil Food Use Commercial [Sub-Label A]

For Indoor and Outdoor Use as an insecticide/acaricide for the control of mites, whiteflies, aphids, thrips, mealybugs, scales and psylla [on all food crops].

 ACTIVE INGREDIENTS:

 Canola Oil.
 93.899%

 Tagetes Oil.
 0.6%

 Thyme Oil.
 0.6%

 Wintergreen Oil.
 0.001%

 OTHER INGREDIENTS:
 4.9%

 TOTAL.
 100.000%

 EPA Reg. No. 85937 – E
 EPA Est. No.:

KEEP OUT OF REACH OF CHILDREN

[Refer to [Back][Side][Other] panel for Precautionary Statements]

Net Contents: X gallon(s) [X litre(s)]

Manufactured by:

Plant Impact
12 South Preston Office Village
Cuerden Way
Preston
UK
PR5 6BL
Tel: + 44 (0) 1772 628328

[] Denotes optional language.

ACCEPTED

3-27-12

Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 85937 - 2

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

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Prolonged or frequently repeated skin contact with the concentrated product may cause allergic reactions in some individuals.

ENVIRONMENTAL HAZARDS

For terrestrial uses: Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation [Read [all other safety precautions and directions for use][entire label] prior to use.]

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- · Long-sleeved shirt and long pants
- Shoes plus socks
- Waterproof gloves

Follow manufacturer's instructions for cleaning/maintaining personal protective equipment (PPE). If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations

Users should:

- · Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- · Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

AGRICULTURAL USE REQUIREMENTS

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), notification to workers, and restricted-entry interval. The requirements in this box apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

PPE required for early entry to treated areas (that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water), is:

- · Long-sleeved shirt and long pants
- · Shoes plus socks
- Waterproof gloves

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, and greenhouses.

Keep children and pets off treated areas until dry.

Application Timing and Dose Rates

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For all food crop plants and listed pests, apply Bug Oil at the rate of a 1% or 2% spray solution. See application instructions for more information. For a 1% spray solution, apply up to a maximum of 260 gallons of spray solution per acre (equivalent to no more than 2.6 gallons of Bug Oil per acre). For a 2% spray solution, apply up to a maximum of 260 gallons of spray solution per acre (equivalent to no more than 5.2 gallons of Bug Oil per acre). Apply as soon as pests appear on the plant. If required repeat applications every 5-7 days to ensure that each new generation that appears is treated.

Mixing

Shake the container of Bug Oil thoroughly before opening. Fill the spray tank with approximately half the required amount of water. Accurately measure the correct amount of Bug Oil and add this to the spray tank, agitating the mixture continuously. Add the remainder of the water to tank to make up to a 1% spray solution, 1.3 fluid ounces Bug Oil per gallon water (equivalent to no more than 2.6 gallons of Bug Oil per acre) or a 2% spray solution, 2.6 fluid ounces Bug Oil per gallon water (equivalent to no more than 5.2 gallons of Bug Oil per acre). Keep the solution agitated during spraying and use immediately. Avoid leaving spray liquid in the sprayer for long periods such as during meal times and overnight.

FILL THE TANK HALF FULL THEN ADD PRODUCTS IN THIS ORDER:

- 1. Dry flowables (DF)
- 2. Wettable powders (WP) and Wettable dry granules (WDG)
- 3. Flowables (F and SC)
- 4. Foliar fertilizers
- 5. Then any products containing oils of any kind including Emulsifiable concentrates (EC)

Spray Application

Choose a nozzle that produces a fine spray quality and apply the product to give thorough coverage of the plant foliage, ensuring both the upper and lower surfaces of the leaves are covered. Do not spray more than required and ensure spray run-off is avoided. A minimum of 22 gallons of spray solution per acre should be applied.

[Cleaning Spray Equipment

Ensure all spray equipment is thoroughly cleaned after use. Use of water and detergent will be sufficient. Dispose of washings according to local regulations.]

[Crop Safety

Bug Oil has been tested on tomatoes and a range of plant species. However, before using Bug Oil on any new plant species or varieties, it is recommended that a small area is sprayed first to assess crop safety. Any mixtures with other products need to be tested prior to large scale use, to ensure physical compatibility and crop safety.

Tomato crops can be sprayed when in flower but suitable precautions should be taken to minimize the risk of crop damage by spraying in the morning or evening when temperatures are lower.]

USE SITES

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Bug Oil is used to control mites, whiteflies, aphids, thrips, mealybugs, scales and psylla [on all food crops]. [Please see Appendix I for all food crops.][Some or all crops may be included on product label.] [Bug Oil can be used on [insert specific crops from Appendix I].]

Pre-harvest interval: This product can be applied up to and including the day of harvest.

Application Instructions

		Maximum Singl	le Applicati	on Rate	
	1% Spray Solution		2% Spray Solution		
Pest	fl. oz. / gallon of water	gallons Bug Oil / acre	fl. oz. / gallon of water	gallons Bug Oil / acre	Notes
Whiteflies Trialeurodes vaporariorum Bemisia tabaci Bemisia argentifolii	1.3	2.6	2.6	5.2	Apply 1 % spray solution at the onset of the pest entering the crop. Increase the rate to 2% spray solution under conditions of high pest pressure or in indoor crops when multiplication of the pest is rapid.
Mites Tetranychus spp. Panonychus spp.	1.3	2.6	N/A	N/A	
Aphids Aphis gossypii Myzus persicae Aphis spp.	1.3	2.6	2.6	5.2	Apply 1 % spray solution at the onset of the pest entering the crop. Increase the rate to 2% spray solution under conditions of high pest pressure or in indoor crops when multiplication of the pest is rapid.
Thrips Fraklinellia spp.	N/A	N/A	2.6	5.2	
Mealybugs	1.3	2.6	N/A	N/A	
Scales	1.3	2.6	N/A	N/A	
Psylla spp.	1.3	2.6	N/A	N/A	

Apply no more than 260 gallons of water per acre. Apply to ensure thorough coverage of plants and pests. A minimum rate of 22 gallons per acre is recommended.

Resistance: The mode of action includes a physical element and resistance is less likely to arise with Bug Oil than with pesticides relying on chemical effects alone.

[COMPATIBILITY

Bug Oil may be tank-mixed with a variety of plant protection products and foliar nutrient sprays providing that the application timing is correct for both Bug Oil and the partner(s) in the mixture.

The products should be added separately to the bulk of water in the spray tank. Continuous agitation should be maintained and the product used immediately after mixing.

For further information on the approval status of mixture partners, consult Plant Impact.

If a tank-mix with another product is required, add the Bug Oil to the spray tank first and ensure that it is fully dispersed before adding subsequent products. PLEASE SEE THE MIXING SCHEDULE ABOVE.

Ensure that the label recommendations are followed for the partner product.]

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STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.

PESTICIDE STORAGE

Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

PESTICIDE DISPOSAL

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER HANDLING

Nonrefillable container. Do not reuse or refill this container.

Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration or, if allowed by state and local authorities, by burning, if burned, stay out of smoke.

[NOTICE TO BUYER]

[Note: Plant Impact warrants that this product complies with the specifications expressed in this label. To the extent consistent with applicable law, Plant Impact makes no other warranties, and disclaims all other warranties, express or implied, including but not limited to warranties of merchantability and fitness for the intended purpose. To the extent consistent with applicable law, Plant Impact's liability or default, breach or failure under this label shall be limited to the amount of the purchase price. To the extent consistent with applicable law, Plant Impact shall have no liability for consequential damages.]

[Warranty and Disclaimer Statement]

[The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Such risks may arise from weather conditions, soil factors, off-target movement, unconventional farming techniques, the presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of Plant Impact, and can cause crop injury, injury to non-target crops or plants, ineffectiveness of the product, or other unintended consequences. To the extent consistent with applicable law, all such risks shall be assumed by the user or buyer.

Plant Impact warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks described above, when used in accordance with the Directions for Use under normal conditions. This warranty does not extend to the use of this product contrary to label instructions or under conditions not reasonably foreseeable to Plant Impact, and is subject to the inherent risks described above.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, PLANT IMPACT DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, PLANT IMPACT, MANUFACTURER, AND SELLER DISCLAIM AND SHALL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE, HANDLING, APPLICATION, STORAGE, OR DISPOSAL OF THIS PRODUCT OR FOR DAMAGES IN THE NATURE OF PENALTIES, AND THE USER AND BUYER WAIVE ANY RIGHT THAT THEY MAY HAVE TO SUCH DAMAGES. NO AGENT, REPRESENTATIVE OR EMPLOYEE OF PLANT IMPACT IS AUTHORIZED TO MAKE ANY WARRANTY, GUARANTEE OR REPRESENTATION BEYOND THOSE CONTAINED HEREIN OR TO MODIFY THE WARRANTIES CONTAINED HEREIN. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE TOTAL LIABILITY OF PLANT IMPACT, MANUFACTURER, AND SELLER, SHALL BE LIMITED TO THE PURCHASE PRICE PAID, OR AT PLANT IMPACT'S ELECTION, THE REPLACEMENT OF THE PRODUCT.]

Manufactured by:

Plant Impact
12 South Preston Office Village
Cuerden Way
Preston
UK
PR5 6BL
Tel: + 44 (0) 1772 773774
[Batch code]

Bug Oil Food Use Residential [Sub-Label B]

For Indoor and Outdoor Use as an insecticide/acaricide for the control of mites, whiteflies, aphids, thrips, mealybugs, scales and psylla [on all food crops].

ACTIVE INGREDIENTS:	
Canola Oil	93.899%
Tagetes Oil	
Thyme Oil.	
Wintergreen Oil	
OTHER INGREDIENTS:	<u>4.9%</u>
TOTAL	100.000%
EPA Reg. No. 85937 – E	EPA Est. No.:

KEEP OUT OF REACH OF CHILDREN

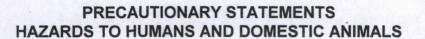
[Refer to [Back][Side][Other] panel for Precautionary Statements]

Net Contents: X gallon(s) [X litre]

Manufactured by:

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12 South Preston Office Village
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Preston
UK
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Tel: + 44 (0) 1772 628328

[] Denotes optional language.



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Prolonged or frequently repeated skin contact with the concentrated product may cause allergic reactions in some individuals.

ENVIRONMENTAL HAZARDS

To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. Rinsing application equipment over the treated area will help avoid run off to water bodies or drainage systems.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation [Read [all other safety precautions and directions for use][entire label] prior to use.]
Keep children and pets off treated areas until dry.

Application Timing and Rates

For all food crop plants and listed pests, apply Bug Oil at the rate of a 1% or 2% spray solution. See application instructions for more information. For a 1% spray solution, apply up to a maximum of 6 gallons of spray solution per 1000 square feet (equivalent to no more than 7.7 fluid ounces of Bug Oil per 1000 square feet). For a 2% spray solution, apply up to a maximum of 6 gallons of spray solution per 1000 square feet (equivalent to no more than 15.4 fluid ounces of Bug Oil per 1000 square feet). Apply as soon as pests appear in the plant. If required repeat applications every 5-7 days to ensure that each new generation that appears is treated.

Mixing

Shake the container of Bug Oil thoroughly before opening. Fill the spray tank with approximately half the required amount of water. Accurately measure the correct amount of Bug Oil and add this to the spray tank, agitating the mixture continuously. Add the remainder of the water to tank to make up to a 1% spray solution, 1.3 fluid ounces Bug Oil per gallon water (equivalent to no more than 7.7 fluid ounces of Bug Oil per 1000 square feet) or a 2% spray solution, 2.6 fluid ounces Bug Oil per gallon water (equivalent to no more than 15.4 fluid ounces of Bug Oil per 1000 square feet). Keep the solution agitated during spraying and use immediately. Avoid leaving spray liquid in the sprayer for long periods such as during meal times and overnight.

FILL THE TANK HALF FULL THEN ADD PRODUCTS IN THIS ORDER:

- 1. Dry flowables (DF)
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- 4. Foliar fertilizers
- 5. Then any products containing oils of any kind including emulsifiable concentrates (EC)

[Cleaning Spray Equipment

Ensure all spray equipment is thoroughly cleaned after use. Use of water and detergent will be sufficient. Dispose of washings according to local regulations.]

[Crop Safety

Bug Oil has been tested on tomatoes and a range of plant species. However, before using Bug Oil on any new plant species or varieties, it is recommended that a small area is sprayed first to assess crop safety. Any mixtures with other products need to be tested prior to large scale use, to ensure physical compatibility and crop safety.

Tomato crops can be sprayed when in flower but suitable precautions should be taken to minimize the risk of crop damage by spraying in the morning or evening when temperatures are lower.]

USE SITES

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Thrips Fraklinellia spp.	N/A	N/A	2.6	5.2	
Mealybugs	1.3	2.6	N/A	N/A	
Scales	1.3	2.6	N/A	N/A	
Psylla spp.	1.3	2.6	N/A	N/A	

Apply to ensure thorough coverage of plants and pests.

Resistance: The mode of action includes a physical element and resistance is less likely to arise with Bug Oil than with pesticides relying on chemical effects alone.

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For further information on the approval status of mixture partners, consult Plant Impact.

If a tank-mix with another product is required, add the Bug Oil to the spray tank first and ensure that it is fully dispersed before adding subsequent products. PLEASE SEE THE MIXING SCHEDULE ABOVE.

Ensure that the label recommendations are followed for the partner product.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.

PESTICDE STORAGE

Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

PESTICIDE DISPOSAL

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER HANDLING

Nonrefillable container. Do not reuse or refill this container.

If empty: Place in trash or offer for recycling if available.

If partly filled: Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

[NOTICE TO BUYER]

[Note: Plant Impact warrants that this product complies with the specifications expressed in this label. To the extent consistent with applicable law, Plant Impact makes no other warranties, and disclaims all other warranties, express or implied, including but not limited to warranties of merchantability and fitness for the intended purpose. To the extent consistent with applicable law, Plant Impact's liability or default, breach or failure under this label shall be limited to the amount of the purchase price. To the extent consistent with applicable law, Plant Impact shall have no liability for consequential damages.]

[Warranty and Disclaimer Statement]

[The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Such risks may arise from weather conditions, soil factors, off-target movement, unconventional farming techniques, the presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of Plant Impact, and can cause crop injury, injury to non-target crops or plants, ineffectiveness of the product, or other unintended consequences. To the extent consistent with applicable law, all such risks shall be assumed by the user or buyer.

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TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, PLANT IMPACT DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, PLANT IMPACT, MANUFACTURER, AND SELLER DISCLAIM AND SHALL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE, HANDLING, APPLICATION, STORAGE, OR DISPOSAL OF THIS PRODUCT OR FOR DAMAGES IN THE NATURE OF PENALTIES, AND THE USER AND BUYER WAIVE ANY RIGHT THAT THEY MAY HAVE TO SUCH DAMAGES. NO AGENT. REPRESENTATIVE OR EMPLOYEE OF PLANT IMPACT IS AUTHORIZED TO MAKE ANY WARRANTY, GUARANTEE OR REPRESENTATION BEYOND THOSE CONTAINED HEREIN OR TO MODIFY THE WARRANTIES CONTAINED HEREIN. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE TOTAL LIABILITY OF PLANT IMPACT, MANUFACTURER, AND SELLER, SHALL BE LIMITED TO THE PURCHASE PRICE PAID, OR AT PLANT IMPACT'S ELECTION, THE REPLACEMENT OF THE PRODUCT.]

Manufactured by:

Plant Impact 12 South Preston Office Village Cuerden Way Preston UK PR5 6BL Tel: + 44 (0) 1772 628328

[Batch code]

APPENDIX I

COTTON

ROOT AND TUBER VEGETABLES - CROP GROUP 1 Arracacha (Arracacia xanthorrhiza) Arrowroot (Maranta arundinacea) Artichoke, Chinese (Stachys affinis) Artichoke, Jerusalem (Helianthus tuberosus) Beet, garden (Beta vulgaris) Beet, sugar (Beta vulgaris) Burdock, edible (Arctium lappa) Canna, edible (Queensland arrowroot) (Canna indica) Carrot (Daucus carota) Cassava, bitter and sweet (Manihot esculenta) Celeriac (celery root) (Apium graveolens var. rapaceum) Chayote (root) (Sechium edule) Chervil, turnip-rooted (Chaerophyllum bulbosum). Chicory (Cichorium intybus) Chufa (Cyperus esculentus) Dasheen (taro) (Colocasia esculenta) Ginger (Zingiber officinale) Ginseng (Panax guinguefolius) Horseradish (Armoracia rusticana) Leren (Calathea allouia) Parsley, turnip-rooted (Petroselinum crispum var. tuberosum) Parsnip (Pastinaca sativa) Potato (Solanum tuberosum) Radish (Raphanus sativus) Radish, oriental (daikon) (Raphanus sativus subvar, longipinnatus) Rutabaga (Brassica campestris var. napobrassica) Salsify (oyster plant) (Tragopogon porrifolius). Salsify, black (Scorzonera hispanica) Salsify, Spanish (Scolymus hispanicus) Skirret (Sium sisarum) Sweet potato (Ipomoea batatas) Tanier (cocoyam) (Xanthosoma sagittifolium) Turmeric (Curcuma longa) Turnip (Brassica rapa var. rapa) Yam bean (jicama, manoic pea) (Pachyrhizus spp.)

LEAVES OF ROOT AND TUBER VEGETABLES (HUMAN FOOD OR ANIMAL FEED) GROUP - COMMODITIES - CROP GROUP 2 Beet, garden (Beta vulgaris)

Burdock, edible (Arctium lappa) Carrot (Daucus carota) Cassava, bitter and sweet (Manihot esculenta) Celeriac (celery root) (Apium graveolens var. rapaceum) Chervil, turnip-rooted (Chaerophyllum bulbosum) Chicory (Cichonium intybus) Dasheen (taro) (Colocasia esculenta) Parsnip (Pastinaca sativa) Radish (Raphanus sativus) Radish, oriental (daikon) (Raphanus sativus subvar. longipinnatus) Rutabaga (Brassica campestris var. napobrassica) Salsify, black (Scorzonera hispanica) Sweet potato (Ipomoea batatas) Tanier (cocoyam) (Xanthosoma sagittifolium) Turnip (Brassica rapa var. rapa) Yam, true (Dioscorea spp.)

BULB VEGETABLES (Alliums spp.) GROUP - COMMODITIES - CROP GROUP 3

Chive, fresh leaves (Allium schoenoprasum L .)
Chive, Chinese, fresh leaves (Allium tuberosum Rottler ex Spreng)
Daylily, bulb (Hemerocallis fulva (L.) L. var. fulva)

Yam, true (Dioscorea spp.)

Beet, sugar (Beta vulgaris)

Elegans hosta (Hosta Sieboldiana (Hook.) Engl)

Fritillaria, bulb (Fritillaria L. fritillary)

Fritillaria, leaves (Fritillaria L. fritillary)

Garlic, bulb (Allium sativum L. var. sativum) (A. sativum Common Garlic Group)

Garlic, great headed, bulb (Allium ampeloprasum L. var. ampeloprasum) (A. ampeloprasum Great Headed Garlic Group)

Garlic, Serpent, bulb (Allium sativum var. ophioscorodon or A. sativum Ophioscorodon Group)

Kurrat (Allium kurrat Schweinf. Ex. K. Krause or A. ampeloprasum Kurrat Group)

Lady's leek (Allium cemuum Roth)

Leek Allium porrum L. (syn: A. ampeloprasum L. var. porrum (L.) J. Gay) (A.ampeloprasum Leek Group)

Leek, wild (Allium tricoccum Aiton)

Lily, bulb (Lilium spp. (Lilium Leichtlinii var. maximowiczii, Lilium lancifolium))

Onion, Beltsville bunching (Allium x proliferum (Moench) Schrad.) (syn: Allium fistulosum L. x A. cepa L.)

Onion, bulb (Allium cepa L. var. cepa) (A. cepa Common Onion Group)

Onion, Chinese, bulb (Allium chinense G. Don.) (syn: A. bakeri Regel)

Onion, fresh (Allium fistulosum L. var. caespitosum Makino)

Onion, green (Allium cepa L. var. cepa) (A. cepa Common Onion Group)

Onion, macrostem (Allium macrostemom Bunge)

Onion, pearl (Allium porrum var. sectivum or A. ampeloprasum Pearl Onion Group)

Onion, potato, bulb (Allium cepa L. var. aggregatum G. Don.) (A. cepa Aggregatum Group)

Onion, tree, tops (Allium x proliferum (Moench) Schrad. ex Willd.) (syn: A. cepa var. proliferum (Moench) Regel; A. cepa L. var.

bulbiferum L.H. Bailey; A. cepa L. var. viviparum (Metz.) Alef.)

Onion, Welsh, tops (Allium fistulosum L.)

Shallot, bulb (Allium cepa var. aggregatum G. Don.)

Shallot, fresh leaves (Allium cepa var. aggregatum G. Don.)

Cultivars, varieties, and/or hybrids of these.

LEAFY VEGETABLES (EXCEPT BRASSICA VEGETABLES) GROUP - CROP GROUP 4

Amaranth (leafy amaranth, Chinese spinach, tampala) (Amaranthus spp.)

Arugula (Roquette) (Eruca sativa)

Cardoon (Cynara cardunculus)

Celery (Apium graveolens var. dulce)

Celery, Chinese (Apium graveolens var. secalinum)

Celtuce (Lactuca sativa var. angustana)

Chervil (Anthriscus cerefolium)

Chrysanthemum, edible-leaved (Chrysanthemum coronarium var. coronarium)

Chrysanthemum, garland (Chrysanthemum coronarium var. spatiosum)

Corn salad (Valerianella locusta)

Cress, garden (Lepidium sativum)

Cress, upland (yellow rocket, winter cress) (Barbarea vulgaris)

Dandelion (Taraxacum officinale)

Dock (sorrel) (Rumex spp.)

Endive (escarole) (Cichorium endivia)

Fennel, Florence (finochio) (Foeniculum vulgare Azoricum Group)

Lettuce, head and leaf (Lactuca sativa)

Orach (Atriplex hortensis)

Parsley (Petroselinum crispum)

Purslane, garden (Portulaca oleracea)

Purslane, winter (Montia perfoliata)

Radicchio (red chicory) (Cichorium intybus)

Rhubarb (Rheum rhabarbarum)

Spinach (Spinacia oleracea)

Spinach, New Zealand (Tetragonia tetragonioides, T. expansa)

Spinach, vine (Malabar spinach, Indian spinach) (Basella alba)

Swiss chard (Beta vulgaris var. cicla)

BRASSICA (COLE) LEAFY VEGETABLES - CROP GROUP 5

Broccoli (Brassica oleracea var. botrytis)

Broccoli, Chinese (gai lon) (Brassica alboglabra)

Broccoli raab (rapini) (Brassica campestris)

Brussels sprouts (Brassica oleracea var. gemmifera)

Cabbage (Brassica oleracea)

Cabbage, Chinese (bok choy) (Brassica chinensis)

Cabbage, Chinese (napa) (Brassica pekinensis)

Cabbage, Chinese mustard (gai choy) (Brassica campestris)

Cauliflower (Brassica oleracea var. botrytis)

Cavalo broccolo (Brassica oleracea var. botrytis)

Collards (Brassica oleracea var. acephala)

Kale (Brassica oleracea var. acephala)

Kohlrabi (Brassica oleracea var. gongylodes)

Mizuna (Brassica rapa Japonica Group)

Mustard greens (*Brassica juncea*) Mustard spinach (*Brassica rapa* Perviridis Group) Rape greens (*Brassica napus*)

LEGUME VEGETABLES (SUCCULENT OR DRIED) - CROP GROUP 6

Bean (Lupinus spp.) (includes grain lupin, sweet lupin, white lupin, and white sweet lupin)

Bean (*Phaseolus* spp.) (includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean)

Bean (Vigna spp.) (includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, Crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean)

Broad bean (fava bean) (Vicia faba)

Chickpea (garbanzo bean) (Cicer arietinum)

Guar (Cyamopsis tetragonoloba)

Jackbean (Canavalia ensiformis)

Lablab bean (hyacinth bean) (Lablab purpureus)

Lentil (Lens esculenta)

Pea (Pisum spp.) (includes dwarf pea, edible-pod pea, English pea, field pea, garden pea, green pea, snow pea, sugar snap pea)

Pigeon pea (Cajanus cajan)

Soybean (Glycine max)

Soybean (immature seed) (Glycine max)

Sword bean (Canavalia gladiata)

FOLIAGE OF LEGUME VEGETABLES GROUP - CROP GROUP 7

Any cultivar of bean (Phaseolus spp.) and field pea (Pisum spp.), and soybean (Glycine max)

FRUITING VEGETABLES (EXCEPT CUCURBITS) - COMMODITIES - CROP GROUP 8

Eggplant (Solanum melongena)

Groundcherry (Physalis spp.)

Pepino (Solanum muricatum)

Pepper (Capsicum spp.) (includes bell pepper, chili pepper, cooking pepper, pimento, sweet pepper)

Tomatillo (Physalis ixocarpa)

Tomato (Lycopersicon esculentum)

CUCURBIT VEGETABLES - CROP GROUP 9

Chayote (fruit) (Sechium edule)

Chinese waxgourd (Chinese preserving melon) (Benincasa hispida)

Citron melon (Citrullus lanatus var. citroides)

Cucumber (Cucumis sativus)

Gherkin (Cucumis anguria)

Gourd, edible (Lagenaria spp.) (includes hyotan, cucuzza); (Luffa acutangula, L. cylindrica) (includes hechima, Chinese okra)

Momordica spp. (includes balsam apple, balsam pear, bitter melon, Chinese cucumber)

Muskmelon (hybrids and/or cultivars of *Cucumis melo*) (includes true cantaloupe, cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, and snake melon) Pumpkin (*Cucurbita* spp.)

Squash, summer (Cucurbita pepo var. melopepo) (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini)

Squash, winter (Cucurbita maxima; C. moschata) (includes butternut squash, calabaza, hubbard squash); (C. mixta; C. pepo) (includes acorn squash, spaghetti squash)

Watermelon (includes hybrids and/or varieties of Citrullus lanatus)

CITRUS FRUITS (CITRUS spp., FORTUNELLA spp.) GROUP - COMMODITIES - CROP GROUP 10

Calamondin (Citrus mitis × Citrofortunella mitis)

Citrus citron (Citrus medica)

Citrus hybrids (Citrus spp.) (includes chironja, tangelo, tangor)

Grapefruit (Citrus paradisi)

Kumquat (Fortunella spp.)

Lemon (Citrus jambhiri, Citrus limon)

Lime (Citrus aurantiifolia)

Mandarin (tangerine) (Citrus reticulata)

Orange, sour (Citrus aurantium)

Orange, sweet (Citrus sinensis)

Pummelo (Citrus grandis, Citrus maxima)

Satsuma mandarin (Citrus unshiu)

POME FRUITS GROUP - COMMODITIES - CROP GROUP 11

Apple (Malus domestica)

Crabapple (Malus spp.)

Loquat (Eriobotrya japonica)

Mayhaw (Crataegus aestivalis, C. opaca, and C. rufula)

STONE FRUITS GROUP - COMMODITIES - CROP GROUP 12

Apricot (Prunus armeniaca) Cherry, sweet (Prunus avium), Cherry, tart (Prunus cerasus)

Nectarine (Prunus persica)

Peach (Prunus persica)

Plum (Prunus domestica, Prunus spp.)

Plum, Chickasaw (Prunus angustifolia)

Plum, Damson (Prunus domestica spp. insititia)

Plum, Japanese (Prunus salicina)

Plumcot (Prunus. armeniaca × P. domestica)

Prune (fresh) (Prunus domestica, Prunus spp.)

BERRIES GROUP - CROP GROUP 13

Blackberry (*Rubus eubatus*) (including bingleberry, black satin berry, boysenberry, Cherokee blackberry, Chesterberry, Cheyenne blackberry, coryberry, darrowberry, dewberry, Dirksen thornless berry, Himalayaberry, hullberry, Lavacaberry, lowberry, Lucretiaberry, mammoth blackberry, marionberry, nectarberry, olallieberry, Oregon evergreen berry, phenomenalberry, rangeberry, ravenberry, rossberry, Shawnee blackberry, youngberry, and varieties and/or hybrids of these)

Blueberry (Vaccinium spp.)

Currant (Ribes spp.)

Elderberry (Sambucus spp.)

Gooseberry (Ribes spp.)

Huckleberry (Gaylussacia spp.)

Loganberry (Rubus loganobaccus)

Raspberry, black and red (Rubus occidentalis, Rubus strigosus, Rubus idaeus)

BERRY AND SMALL FRUIT CROP GROUP - CROP GROUP 13-07

Amur river grape (Vitis amurensis Rupr)

Aronia berry (Aronia spp.)

Bayberry (Myrica spp.)

Bearberry (Arctostaphylos uva-ursi)

Bilberry (Vaccinium myrtillus L.)

Blackberry (*Rubus* spp.) (including Andean blackberry, arctic blackberry, bingleberry, black satin berry, boysenberry, brombeere, California blackberry, Chesterberry, Cherokee blackberry, Cheyenne blackberry, common blackberry, coryberry, darrowberry, dewberry, Dirksen thornless berry, evergreen blackberry, Himalayaberry, hullberry, lavacaberry, loganberry, lowberry, Lucretiaberry, mammoth blackberry, marionberry, mora, mures deronce, nectarberry, Northern dewberry, olallieberry, Oregon evergreen berry, phenomenalberry, rangeberry, ravenberry, rossberry, Shawnee blackberry, Southern dewberry, tayberry, youngberry, zarzamora, and cultivars, varieties and/or hybrids of these.)

Blueberry, highbush (Vaccinium spp.)

Blueberry, lowbush (Vaccinium angustifolium Aiton)

Buffalo currant (Ribes aureum Pursh)

Buffaloberry (Shepherdia argentea (Pursh) Nutt.)

Che (Cudrania tricuspidata Bur. Ex Lavallee)

Chilean guava (Myrtus ugni Mol.)

Chokecherry (Prunus virginiana L.)

Cloudberry (Rubus chamaemorus L.)

Cranberry (Vaccinium macrocarpon Aiton)

Currant, black (Ribes nigrum L.)

Currant, red (Ribes rubrum L.)

Elderberry (Sambucus spp.)

European barberry (Berberis vulgaris L.)

Gooseberry (Ribes spp.)

Grape (Vitis spp.)

Highbush cranberry (Vibumum opulus L. var. Americanum Aiton)

Honeysuckle, edible (Lonicera caerula L . var. emphyllocalyx Nakai, Lonicera caerula L var . edulis Turcz. ex herder)

Huckleberry (Gaylussacia spp.)

Jostaberry (Ribes x nidigrolaria Rud. Bauer and A. Bauer)

Juneberry (Saskatoon berry) (Amelanchier spp.)

Kiwifruit, fuzzy (Actinidia deliciosa A. Chev.) (C.F. Liang and A.R. Fergusons, Actinida chinensis Planch.)

Kiwifruit, hardy (Actinidia arguta (Siebold and Zucc.) Planch. ex Miq)

Lingonberry (Vaccinium vitis-idaea L.)

Maypop (Passiflora incamata L.)

Mountain pepper berries (Tasmannia lanceolata) (Poir.) A.C.Sm.

Mulberry (Morus spp.)

Muntries (Kunzea pomifera F. Muell.)

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Native currant (Acrotriche depressa R. BR.)

Partridgeberry (Mitchella repens L.)

Phalsa (Grewia subinaequalis DC.)

Pincherry (Prunus pensylvanica L.f.)

Raspberry, black and red (Rubus spp.)

Riberry (Syzygium luehmannii)

Salal (Gaultheria shallon Pursh.)

Schisandra berry (Schisandra chinensis (Turcz.) Baill.)

Sea buckthorn (Hippophae rhamnoides L.)

Serviceberry (Sorbus spp.)

Strawberry (Fragaria x ananassa Duchesne)

Wild raspberry (Rubus muelleri Lefevre ex P.J. Mull)

Cultivars, varieties, and/or hybrids of these.

TREE NUTS - COMMODITIES - CROP GROUP 14

Almond (Prunus dulcis)

Beech nut (Fagus spp.)

Brazil nut (Bertholletia excelsa)

Butternut (Juglans cinerea)

Cashew (Anacardium occidentale)

Chestnut (Castanea spp.)

Chinquapin (Castanea pumila)

Filbert (hazelnut) (Corylus spp.)

Hickory nut (Carya spp.)

Macadamia nut (bush nut) (Macadamia spp.)

Pecan (Carya illinoensis)

Walnut, black and English (Persian) (Juglans spp.)

CEREAL GRAINS - COMMODITIES - CROP GROUP 15

Barley (Hordeum spp.)

Buckwheat (Fagopyrum esculentum)

Corn (Zea mays)

Millet, pearl (Pennisetum glaucum)

Millet, proso (Panicum milliaceum)

Oats (Avena spp.)

Popcorn (Zea mays var. everta)

Rice (Oryza sativa)

Rye (Secale cereale)

Sorghum (milo) (Sorghum spp.)

Teosinte (Euchlaena mexicana)

Triticale (Triticum-Secale hybrids)

Wheat (Triticum spp.)

Wild rice (Zizania aquatica)

FORAGE, FODDER AND STRAW OF CEREAL GRAINS GROUP - CROP GROUP 16

Forage, fodder, and straw of all commodities included in the group cereal grains group.

GRASS FORAGE, FODDER, AND HAY GROUP - CROP GROUP 17

Any grass, *Gramineae* family (either green or cured) except sugarcane and those included in the cereal grains group, that will be fed to or grazed by livestock, all pasture and range grasses and grasses grown for hay or silage.

NONGRASS ANIMAL FEEDS (FORAGE, FODDER, STRAW, AND HAY) GROUP - CROP GROUP 18

Alfalfa (Medicago sativa subsp. sativa)

Bean, velvet (Mucuna pruriens var. utilis)

Clover (Trifolium spp., Melilotus spp.)

Kudzu (Pueraria lobata)

Lespedeza (Lespedeza spp.)

Lupin (Lupinus spp.)

Sainfoin (Onobrychis viciifolia);

Trefoil (Lotus spp.)

Vetch (Vicia spp.)

Vetch, crown (Coronilla varia)

Vetch, milk (Astragalus spp).

HERBS AND SPICES GROUP - CROP GROUP 19

Allspice (Pimenta dioica)

Angelica (Angelica archangelica)

Anise (anise seed) (Pimpinella anisum)

Anise, star (Illicium verum)

Annatto (seed) Balm (lemon balm) (Melissa officinalis) Basil (Ocimum basilicum) Borage (Borago officinalis) Burnet (Sanguisorba minor) Camomile (Anthemis nobilis) Caper buds (Capparis spinosa) Caraway (Carum carvi) Caraway, black (Nigella sativa) Cardamom (Elettaria cardamomum)

Cassia buds (Cinnamomum aromaticum) Catnip (Nepeta cataria) Celery seed (Apicum graveolens) Chervil (dried) (Anthriscus cerefolium) Chive (Allium schoenoprasum) Chive, Chinese (Allium tuberosum) Cinnamon (Cinnamomum verum) Clary (Salvia sclarea) Clove buds (Eugenia caryophyllata) Coriander (cilantro or Chinese parsley) (leaf) (Coriandrum sativum) Coriander (cilantro) (seed) (Coriandrum sativum) Costmary (Chrysanthemum balsamita) Culantro (leaf) (Eryngium foetidum)

Culantro (seed) (Eryngium foetidum) Cumin (Cuminum cyminum) Curry (leaf) (Murraya koenigii) Dill (dillweed) (Anethum graveolens) Dill (seed) (Anethum graveolens) Fennel (common) (Foeniculum vulgare)

Cassia bark (Cinnamomum aromaticum)

Fennel, Florence (seed) (Foeniculum vulgare Azoricum Group)

Fenugreek (Trigonella foenumgraecum) Grains of paradise (Aframomum melegueta) Horehound (Marrubium vulgare) Hyssop (Hyssopus officinalis)

Juniper berry (Juniperus communis) Lavender (Lavandula officinalis) Lemongrass (Cymbopogon citratus) Lovage (leaf) (Levisticum officinale) Lovage (seed) (Levisticum officinale)

Mace (Myristica fragrans)

Marigold (Calendula officinalis)

Marjoram (Origanum spp.) (includes sweet or annual marjoram, wild marjoram or oregano, and pot marjoram)

Mustard (seed) (Brassica juncea, B. hirta, B. nigra)

Nasturtium (Tropaeolum majus) Nutmeg (Myristica fragrans)

Parsley (dried) (Petroselinum crispum)

Pennyroyal (Mentha pulegium) Pepper, black (Piper nigrum) Pepper, white

Poppy (seed) (Papaver somniferum) Rosemary (Rosemarinus officinalis)

Rue (Ruta graveolens) Saffron (Crocus sativus)

Sage (Salvia officinalis)

Savory, summer and winter (Satureja spp.)

Sweet bay (bay leaf) (Laurus nobilis) Tansy (Tanacetum vulgare)

Tarragon (Artemisia dracunculus)

Thyme (Thymus spp.) Vanilla (Vanilla planifolia)

Wintergreen (Gaultheria procumbens)

Woodruff (Galium odorata)

Wormwood (Artemisia absinthium)

EDIBLE FUNGI GROUP - COMMODITIES - CROP GROUP 21

Blewitt (Lepista nuda)

Bunashimeji (Hypsizygus marrmoreus)

Chinese mushroom (Volvariella volvacea) (Bull.) Singer

Enoki (Flammulina velutipes) (Curt.) Singer Hime-Matsutake (Agaricus blazei) Murill Hirmeola (Auricularia auricular) Maitake (Grifola frondosa) Morel (Morchella spp.) Nameko (Pholiota nameko) Net Bearing (Dictyophora) Oyster mushroom (Pleurotus spp.) Pom Pom (Hericium erinaceus) Reishi mushroom (Ganoderma lucidum (Leyss. Fr.) Karst.) Rodman's agaricus (Agaricus bitorquis) (Quel.) Saccardo Shiitake mushroom (Lentinula edodes (Berk.) Pegl.) Shimeji (Tricholoma conglobatum) Stropharia (Stropharia spp.) Truffle (Tuber spp.) White button mushroom (Agaricus bisporous (Lange) Imbach) White Jelly Fungi (Tremella fuciformis)

