



Washington  
State Department of  
Agriculture

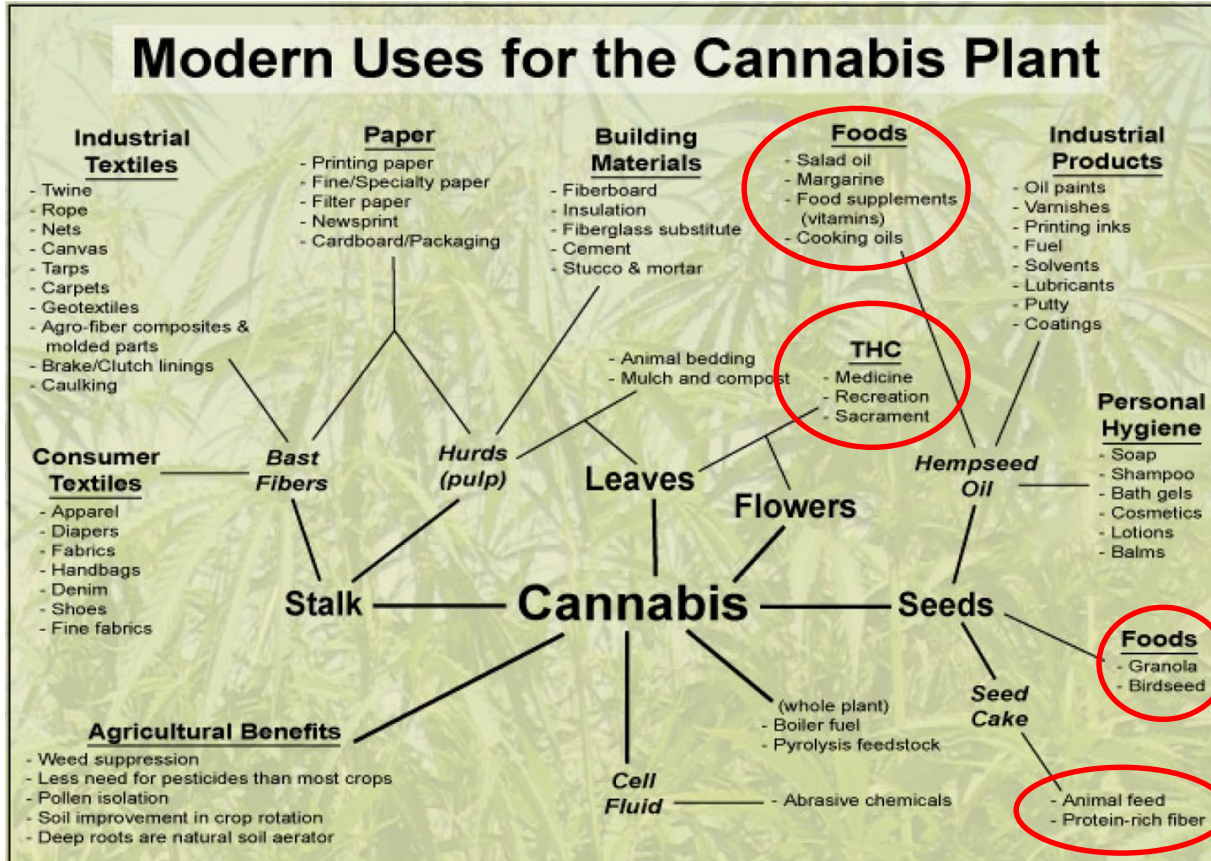
# Cannabis and the Pesticide Label

## Washington State's Perspective

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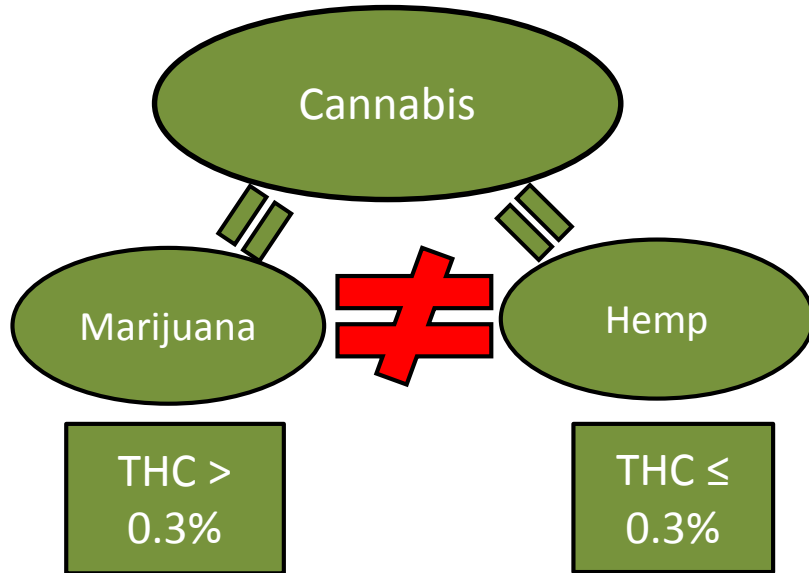
# Cannabis Uses



# Cannabis Definitions



Is it cannabis and marijuana ...  
Or cannabis and hemp ... ???



# Background—Marijuana & Hemp in WA



- 1998--Medical Marijuana
- 2012--Recreational Marijuana
- ★ 2013--Washington State Governor requested WSDA assist LCB to develop criteria for pesticides allowed on marijuana
- 2016--Industrial Hemp Research Program (2014 Farm Bill)
- 2018--Agriculture Improvement Act of 2018 (aka 2018 Farm Bill) –
  - Removed hemp from Controlled Substances Act
  - Allowed for creation of state programs for the domestic production of hemp



# Background—Marijuana & Hemp in WA



RCW 314-55-084 Marijuana plant production.

(1) Only the following specified soil amendments, fertilizers, other crop production aids, and pesticides may be used in the production of marijuana:

(a) Pesticides registered by WSDA under chapter 15.58 RCW as allowed for use in the production, processing, and handling of marijuana. Pesticides must be used consistent with the label requirements.

# Development of Criteria--Marijuana



Marijuana is not a labeled crop on Section 3 labels



No tolerances has been established for pesticide residues on cannabis



Marijuana and extracts are smoked and consumed



WSDA considers marijuana to be a food crop for the purposes of assessing risk to human health

# Development of Criteria--Hemp



At the time of the Farm Bills--Hemp was not a labeled crop on Section 3 labels ...

(Now there are 10 approved products and more on the way.)



No tolerances has been established for pesticide residues on cannabis ... yet

(EPA is working with IR-4 to develop pesticide tolerances for hemp.)



Hemp can be used for fiber, food, and medicine ... among other things



Unless specified on the label as only allowed on hemp grown for fiber, WSDA considers hemp to be a food crop for the purposes of assessing risk to human health

# The Basic Criteria



Cannabis is a food crop not listed on the pesticide label



Pesticide must be labeled for use on unspecified food crops or unspecified herbs (includes bedding plants, home gardens)  
“unspecified” = not prohibiting use on cannabis.



No tolerances established



Active ingredients must be exempt from the requirements of a tolerance on all food crops





- Tolerance Exempt?
  - ✓ Verify active ingredients in 40 CFR 180

## Electronic Code of Federal Regulations

e-CFR data is current as of January 9, 2020

[Title 40](#) → [Chapter I](#) → [Subchapter E](#) → [Part 180](#) → [Subpart D](#) → §180.1119

[Browse Previous](#) | [Browse Next](#)

Title 40: Protection of Environment

[PART 180—TOLERANCES AND EXEMPTIONS FOR PESTICIDE CHEMICAL RESIDUES IN FOOD](#)

[Subpart D—Exemptions From Tolerances](#)

### §180.1119 **Azadirachtin; exemption from the requirement of a tolerance.**

An exemption from the requirement of a tolerance is established for the biochemical azadirachtin, which is isolated from the berries of the Neem tree (*Azadirachta indica*), when used as a pesticide at 20 grams or less per acre on all raw agricultural commodities.

[58 FR 8696, Feb. 17, 1993]

# Tolerance Exempt Active Ingredients in “Lists”



## 69 Active Ingredients Allowed

- All are tolerance exempt
- Listed with Tolerance Exemption in 40 CFR
- Any use limitations are noted
  - Application rates or types
  - Pesticides uses—some can only be used as a herbicide, some as a fungicide.

Active Ingredient Name	Tolerance Exemption as AI in 40 CFR	Use Limitations	Tobacco Use (PICOL)
ACETIC ACID	180.1258(h)	Unintentional spray and drift to non-target vegetation only.	Yes
AMMONIUM SALTS OF FATTY ACIDS	180.1284	n/a	Yes
AZADIRACTIN	180.1119	20 grams or less per acre.	Yes
BACILLUS AMYLOLIQUEFACIENS STRAIN D747	180.1308	n/a	Yes
BACILLUS PUMILUS STRAIN GHA 180	180.1313	n/a	No
BACILLUS SUBTILIS MBI 600	180.1128	n/a	No
BACILLUS SUBTILIS STRAIN GB03	180.1111	n/a	No
BACILLUS SUBTILIS STRAIN IAB/BS03	180.1329	n/a	Yes
BACILLUS SUBTILIS STRAIN QST 713	180.1209	n/a	No
BACILLUS THURINGIENSIS SSP. AIZAWAI	180.1011	n/a	Yes
BACILLUS THURINGIENSIS SSP. GALLERIAE	180.1011	n/a	No
BACILLUS THURINGIENSIS SSP. ISRAELENIS	180.1011	n/a	No
BACILLUS THURINGIENSIS SSP. KURSTAKI	180.1011	n/a	Yes
BEAUVERIA BASSIANA STRAIN GHA	180.1146	n/a	No
BURKHOLDERIA SPP. STRAIN A396 (HEAT-KILLED)	180.1325	n/a	Yes
CANOLA OIL	180.950c	n/a	No
CAPRIC (DECAANOIC) ACID	None (Allowed as Inert, per 180.910).	Non-contact herbicidal use only.	Yes



**SULFUR--180.1236-- Application by burning / vaporization not allowed.**



PRAA4-1	180.1305	n/a	Yes
CINNAMALDEHYDE	180.1156	n/a	Yes
CITRONELLOL	180.1248	n/a	No
CLARIFIED HYDROPHOBIC EXTRACT OF NEEEM	180.1161	n/a	No
X POLYMERIC POLYHYDROXY ACIDS	180.1321	n/a	No
OCTANOATE	180.1021	n/a	Yes
IN (KINETIN)	180.1157	n/a	Yes
ACEOUS EARTH	180.1017	n/a	No
D-LIMONENE	None (Allowed as Inert, per 180.910).	Non-contact herbicidal use only.	No
FARNESOL	180.1086	n/a	No
GARLIC OIL	180.950a	n/a	Yes

# Label Review



- What about piperonyl butoxide and pyrethrins?
- They are allowed on cannabis but have tolerances established???

## §180.127 Piperonyl butoxide; tolerances for residues.

(a) *General.* (1) Tolerances for residues of the insecticide piperonyl butoxide [(butyl piperonyl)ether] are established in or on the following food commodities:

Commodity
Almonds, postharvest
Apple, postharvest
Barley, postharvest
Bean, postharvest
Birdseed, mixtures, postharvest
Blackberry, postharvest
Blueberry, postharvest
Boysenberry, postharvest
Buckwheat, grain, postharvest
Cattle, fat
Cattle, meat
Cattle, meat byproducts

## §180.128 Pyrethrins; tolerances for residues.

(a) *General.* (1) Tolerances for residues of the insecticide pyrethrins ((1S)-2-methyl-4-oxo-3-(2Z)-2,4-pentadienylcyclopenten-1-yl (1R,3R)-2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (pyrethrin 1), (1S)-2-methyl-4-oxo-3-(2Z)-2,4-pentadienyl-2-cyclopenten-1-yl (1R,3R)-3-[(1E)-3-methoxy-2-methyl-3-oxo-1-propenyl]-2,2-dimethylcyclopropane-carboxylate (pyrethrin 2), (1S)-3-(2Z)-2-butenyl-2-methyl-4-oxo-2-cyclopenten-1-yl (1R,3R)-2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (cinerin 1), (1S)-3-(2Z)-2-butenyl-2-methyl-4-oxo-2-cyclopenten-1-yl (1R,3R)-3-[(1E)-3-methoxy-2-methyl-3-oxo-1-propenyl]-2,2-dimethylcyclopropanecarboxylate (cinerin 2), (1S)-2-methyl-4-oxo-3-(2Z)-2-pentenyl-2-cyclopenten-1-yl (1R,3R)-2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (jasmolin 1), and (1S)-2-methyl-4-oxo-3-(2Z)-2-pentenyl-2-cyclopenten-1-yl (1R,3R)-3-[(1E)-3-methoxy-2-methyl-3-oxo-1-propenyl]-2,2-dimethylcyclopropanecarboxylate (jasmolin 2)), the insecticidally active principles of *Chrysanthemum cinerariaefolium*, which are measured as cumulative residues of pyrethrin 1, cinerin 1, and jasmolin 1 are not to exceed the following:

Commodity	Parts per million
Almonds, postharvest	1.0
Apple, postharvest	1.0
Barley, grain, postharvest	3.0
Bean, succulent, postharvest	1.0
Birdseed, mixtures, postharvest	3.0
Blackberry, postharvest	1.0
Blueberry, postharvest	1.0
Boysenberry, postharvest	1.0
Buckwheat, grain, postharvest	3.0
Cacao bean, roasted bean, postharvest	1.0
Cattle, fat	1.0
Cattle, meat	0.05
Cattle, meat byproducts	0.05

- Tolerance exemption for piperonyl butoxide and pyrethrins -- §180.905

**§180.905 Pesticide chemicals; exemptions from the requirement of a tolerance.**

(a) When applied to growing crops, in accordance with good agricultural practice, the following pesticide chemicals are exempt from the requirement of a tolerance:

- (1) Petroleum oils.
- (2) Piperonyl butoxide.
- (3) Pyrethrins.
- (4) Sabadilla.

(b) When applied to growing crops, in accordance with good agricultural practice, the pesticides rotenone or derris or cube roots are exempt from the requirement of a tolerance. There are no U.S. registrations for use of rotenone, derris, or cube roots on food commodities as of March 23, 2011.

(c) These pesticides are not exempted from the requirement of a tolerance when applied to a crop at the time of or after harvest.

[77 FR 59128, Sept. 26, 2012]

- Additional information on piperonyl butoxide and pyrethrins
- Even though tolerance exempt .... because of concentrates, extracts, intermediate products, and imported cannabinoids:
- DOH established rules:
  - piperonyl butoxide and pyrethrins may not be applied less than seven days prior to harvest
- LCB has set action levels (pesticide detection level at which the tested product is subject to a recall)
  - Piperonyl butoxide--2.0 ppm
  - Pyrethrins--1.0 ppm

# Pesticide Labels and the Fine Print



- ✓ State and Federal law require that pesticides be applied according to label directions.
- ✓ Pesticide labels specify the particular crops and/or sites to which they can be applied.
- ✓ Crops and sites can be expressed very specifically (wheat) or more generally (cereal grains).
  - A pesticide label that specifies “wheat” can only be applied to wheat.
  - A pesticide label that lists “cereal grains” can be applied to wheat, oats, barley, rye, etc.

WSDA has determined that—depending on the actual label language—pesticides may legally be used on marijuana and hemp under certain very general types of crops/sites when there is an exemption from the requirement of a tolerance.



# Pesticide Labels and the Fine Print



## The devil (weed) is in the details .....



For use in controlling Whitefly, Aphids, Thrips, Psyllids, Mealybugs, Leafhoppers, Weevils, Plant Bugs, Borers and Leaf-feeding Insects in Field, Agronomic, Vegetable and Orchard Crops; also in Forestry; Grasshoppers, Mormon Crickets, Locusts and Beetles in Rangeland, Improved Pastures and Agronomic Crops; Whitefly, Aphids, Thrips, Psyllids and Mealybugs in Ornamentals and Vegetables, Indoor/Outdoor Nursery, Greenhouse, Shadehouse, Commercial Landscape, Interiorscape and Turf.

Active Ingredient: *Beauveria bassiana* Strain GHA.....11.3%\*\*  
Inert Ingredients:.....88.7%\*

Total 100.0%

**§180.1146 *Beauveria bassiana* Strain GHA; exemption**

**HERBS AND SPICES** allspice, anise, balm, basil, borage, burnet, chamomile, caper buds, caraway, cardamom, catnip, celery seed, chervil, chicory, chives, cilantro/coriander, cinnamon, clary, coriander, costmary, cumin, curry leaf, dill, fennel, fenugreek, ginseng, horehound, hyssop, mace, marjoram, mint, mustard, nasturtium, nutmeg, oregano, paprika, pennyroyal, pepper (black/white), peppermint, rosemary, rue, sage, saffron, savory, sesame, spearmint, sweet bay leaf, tansy, tarragon, thyme, wintergreen, woodruff, wormwood

117 S. Parkmont; P.O. Box 4109-Butte, MT 59702; Ph: (406)782-2386; Fax: (406) 782-9912  
EPA Registration Number 82074-1 EPA Establishment Number 65626-MT-02  
Edition: Lot No.:  
Net Contents:  1 Quart  1 Gallon  2 Gallon Expiration Date:

IRAC GROUP 3A

## BotaniGard® Maxx

For use in controlling Whitefly, Aphids, Thrips, Psyllids, Spider Mites, Mealybugs, Leafhoppers, Weevils, Plant Bugs, Borers and Leaf-feeding Insects in Field, Agronomic, Vegetable and Orchard Crops; Ornamentals and Vegetables, Indoor/Outdoor Nursery, Greenhouse, Shadehouse; Improved Pastures and Agronomic Crops; Commercial Landscape, Interiorscape and Turf.

### Active Ingredients:

Pyrethrins.....0.75%

*Beauveria bassiana* Strain GHA\* .....0.06%

Other Ingredients\*\*.....99.19%

**HERBS AND SPICES** Including: Allspice, Angelica, Anise (anise seed), Anise (star), Annatto (seed), Balm (lemon balm), Basil, Borage, Burnet, Camomile, Caper buds, Caraway, Caraway (black), Cardamom, Cassia bark, Cassia buds, Catnip, Celery seed, Chervil (dried), Chicory, Chive, Chive (Chinese), Cinnamon, Clary, Clove buds, Coriander (cilantro or Chinese parsley) (leaf), Coriander (cilantro) (seed), Costmary, Culantro (leaf), Culantro (seed), Cumin, Curry (leaf), Dill (dillweed), Dill (seed), Fennel (common), Fennel (Florence) (seed), Fenugreek, Grains of Paradise, Horehound, Hyssop, Juniper Berry, Lavender, Lemongrass, Lovage (leaf), Lovage (seed), Mace, Marigold, Marjoram (includes sweet or annual marjoram, wild marjoram or oregano and pot marjoram), Mustard (seed), Nasturtium, Nutmeg, Oregano, Mint, Paprika, Parsley (dried), Pennyroyal, Pepper (black), Pepper (white), Poppy (seed), Rosemary, Rue, Saffron, Sage, Savory (summer and winter), Sweet bay (bay leaf), Tansy, Tarragon, Thyme, Vanilla, Wintergreen, Woodruff, Wormwood.

# Pesticide Labels and the Fine Print

## The devil (weed) is in the details .....

Use on all flowering and foliage plants; vegetables and fruits.

Including ...

For use on all garden crops ...



For use on all food and feed crops ...

Such as ...

Including, but not limited to ...

# The “List”

- Product Name
- Active Ingredient
- Percentage of Active
- EPA Registration Number
- File # in WSDA database
- Company Name
- WPS Y/N
- HG Only Y/N



Brand name	Active Ingredient	Percent	EPA Registration Number	WSDA File Number	Company	WPS Y/N	HG Only Y/N
20% VINEGAR HERBICIDE FOR CONTROL OF WEEDS	ACETIC ACID	20.000%	85208-1-90394	1	NATURE'S WISDOM (DH DAWE AND ASSOCIATES)	Yes	No
ACTINO-IRON BIOLOGICAL FUNGICIDE	STREPTOMYCES LYDICUS WYEC 108	1.300%	73314-2	7	NOVOZYMES BIOAG INC	Yes	No
ACTINOVATE AG BIOLOGICAL FUNGICIDE	STREPTOMYCES LYDICUS WYEC 108	0.037%	73314-1	1	NOVOZYMES BIOAG INC	Yes	No
ACTINOVATE LAWN AND GARDEN	STREPTOMYCES LYDICUS WYEC 108	0.037%	73314-1	9	NOVOZYMES BIOAG INC	No	No
ACTINOVATE SP BIOLOGICAL FUNGICIDE	STREPTOMYCES LYDICUS WYEC 108	0.037%	73314-1	2	NOVOZYMES BIOAG INC	Yes	No
AG DE-CIDE DIATOMACEOUS EARTH INSECTICIDE	DIATOMACEOUS EARTH	85.000%	7655-1-71074	1	CALTEC AG INC	Yes	No
AGM 13027	COMPLEX POLYMERIC POLYHYDROXY ACIDS	0.180%	1381-256	197	WINFIELD SOLUTIONS LLC	Yes	No
AGRI-FOS SYSTEMIC FUNGICIDE PLUS	PHOSPHOROUS ACID, MONO- AND DI-POTASSIUM SALTS (POTASSIUM PHOSPHITE)	60.560%	71962-2	4	LIQUID FERTILISER PTY LTD (TRADING AS AGRICHEM): SCIREG INC	Yes	No
ALUDE FUNGICIDE	PHOSPHOROUS ACID, MONO- AND DI-POTASSIUM SALTS (POTASSIUM PHOSPHITE)	53.600%	55146-83	43	NUFARM AMERICAS INC: AGT DIVISION	Yes	No
ALUDE SYSTEMIC FUNGICIDE	PHOSPHOROUS ACID, MONO- AND DI-POTASSIUM SALTS (POTASSIUM PHOSPHITE)	45.800%	71962-1-1001	16	NUFARM AMERICAS: CLEARY CHEMICAL CORPORATION DIVISION	Yes	No
AMICOS	BACILLUS SUBTILIS STRAIN IAB/BS03	0.080%	91473-1	3	SEIPASA S.A.	Yes	No
ANCORA	ISARIA FUMOSOROSEA APOPKA STRAIN 97	20.000%	70051-19-59807	65	OHP INC.	Yes	No
AVENGER AG OPTIMA	D-LIMONENE	55.000%	92967-4	3	AVENGER PRODUCTS LLC	Yes	No
AVIV	BACILLUS SUBTILIS STRAIN IAB/BS03	0.080%	91473-1-86182	2	STOCKTON (ISRAEL) LTD (WALTER G TALAREK PC)	Yes	No

# Worker Protection Standard Y/N Column



- Pesticide labels containing 'Agricultural Use Requirements' Box = Y

## AGRICULTURAL USE REQUIREMENTS

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) and restricted-entry interval (REI). The requirements in this box only apply to use of this product that are covered by the Worker Protection Standard.

**For early post-emergence broadcast in peanuts and dormant season applications, chemical fallow, and "between cutting" applications in alfalfa:** Do not enter or allow worker entry into treated areas during the **restricted-entry interval (REI) of 12 hours.**

**For harvest aid and desiccation application and pre-plant or pre-emergence (broadcast or banded), and post-emergence directed spray applications:** Do not enter or allow worker entry into treated areas during the **restricted-entry interval (REI) of 24 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:

- Coveralls
- Chemical-resistant gloves made of barrier laminate, butyl rubber  $\geq 14$  mils, nitrile rubber  $\geq 14$  mils, neoprene rubber  $\geq 14$  mils, natural rubber  $\geq 14$  mils, polyethylene, polyvinyl chloride (PVC)  $\geq 14$  mils, or Viton<sup>®</sup>  $\geq 14$  mils
- Shoes plus socks
- Protective eyewear

# Home & Garden (Home Grown) Only Y/N Column



- Pesticides labeled for home or residential use ONLY
  - Retailers—no pesticide dealer license, no recordkeeping requirements
  - Home Grower—medical marijuana patients can grow their own plants.
  - Commercial Producers/Growers—these products may not be used in the commercial production of marijuana

# Home & Garden (Home Grown) Only Y/N Column



## Potassium Bicarbonate Soluble Powder



### USES (continued)

#### FRUITS (continued)

STONE FRUITS such as apricot, cherry, nectarine, peach, plum, prune

SUBTROPICAL FRUITS such as banana, date, mango, papaya, pineapple

**HERBS and SPICES** such as basil, chives, coriander (cilantro), dill, oregano, parsley, thyme

**ORNAMENTALS** (Indoors, Outdoors or Home Greenhouses) such as ornamental trees and shrubs, woody (vines) shrubs, flower and foliage plants

**ROSES** (Indoors, Outdoors or Home Greenhouses)

KEEP OUT OF REACH OF CHILDREN

CAUTION See Attached Booklet for Precautionary Statements and Directions for Use

NET WT: 4 OZ/113.4 g

### Directions for Use

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

potassium bicarbonate; exemption from **the requirement of a tolerance.**

potassium bicarbonate is exempted from the requirement of a tolerance in or on commodities when applied as a fungicide or post-harvest fungicide in accordance with good



OPEN HERE FOR



# The “List”



## Currently ...

- Marijuana list contains 398 products
  - 305 Section 3
  - 93 25b Minimum Risk Pesticides
- Hemp list contains 334 products
  - 244 Section 3
  - 90 25b Minimum Risk Pesticides

# Other Considerations--Hemp



## Hemp Pesticide List

- No HG Column (or products) on List—Hemp is commercial crop

## Hemp Criteria

- WSDA will follow criteria and maintain list until the end of 2020. This will give registrants time to amend Section 3 labels with EPA, and amend Section 25(b) labels with SLA's.
- Products labeled for unspecified oilseed crops are also allowed.



# Other Pesticides Allowed ... but not on List



## Pre-plant Pesticides:

(i.e. broad spectrum herbicides, soil fumigants)

- Allowed if the food crop to be planted following application is not specified on the label
- Applicable label directions (such as replant interval) are followed

## Pre-plant Pesticides

(i.e. disinfectants, sanitizers)

- Must be labeled for use in the production of food crops
- For control of microorganisms on surfaces (such as benches, floors, pallets, pots, skids).

# Other Pesticides Allowed ... but not on List



## Spray Adjuvants

- Must be labeled for use on food crops
- Must only be used with a pesticide type that is allowed by the spray adjuvant label.
- For example, a spray adjuvant that is allowed for use on food crops--but labeled only for use with a herbicide--may not be mixed with an insecticide or a fungicide.

## Post-harvest Pesticides

(in facilities where marijuana products are being processed)

- Limited to non-contact (e.g., crack and crevice) or indirect uses only ...
- ...unless the active ingredient meets all of the conditions in the criteria and is labeled for post-harvest use.
- Any pesticide must be specifically labeled for the intended use (e.g., food processing establishment).





# Questions?



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