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07/27/2010

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

July 27, 2010

Desert King Chile, Ltd.  
c/o Heather R. Bjornson  
Technology Sciences Group, Inc.  
1150 18<sup>th</sup> Street, N.W., Suite 1000  
Washington, D.C. 20036

RE: Product Name: Quillaja Extract  
EPA Reg. No.: 82572-1  
Application for Label Notification dated July 13, 2010 to add the alternate  
brand names "QL Agri" and "QL Agri35".

Dear Ms. Bjornson:

The Biopesticides and Pollution Prevention Division is in receipt of your application for Notification under PR Notice 98-10 dated above. A preliminary screen of this request has been conducted for its applicability under PR Notice 98-10 and it has been determined that the action(s) requested falls within the scope of PR Notice 98-10. Our records have been duly noted, and the label submitted with this application has been stamped "Notification Accepted" and will be placed accordingly in our records.

If you have any questions concerning this action, please feel free to contact Mr. Colin Walsh at (703) 308-0298 or via email at [walsh.colin@epa.gov](mailto:walsh.colin@epa.gov).

Sincerely,

*Linda A. Hollis*

Linda A. Hollis, Chief  
Biochemical Pesticides Branch  
Biopesticides and Pollution Prevention  
Division (7511P)



United States  
Environmental Protection Agency  
Washington, DC 20460

<input type="checkbox"/>	Registration
<input type="checkbox"/>	Amendment
<input checked="" type="checkbox"/>	Other

OPP Identifier Number

Application for Pesticide - Section I

1. Company/Product Number 82572-1	2. EPA Product Manager Linda Hollis	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Quillaja Extract	PM# 91 BPPD/Biochemical Pesticides	
5. Name and Address of Applicant (Include ZIP Code) Desert King Chile, Ltd. Antoinio Bellet 77 Of 401 Providencia, Santiago, Chile <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____	<b>Notification Accepted</b> JUL 27 2010 Date: _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.	
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.	

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Reviewer: C. Walsh

This notification is to add two alternate brand names per PR Notice 98-10 and is not subject to PRIA. This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula for this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input checked="" type="checkbox"/> Metal	<input type="checkbox"/> Plastic
* Certification must be submitted	If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt	<input type="checkbox"/> Glass	<input type="checkbox"/> Paper
				<input type="checkbox"/> Other (Specify) _____	
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container 5 gal pale; 30 & 55 g drum; 270g tote		5. Location of Label Directions <input checked="" type="checkbox"/>	
6. Manner in Which Label is Affixed to Product <input checked="" type="checkbox"/> Lithograph <input checked="" type="checkbox"/> Paper glued <input checked="" type="checkbox"/> Stenciled				<input type="checkbox"/> Other _____	

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Heather R. Bjornson, Technology Sciences Group, Inc.	Title Regulatory Consultant	Telephone No. (Include Area Code) (202) 828-8945
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received <b>(Stamped)</b>
2. Signature 	3. Title Regulatory Consultant to Desert King Chile	
4. Typed Name Heather R. Bjornson	5. Date July 13, 2010	



**WASHINGTON**

1150 18th Street, N.W.

Suite 1000

Washington, D.C. 20036

Telephone 202 223-4392

Fax 202 872-0745

July 13, 2010

Linda Hollis  
Chief, Biopesticide and Pollution Prevention Division  
Office of Pesticide Programs  
Environmental Protection Agency  
Room S-4900, One Potomac Yard  
2777 South Crystal Drive  
Arlington, VA 22202-4501

**RE: Quillaja Extract (EPA Reg. No. 82572-1)**

**SACRAMENTO**

712 Fifth Street

Suite A

Davis, CA 95616

Telephone 530 757-1298

Fax 530 757-1299

**Notification per PR Notice 98-10**

Dear Ms. Hollis:

Technology Sciences Group, on behalf of Desert King Chile, is submitting the enclosed notification to add two alternate brand names to the above referenced product.

Please do not hesitate to contact me directly with any questions and/or concerns.

Sincerely,

A handwritten signature in black ink that reads "Heather R. Bjornson".

Heather R. Bjornson  
Regulatory Agent for Desert King Chile/Desert King International

**CANADA**

275 Slater Street

Suite 900

Ottawa, Ontario

K1P 5H9

Telephone 613 247-6285

Fax 613 236-3754

# Quillaja Extract

A Bio-Pesticide

Notification Accepted

Date: JUL 27 2010

Reviewer: C. Walsh

[Alternate brand names: QL Agri, QL Agri35]

*For Control of Plant Parasitic Nematodes and Plant Parasitic Fungi  
in Vineyards, Orchards, Field Crops, Turf and Ornamentals*

Active Ingredient:

- \*Saponins of Quillaja saponaria..... 8.60%
- Other Ingredients ..... 91.40%
- Total..... 100.00%

\*bidesmosidic derivatives of quillajic acid substituted with a trisaccharide at C-3 and an oligosaccharide in C-28

### KEEP OUT OF REACH OF CHILDREN WARNING - ADVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID	
<b>If in eyes</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first five minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If on skin</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If swallowed</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. <b>Note to Physician:</b> Probable mucosal damage may contraindicate the use of gastric lavage.</p>	

See back side for additional precautionary statements

Manufactured for:  
Desert King Chile  
77 Antonio Bellet, Suite 401  
Providencia, Santiago  
Chile

EPA Reg. No.: 82572-1  
EPA Est. No.: XXXXX-XX-XX  
Net Contents: XX Galions  
Batch Code: XXX

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**WARNING:** Causes substantial but temporary eye damage. Do not get in eyes or on clothing. Harmful if swallowed or absorbed through skin. Avoid contact with skin.

#### Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Protective eyewear
- Chemical-resistant gloves made of any waterproof material
- Shoes and socks

Follow manufacturer's instructions for cleaning/maintaining 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. Never apply material so as to contaminate eating or drinking area.
- Remove clothing/PPE immediately if product 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.

### ENVIRONMENTAL HAZARDS

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 a manner inconsistent with its labeling.

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. For any requirements specific to your State or Tribe, consult the Agency responsible for pesticide regulations.

### 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 the label about personal protective equipment and the restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard. Do not enter or allow worker entry into treated areas without protective clothing 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:

- Chemical-resistant gloves made of any waterproof material
- Protective eyewear
- Shoes and socks

### NON - AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of the 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 and ornamental plants on farms, forests, nurseries or greenhouses.

Keep unprotected persons out of treated areas until sprays have dried.

#### Mixing:

Fill tank with water to at least half full, then add recommended dosage of Quillaja Extract directly to the tank and continue filling. Agitation should be minimized in the tank (shut off paddle agitation if possible) to prevent foaming. To reduce foaming, an agricultural defoamer may be added to the tank mix. However, Quillaja Extract foam is very water soluble, will form a true solution, and should not be a concern for settling in the tank. Apply solution within three hours of mixing.

#### Compatibility:

Quillaja Extract is a water soluble botanical extract. It is physically compatible with most water based pesticides and liquid fertilizers providing the pH of the final solution is in a pH range of 3 to 8. Do not apply Quillaja Extract with any other product before testing for physical and chemical compatibility. To determine compatibility, pour the recommended proportions of the products into a suitable container, mix and wait for 30 minutes. If product remains mixed, it is considered physically compatible.

Not all tank mix combinations have been tested with this product. If compatibility of this product with another product is unknown, the mixture should be tested on a small scale.

Read and carefully observe the most restrictive of the labeling limitations and precautions of all product labels used in the tank mix. This product has properties similar to wetting agents and may enhance activity of some products as a wetting agent.

**Application Methods:** Consider the high solubility of this product when choosing a method of application and timing.

**Foliar spray application (for powdery mildew):** Apply by ground equipment to ensure complete and thorough coverage of foliage and/or crop. Contact of the disease organisms is essential for curative control.

**Ground spray application (for nematodes and root rot):** After area to be treated has been irrigated to field capacity, apply with a band or broadcast type sprayer, such as flat-fan or hollow cone nozzle tip system, to the soil surface. After application has been made it will be necessary to water with either drip, above ground sprinklers or reduced amount of furrow irrigation. Do not over irrigate following application of this product. Do not use flood irrigation to apply this product into the ground. Over irrigation will move the desired concentration of the product too quickly past the targeted root zone.

For ground sprayer application in orchards or around trees, begin application next to the tree trunk and spray at least 50% of soil area or the area under the canopy of the tree, whichever is greatest.

**Shank injection application (for nematodes):** After area to be treated has been irrigated to field capacity, apply by shank injection to areas where roots are present. Use a sufficient number of injectors to cover area to be treated. If shank application is applied at the root zone, minimal irrigation is required to assure that product covers root zone.

**Chemigation application (for nematodes and root rot):** Apply Quillaja Extract through the following types of systems. Do not apply this product through any other type of irrigation system.

- Low volume (ground or underground) drip, drip tape, strip tubing, micro-jet sprinklers, mini-sprinklers;
- Sprinkler including center pivot, lateral move, end tow, side (wheel) roll, solid set, or hand move;
- Furrow.

Check irrigation system and emitters to ensure all systems are operating normally before injecting Quillaja Extract. Lack of effectiveness or crop injury can result from non-uniform distribution of treated water.

If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, chemigation experts or the Distributor of this product.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place. In addition, check local and state regulations regarding pesticide injection into public water systems.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Maintain the system's operating pressure low enough to prevent fogging and/or misting during applications. Inject Quillaja Extract into the irrigation system after the filter(s) or shut off the automatic back flush system in order to avoid back flushing of treated water.

Systems using a gravity flow pesticide dispensing system must meter the product into the water at the head of the field and downstream of the hydraulic discontinuity, such as a drop structure or weir box, to decrease potential for water source contamination from backflow if water flow stops.

Systems using a pressurized water and pesticide injection system must meet the following requirements:

- The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of material that are compatible with pesticide and capable of being fitted with a system interlock.

It is highly recommended that the soil be irrigated to field capacity (down to two feet of soil) before pesticide application. For best results, inject Quillaja Extract into the irrigation line in the last quarter of the irrigation time. Continue irrigation until all lines are flushed. Maintain irrigation for enough time to assure this product has penetrated down into the targeted root zone. Do not over irrigate after applying this product. If excessive watering occurs immediately following application, this product may move down past the desired root zone due to its high water solubility. Do not irrigate for at least 24 hours following application of this product. Pest injury to the crop may result from uneven distribution of this product during application.

Do not allow air in the line prior to injecting Quillaja Extract. The product's density will cause swelling of the line due to foam formation and prevent uptake of material. If a pesticide supply tank is used, follow directions listed under "Mixing" above. There generally will be some level of foam at the base of the wetted area until it dissolves (usually within 30 minutes after application, depending on temperature and amount of water following application).

If applied in heavy rainfall areas, avoid application during rain or when rain is forecasted within the next 24 hours that may exceed movement of this product past targeted root zone.

Do not apply when wind speed favors drift beyond the areas intended for treatment

**Application Rates for Control of Nematodes**

To control/suppress plant parasitic nematodes, apply Quillaja Extract to the full irrigated zone. For row crops, the irrigated zone is 30-50% of the row area. For orchards or around trees, apply from tree trunk to drip-line to cover at least 50% of soil area or the area under the canopy of the tree, whichever is greatest. Single applications should be made in the spring just prior to or during root flush, and again in the fall after harvest. For best results, multiple applications may be made in the spring, followed by a single application in the fall after harvest.

Crop	Remarks
<p><b>Berries:</b> (Not for Use in California)            Blackberry (including boysenberry, dewberry, marionberry, olallieberry, youngberry),            Blueberry, Cranberry, Currant, Elderberry,            Gooseberry, Huckleberry, Loganberry,            Raspberry (black and red)</p> <p><b>Citrus:</b>            Calamondin, Citrus citron, Citrus hybrids,            Grapefruit, Kumquat, Lemon, Lime,            Mandarins, Orange (sour and sweet),            Pummelo</p> <p><b>Grapes</b> (raisin, table, wine)</p> <p><b>Nut Crop:</b>            Almond, Beech nut, Brazil nut, Butternut,            Cashew, Chestnut, Cinquapin, Filbert,            Macadamia, Pecan, Walnut (black and English)</p> <p><b>Pome Fruit:</b>            Apple, Crabapple, Loquat, Mayhaw, Pear            (including oriental pear), Quince</p> <p><b>Stone Fruit:</b>            Apricot, Cherry (sweet or tart), Nectarine,            Peach, Plum, Plumcot, Prune</p>	<p>On heavily infested soils, apply 3 gallons in 300-600 gallons water per acre (to achieve a concentration of 5,000-10,000 ppm) in a single application.</p> <p>On light to moderately infested soils, apply 1.5 gallons in 150-300 gallons water per acre (to achieve a concentration of 5,000-10,000 ppm) in a single application.</p> <p>For best results, multiple applications may be made at a rate of 2 quarts/acre in 50-100 gallons water per acre (to achieve a concentration of 5,000-10,000 ppm) every 7-14 days for up to 10 weeks.</p>

<p><b>Cole Crops:</b>          Broccoli (including Chinese and raab), Brussels sprouts, Cabbage (including Chinese), Cauliflower, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens</p> <p><b>Cucurbit Vegetables:</b>          Chayote, Chinese waxgourd, Citron melon, Cucumber, Gherkin, Edible gourd, Momordica spp. (including balsam apple, balsam pear, bitter melon, Chinese cucumber), Muskmelon (including cantaloupe, casaba, crenshaw, golden pershaw, honeydew, honey balls, mango, Persian, pineapple, Santa Claus, and snake), Pumpkin, Summer squash (including crookneck, scallop, straightneck, vegetable marrow and zucchini), Watermelon, Winter squash (including acorn, butternut, calabaza, hubbard, and spaghetti)</p> <p><b>Fruiting Vegetables:</b>          Eggplant, Groundcherry, Pepino, Pepper (including bell, chili, cooking, pimento and sweet), Tomatillo, Tomato</p> <p><b>Leafy Vegetables:</b>          Amaranth, Arugula, Cardoon, Celery (including Chinese celery), Celtuce, Chervil, Edible chrysanthemum, Corn salad, Cress (garden and upland), Dandelion, Dock (sorrel), Endive (escarole), Fennel, Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio, Rhubarb, Spinach (including New Zealand and vine), Swiss chard</p> <p><b>Strawberry</b></p>	<p>Apply 1-7 days preplant to the planting zone. Apply centered on the top of the row on pre-wetted soil. Follow with water to assure penetration of the product into the root zone.</p> <p>On heavily infested soils, apply 3 gallons in 300-600 gallons water per acre (to achieve a concentration of 5,000-10,000 ppm) in a single application.</p> <p>On light to moderately infested soils, apply 1.5 gallons in 150-300 gallons water per acre (to achieve a concentration of 5,000-10,000 ppm) in a single application.</p> <p>For best results, multiple applications may be made at a rate of 2 quarts/acre in 50-100 gallons water per acre (to achieve a concentration of 5,000-10,000 ppm) every 7-14 days for up to 10 weeks.</p>
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<p><b>Bulb Vegetable:</b> Garlic, Leek, Onion (including dry bulb, green and Welch), Shallot</p> <p><b>Root and Tuber Vegetables:</b> Arrachacha, Arrowroot, Artichoke, Beet (garden and sugar), Burdock, Canna, Carrot, Cassava (bitter and sweet), Celeriac, Chayote, Chervil, Chicory, Chufa, Dasheen, Ginger, Ginseng, Horseradish, Leren, Parsley (turnip rooted), Parsnip, Potato, Radish, Rutabaga, Salsify, Skirret, Sweet potato, Tanier, Turmeric, Turnip, Yam (bean and true)</p> <p><b>Ornamentals:</b> Bare root, container, bedding and flowering stock, cut flowers, nursery and landscape, potted flowering, shade and flowering trees, woody ornamentals</p>	<p>Apply prior to planting to row area to be planted. Apply centered on the top of the row on pre-wetted soil. Follow with water to assure penetration of the product into the root zone.</p> <p>On heavily infested soils, apply 3 gallons in 300-600 gallons water per acre (to achieve a concentration of 5,000-10,000 ppm) in a single application.</p> <p>On light to moderately infested soils, apply 1.5 gallons in 150-300 gallons water per acre (to achieve a concentration of 5,000-10,000 ppm) in a single application.</p> <p>For best results, multiple applications may be made at a rate of 2 quarts/acre in 50-100 gallons water per acre (to achieve a concentration of 5,000-10,000 ppm) every 7-14 days for up to 10 weeks.</p>
<p><b>Turfgrass</b> Ornamental lawns, Golf courses, Sod farms</p> <p>For control of <i>Anguina pacifica</i> nematode only.</p>	<p>Apply 9 fl.oz. in 3-7 gallons water per 1,000 sq.ft. (equivalent to 3 gallons in 130-300 gallons water per acre) using a sprayer with a pressure nozzle tip applicator sufficient to penetrate into the lower part of the turf leaves where <i>Anguina pacifica</i> nematode galls are formed. Do not exceed a concentration of 1.5% solution of Quillaja Extract in any application.</p> <p>Repeat applications every 5-10 days. Additional applications to break the life cycle of the nematode should be repeated 2-4 times within 60 days to significantly reduce this pest problem in one season.</p> <p>Do not water turfgrass for at least 12 hours following application of Quillaja Extract. Quillaja Extract is water soluble and does not require additional water application through sprinkler following application.</p>

**Application Rates for Control of Fungi**

For control/suppression of **POWDERY MILDEW** in the following field and greenhouse-grown crops, apply 1-4 pints Quillaja Extract per acre as a foliar spray in 50-100 gallons water per acre (equivalent to 0.5-1.5 fl.oz. in 1-2 gallons water per 1,000 sq.ft.) every 7-

10 days depending on severity of infection. A surfactant is not necessary, but the addition of a wetting agent, such as Yucca Ag-Aide™, may increase efficacy. Quillaja Extract may be tank mixed with Sterol Inhibitor type fungicides.

**Berries and Small Fruits:** Blackberry (including boysenberry, dewberry, marionberry, olallieberry, youngberry), Blueberry, Cranberry, Currant, Elderberry, Gooseberry, Grape (raisin, table, wine), Huckleberry, Kiwifruit, Loganberry, Raspberry (black and red), Strawberry

**Bulb Vegetable:** Garlic, Leek, Onion (including dry bulb, green and Welsh), Shallot

**Cereal Grains:** Barley, Buckwheat, Corn, Millet, (pearl and proso), Oats, Popcorn, Rice, Rye, Sorghum (milo), Teosinte, Triticale, Wheat, Wild rice

**Cole Crops:** Broccoli (including Chinese and raab), Brussels sprouts, Cabbage (including Chinese), Cauliflower, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens

**Cucurbit Vegetables:** Chayote, Chinese waxgourd, Citron melon, Cucumber, Gherkin, Edible gourd, Momordica spp. (including balsam apple, balsam pear, bitter melon, Chinese cucumber), Muskmelon (including cantaloupe, casaba, crenshaw, golden pershaw, honeydew, honey balls, mango, Persian, pineapple, Santa Claus, and snake), Pumpkin, Summer squash (including crookneck, scallop, straightneck, vegetable marrow and zucchini), Watermelon, Winter squash (including acorn, butternut, calabaza, hubbard, and spaghetti)

**Fruiting Vegetables:** Eggplant, Groundcherry, Pepino, Pepper (including bell, chili, cooking, pimento and sweet), Tomatillo, Tomato

**Leafy Vegetables:** Amaranth, Arugula, Cardoon, Celery (including Chinese celery), Celtuce, Chervil, Edible chrysanthemum, Corn salad, Cress (garden and upland), Dandelion, Dock (sorrel), Endive (escarole), Fennel, Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio, Rhubarb, Spinach (including New Zealand and vine), Swiss chard

**Legume Vegetables (succulent or dried):** Bean (*Lupinus*, *Phaseolus* and *Vigna* spp.), Broad bean, Chickpea, Guar, Jackbean, Lablab bean, Lentil, Pea (*Pisum* spp.), Pigeon pea, Soybean, Sword bean

**Nut Crop:** Almond, Beech nut, Brazil nut, Butternut, Cashew, Chestnut, Cinquapin, Filbert, Macadamia, Pecan, Walnut (black and English)

**Pome Fruit:** Apple, Crabapple, Loquat, Mayhaw, Pear (including oriental pear), Quince

**Root and Tuber Vegetables:** Arrachacha, Arrowroot, Artichoke, Beet (garden and sugar), Burdock, Canna, Carrot, Cassava (bitter and sweet), Celeriac, Chayote, Chervil, Chicory, Chufa, Dasheen, Ginger, Gingseng, Horseradish, Leren, Parsley (turnip rooted), Parsnip, Potato, Radish, Rutabaga, Salsify, Skirret, Sweet potato, Tanier, Turmeric, Turnip, Yam (bean and true)

**Stone Fruit:** Apricot, Cherry (sweet or tart), Nectarine, Peach, Plum, Plumcot, Prune

**Subtropical Fruits:** Banana, Date, Mango, Papaya, Pineapple

**Additional crops:** Hops, Mint (peppermint, spearmint), Tobacco

**Herbs and Spices:** Allspice, Angelica, Anise, Annatto, Balm, Basil, Borage, Burnet, Camomile, Caper buds, Caraway, Cardamom, Cassia, Catnip, Celery seed, Chervil, Chive, Cinnamon, Clary, Clove buds, Coriander, Coriander, Costmary, Culantro, Cumin, Curry, Dill, Fennel, Fenugreek, Grains of paradise, Horehound, Hyssop, Juniper berry, Lavender, Lemongrass, Lovage, Mace,

Marigold, Marjoram, Mustard, Nasturtium, Nutmeg, Parsley, Pennyroyal, Pepper, Poppy seed, Rosemary, Rue, Saffron, Sage, Savory, Sweet bay, Tansy, Tarragon, Thyme, Vanilla, Wintergreen, Woodruff, Wormwood

**Ornamentals:** Bare root, container, bedding and flowering stock, cut flowers, nursery and landscape, potted flowering, shade and flowering trees, woody ornamentals

**Turf:** Ornamental lawns, golf courses and sod farms

For control/suppression of **PHYTOPHTHORA and PYTHIUM ROOT ROT** in the following field and greenhouse-grown crops, apply 2-4 quarts Quillaja Extract in 200 gallons water per acre (equivalent to 1.5-3 fl.oz. in 5 gallons water per 1,000 sq.ft.) to achieve a concentration of 2,500-5,000 ppm. Apply in early spring and fall, prior to root flush when soil temperatures are optimum for root infection. Apply to the entire root zone following, or at the end of, an irrigation cycle For best results, repeat application every 7 days, for up to 6 weeks. A surfactant is not necessary, but the addition of a wetting agent, such as Yucca Ag-Aide™, may increase efficacy. Quillaja Extract may be tank mixed with Sterol Inhibitor type fungicides.

**Berries and Small Fruits:** Blackberry (including boysenberry, dewberry, marionberry, olallieberry, youngberry), Blueberry, Cranberry, Currant, Elderberry, Gooseberry, Grape (raisin, table, wine), Huckleberry, Kiwifruit, Loganberry, Raspberry (black and red), Strawberry

**Citrus:** Calamondin, Citrus citron, Citrus hybrids, Grapefruit, Kumquat, Lemon, Lime, Mandarins, Orange (sour and sweet), Pummelo,

**Cole Crops:** Broccoli (including Chinese and raab), Brussels sprouts, Cabbage (including Chinese), Cauliflower, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens

**Cucurbit Vegetables:** Chayote, Chinese waxgourd, Citron melon, Cucumber, Gherkin, Edible gourd, Momordica spp. (including balsam apple, balsam pear, bitter melon, Chinese cucumber), Muskmelon (including cantaloupe, casaba, crenshaw, golden pershaw, honeydew, honey balls, mango, Persian, pineapple, Santa Claus, and snake), Pumpkin, Summer squash (including crookneck, scallop, straightneck, vegetable marrow and zucchini), Watermelon, Winter squash (including acorn, butternut, calabaza, hubbard, and spaghetti)

**Fruiting Vegetables:** Eggplant, Groundcherry, Pepino, Pepper (including bell, chili, cooking, pimento and sweet), Tomatillo, Tomato

**Leafy Vegetables:** Amaranth, Arugula, Cardoon, Celery (including Chinese celery), Celtuce, Chervil, Edible chrysanthemum, Corn salad, Cress (garden and upland), Dandelion, Dock (sorrel), Endive (escarole), Fennel, Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio, Rhubarb, Spinach (including New Zealand and vine), Swiss chard

**Nut Crop:** Almond, Beech nut, Brazil nut, Butternut, Cashew, Chestnut, Cinquapin, Filbert, Macadamia, Pecan, Walnut (black and English)

**Pome Fruit:** Apple, Crabapple, Loquat, Mayhaw, Pear (including oriental pear), Quince

**Root and Tuber Vegetables:** Arrachacha, Arrowroot, Artichoke, Beet (garden and sugar), Burdock, Canna, Carrot, Cassava (bitter and sweet), Celeriac, Chayote, Chervil, Chicory, Chufa, Dasheen, Ginger, Gingseng, Horseradish,

Leren, Parsley (turnip rooted), Parsnip, Potato, Radish, Rutabaga, Salsify, Skirret, Sweet potato, Tanier, Turmeric, Turnip, Yam (bean and true)

**Stone Fruit:** Apricot, Cherry (sweet or tart), Nectarine, Peach, Plum, Plumcot, Prune

**Additional crops:** Avocado, Kiwifruit

**Ornamentals:** Bare root, container, bedding and flowering stock, cut flowers, nursery and landscape, potted flowering, shade and flowering trees, woody ornamentals

**Application Rates to Enhance Plant Growth and Yield**

Under good growing conditions, absent of plant parasitic nematodes or plant parasitic fungi, Quillaja Extract is beneficial to plant growth and yield as described below.

<b>Crop</b>	<b>Benefit</b>	<b>Rate per Acre</b>	<b>Comment</b>
<b>Grapes</b>	Increased Fruit Yield and Root Development	1-2 quarts	Apply at root flush followed by 2-4 applications at 7-14 day intervals.
<b>Citrus</b>	Increased Root Development	1-2 gallons	Apply at root flush followed by 2 quarts/acre every 14 days for 4-6 weeks.
<b>Strawberry</b>	Increased Root Development	2-4 pts	Apply every 14 days for 8-10 weeks.

**Storage and Disposal**

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

**Pesticide Storage:** Store in cool dry area.

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

**Container Disposal:** Un-Refillable Container. Do not refill or reuse this container. Triple rinse (or equivalent) promptly after emptying. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

15/16

## LIMITED WARRANTY

Desert King Chile warrants that this product conforms to the chemical description on the label and is reasonable fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

[ ] indicate optional text

**Optional Label Claims:**

- Controls and/or Suppresses certain foliar diseases such as Powdery Mildew(s)
- Suppresses [Nematodes], [Powdery Mildew]
- For use also on Vegetable Crops Such as: Carrots, Peppers, Tomatoes, Broccoli, Squash, and Beets.