



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

March 9, 2018

Jacob S. Moore
Regulatory Consultant
Agent for Desert King Chile, Ltd.
c/o Technology Sciences Group, Inc.
712 Fifth Street, Suite. A
Davis, CA 95616

Subject: Labeling Notification per Pesticide Registration Notice (PRN) 98-10 – Update label to include statement “See inside booklet for additional precautionary statements, directions for use and storage and disposal.”
Product Name: Quillaja Extract
EPA Registration Number: 82572-1
Application Date: February 15, 2018
OPP Decision Number: 538508

Dear Mr. Moore:

The U.S. Environmental Protection Agency (EPA) is in receipt of your application for notification under Pesticide Registration Notice (PRN) 98-10 for the above referenced product. The Biopesticides and Pollution Prevention Division (BPPD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10.

The labeling submitted with this application has been stamped “Notification” and will be placed in our records. You must submit one (1) copy of the final printed labeling with the modifications.

Should you wish to add/retain a reference to your company’s website on your label, then please be aware that the website becomes labeling under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and is subject to review by the EPA. If the website is false or misleading, the product will be considered to be misbranded and sale or distribution of the product is unlawful under FIFRA section 12(a)(1)(E). 40 CFR § 156.10(a)(5) lists examples of statements the EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product’s label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the EPA find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA-approved registration, the website will be referred to the EPA’s Office of Enforcement and Compliance Assurance.

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If you have any questions, please contact James Parker of my team by phone at (703) 306-0469 or via email at parker.james@epa.gov.

Sincerely,

A handwritten signature in blue ink that reads "Andrew C. Bryceland". The signature is written in a cursive style with a large, stylized initial 'A'.

Andrew Bryceland, Team Leader
Biochemical Pesticides Branch
Biopesticides and Pollution
Prevention Division (7511P)
Office of Pesticide Programs

Enclosure

Master Label

Sublabel A: Agricultural Use

Sublabel B: Home Garden and Lawn Use

Optional Label Claims

Quillaja Extract

[Alternate brand names: QL Agri, QL Agri35]

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

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 Gallons
Batch Code: XXX

NOTIFICATION

82572-1

The applicant has certified that no changes, other than those reported to the Agency have been made to the labeling. The Agency acknowledges this notification by letter dated:

03/09/2018

Sublabel A: Agricultural Use

Quillaja Extract

A Bio-Pesticide

*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	
If in eyes	<ul style="list-style-type: none">• Hold eye open and rinse slowly and gently with water for 15-20 minutes.• Remove contact lenses, if present, after the first five minutes, then continue rinsing eye.• Call a poison control center or doctor for treatment advice.
If on skin	<ul style="list-style-type: none">• Take off contaminated clothing.• Rinse skin immediately with plenty of water for 15-20 minutes.• Call a poison control center or doctor for treatment advice.
If swallowed	<ul style="list-style-type: none">• Call a poison control center or doctor immediately for treatment advice.• Have person sip a glass of water if able to swallow.• Do not induce vomiting unless told to by a poison control center or doctor.• Do not give anything by mouth to an unconscious person.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.	

(See back side for additional precautionary statements.) ([See inside booklet for additional precautionary statements, directions for use and storage and disposal](#))

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 Gallons
Batch Code [Lot No.]: 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. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

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:

- 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

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.

(For 260 gallon containers: Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.)

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

EXCEPTION: If the product is soil-injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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. Minimize agitation 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, test the mixture 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, 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.

For best results irrigate the soil 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

Quillaja Extract lessens the damage caused by nematodes and increases crop yields. 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. Make single applications in the spring just prior to or during root flush, and again in the fall after harvest. For best results, make multiple applications in the spring, followed by a single application in the fall after harvest. Use Quillaja Extract in combination with other nematode control products in an IPM program to achieve season-long control of target pests.

Crop	Remarks
<p>Berries: (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>Citrus: Calamondin, Citrus citron, Citrus hybrids, Grapefruit, Kumquat, Lemon, Lime, Mandarins, Orange (sour and sweet), Pummelo</p> <p>Grapes (raisin, table, wine)</p> <p>Nut Crop: Almond, Beech nut, Brazil nut, Butternut, Cashew, Chestnut, Cinquapin, Filbert, Macadamia, Pecan, Walnut (black and English)</p> <p>Pome Fruit: Apple, Crabapple, Loquat, Mayhaw, Pear (including oriental pear), Quince</p> <p>Stone Fruit: 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, make multiple applications 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>Cole Crops: Broccoli (including Chinese and raab), Brussels sprouts, Cabbage (including Chinese), Cauliflower, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens</p> <p>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)</p> <p>Fruiting Vegetables: Eggplant, Groundcherry, Pepino, Pepper (including bell, chili, cooking, pimento and sweet), Tomatillo, Tomato</p> <p>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</p> <p>Strawberry</p> <p>Subtropical Fruits: (Not for Use in California) Banana, Date, Mango, Papaya, Pineapple, Plantain</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>Bulb Vegetable: Garlic, Leek, Onion (including dry bulb, green and Welch), Shallot</p> <p>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, Ginseng, Horseradish, Leren, Parsley (turnip rooted), Parsnip, Potato, Radish, Rutabaga, Salsify, Skirret, Sweet potato, Tanier, Turmeric, Turnip, Yam (bean and true)</p> <p>Ornamentals: 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, make multiple applications 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>Turfgrass 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

Quillaja Extract; EPA Reg. No. 82572-1

MASTER LABEL - Version (176) – Redline - dated February 15, 2018 April 15, 2014

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, Plantain

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,

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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.

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

(For containers ≤ 5 gallons)

Non-refillable container. Do not reuse or refill this container. Triple rinse (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 $\frac{1}{4}$ 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. Do not burn, unless allowed by state and local ordinances.

(For containers ≥ 30 gallons)

Non-refillable container. Do not reuse or refill this container. Triple rinse (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container $\frac{1}{4}$ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

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.

Sublabel B: Home Garden and Lawn Use

Quillaja Extract

A Bio-Pesticide

*For Control of Plant Parasitic Nematodes and Plant Parasitic Fungi
in Home Gardens and Lawns*

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

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 Gallons
Batch Code [Lot No.]: 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. Wear protective eyewear such as goggles, face shield or safety glasses and gloves. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash before reuse.

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 a manner inconsistent with its labeling.

For residential use in home gardens and lawns.

MIXING AND APPLICATION INSTRUCTIONS

Quillaja Extract is a concentrate that is easily mixed with water and applied with band or broadcast type sprayers. After mixing with water, apply solution within three hours of mixing. Irrigate area to be treated before application. After application has been made it may be necessary to water with either drip or above ground sprinklers. Do not over irrigate following application of this product. Over irrigation will move the desired concentration of the product too quickly past the targeted root zone.

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.

Application Rates for Control of Nematodes

Quillaja Extract lessens the damage caused by nematodes and increases yields. To control/suppress plant parasitic nematodes, apply Quillaja Extract to the full irrigated area using the application rate listed.

For 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. Make single applications in the spring just prior to or during root flush, and again in the fall after harvest.

For best results, make multiple applications in the spring every 7 to 14 days for up to 10 weeks, followed by a single application in the fall after harvest.

Use Site	Rate
<p>Berries (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>Citrus: Calamondin, Citrus citron, Citrus hybrids, Grapefruit, Kumquat, Lemon, Lime, Mandarins, Orange (sour and sweet), Pummelo</p> <p>Grapes</p> <p>Nut Trees: Almond, Beech nut, Brazil nut, Butternut, Cashew, Chestnut, Cinquapin, Filbert, Macadamia, Pecan, Walnut (black and English)</p> <p>Pome Fruit: Apple, Crabapple, Loquat, Mayhaw, Pear (including oriental pear), Quince</p> <p>Stone Fruit: Apricot, Cherry (sweet or tart), Nectarine, Peach, Plum, Plumcot, Prune</p> <p>Cole Vegetables: Broccoli (including Chinese and raab), Brussels sprouts, Cabbage (including Chinese), Cauliflower, Collards, Kale, Kohlrabi, Mizune, Mustard greens, Mustard spinach, Rape greens</p> <p>Cucurbit Vegetables: Chaoyote, 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>Fruiting Vegetables: Eggplant, Groundcherry, Pepino, Pepper (including bell, chili, cooking, pimento and sweet), Tomatillo, Tomato</p>	<p>Apply 8 fl. oz. of Quijalla Extract in 6 gallons of water per 1,000 sq. ft. Apply every 7-14 days for up to 10 weeks.</p>

<p>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</p> <p>Strawberry</p> <p>Subtropical Fruits: Banana, Date, Mango, Papaya, Pineapple, Plantain</p> <p>Bulb Vegetables: Garlic, Leek, Onion (including dry bulb, green and Welch), Shallot</p> <p>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, Ginseng, Horseradish, Leren, Parsley (turnip rooted), Parsnip, Potato, Radish, Rutabaga, Salsify, Skirret, Sweet potato, Tanier, Turmeric, Turnip, Yam (bean and true)</p> <p>Ornamentals: Bare root, container, bedding and flowering plants, landscape, potted flowering, shade and flowering trees, woody ornamentals</p>	
<p>Lawns: For control of <i>Anguina pacifica</i> nematode only.</p>	<p>Apply 9 fl. oz. of Quijalla Extract in 3-7 gallons of water per 1,000 sq. ft. 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% 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>

	Do not water lawn 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.
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Storage and Disposal

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

Pesticide Storage: To be stored in original container in a cool, well-ventilated areas inaccessible to children and pets. Store above 40°F.

Pesticide/Container Disposal: Nonrefillable container. Do not refill or reuse this container. **If empty:** Place in trash or offer for recycling in available. **If partly filled:** Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

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[] indicate optional text

Optional Label Claims:

- A Biopesticide
- For Control of Plant Parasitic Nematodes and Plant Parasitic Fungi in Vineyards, Orchards, Field Crops, Turf and Ornamentals (Sublabel A only).
- 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 (Sublabel A only).
- For Control of Plant Parasitic Nematodes and Plant Parasitic Fungi in Home Gardens and Lawns (Sublabel B only).
- (OMRI Listed logo)