

Fungicide • Insecticide • Miticide • Nematicide • Bactericide



Active Ingredient: Cinnamon oil 30%

Long Shadow is a broad spectrum pesticide combining cinnamon oil with natural ingredients containing polycosanols waxes (including triacontanol), along with antioxidants like B vitamins, Vitamin E, Zeaxanthin, coenzyme Q, and chlorogenic acid. Its modes of action are not entirely understood, but one mode of action involves terpenes that block octopamine in an insect's central nervous system.

In general, we recommend growers change the chemistry of their pesticide applications throughout the growing season, such as alternating between Long Shadow and Circadian Sunrise along with one or two other products with alternative modes of action of the grower's choice.

Long Shadow is formulated for foliar and soil drench applications and is our best product for control of fungus gnats, root knott nematodes, and root aphids.

Long Shadow should be applied in the early morning hours or at night when plants are under the least amount of stress.

Growers should test a given concentration of Long Shadow on a small sample of their crop prior to broad scale application.

For sensitive crops growers should not exceed 1 oz per gallon or spray more frequently than once every seven days.

Spider mites: Spray to thoroughly drench spider mites on upper and lower surfaces of leaves with sufficient force to breakup webbing. Make a second application with Circadian Sunrise 7 to 10 days following the first application. It is then safe to introduce predatory mites.

Russet Mites: Spray Long Shadow to thoroughly drench upper and lower surfaces of foliage. Follow with a spray of Circadian Sunrise two days later. Make another application using Circadian Sunrise two days following the previous spray. Predatory mites may be introduced after sprays have dried.




Foliar Aphids: One thorough spray application will generally dramatically reduce aphid populations. We recommend introducing parasitoids at this point. As population rebounds, repeat spray application. Parasitoids within mummified aphids are unharmed by sprays of Long Shadow.

Fungus gnats: Drench Long Shadow in sufficient volume to wet the top four inches of soil or media.

Use extra caution when spraying delicate flowers

Cinnamon oil will burn sensitive skin and cause temporary but considerable eye irritation. Applicators must take precautions.

See Product Label for more information.

ACTIVE INGREDIENTS:
Cinnamon Oil 30%

INERT INGREDIENTS: Water, Soap,
Coffee Grounds, Glycerine, Stearic acid,
Gum Arabic, Beeswax. 70%
Total = 100%

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DIRECTIONS FOR USE: 1. Shake or stir concentrate container prior to opening. 2. Fill spray container 1/4 to 1/2 full with clean water. 3. Add concentrate (1 to 3 oz/gal) to spray container. 4. Add water to final volume. 5. Agitate spray solution frequently. 6. Apply as course or fine spray to uniform coverage of upper and lower leaf surfaces. 7. May also apply as a soil drench for controlling soil borne insect and nematodes. 9. Rinse spray container with water and spray rinsate through nozzle(s) to clean spraying system. 10. Rinsate may be applied to soil or plants.

Do not apply this product in a manner that will contact other people. Avoid breathing spray mist.

First Aid: Wash exposed skin with soap and water. Rinse from eyes for fifteen minutes. Drink a cup of water if swallowed. Seek fresh air if exposed to fog or mist.

Applicators should wear protective eyewear •chemical resistant gloves •long-sleeved shirt and long pants •shoes plus socks

Environment

- Safe to introduce beneficial insects and mites after sprays have dried.
- Do not dispose of concentrate or extra spray solution in waterways.
- Empty containers should be triple rinsed and are safe for public landfill.

Exempt from requirements of the Worker Protection Standard, 40 CFR part 170.

Circadian Crop Sciences LLC represents this product is exempt from registration with the U.S. Environmental Protection Agency under FIFRA 25(b) regulations

USE PRECAUTIONS: Keep the container tightly closed in storage. Do not spray plants under drought stress. Do not apply at temperatures exceeding 85°F. Do not tank mix with any herbicides or within spray tanks in which herbicides have been used. Application safety during the bloom period should be determined for each individual species by conducting a small sample test. Do not tank mix with any acidic products. Maintain agitation throughout application. Only mix what can be sprayed at one time.

TIMING OF APPLICATIONS: Applicator must adjust the precise timing and rate within the labeled range to fit local growth and climatic conditions.

Workers may reenter treated areas after sprays have dried

MAY BE USED UP TO DAY OF HARVEST

Store in cool dry location out of direct sunlight

CAUTION: KEEP OUT OF REACH OF CHILDREN

Shake Well Before Each Use

Net Volume: 32 oz (948 ml) Circadian Crop Sciences, LLC represents this product is exempt from registration with the U.S. Environmental Protection Agency under FIFRA section 25(b) regulations

A FUNGICIDE/INSECTICIDE/MITICIDE/NEMATICIDE/BACTERICIDE FOR USE ON BUT NOT LIMITED TO: ORNAMENTAL PLANTS, ORCHARD CROPS, BERRIES, FRUIT TREES, VINEYARDS, HOPS, VEGETABLES, HERBS, MEDICINAL PLANTS, CEREALS, PSEUDOCEREALS, CONIFERS, GRASSES, ALFALFA AND FORBS, AT INDOOR/OUTDOOR LOCATIONS INCLUDING: FIELD GROWN FOOD AND FEED, GREENHOUSES, NURSERIES, SHADEHOUSES, GROWTH CHAMBERS, GROW ROOMS, INTERIORSAPES, FORESTS, PASTURES, RANGE LAND, TURF, RIGHT OF WAYS, AND LANDSCAPES. SAFE FOR USE AROUND SCHOOLS WHEN USED AS DIRECTED.

Application Rates (Note: Best to first make a test application on a small scale to evaluate effectiveness and plant response)

Spray When Conditions Favor Disease for Prevention

Powdery Mildews (preventative) 1/4 to 1 tsp/gal, weekly to biweekly

Rust (preventative) 1/4 oz to 1 oz/gal, weekly to biweekly

Downy Mildew (preventative), 1/2 oz to 1 oz/gal, weekly to biweekly

Sclerotinia (1/4 tsp to 1 oz/gal) focus spray lower 14 inches.

Pythium 1/4 oz/gal soil drench (okay with planted field)

Rhizoctonia 1/4 oz/gal soil drench (okay with planted field)

Botrytis (prevention) 1/4 to 1 oz/gal, weekly to biweekly

Bacterial leafspots (prevention) 1/4 to 1 oz/gal. Weekly to biweekly

Erwinia soft rot (prevention) 1/4 to 1 oz/gal. Weekly to biweekly

Botryosphera (prevention) 1/4 to 1 oz/gal. Weekly to biweekly

Stigmintia leaf spot (1/4 to 1 oz/gal) Weekly to biweekly

Apple scab (1/2 to 1 oz/gal) Spray every 7 to 10 days from leaf emergence until most flower petals have fallen.

Peach Leaf Curl (1 to 2 oz/gal). Dormant sprays in late fall and as buds swell in spring.

Monilinia Brown Rot (1/2 to 1 oz/gal) Weekly to biweekly from start to finish of flowering.

Nematodes -- preplant soil drench at 1 to 3 oz per gallon. Tarp soil for 2 to 4 week for optimal results. After removing tarp incorporate beneficial microorganisms into soil via compost or other means.

Aphids -- 1/2 to 1 oz/gal, weekly to biweekly

Whiteflies -- 1/2 to 1 oz/gal, weekly to biweekly

Leafhopper -- 1 to 2 oz/gal, weekly to biweekly

Mealybug -- 1 to 2 oz/gal, weekly to biweekly

Spider mites -- 1/4 to 1 oz/gal, weekly to biweekly

Russet mites -- 1/4 oz/gal, every other day for three applications or a single spray of up to 1 oz/gal followed by two applications of Circadian Sunrise spaced every other day.

Thrips -- 1/4 oz to 1 oz/gal, weekly to biweekly

Root Aphids/Fungus Gnats -- up to 1/4 oz/gal (1/8 oz/gal in rockwool)

Flea Beetles -- 1/2 to 1 oz/gal, weekly to biweekly

Gall midges -- 1/4 to 1 oz/gal, weekly to biweekly


Lepidoptera -- 1/4 to 1 oz/gal, weekly to biweekly

When tank mixing with Circadian Sunrise do not use more than 1/2 oz per gallon of Long Shadow with one to two ounces per gallon of Circadian Sunrise.

Long Shadow Advantages

1. Broad spectrum of pest control.
2. Safe for humans and the environment when used as directed.
3. An alternative chemistry for controlling pest.
4. Workers may enter fields after sprays have dried.
5. May apply up to day of harvest.
6. Safe to introduce beneficial mites and insects after sprays have dried when used as directed

Patent Pending



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