

RADIATE

Reduces transplant shock and promotes plant growth

GUARANTEED MINIMUM ANALYSIS

3-Indolebutyric Acid (IBA) 0.85%
Cytokinin, as Kinetin 0.15%

Net Weight: 2.527 kg Density: 1.04 kg/L

REGISTRATION NUMBER 2015035A FERTILIZERS ACT

KEEP OUT OF REACH OF CHILDREN

CAUTION

NET CONTENTS: 2.43 L

Manufactured for and Distributed by:
Loveland Products Canada Inc.
789 Donnybrook Drive
Dorchester, Ontario N0L 1G5
Product inquiries: 1-800-328-4678
24hr emergency contact: 1-800-561-8273

Lot Number: see the container

PRECAUTIONARY STATEMENTS

- Avoid contact with skin, eyes.
- Harmful if swallowed.
- Avoid contamination of skin and clothes.
- Wear long-sleeved shirt and long pants or coveralls.
- Wash hands after use.
- Do not reuse container.
- Dispose of empty containers in accordance with provincial requirements.
- Do not allow rinse water to contaminate streams, ponds and lakes, as water life may be endangered.
- 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 connect an irrigation system (including greenhouse systems) used for pesticide application to public water system unless the pesticide label-prescribed safety devices for public water systems are in place (with accompanying safety instructions).

FIRST AID

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call poison control centre or doctor for treatment advice.

Take container, label or product name with you when seeking medical attention.

GENERAL INFORMATION

Radiate® contains two (2) different plant growth regulators (PGRs) that synergistically stimulate early and improved root development. In addition, Radiate contains a mixture of vitamins that aid in successful transplanting and plant growth.

When using a non-ionic surfactant, Loveland Products, Inc. recommends LI 700® at 0.25% to 0.5% v/v.

Special considerations: Radiate compatibility with other agricultural products has not been fully investigated. Compatibility of Radiate with other products requires testing for crop safety and performance prior to largescale use. Products mixed with Radiate must be acidic (pH less than 7). Do not mix Radiate with any product(s) having a pH greater than 7. Repeat application may be necessary if it rains within 2 hours after application.

Depending upon the equipment used and specific crop, spray volume applied per acre will differ. Apply sufficient water volume to ensure thorough coverage.

FOLIAR APPLICATION INSTRUCTIONS TO REDUCE TRANSPLANT SHOCK AND PROMOTE NEW PLANT GROWTH

Crop	Rate	Application timing	Remarks
Alfalfa, Clover, Hay	150 ml/ha*	Seedling Alfalfa, Clover, Hay: apply at 2 to 4 trifoliate stage. Established crop: at green-up	Promotes new root development and growth.
Brassica Vegetables such as: Broccoli, Cauliflower, Cabbage & Mustard Greens	Drench application in transplant water at 100ml in 100 L of water Foliar application: 150ml/ha*	1st: At time of transplant. 2nd: 10 to 14 days after first application 1st: At 2 to 4 true leaf stage. 2nd: 10 to 14 days after first application	Foliar application: Apply to achieve full coverage; use a non-ionic surfactant for hard to wet crops such as cabbage.
Canola (Oil)	150ml/ha*	1st: At 2 to 4 leaf stage.	Tank mix with glyphosate products registered for use on Roundup Ready® canola.
Corn (Sweet, Field and Popcorn)	150ml/ha*	At 2 to 6 leaf stage.	Tank mix with glyphosate products registered for use on Roundup Ready corn.
Cucurbit Vegetables such as: Cucumber, Muskmelon, Cantaloupe, Summer Watermelon and Honeydew	150ml/ha*	1st: If seeded, apply at 2 to 4 true leaf stage. 2nd: 10 to 14 days after first application	Enhances root growth.
Fruiting Vegetables such as: Tomato, Pepper and Eggplant	150ml/ha*	1st: At 2 to 4 true leaf stage. 2nd: 10 to 14 days later.	
Grape	114-170 ml in 379 L water	1st: Apply when grapes are 2 to 3 mm in size. 2nd: 10 to 14 days after first application	Increases potential to enhance berry size.

		3rd: 45 days prior to harvest 4th: 30 days prior to harvest.	
Leafy Vegetables— such as: Celery, Head lettuce, Leaf application. lettuce and Spinach	150ml/ha*	1st: At 2 to 4 true leaf stage 2nd: 10 to 14 days after first	
Legume Crops such as: Dry bean, Lentil, Field Peas, Soybeans.	150ml/ha*	At 2 to 5 trifoliolate leaf stage.	Can be tank mixed with glyphosate products registered for use on Roundup Ready
Tuber Vegetables such as: Potato, Sweet potato, Yam	150ml/ha*	1st: At 2 to 4 true leaf stage. 2nd: 10 to 14 days after first application.	Foliar applications: apply thoroughly until dripping.
Root Vegetables such as: Carrot, Radish, Turnip, application. Ginseng, Horseradish, Parsley (turnip-rooted) and Sugar beet	150ml/ha*	1st: At 2 to 4 true leaf stage 2nd: 10 to 14 days after first is necessary.	Foliar application: thorough spray coverage is necessary.
Strawberry	100 ml in 100 L water.	1st: Spray immediately after transplant. 2nd: 10 to 14 days after first application	
Soybeans	150ml/ha*	At 2 to 5 trifoliolate leaf stage.	Tank mix with glyphosate products registered for use on Roundup Ready soybeans.
Sorghum	150ml/ha*	At 2 to 6 leaf stage	
Wheat	150ml/ha*	At 2 to 4 leaf stage.	

*If application spray volume is greater than 18.45L/ha, use the dilution rate of 369.33 ml /379L water.

TURFGRASS

For Sod Grass: Apply Radiate by ground using 224.6 to 449.2 L of water per ha . Use 71 ml to 185 ml product in 224.6 to 449.2 L of water, respectively, at a 1:1000 dilution rate.

For Turfgrass: Apply Radiate by ground according to the table below using 3.79 L to 37.9 L of water per 90m².

Turf	Rate (Radiate/L Water/90m ² *)	How and When to Apply
Warm Climate grasses such as: St. Augustine, Bermuda, Bermuda hybrids, Centipede & similar warm season grasses	3.69 to 18.5ml/3.79 to 18.95 L of water /90m ² .	Make applications at 2-week intervals during the growing season.
Dichondra	18.5 to 37.00 /18.95 to 37.9 L of water /90m ² .	Make applications at 2-week intervals during the growing season
Cool Climate grasses such as: Bluegrass, Rye, Fescue, and similar cool season grasses	3.69 to 18.5ml/3.79 to 18.95 L of water /90m ² .	Make applications at 2-week intervals during the growing

*Apply 3.7ml/3.79L.

ORNAMENTALS

Greenhouse and nursery grown ornamentals

Differences in responsiveness may vary from one cultivar to another or from one set of growing conditions to another. Unless previous experience dictates otherwise, prior to widespread use, test a small number of plants from each cultivar to verify desired efficacy.

Foliage Plants:

Aglaonema
Ajuga
Anthurium
Aphelandra
Caladium
Cissus
Dieffenbachia
Dracaena
Ficus
Fittonia
Gynura
Hoya
Maranta

Palms
Peperomia
Philodendron
Pilea
Pothos
Schefflera
Schlumbergera
Spathiphyllum
Syngonium
Tradescantia
Similar foliage plants

Bedding and Flowering Plants:

Abutilon
Aglais
Alyssum
Calceolaria
Canna
Carnation
Champaca
Chrysanthemum
Cineraria
Columbine
Coral Bells
Cyclamen
Dahlia
Delphinium
Dianthus
Foxglove
Fuchsia
Gardenia
Gazania
Geranium
Gladiolus
Gloxinia
Impatiens
Iris
Jasminum
Lily
Lupine
Marigold
Michelia
Monarda
Osmachus
Petunia
Poinsettia

Portulaca
Roses
Salvia
Scabiosa
Sedum
Sempervivum
Tulips
Vinca
Zinnia
Similar plants

Woody Ornamentals

Arborvitae
Aucuba
Azalea
Boxwood
Carissa
Chinese magnolia
English Ivy
Holly
Juniper
Maple
Pine
Podocarpus
Rhododendron
Viburnum
Similar plants

Garden Grown Tree Fruits:

Apple
Asian pear
Apricot
Cherry
Fig
Guava
Grape
Jujubee
Kumquat
Lemon
Litchi
Longara
Mango
Orange
Peach
Persimmon
Plum

Prunes
Starfruit
Similar plants

Application Rates and Timing:

Dilute 24 ml of Radiate in 37.9L of water (1:1500 dilution rate) for plants less than 2 years old. Dilute 37 ml Radiate in 37.9L of water (1:1000 dilution rate) for mature plants. Repeat applications at 10 to 14 day intervals when required. Apply the last spray 1 to 2 weeks prior to sale. Uniform and thorough spray coverage is necessary for best results. Do not re-enter or allow re-entry into treated areas until 12 hours after application.

CUTTINGS

Dilution rate:

For softwood cuttings use a 1:20 dilution rate (14.20 ml product in 284.1 ml of water); **For medium wood cuttings use a 1:10 dilution rate** (28.41ml product in 284.1 ml of water); **For hard wood cuttings use a 1:5 dilution rate** (56.82 ml product in 281.1 ml water). Radiate: Use on **all nursery stock cuttings** including **Woody ornamentals, Deciduous hardwoods, Evergreens, Ground Covers, and Perennials** such as: African violet, Arborvitae, Azalea, Aster, Barberry, Begonia, Boxwood, Camellia, Crape-myrtle, Clematis, Chrysanthemum, Cypress, Dahlia, Delphinium, Dogwood, Euonymus, Forsythia, Fuchsia, Geranium, Heather, Hibiscus, Holly, Honeysuckle, Ivy, Japanese quince, Jasmine, Juniper, Lilac, Magnolia, Minor, Myrtle, Pachysandra, Photinia, Pivet, Pyracantha (Firethorn), Rhododendron, Rose, Spirea, Yew, Viburnum, Vinca, Wriggle and many others. Obtain cuttings from vigorous, healthy plants and keep cuttings moist and cool such as in an ice chest. With a sharp knife, trim the cutting (5 to 20 cm long) with a diagonal cut just below a node or leaf. Dip the basal end of cutting, individually or in bunches, into the Radiate solution for **3 to 5 seconds**. Following dipping, place cuttings into planting medium. Depending on the species, rooting will take place in several weeks or months under a moist greenhouse environment. Transplanting may be performed once the cuttings have rooted.

TO REDUCE TRANSPLANT SHOCK AND PROMOTE NEW ROOT GROWTH- For Shrubs, Flowers,

Groundcovers & Houseplants

Rose, Arborvitae, Gardenias, flowering trees and other ornamentals in bare root transplant or from containers:

Use 2.0 tablespoons (30 mL) of Radiate per 37.9 L of water. Apply solution to root area in transplanting hole and then cover roots with soil. After planting, repeat applications biweekly as a drench to thoroughly wet the root area using a solution consisting of one tablespoon of Radiate per 37.9 L of water.

Annual and perennial flowers (bedding plants): Use 1.0 tablespoon (15 mL) of Radiate per 37.9 L water and apply to thoroughly saturate roots at time of planting. Repeat at weekly intervals until plants are well established.

Groundcovers such as, Ivy, Iceplant, Geranium, Cotoneaster, Barberry, & Ajuga: Use 1.0 tablespoon (15 mL) of Radiate per 37.9 L of water and apply thoroughly to saturate the root area at time of planting. Repeat at weekly intervals until plants are well established.

Houseplants (repotting and planting): Use 1.0 tablespoon (15 mL) of Radiate per 37.9L of water and water thoroughly at weekly intervals to saturate the root zone until plants are well established.

Established plants: To continue new root growth, use 1.0 tablespoon (15 mL) of Radiate per 37.9 L of water and water plants with solution once a month.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. Radiate should be stored in its original container in a cool, dry locked place out of the reach of children and out of direct sunlight.

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