



LT BioSyn, Inc.

HappyGro™

A Plant Growth Regulator for Crops

Not For Use, Sale or Resale in California

[Note to reviewer – the California restriction is optional language and may not be included on final product labeling]

ACTIVE INGREDIENT:

Cytokinin, as Kinetin 0.5% w/w

OTHER INGREDIENTS:..... 99.5% w/w

TOTAL 100.0% w/w

KEEP OUT OF REACH OF CHILDREN

CAUTION

PRECAUTIONARY STATEMENTS

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.

PHYSICAL OR CHEMICAL HAZARDS

This product is not compatible with strong oxidizers.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear: Long sleeved shirt and long pants and shoes plus socks. Follow the 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.

EPA Reg. No. 72639-10

EPA Est. No.

**LT BioSyn, Inc.
3406 Pomona Blvd.
Pomona, California 91768
USA**

Net Contents: As marked on container

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide 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.

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 applications. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls
- Chemical resistant gloves Category A, such as butyl rubber \geq 14 mils, or natural rubber \geq 14 mils, or neoprene rubber \geq 14 mils or nitrile rubber \geq 14 mils
- Shoes plus socks

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Do not enter without appropriate protective clothing until sprays have dried.

GENERAL INFORMATION

Kinetin (a cytokinin), the active ingredient in HappyGro™, is a plant growth hormone that can occur naturally. Kinetin has shown to increase cell division, cell differentiation and cell growth. HappyGro™ can enhance plant growth and development when applied as directed. HappyGro™ is a proprietary formulation.

HappyGro™ is not a fertilizer; therefore, incorporate good fertilization program practices. Under certain circumstances kinetin may delay senescence of the leaves on some crops. Make applications at the proper timing and when the crop is actively growing.

APPLICATION DIRECTIONS

For all crops, unless otherwise specified, tank mix HappyGro™ by adding 13 fluid ounces per 100 gallons of water and spray crop canopy with sufficient volume to ensure uniform coverage. For more specific instructions and rates, see the following table of crops; the rate is expressed as fluid ounces of HappyGro™ per acre in a corresponding volume of water per acre. Water volume is usually determined by the grower and/or the particular circumstances that affect uniform crop coverage; however, sufficient volume to wet leaf is required as opposed to just misting it. Use the lower rates with the corresponding lower volumes and higher rates with higher volumes.

Do not tank mix with any agrochemical products that are alkaline. Make sure the final tank mix pH is below 7.0. If sufficient rain to wash leaf occurs within 2 hours of application, re-apply. Compatibility has not been fully determined for all agrochemicals.

[Note to reviewer: The following optional language may appear on the final product label for one or more of the crops listed below – “Not for Use in California”]

Crop	Application Timing	HappyGro™ Rate/Acre	Water Volume/Acre**
Brassica Vegetables such as: Broccoli, Cauliflower, Cabbage & Mustard greens	- 1 st application: At flowering stage.	2 fl. oz.	15 gal.
	- 2 nd application: 10-14 days after first application.	2-3 fl. oz.	15-25 gal.
	- 3 rd application: 7-10 days before harvest.		
Leafy Vegetables such as: Celery, Head lettuce, Leaf lettuce and Spinach	- 1 st application: During mid-season growth. - 2 nd application: 10-14 days prior to harvest.	3-5 fl. oz.	25-40 gal.
Cucurbit Vegetables such as: Cucumber, Muskmelon, Cantaloupe, Summer squash, Watermelon and Honeydew	- Make 1 st application at early fruiting stage.	2-3 fl. oz.	15-25 gal.
	- Make 2 or more applications at 10-14 day intervals.	3-5 fl. oz.	25-40 gal.
Fruiting Vegetables such as: Tomato, Pepper and Eggplant	- Make 1 st application at early flowering stage.	2-3 fl. oz.	15-25 gal.
	- Make 2 more applications at 10-14 day intervals.	3-5 fl. oz.	25-40 gal.
Tuber Vegetables such as: Potato, Sweet potato, Yam	- 1 st application: At tuber initiation stage.	2-3 fl. oz.	15-25 gal.
	- 2 nd application: 14-21 days after first application.		
	- 3 rd application: At early bloom stage.	3-5 fl. oz.	25-40 gal.
Root Vegetables such as: Carrot, Radish, Turnip, Ginseng, Horseradish, Parsley (turnip-rooted) and Sugar beet	- 1 st application: At plant thinning stage.	2 fl. oz.	15 gal.
	- 2 nd application: 21 days after first application.	2-3 fl. oz.	15-25 gal.
	- 3 rd application: Apply 10-14 days prior to anticipated harvest.	3-5 fl. oz.	25-40 gal.

Crop	Application Timing	HappyGro™ Rate/Acre	Water Volume/Acre**
Legume Vegetables such as: Dry beans, Green beans, Peas, Soybeans, Lentils	- 1 st application: Apply at the 3-5 trifoliate leaf stage.	2 fl. oz.	15 gal.
	- 2 nd application: Apply at 5-10% each bloom.	2-3 fl. oz.	15-25 gal.
Citrus Fruits such as: Sweet orange, Lemon, Tangelos and Grapefruit	- 1 st application: At small fruit stage when fruit size is approx. 6-8 mm.	6-12 fl. oz.	50-100 gal.
	- 2 nd application: 40 days prior to harvest.	24-32 fl. oz.	200-250 gal.
Pome/Stone Fruits such as: Apple, Apricot, Cherry, Plum, Plumcot and Peach	- 1 st application: At small fruit stage when fruit size is approx. 3-5 mm.	6-12 fl. oz.	50-100 gal.
	- 2 nd application: 40 days prior to harvest.	24-32 fl. oz.	200-250 gal.
Tree Nuts such as: Almonds, Pistachios, Pecans	- 1 st application: 2 weeks prior to bloom - 2 nd application: 2 weeks following petal fall - 3 rd application: 30 days after last application	6-12 fl. oz.	50-100 gal.
Grapes including table, wine and raisin varieties	- 1 st application: 10-14 days before bud break.	3-5 fl. oz.	25-40 gal.
	- 2 nd application: Small berry stage (3-5 mm in size).	6-12 fl. oz.	50-100 gal.
	- 3 rd application: 40 days prior to harvest.		
Small Fruits such as: Strawberry, Raspberry, Blackberry, Blueberries	- 1 st application: At early flowering stage. - 2 nd application: 10-14 days after 1 st application. - Repeat applications every 10-14 days.	2-3 fl. oz.	15-25 gal.
Corn (Sweet, Field and Popcorn)	- Make one application, 6-8 days after full bloom.	3-5 fl. oz.	25-40 gal.
Cotton including short staple, acala & pima varieties	- 1 st application: Apply at the pin head square stage.	2-3 fl. oz.	15-25 gal.
	- 2 nd application: Apply at first bloom.	3-4 fl. oz.	20-30 gal.
Small Grains such as: Wheat, Barley, Rice, Sorghum	- Make one application, 5-8 days after full bloom.	2-3 fl. oz.	15-25 gal.
Peanut including all commercial varieties	- 1 st application: Apply at the 3-5 leaf stage.	2-3 fl. oz.	15-25 gal.
	- 2 nd application: Apply at initial pegging.		
	- 3 rd application: Apply during pod fill.	3-5 fl. oz.	25-40 gal.

****Note: If using any other volume of water, use the tank mix dilution rate of 13 fl. oz. of HappyGro™ per 100 gallons of water and use sufficient water volume to obtain uniform coverage.**

TURFGRASS

[Note to reviewer - The following language is optional and may appear on the final product label: “Not for Use in California”]

For Sod Grass: Apply HappyGro™ by ground using 20-40 gallons of water per acre. Apply 2.5 fl. oz. to 5.0 fl. oz. product in 20 gal. to 40 gals. of water, respectively, at a 1:1000 dilution rate.

For Turfgrass: Apply HappyGro™ by ground according to the table below using 1-10 gallons of water per 1000 sq. ft.

<u>Turf</u>	<u>Application & Timing</u>	<u>HappyGro™ Rate/1000 ft.²</u>	<u>Water Volume/1000 ft.²</u>
Warm Climate grasses such as: St Augustine, Bermuda, Bermuda hybrids, Centipede & similar grasses	1 st application: When turf greens up in the spring. Repeat at 14-21 day intervals during the growing season.	0.13-0.65 fl. oz.	1-5 gals.
Dichondra	1 st application: When turf greens up in the spring. Repeat at 14-21 day intervals during the growing season.	0.65-1.3 fl. oz.	5-10 gals.
Cool Climate grasses such as: Bluegrass, Rye, Fescue, and similar grasses	1 st application: When seeded grass becomes established or at the beginning of the season for perennials. Repeat as necessary.	0.13-0.65 fl. oz.	1-5 gals.

ORNAMENTALS

Greenhouse and nursery grown ornamentals

[Note to reviewer - The following language is optional and may appear on the final product label: “Not for Use in California”]

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.

APPLICATION INSTRUCTIONS			
HappyGro™ is applied to foliage of ornamentals and leaves of bedding plants. <u>Mixing instructions:</u> dilute 1.3 fl. oz. of HappyGro™ in 10 gallons (37.8 ml / 10 gal) of water (1:1000 dilution); for smaller quantities mix 0.13 fl.oz. HappyGro™ (¾ tsp or 3.7 ml) per 1 gallon of water. Use sufficient volume of water to obtain uniform coverage. Thorough coverage is necessary for best results			
Plant	Timing	HappyGro™ Rate	Volume of Water
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 and Similar foliage plants	1 st application: At the beginning of the season. Subsequent applications: Spray foliage 2-3 times throughout the year at even intervals.	¾ tsp.	1 gal.
		1.3 fl. oz.	10 gal.

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, and Similar plants	Bedding Plants: 1 st application: At 3-5 leaf stage. 2 nd application: 10-14 days prior to sale.	¾ tsp.	1 gal.
	Established Plants: 1 st application: 21-30 days after transplanting or in the Spring as re-growth begins. 2 nd application: At flowering.	3 tsp.	4 gal.
		1.3 fl. oz.	10 gal.
Woody Ornamentals Arborvitae, Aucuba, Azalea, Boxwood, Carissa, Chinese magnolia, English Ivy, Holly, Juniper, Maple, Pine, Podocarpus, Rhododendron, Viburnum, and Similar plants	1 st application: Early in the season as new growth begins. Subsequent applications: every 30 days as necessary	1.3 fl. oz.	10 gal.
Garden Grown Tree Fruits Apple, Asian pear, Apricot, Cherry, Fig, Guava, Grape, Jujube, Kumquat, Lemon, Litchi, Longara, Mango, Orange, Peach, Persimmon, Plum, Prunus, Starfruit and Similar plants	1 st application: When fruit size is approximately 3-5 mm. 2 nd application: 40 days prior to harvest.	3 tsp.	4 gal.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE:

Protect from freezing. Store out of direct sunlight.

PESTICIDE DISPOSAL:

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

CONTAINER DISPOSAL:

Triple rinse (or equivalent). 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.

LIMITED WARRANTY AND DISCLAIMER

NOTICE: LT BioSyn, Inc. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the Directions For Use. Buyer assumes all risks of use and handling not in strict accordance with the directions provided in this label. LT BioSyn, Inc. makes no other express or implied warranty of fitness or merchantability. To the fullest extent permitted by law, neither LT BioSyn, Inc. nor the seller shall be liable for damages resulting from the use or handling of this product not in accordance with the directions provided in this label. LT BioSyn, Inc. and Seller offer this product and the Buyer and user accept it, subject to the foregoing **Limited Warranty and**

Disclaimer which may be varied only by agreement in writing signed by a duly authorized representative of LT BioSyn, Inc.

HappyGro™ is a trademark of LT BioSyn, Inc.

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