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

ACCEPTED
DEC 13 2005
Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 72639-10

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.

CHEMIGATION

Apply this product only through the following types of irrigation systems:

1. Sprinkler including side (wheel) roll, solid set or hand move irrigation systems.
2. Calibrated overhead watering booms

Do not apply this product through any other types of irrigation systems. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. If you have any questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts. 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. 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.

CHEMIGATION SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS

Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

Chemigation systems connected to public water systems must contain a functional, reduced pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection. The pesticide injection pipeline must 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, or in cases where there is no water pump, 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 materials that are compatible with pesticides and capable of being fitted with a system interlock. Do not apply when wind speed favors drift beyond the area intended for treatment.

Fill the supply tank one-half full with water, add the appropriate amount of HappyGro™ to the tank and finish filling the tank with water. Agitate the tank throughout the application of HappyGro™. Except for turfgrass and greenhouses, apply HappyGro™ at the end of the irrigation period in a sufficient amount of water to allow proper coverage of plant or crop.

SPRINKLER CHEMIGATION

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 materials that are compatible with pesticides and capable of being fitted with a system interlock. Do not apply when wind speed favors drift beyond the area intended for treatment.

Agitate the pesticide supply tank throughout the application of HappyGro™. Except for turfgrass and greenhouses, apply HappyGro™ at the end of the irrigation period in a sufficient amount of water to allow proper coverage of plant or crop.

Fill the supply tank one-half full with water, add the appropriate amount of HappyGro™ to the tank and finish filling the tank with water.

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	- 1st application: At flowering stage.	2 fl. oz.	15 gal.
	- 2nd application: 10-14 days after first application.	2-3 fl. oz.	15-25 gal.
	- 3rd application: 7-10 days before harvest.		
Leafy Vegetables such as: Celery, Head lettuce, Leaf lettuce and Spinach	- 1st application: During mid-season growth. - 2nd 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 1st 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 1st 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.

Crop	Application Timing	HappyGro™ Rate/Acre	Water Volume/Acre**
Tuber Vegetables such as: Potato, Sweet potato, Yam	- 1st application: At tuber initiation stage.	2-3 fl. oz.	15-25 gal.
	- 2nd application: 14-21 days after first application.		
	- 3rd 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	- 1st application: At plant thinning stage.	2 fl. oz.	15 gal.
	- 2nd application: 21 days after first application.	2-3 fl. oz.	15-25 gal.
	- 3rd application: Apply 10-14 days prior to anticipated harvest.	3-5 fl. oz.	25-40 gal.
Legume Vegetables such as: Dry beans, Green beans, Peas, Soybeans, Lentils	- 1st application: Apply at the 3-5 trifoliate leaf stage.	2 fl. oz.	15 gal.
	- 2nd application: Apply at 5-10% each bloom.	2-3 fl. oz.	15-25 gal.
Citrus Fruits such as: Sweet orange, Lemon, Tangelos and Grapefruit	- 1st application: At small fruit stage when fruit size is approx. 6-8 mm.	6-12 fl. oz.	50-100 gal.
	- 2nd 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	- 1st application: At small fruit stage when fruit size is approx. 3-5 mm.	6-12 fl. oz.	50-100 gal.
	- 2nd application: 40 days prior to harvest.	24-32 fl. oz.	200-250 gal.
Tree Nuts such as: Almonds, Pistachios, Pecans	- 1st application: 2 weeks prior to bloom - 2nd application: 2 weeks following petal fall - 3rd application: 30 days after last application	6-12 fl. oz.	50-100 gal.
Grapes including table, wine and raisin varieties	- 1st application: 10-14 days before bud break.	3-5 fl. oz.	25-40 gal.
	- 2nd application: Small berry stage (3-5 mm in size).	6-12 fl. oz.	50-100 gal.
	- 3rd application: 40 days prior to harvest.		
Small Fruits such as: Strawberry, Raspberry, Blackberry, Blueberries	- 1st application: At early flowering stage. - 2nd application: 10-14 days after 1st 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	- 1st application: Apply at the pin head square stage.	2-3 fl. oz.	15-25 gal.
	- 2nd 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	- 1st application: Apply at the 3-5 leaf stage.	2-3 fl. oz.	15-25 gal.
	- 2nd application: Apply at initial pegging.		
	- 3rd 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.

Turf	Application & Timing	HappyGro™ Rate/1000 ft.^{2}	Water Volume/1000 ft.^{2}
Warm Climate grasses such as: St Augustine, Bermuda, Bermuda hybrids, Centipede & similar grasses	1st 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	1st 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	1st 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. Mixing instructions: 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	1st 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:** 1st application: At 3-5 leaf stage. 2nd application: 10-14 days prior to sale. **Established Plants:** 1st application: 21-30 days after transplanting or in the Spring as re-growth begins. 2nd application: At flowering.	¾ tsp.	1 gal.
		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	1st 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	1st application: When fruit size is approximately 3-5 mm. 2nd 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.

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