

# Maui LCF Syrup Observation Guide

Reports From Users

Revised: June 2006

The following *Maui LCF* benefits have been shown in actual experimentation and crop testing. If no source is shown, the source is various farmers on Hawaii and in several mainland states.

## 1. Increased Yield

- a. Arugula
- b. Blackberry: Farmers in Oregon, United AgriProducts Northwest Testing
- c. Broccoli: Kula farmers
- d. Citrus: Haiku farmers
- e. Coffee: Kona, Hawaii farmers, University of Hawaii
- f. Douglas Fir Biomass: University of Idaho Dept. of Forestry (15% height increase in 30 days)
- g. Flowers (Roses, Impatiens): Maui Farmers (Increase in size)
- h. Fruits (mango, papayas, citrus and guava):
- i. Garbanzo Beans: University of Idaho Field Test (Seed treated with Maui LCF resulted in 24% increase in yield)
- j. Grape harvest at Seavey Winery, California—1 fl. Oz./acre = 1080 lbs of grapes increase/acre in Phyloxera-infested grapes.
- k. Green Crops, including Parsley, Lettuce, cabbage, cucumbers, green onions, asparagus, leafy greens: Oahu & Maui farmers
- l. Kula Onions on Maui Farms (77% increase in growth)
- m. Leeks & leafy vegetables: Pennsylvania State University Department of Horticulture
- n. Lettuces, including Brune D'Hiver, Red Sails, Green Wave, Endive, Red Romaine, Plato II Romaine, Green romaine, Pirat, Thai: Kula Vegetable Farmer
- o. Mizuna
- p. Poha Berries
- q. Radish
- r. Root crops: (Beets -- yellow & Red, onions, Radishes, Turnips)
- s. Spinach: Amaranth (Red Spinach), Broad Leaf Green Spinach
- t. Taro: University of Hawaii, Maui farmers (2-3x root mass increase)
- u. Tomatoes: Kula Farmer (15% increase in yield with 8 oz per acre usage)
- v. Tuberose: Oahu Farmer (300 acres) increased number of shoots & flowers
- w. Turnips: University of Hawaii Agriculture Extension - Maui
- x. Young greens: Kula farmers (94% increase in growth)

## 2. Shortens Crop Cycle---Less Pesticide Usage

- a. Celery: Normally 12 weeks crop cycle, now 8 weeks with LCF treated at 2 oz per acre in 125 gallon water/fertilizers (Kula Farmer)
- b. Cilantro: Saves 3 weeks of growing time if transplants and ground drenched in 2 drops per gallon of water at time of planting with fertilizers (Kula Farmer)
- c. Daikon: Saved several weeks in growth
- d. Romaine Lettuce: Normally 8 week crop cycle, reduced to 6 weeks when treated with Maui LCF at 2 oz per acre in 250 gallon water/fertilizers (Kula Farmer)
- e. Young greens: Saves 2½ weeks if transplants and ground are drenched (Kula Farmer)
- f. Round Onions: saved several weeks and increased size of bulbs

## 3. Promote Recovery Or Rejuvenation Of Distressed Plants From The Following Conditions:

- a. Late Frost Damage: Oregon, United AgriProducts Northwest
- b. Fungal Root Rot Infestation: Oregon, United AgriProducts Northwest
- c. Root Knot Infestation (Coffee trees): Kona, University of Hawaii Nematologists
- d. Phyloxera Infestation in vineyards: Seavey Winery, California
- e. Root Knot Infestation (String beans): Hawaii Farmers
- f. Insect Crop Defoliation (Turnips / caterpillars): University of Hawaii Agriculture Extension
- g. Chemical Defoliation (Roses): University of Hawaii Agriculture Extension
- h. Old Flower Crops produced another flower crop: Kula Flower farmers
- i. Old Citrus and Papaya Trees recovered: Hawaii farmers
- j. Ratoon Pineapple Plant Recovery: Maui Pineapple Company potted ratoon plants, farmer, gardener
- k. Old Asparagus Clumps: Maui Grower
- l. Dying Potted Palms: Maui Grower
- m. Sunflower plants produced new flowers after seed harvest: Maui Farmer
- n. Dying Heliconias: Recovered and grew to twice the size: Flower Farmer
- o. Flood Damage to Parsley: Kula Farmer
- p. Ginger Plants Recovered one week after application: Flower Farmer

## 4. General Growth Enhancer

- a. Reduce crop cycle time for vegetables (lettuce, parsley)
- b. Support to a more robust life stage (Douglas Fir seedling data)
- c. Increases bulb development (Onion Farmers)

- d. Increase orchid growth (Maui Orchid Society President)
- e. Increases seedling growth
- f. Shorten time to flowering (pineapples)
- g. More uniform crop growth (onions, pineapples, turfgrass)
- h. Increase stolon growth, faster coverage (Turfgrass)
- i. Increase general tree growth (mangoes, guava, papayas)

## **5. Increase Survival Rate**

- a. Vegetable Transplants (Lettuces--Brune D'Hiver, Red Sails, Green Wave, Endive, Red Romaine, Plato II Romaine, Green romaine, Pirat, Thai): Kula Vegetable Farmer
- b. Spinach (Amaranth - Red Spinach, Broad Leaf Green Spinach): Kula Farmers
- c. Mizuna transplants: Kula Farmers
- d. Arugula transplants: Kula Farmers
- e. Root crops (Beets - yellow & Red, onions, Radishes, Turnips)
- f. Tree Seedlings: University of Idaho
- g. Direct seeding in Treated Soils
- h. Fruit Tree Transplant Aid
- i. Prolong life of cut flowers

## **6. Enhance Nutrient Uptake**

- a. Increases fertilizer consumption
- b. 3X more total root length in 60 days after application (Pineapples)
- c. Can be mixed and applied with liquid fertilizers
- d. Dryable onto Granular Fertilizers

## **7. Improve Overall Plant Vitality And Vigor**

- a. Increase in Leaf size (lettuce, leafy vegetables)
- b. Increase girth (pineapples)
- c. Increase foliage (lettuce, parsley, heliconias, gingers)
- d. Increase branching (coffee, grapes)
- e. Increase in fruit size (mangoes, guava, berries)
- f. Increase in fruit yield (mangoes, coffee, citrus, grapes)
- g. Increase in fruit quality (papaya, grapes, blackberries, mangoes)
- h. Increase in Flowers (Impatiens, bromeliads, roses, ginger)
- i. Increase greenness of leaves (Bok Choy, Celery)

**8. Improve Quality**

- a. Increases Sugar Content (Kula Onions increased brix content)
- b. Sweeter Oranges
- c. Papaya and mango fruit quality increased – sweeter and larger

**9. Improved Weather Resistance**

- a. Longer and robust root system prevents vegetable seedling washouts in heavy rains—Kula Vegetable Farmer
- b. Rain flooded fields resulted in mud-covered Chinese Parsley that still grew, (normally would die)

**10. Improve Insect Resistance**

- a. Reduces Phyloxera Damage---Grapes in California
- b. Reduces Nematode Damage—Root knot on Kona Coffee, Beans and Parsley

**11. Reduces Incidence Of Disease**

- a. Less Bacterial bulb rot in round onions—Kula Onion Farmers
- b. Less fungal leaf spots—Orchid grower
- c. Recovery from Root Rot Fungus infestation—United AgriProducts Northwest
- d. Recovery from Nematode Infestation—University of Hawaii, Farmers

**12. Seed Germination**

- a. Increases the germination rate of old seeds or difficult to germinate seeds: Fukuda Seed Store, Oahu Northshore Organic Market
- b. Shortens sprout manufacturing by three days---normally takes 10 days—Fukuda Seed Store
- c. Increased germination of Togan Seeds with soil drench---Grower
- d. Increased Garbanzo bean germination in field study—Univ. of Idaho

**13. Maintenance of Production**

- a. Under severe nematode pressure, 10,000 nematode per gram, still able to produce high quality and quantity crop of Parsley---Kula Farmer

**14. Largest & Fastest Growth With *Plant Growth Enhancer* Treatment**

- a. Treated grapes have the largest leaves seen (Seavey Winery)
- b. Longest roots seen (Parsley Farmer)
- c. Fastest growing Heliconia seen (Hana Flower Farmer)
- d. Largest Berries seen (Oregon Berry Farmer)

- e. Fastest growing vegetables (Broccoli, radish, beans) (Vegetable Farmers)
- f. Fastest growing Guava tree (Hana Guava grower)

**15. Cost Effectiveness**

- a. Dilution of 1:8,000 in water for woody plants (one ounce in 60 gallons water)
- b. Weaker version for vegetable and flowers, dilute 1:16,000. (one ounce in 125 gallons of water)
- c. Depending on the crop and dilution rates, four applications per year for fruit trees or monthly applications for vegetable and flowers.
- d. Shortens Crop cycles: e.g. shortens Celery crop cycle by four weeks

**16. Product Safety**

- a. No caution or warning required on label.
- b. Nontoxic according to Acute Oral Toxicity Test
- c. Classified as “Not a pesticide” by EPA
- d. Organic Usage by HOFA
- e. Meets USDA National Organic Guidelines
- f. Exceeds USDA Phytosanitary Requirements

**17. Drawbacks**

- a. Will stop grass from growing at 1:3000 dilution, do not use concentrations stronger than 1:1000 concentrations without first testing.
- b. After application, fertilizers must be applied due to increase in root mass. Root zone becomes depleted of nutrients in 15-30 days.
- c. If applied as a boom spray application, application will trigger weeds to grow as well. Drip irrigation is better.
- d. Light foliage spray will not be effective, stem and roots must be wetted.