

BiOWiSH® Crop Technology

Improving Hydroponic Lettuce Production at Glenorie Hydroponics farm in Australia

Background

BiOWiSH® was tested by Joe D'anastasi at his Glenorie Hydroponics lettuce farm in Australia.

The farm consists of seven greenhouses, 246ft long by 65ft deep. Many varieties of lettuce, including Green and Red Butter, are grown on 59ft long Nutrient Film Technique (NFT) tables. Each greenhouse has up to 30 NFT tables which in total can produce up to 27,000 heads of lettuce.

A lettuce growing cycle takes up to 6 weeks, depending on season and weather conditions. Minimum lettuce weight to market is 6 oz.

The NFT systems are irrigated with water circulated through a 1 x 1,056 Gal tank per greenhouse.



Green Butter Lettuce on Nutrient Film Technique (NFT) Growing System

BiOWiSH® Crop



- Improves crop yields
- Improves nitrogen efficiency
- Increases nutrient availability
- Enhances root development
- Improves plant vigor
- Stimulates microbial activity in the soil

Available Sizes

- 100g/3.5oz
- 1kg/2.2lbs
- 5kg/11lbs
- 10kg/22lbs

Existing Hydroponic Nutrient System

The following batches of stock solution are mixed daily and separately with 52 Gal of water on site:

Batch 1

- Pot Nitrate
- Magnesium
- MKP
- Trace

Batch 2

- Calcium Nitrate
- Iron Chelate

Then, around 3 Gal of each batch is added daily to each of the 7 x 1,056 Gal irrigation tanks to maintain an Electrical Conductivity (EC) of approximately 1.0.

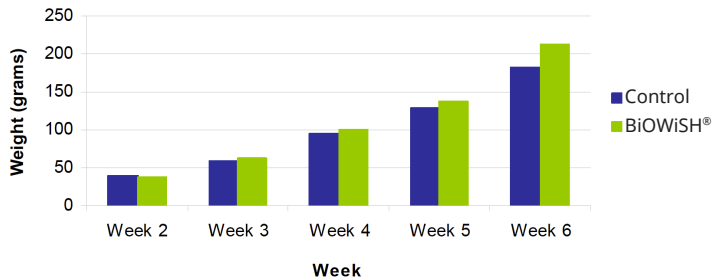
Implementation Program

For six weeks, BiOWiSH® was added directly into each irrigation tank at 5ppm, or 0.7oz per day/per greenhouse. Total product required per day is 4oz. The total cost of each fully grown lettuce is approximately \$0.004.

Growth Observations

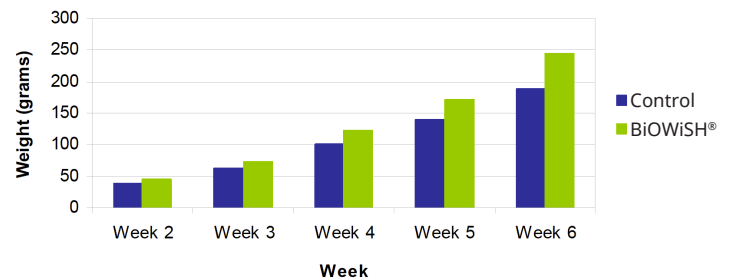
Lettuce in four greenhouses (two Treated and two Control greenhouses) were weighed on a regular basis throughout their growth cycle, in samples of ten with the average weight shown on the graphs below.

Red Butter Lettuce



BiOWiSH® treated lettuce 30% heavier at harvest

Green Butter Lettuce



BiOWiSH® treated lettuce 17% heavier at harvest

Implementation Outcomes

BiOWiSH® treated lettuces were:

- Heavier
- Healthier with lower mortality
- More vibrant
- Higher in sugar content
- Thicker and more consistent
- Harvested more regularly



About BiOWiSH®

The result of over 18 years of research and development, BiOWiSH® is a powerful blend of biocatalysts that speeds up biochemical reactions at a rate faster than unaided processes or current technologies. 100% natural and non-toxic, BiOWiSH® is safe for everyday use in a very diverse range of consumer and industrial applications. BiOWiSH® is a revolutionary water treatment solution that helps increase nutrient availability, improve plant vigor, and stimulate microbial activity while preventing sludge build-up for the hydroponics industry and problematic scaling in dripper lines, micro-tubes, and Nutrient Film Technique (NFT) gully floors.



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