Glenorie Hydroponics, Australia

Background

BiOWiSH™-Hydroponic was tested by Joe D’anastasi at his Glenorie Hydroponics lettuce farm in Australia.

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

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](image)

BiOWiSH™-Hydroponic

Benefits experienced using BiOWiSH™-Hydroponic:

- Improved yield
- Improved plant vigor
- Increase in total number of crops per annum
- Increased nutrient availability to plants
- Improved water quality and clarity
- Reduced sludge and algae accumulation
- Reduced habitat for fungal spores
- 100% natural and non-toxic

Available Sizes

- 8 x 10 gram (tea bags)
- 75 x 10 gram (tea bags)
- 2.2lb
- 11lb
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.

BiOWiSH™-Hydroponic Implementation

For six weeks, BiOWiSH™-Hydroponic was added directly into each irrigation tank at 5 ppm, or 0.7 oz per day/per greenhouse. Total product required per day is 4 oz. 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.

*BiOWiSH™* treated lettuce 30% heavier at harvest

*BiOWiSH™* treated lettuce 17% heavier at harvest
Implementation Outcomes

BiOWiSH™-Hydroponic treated lettuces were:

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

About BiOWiSH™-Hydroponic

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. Developed specially for the Hydroponics industry, BiOWiSH™-Hydroponic is a revolutionary water treatment solution that helps increase nutrient availability, improve plant vigor, and stimulate microbial activity while preventing sludge build-up and problematic scaling in dripper lines, micro-tubes and Nutrient Film Technique (NFT) gulley floors.

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