BIOLOGIC Micronutrient Addition for Odour Control

Presented By:

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SciCorp International Corp.

SciCorp International Corp.

- Canadian based companies – privately owned
- Head Office/Manufacturing in Barrie, Ontario
- Engineering office in Oakville, Ontario

We are committed to:

- Using natural biological systems
- Protecting the environment
- Providing solutions that benefit our clients economically
- Making a positive economic/lifestyle impact in your community

Unique Approach

- Scientific innovation
- Stimulation of natural bioreactions
- No direct capital investment
- No requirement for new infrastructure
- Immediate return on investment

About BIOLOGIC Products

BIOLOGIC Products contain ...

- No Masking Agent
- No Bacteria
- No Enzymes
- No Toxic Chemicals

About BIOLOGIC

- Safe for human health and the environment
- Manufactured with food-grade vitamins, amino acids and minerals
- Biodegradable
- Non-Toxic – Certified by:

Environmental Choice Program

ENVIRONMENTAL CHOICE · CHOIX ENVIRONNEMENTAL ·

programme Choix environnemental

Camping éco-l'eau, Canada!
Camp Green, Canada!

SciCorp BIOLOGIC

How BIOLOGIC Works
Fundamentals

- Accelerate certain species of aerobic/anaerobic bacteria
- Suppress certain odour producing species of aerobic/anaerobic bacteria

How BIOLOGIC Works
Fundamentals

- BIOLOGIC works in the following applications
  - Wastewater imparted with organic compound
  - Solid organic waste

How BIOLOGIC Works
Fundamentals

- BIOLOGIC breaks down airborne organic odour producing compounds
- BIOLOGIC works in suppressing formation of organic odour producing compounds in liquid/solid waste

How BIOLOGIC Works
Fundamentals

- Odour producing contaminants affected by BIOLOGIC include:
  - Hydrogen Sulphide
  - Ammonia
  - Trimethylamine
  - Methylmercaptan
  - and other odour producing compounds

Demonstration Study
Mixed Organic Waste
Odour Impact Evaluation
using
BIOLOGIC SRC_3

Test Material

- Fresh organic food waste
- Sample size – 2kg
- Sample split into 5 separate 400gm samples for testing

Test Protocol

• No. of samples treated	5
• Sample size	0.4kg
• SRC_3 (cherry fragrance, 1:100 solution)	10 ml (1 time)
• Mixing protocol	Thoroughly mixed in with sample

Sample Storage

- In 1 litre sealed glass containers, equipped for automatic air sampling
- Incubated at 30 degrees Celsius

Testing Protocol

- Sampling frequency
  - 12 hour intervals
- Test device
  - Series 4050 HP Gas Chromatograph

Parameters Analysis

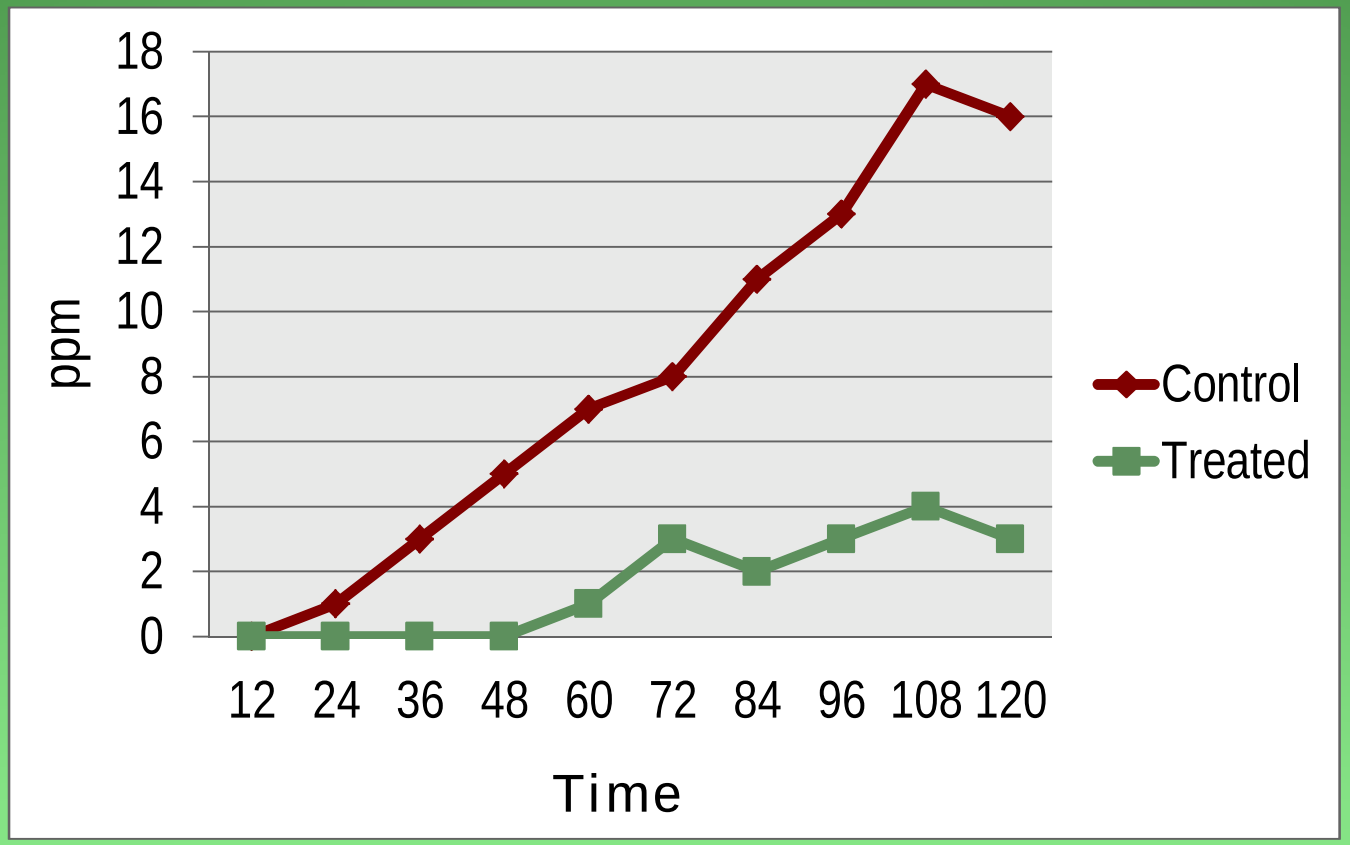
- Hydrogen sulphide
- Ammonia
- Trimethylamine
- Methylmercaptan

Test Evaluation

- Olfactory Results
  - Control Sample
    - Highly putrefied odour
  - Test Samples
    - Light cherry pleasant odour

Analytical Results

Hydrogen Sulphide
Control vs. Treated

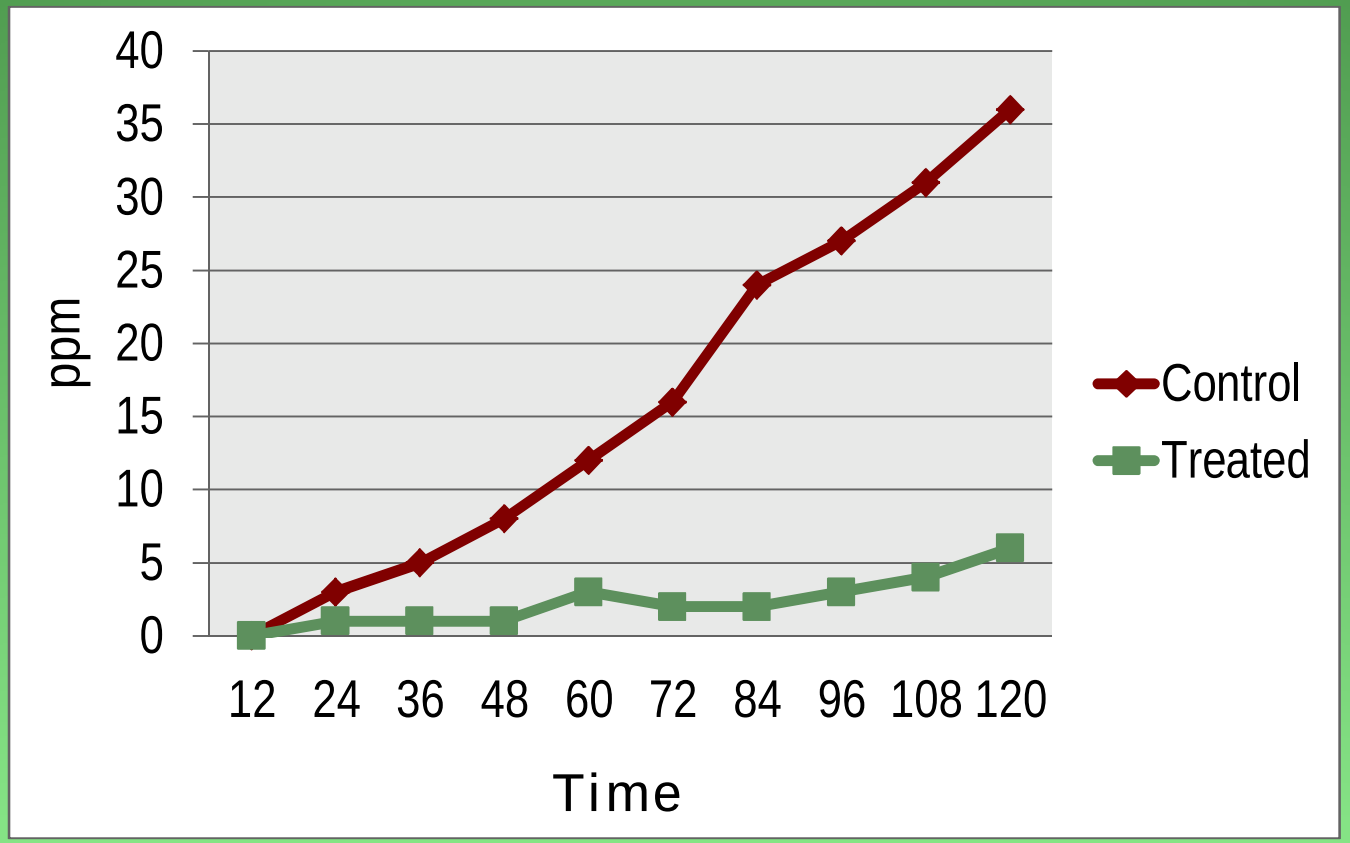


- Average reduction during 5 days – 80%

Analytical Results

Ammonia

Control vs. Treated

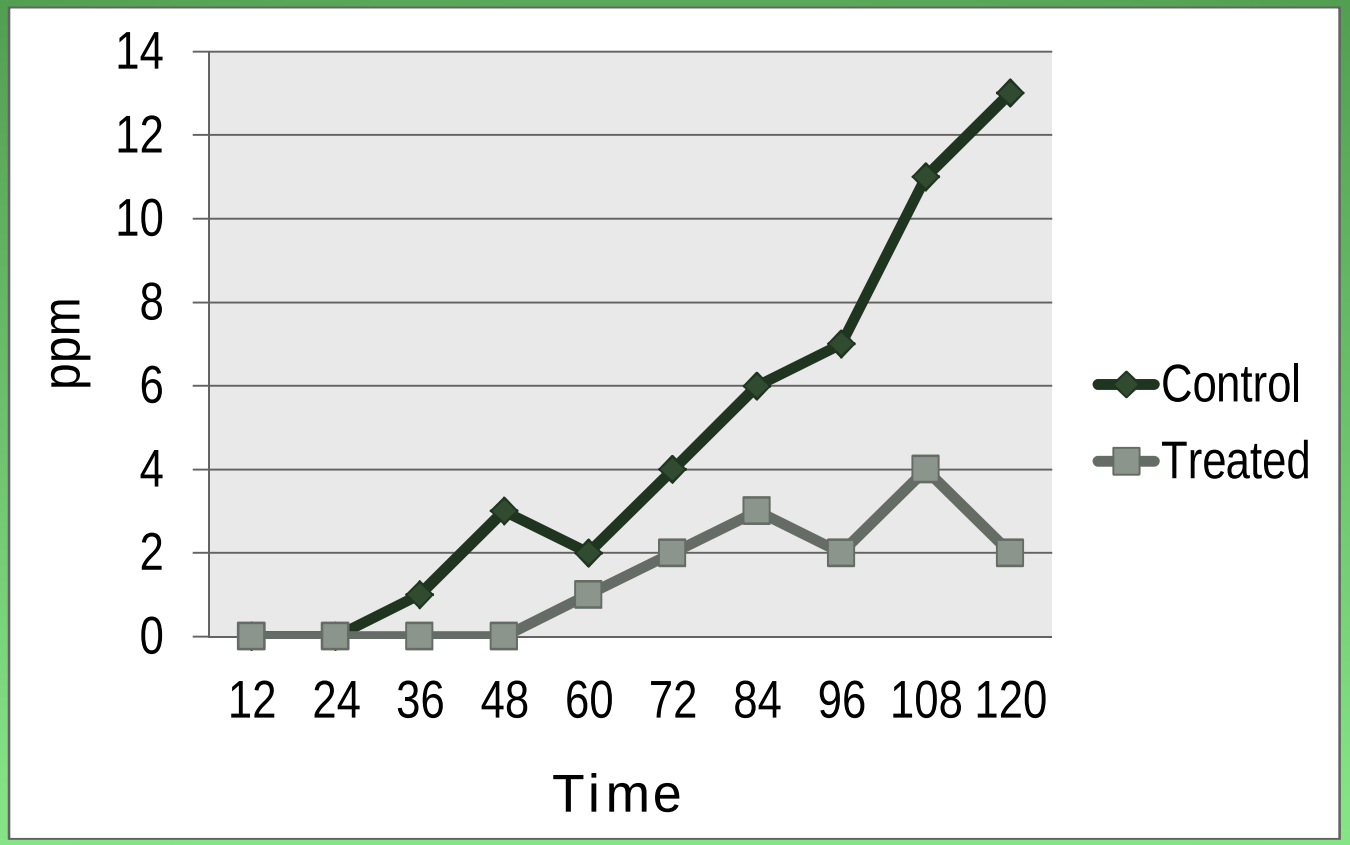


- Average reduction during 5 days – 84%

Analytical Results

Trimethylamine

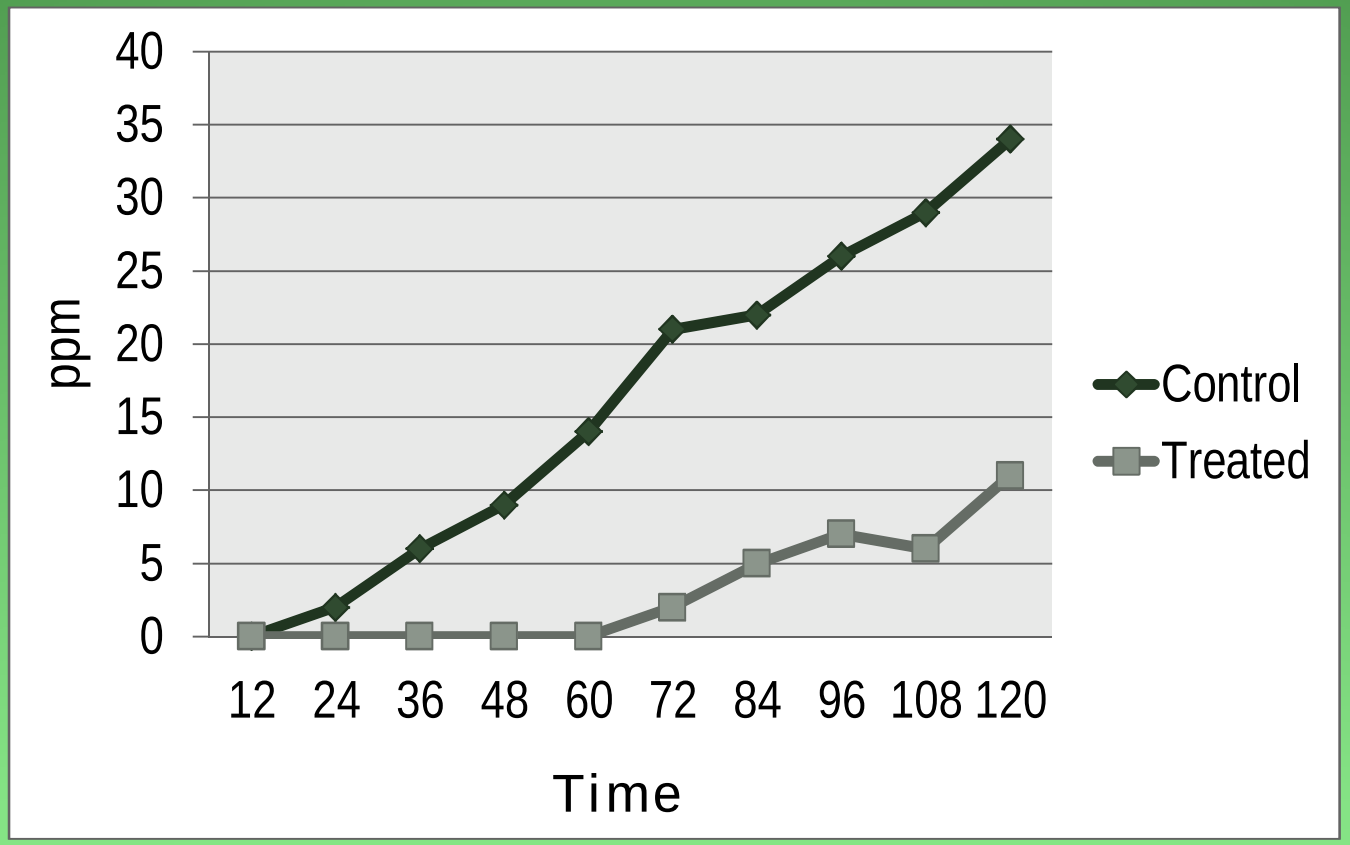
Control vs. Treated



- Average reduction during 5 days – 70%

Analytical Results

Methylmercaptan
Control vs. Treated



- Average reduction during 5 days – 81%

Conclusion

- BIOLOGIC SRC_3 has significant impact on odourous gases produced by mixed organic waste
- One-time application has duration of at least 5 days
- BIOLOGIC SRC_3 suppresses the formation of odourous gases by odour producing bacteria

Full Scale Application

Hog Slaughterhouses and Hog Farms

Problem:	Airborne H_2S/Ammonia in live animal retention area
Application Protocol:	Air misting
Result:	90% plus elimination of odour
Extra Benefit:	Improved animal health

Air Misting System in Live Animal Retention Area

Full Scale Application

MSW Transfer Station

Problem:	Airborne H_2S/Ammonia and other odour producing compounds
Application Protocol:	Misting
Results:	100% plus elimination of odour and all neighbourhood complaints

Air Misting System in Transfer Station

Misting System in Transfer Station

Full Scale Application

Chicken Processing Plant – Rendering Facilities

Problem:	Airborne odours from cooking processing operations
Application Protocol:	Misting
Results:	100% plus elimination of all problem odours

Misting System in Chicken Waste Rendering Plant

SciCorp BIOLOGIC™

Full Scale Application

Waste Water Treatment Plants – Domestic/Industrial

Problem: H_2S/Ammonia odours from anoxic waste water holding tanks

Application Protocol: Misting/waste water dosing at 1-2 ppm

Results: Airborne H_2S reduced by 88-95%

Airborne Ammonia reduced by 100%

Full Scale Application

Chicken Farm

Problem:	High H_2S/Ammonia levels in barns
Application Protocol:	Misting
Results:	Airborne H_2S/Ammonia reduced 75-80%

Full Scale Application

Commercial Foodwaste Garbage Room

Problem: H_2S/Ammonia

Application Protocol: Misting

Results: Complete elimination of odour