



BIO-ORGANIC CATALYST
THE POWER IN NATURE®

CASE STUDY
bio-organic.com

Increasing Yields of crops without using Fertilizers and Pesticides

Shuwaib, Al Ain UAE

Shuwaib Farms Brief

Located in Shuwib near Madam in Al Ain Shuwib farms is the only organic farm certified by ICEA of Italy in the UAE. Their customers include RipeME, Carrefour, Spinneys Etc. The farm grows vegetables, Dates and some fruits in their 60 Air cooled Green houses and adjoining 40 acres of land.

Farm Location

Click [here](http://wikimapia.org/#lang=en&lat=24.771083&lon=55.777443&z=18&m=b) for Google location. <http://wikimapia.org/#lang=en&lat=24.771083&lon=55.777443&z=18&m=b>



Challenges in farming.

Mortality of the crop is the biggest risk for a farmer which makes them over dose pesticides or PKN (Phosphorus Potassium Nitrogen) based fertilizers in their crops. The irrigation system of a typical Green house in the desert is a drip irrigation system so the roots also curl up in a bunch around the plant making the foundation of the plant weak.

Solution:

Using Phyto-C₃™ the above challenges were eradicated and the Yield of the plant was doubled. The next few slides will showcase the Progress of crops with their control subjects. The test was Started at infancy stage of the crop and went on for 6 months for the tomatoes. No fertilizer or urea was used in this experiment. Cow manure was applied, and the growing medium was 40% Sand and 60% organic compost.



Plum Tomatoes

**First Dosing Height
100mm**



Month 1, Dosed Crop

One month after the first dose



Month 1, Non dosed crop

Notice the inconsistency in height



Month 2, Dosed Crop



Month 2, Non dosed crop



Month 3, Dosed Crop



Month 3, Non dosed crop



Month 4, Dosed Crop



Month 4, Non dosed crop



Month 5, Dosed Crop



Month 5, Non dosed crop



Month 5, Dosed Crop



Month 5, Non dosed crop



Month 6, Dosed Crop



Month 6, Non dosed crop



Month 7, Dosed Crop



Month 7, Non dosed crop



Final Results

- The Final Yield of the crop was 2 times over than the control. Lab test report is attached at the end.
- The Plants were still flowering and bearing fruit but due to the High temperatures in July (50c) they were turning red at a very young age. But they were still flowering off season.
- The plants were stronger and more robust than the control which ended its cycle when the season ended.
- As of 3rd august the crop is still flowering and bearing fruit, and monthly dosing will continue to see if it can survive another two months.
- September the crop had to be pulled out to make way for new plantation but was still flowering and bearing fruit. Although not of very large size.
- The control had a 30% mortality while the Treated had a 100% survivability rate
- No Urea or PKN was used in either of the subjects.

Final Tomato Yields :

Control non dosed crop Yield 720.00Kg (Seven Hundred Twenty Kilograms)

Treated BOC crop Yield: 1,715.5Kg (One Thousand Seven Hundred Fifteen and a Half Kilograms)

Case Study Performed By:

Gautam Dandona

Additional Experiments:

Parsley was harvested 5 times before the left side could grow to its full height



Cucumbers

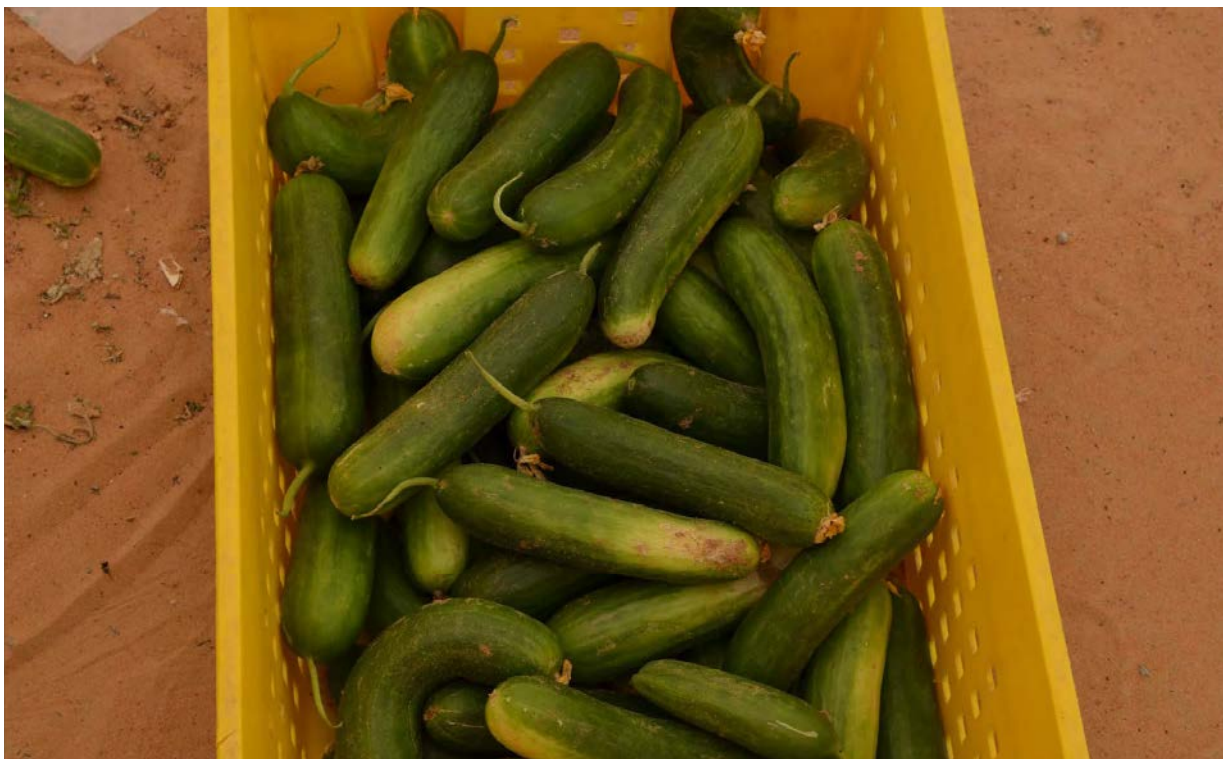
Non treated, less leafy

Treated more dense leaves



Cucumber Result

The test was inconclusive as it was hit by Aphids.





مختبر علوم التربة لفحص المواد
GEOSCIENCE TESTING LABORATORY

TEST REPORT

MICROBIOLOGICAL ANALYSIS OF TOMATO (TREATED)

Report No.	: R2/DX13-6829	Date	: 09/06/2013
Client Name	: 1 ml	Sampling Method	: APHA
Project Name	: Not applicable	Receiving Date / Time	: 04/06/2013 - 18:00 Hrs
Address	: Dubai - UAE	Sampling Location	: Dubai
Contact Person	: Mr. Siraj	Sampling Source	: Farm
Telephone & Mob No.	: 04-3412227 / 050-4941822	Sample Container	: Sterile Bag
Sample Description	: Tomato (Treated)	On-Site Treatment	: Not applicable
Sample Production Date	: Not applicable	Sample Batch Code	: Not given
Request No.	: Q2/DX13-6829 (Q2/AD13-7703)	Sample Expiry Date	: Not given
Sample No	: S2/DX13-6829 (S2/AD13-7703)	Sample Received By	: GTL's Rep.
Sampling Date / Time	: 04/06/2013 - 11:00 Hrs	Sample Receipt Temp.	: 4°C
Sample Collection Temp.	: Not given	Tested By	: SAR / PAS
Sampled By	: GTL's Rep.	Tests Dates	: 04/06/2013 - 08/06/2013

Parameters	Methods	Units	Results	GS 1016/2000* Specification
Aerobic plate count	BAM Chapter 3	CFU/g	< 10	4.0 x 10 ¹
E.coli	CMMEF 8.91	MPN/g	<3**	8.0 x 10 ¹
Salmonella spp.	CCFRA 3.1.2:2007	Per 25 gm	Absent	Absent

** < 3 Considered as absent

Test Method Variation : None

Remarks : The tested sample complies with the requirements of GS 1016/2000 Specification* for the microbiological criteria for foodstuff - part 1 with respect to the tested parameters.

: These tests were conducted in Abu Dhabi Branch.

GTL certifies that above tests were carried out in accordance with

1) Bacteriological Analytical Manual (BAM), USDA 8th edition.

2) Manual of microbiological method for the food and drink industry, Campden and Chorleywood food research association (CCFRA),

UK Technical manual # 43, 5th edition.

3) Compendium of methods for the Microbiological examination of foods (CMMEF), APHA 4th edition.

These tests are within ISO/IEC 17025 Accreditation scope of Abu Dhabi Branch

- Result relates only to the item tested
- Report shall not be reproduced (Except in full) without written approval of the laboratory.

Form: MB/RP-01

Page 1 of 1

Issue: 02 / 28.08.2008



Rev.: 02 / 04.01.2012

For GEOSCIENCE TESTING LABORATORY

Dubai : P.O.Box 61670, Tel : +971-4-431 4690, Fax : +971-4-431 4570
Sharjah (Khorfakhan) : P.O. Box 64800, Tel : +971-9-238 9824, Fax : +971-9-238 9826
Website : www.geoscience.ae E-mail : info@gtl.ae



مختبر علوم التربة لفحص المواد GEOSCIENCE TESTING LABORATORY

TEST REPORT

MICROBIOLOGICAL ANALYSIS OF TOMATO (UNTREATED)

Report No.	: R2/DX13-6830	Date	: 09/06/2013
Client Name	: 1 ml	Sampling Method	: APHA
Project Name	: Not applicable	Receiving Date / Time	: 04/06/2013 - 18:00 Hrs
Address	: Dubai - UAE	Sampling Location	: Dubai
Contact Person	: Mr. Siraj	Sampling Source	: Farm
Telephone & Mob No.	: 04-3412227 / 050-4941822	Sample Container	: Sterile Bag
Sample Description	: Tomato (Untreated)	On-Site Treatment	: Not applicable
Sample Production Date	: Not applicable	Sample Batch Code	: Not given
Request No.	: Q2/DX13-6830 (Q2/AD13-7704)	Sample Expiry Date	: Not given
Sample No	: S2/DX13-6830 (S2/AD13-7704)	Sample Received By	: GTL's Rep.
Sampling Date / Time	: 04/06/2013 - 11:00 Hrs	Sample Receipt Temp.	: 4°C
Sample Collection Temp.	: Not given	Tested By	: SAR / PAS
Sampled By	: GTL's Rep.	Tests Dates	: 04/06/2013 - 08/06/2013

Parameters	Methods	Units	Results	GS 1016/2000* Specification
Aerobic plate count	BAM Chapter 3	CFU/g	< 10	4.0×10^1
E.coli	CMMEF 8.91	MPN/g	<3**	8.0×10^1
Salmonella spp.	CCFRA 3.1.2:2007	Per 25 gm	Absent	Absent

** < 3 Considered as absent

Test Method Variation : None

Remarks : The tested sample complies with the requirements of GS 1016/2000 Specification* for the microbiological criteria for foodstuff - part 1 with respect to the tested parameters.

: These tests were conducted in Abu Dhabi Branch.

GTL certifies that above tests were carried out in accordance with

1) Bacteriological Analytical Manual (BAM), USDA 8th edition.

2) Manual of microbiological method for the food and drink industry, Campden and Chorleywood food research association (CCFRA), UK Technical manual # 43, 5th edition.

3) Compendium of methods for the Microbiological examination of foods (CMMEF), APHA 4th edition.

These tests are within ISO/IEC 17025 Accreditation scope of Abu Dhabi Branch

- Result relates only to the item tested
- Report shall not be reproduced (Except in full) without written approval of the laboratory.

Form: MB/RP-01
Page 1 of 1

Issue: 02 / 28.08.2008



Rev.: 02 / 04.01.2012

For GEOSCIENCE TESTING LABORATORY

Dubai : P.O.Box 61670, Tel : +971-4-431 4690, Fax : +971-4-431 4570
Sharjah (Khorfakhan) : P.O. Box 64800, Tel : +971-9-238 9824, Fax : +971-9-238 9826
Website : www.geoscience.ae E-mail : info@gtl.ae