

# Organic Greenhouse from scratch and 11 years latter

3rd INTERNATIONAL SYMPOSIUM ON  
ORGANIC GREENHOUSE HORTICULTURE

April 13th 2016  
Ing. Esteban Macías Padilla



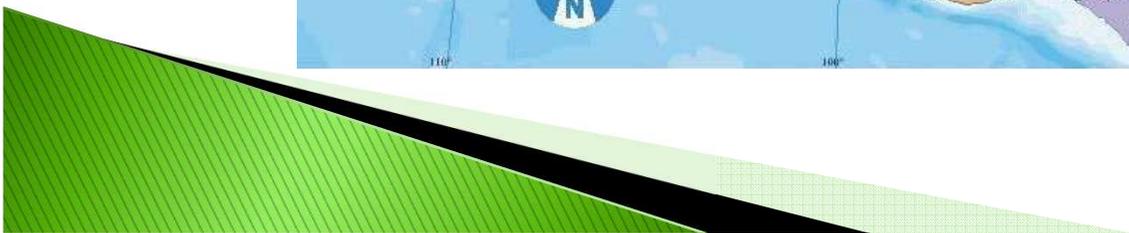
COST is supported by  
the EU Framework Programme  
Horizon 2020



# Grupo U



Guanajuato





## Grupo U

**100% Family own and operated**

**40 Years growing vegetables**

**3,000 + empleados**

**Vertically integrated:**



**Land Management**

**Transplants**

**Crop Management**

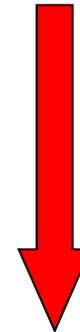
**Harvest**

**Packing/Cooling**

**Procesing**

**Distribution**

**Sales and Marketing**





Grupo U





- ▶ Currently managing 3500 has conventional open field
- ▶ 200 Organic openfield
- ▶ 20 Organic Greenhouse

+ 7500 Ha Net production per year

Lettuce

Broccoli

Cauliflower

Cabbage

Spinach

Garlic

Celery

Sweet Corn

Cilantro

Redbeet

Radish

Asparagus

Carrots

Tomato



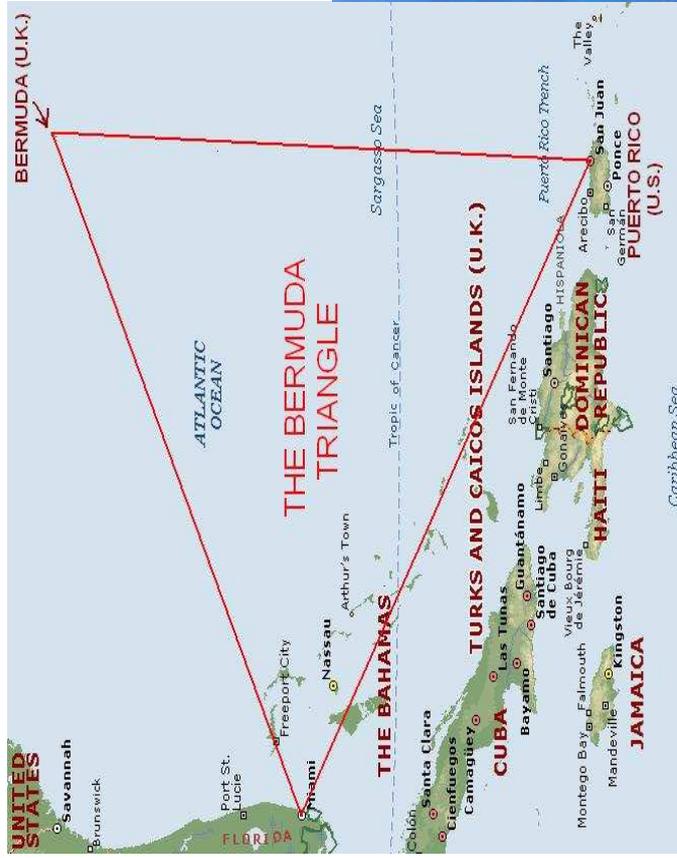
Mostly conventional  
farming almost 5%  
Organic



# Organic production trials

- ▶ 1998 first attempt to grow 3 Has of organic broccoli, open field (Otcocertified), crop lost due to Flooding.
- ▶ 1999 second attempt to grow 3 Has of broccoli, crop lost due to hail storm.
- ▶ 2000 Third attempt to grow 3 Has of broccoli, succeeded, we didnt had a market and was sold as conventional





- ▶ 2004 we start a joint venture growing for Earthbound Farms Celery, radicchio, Green beans, open field tomatoes\*\*

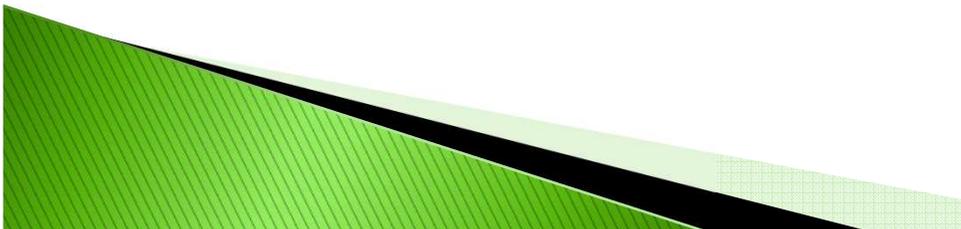
First tomato crop  
Ruined by psilid  
Transmitted Mycoplasma



Potato psilid

- ▶ October 8th 2005 we obtain certification for our first two Greenhouse units (1.5 Ha each)

Growing grape, cherry and Beefsteack tomatos



# Why Organic?

- ▶ Specialty Market—Trending and Demanding
- ▶ US and Canada commercial opportunity
- Certification required .
- Distinctive labeling.
- Premium prices.
- Challenging our production practices



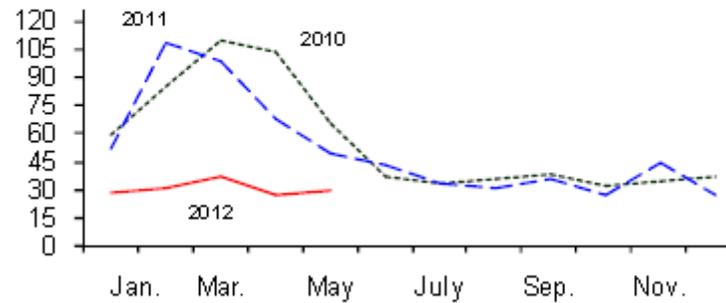
# US Market trend

Price table 6—Fresh-market vegetables: U.S. average monthly advertised retail prices, 2011-12

Item	Units	Year	Jan.	Feb.	Mar.	Apr.	May	June *	July	Aug.	Sep.	Oct.	Nov.	Dec.	Change	
															Mar. - Mar.*	
— Dollars per unit —																
Percent																
Tomatoes, organic	Pound	2011	3.65	3.99	4.08	3.59	3.77	4.43	4.30	3.78	3.32	3.64	---	---	---	---
		2012	3.99	3.65	3.74	3.66	4.30	4.64								
Tomatoes	Pound	2011	1.27	1.18	1.30	1.68	1.33	1.36	1.24	1.34	1.32	1.13	1.40	1.34		-33.2
		2012	1.10	1.01	1.09	1.13	1.12	1.28								

## Tomatoes

Cents/pound



# US Market trend

Commodity	Variety	Unit	THIS WEEK		LAST WEEK		LAST YEAR	
			Stores With Ads	Wtd Avg Price	Stores With Ads	Wtd Avg Price	Stores With Ads	Wtd Avg Price
Tomatoes	Vine Ripes, On The Vine-Greenhouse	per pound	1,889	2.39	3,477	2.21	1,562	2.16
Tomatoes Orgánic	Vine Ripes, On The Vine-Greenhouse	per pound	196	2.95	1,125	3.31	90	3.99

# Organic Green house growing from scratch



# Organic Green house growing from scratch



# Why did we go on containers?

- ▶ Organic certification requires three years free of prohibited Materials, our best spots for Greenhouse placement didn't meet this requirement.
- ▶ Original plan was to start on containers and once soil gained the organic status move on to it.





Oct 28th 2006 =)

# First Lessons

- ▶ Compensated drippers aint organic friendly
  - Most organic fertilizers aint soluble, some “suspendable”.
- Enviromental control Key to disease supression.

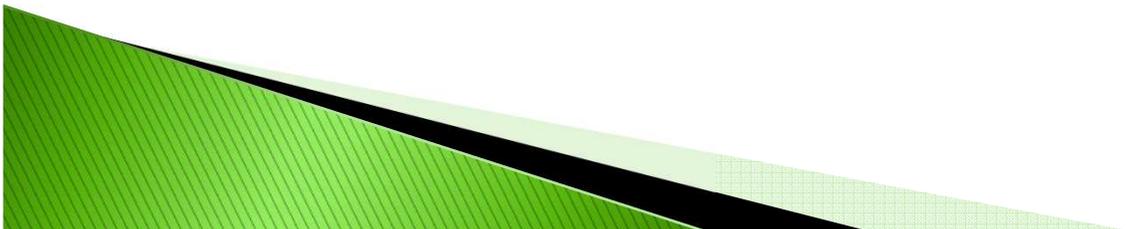
60% of plant heads lost  
Due to phytophthora

Nov 15th 2006 =(



# 4.-Plant Nutrition

- ▶ **\*\*Our critical Weakness\*\***
- ▶ Nitrogen is challenging : Compost, Fish Meal, Blod meal, Soy protein, Heat treated chicken manure, etc
- ▶ During the last five years protein sources jumped 50% in price





Physiological  
Calcium deficiency 2011





Physiological  
Calcium deficiency 2016



# Disease control



# Disease control



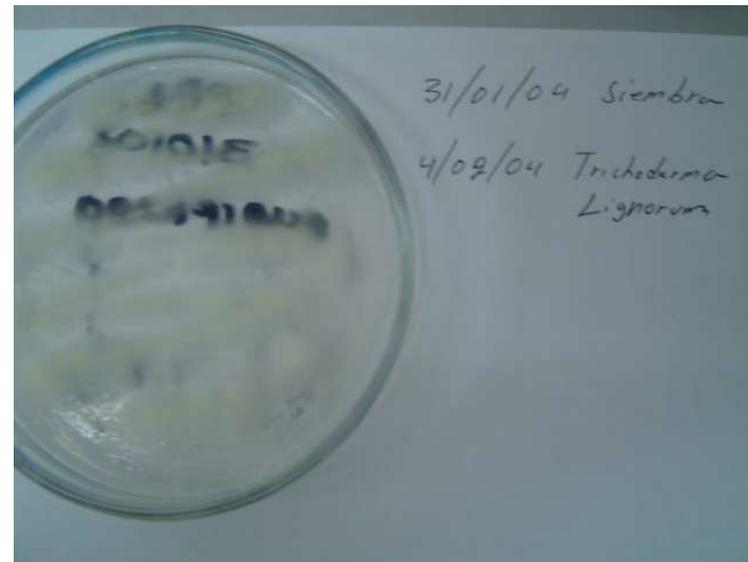
# Pest and disease control Materials

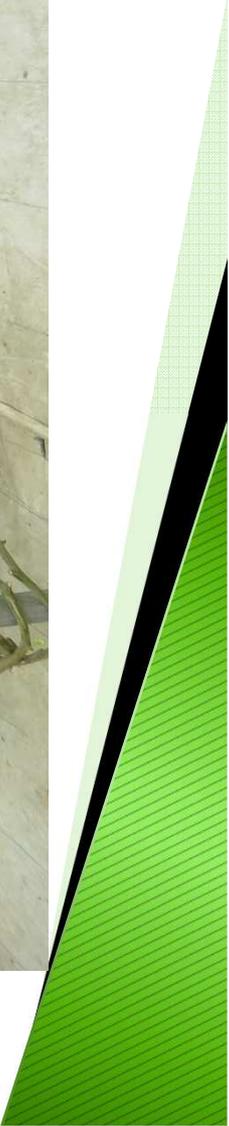


- ▶ Mainly using:
- ▶ Beauveria bassiana
- ▶ Insecticidal soap



- ▶ Copper Hidroxide (Very low rates)
- ▶ Bacillus Subtillis (serenade) (Bactericide y fungicide)
- ▶ Sulphur (Mildews.)
- ▶ Trichoderma harzianum
- ▶ Azotobacter
- ▶ composite inoculants







03/31/2016

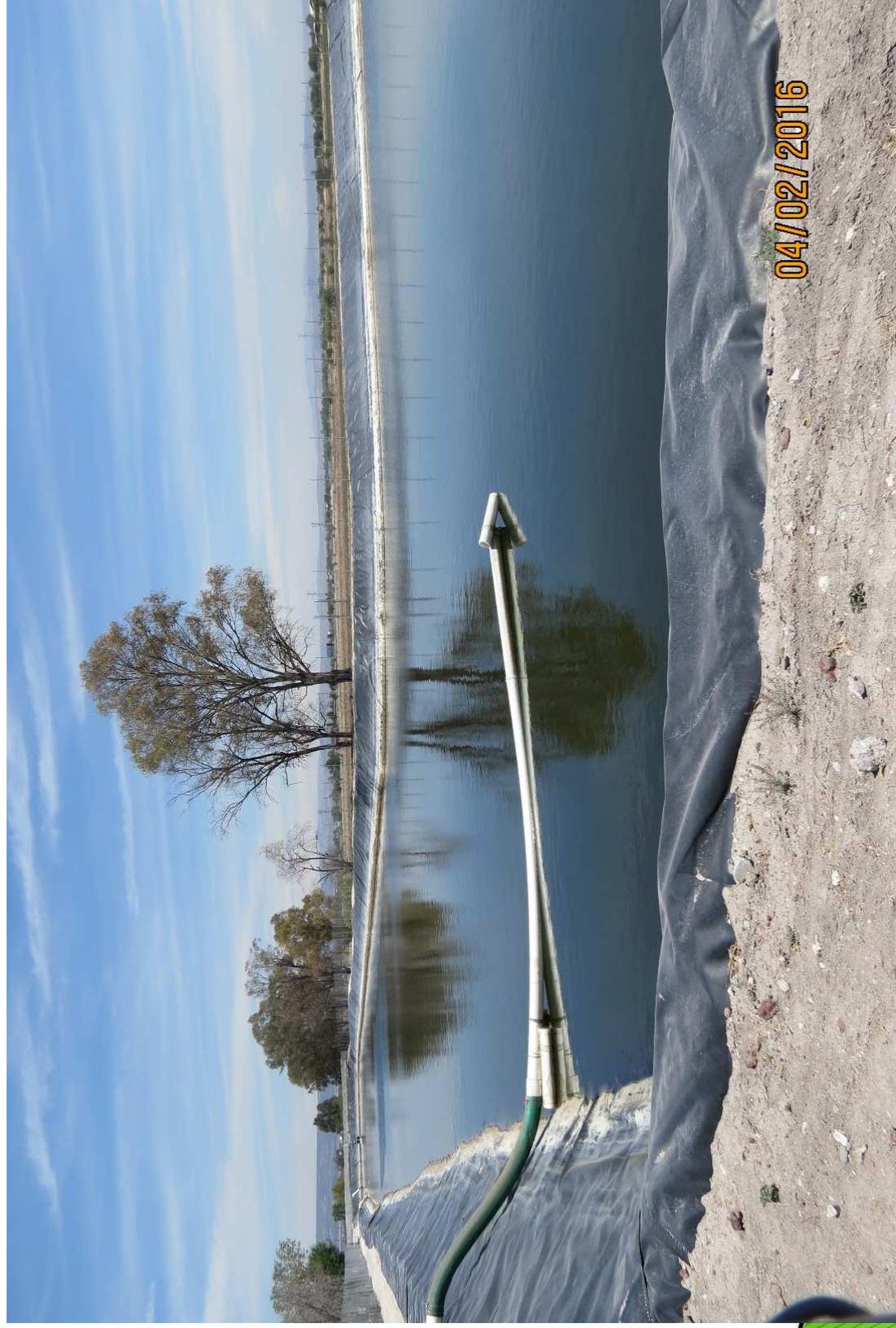




**LET'S DO IT SUSTAINABLE!!!!**



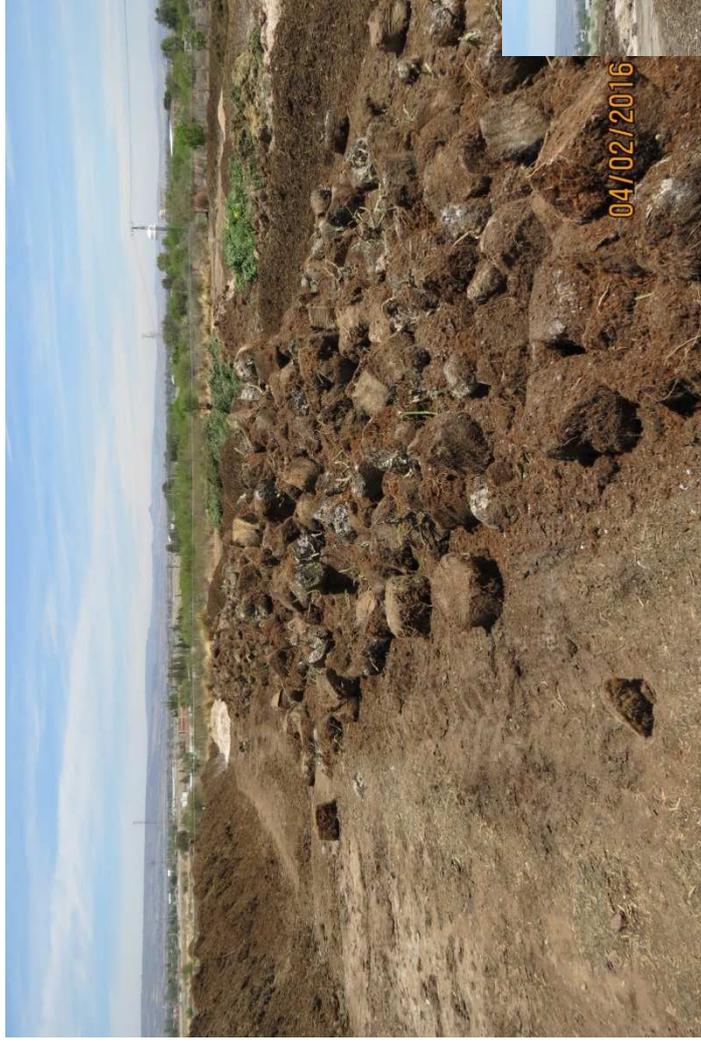
# Water harvest



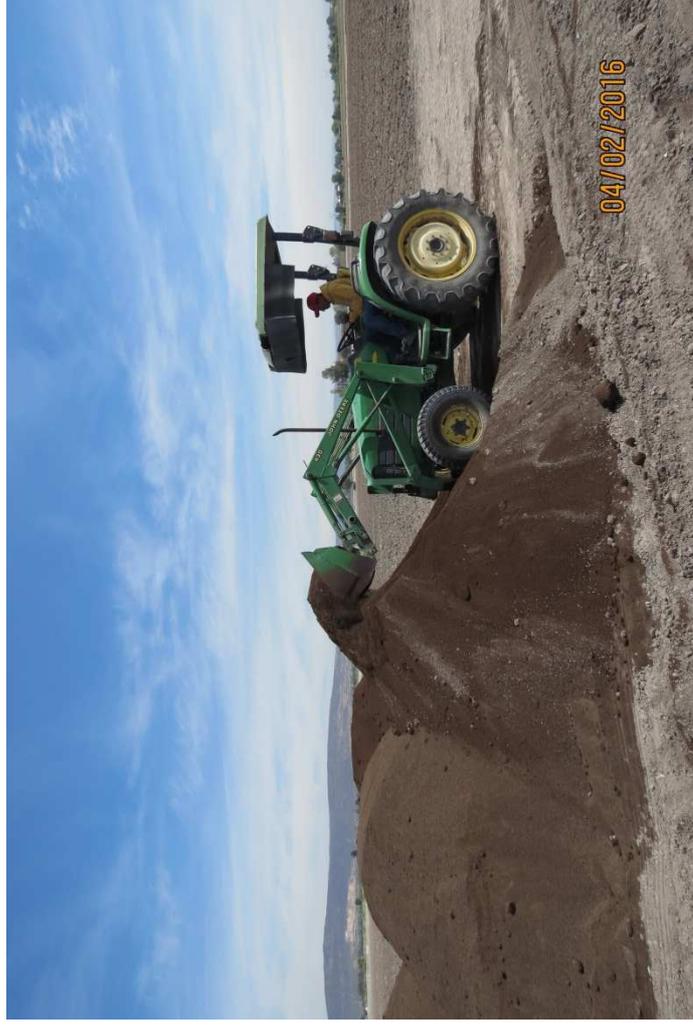
# Natural occurring hot water used for heating



# Substrate, Plant and clipings composting



+ 2000Ton of 100% vegetable  
compost generated per year

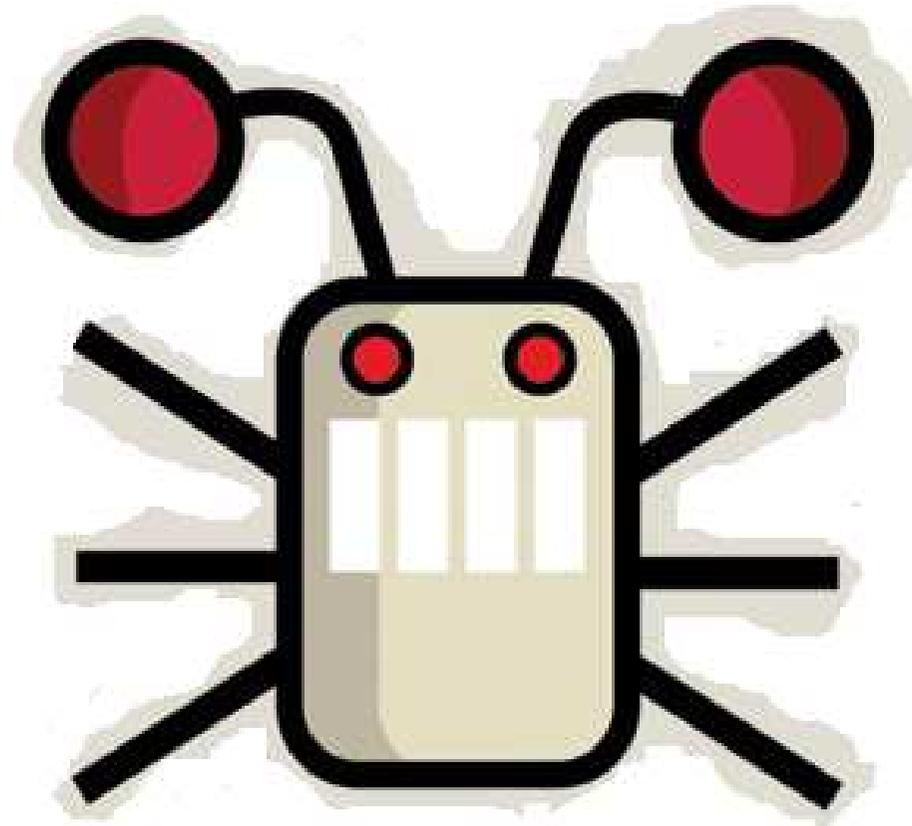




Adaptation is the Natural Way

Everybody deserves organic!!





**Gracias !!!**

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