Biomassters Global, Inc.

SINCE 1996 4894 West Lone Mountain Road Suite 191 Las Vegas, Nevada 89130 USA

Telephone: (+1) 702-645-1390 Fax: (+1) 702-656-2305 Email: info@biomassters.com

Agriculture Website: www.biomassters.com Ethanol Website: http://home.earthlink.net/~test-results2/

MicroSoil® Since 1996 Enhances the Dynamics of Natural Soil Systems Above and Beyond Organics™

MicroSoil® & Root Development

Pictures, Tests and Testimonials

How to Guarantee Massive Root Structures

It's simple! The use of MicroSoil® plus our MicroSoil® TailorMade™ Fertilization Programs that are in accord with Nature's irrefutable principles, guarantees to help elevate organic matter in the soils and provide the proper plant biomass for optimum root development necessary for maximum microorganism proliferation, plant growth and enhanced nutrient rich crop yields.

EXCERPTS FROM "THE SIMPLE TRUTH"

CONCERNING SOIL FERTILITY, PLANT NUTRITION AND ROOT DEVELOPMENT

Author: Dr. Layan D. Said, PhD, Soil Physicist

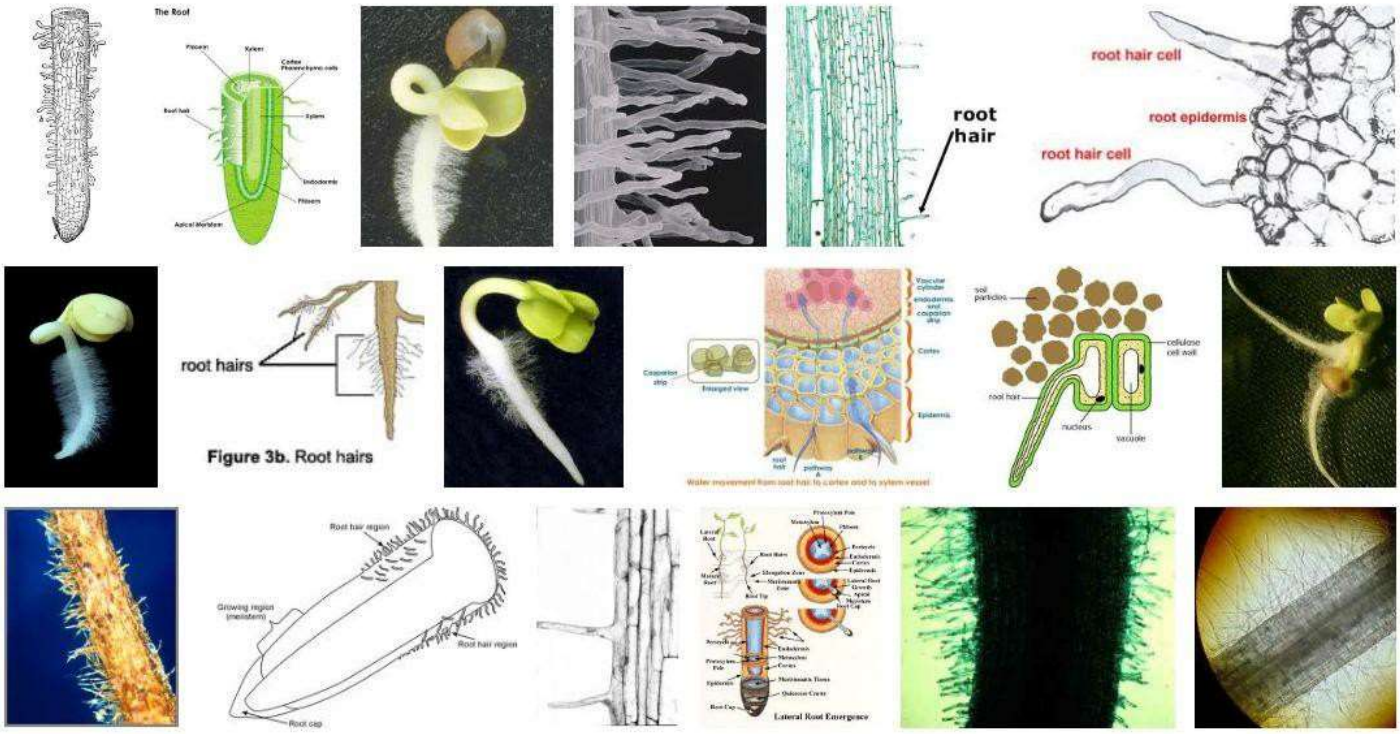
The Laws of Nature are fixed and irrefutable.
Everything runs according to its appointed course.

Energetics (the physics of energy and its transformations) is the fundamental basis of all physiology (all life processes).

The roots are the most powerful part of plants, acting as the brain of the plant. The root system has a chemical vocabulary, wherein, the root apex can monitor a minimum of 15 different chemical and physical parameters. Within the root apex is what is called the transition zone, less than 1 mm in length, comprised of just a few hundred cells, and located between the zone of elongation and the meristem. This zone consumes the highest amount of oxygen in the plant and exhibits action potential signals, the same signals produced by the neurons in the human brain, utilized in the exchange of information.

This transition zone may be small, < 1 mm and only a few hundred cells, however, the surface area adds up over thousands of roots and root hairs. For example: it has been estimated that one (1) rye plant has approximately 14 million roots, 11.4 million root apexes, with a total length of 622 km and a total surface area of 237 square meters. This is just one plant root system which networks with all other apexes of all other plants, kin or not, through electric signals.

The Root Hair



Root-tip, showing young root-hairs

A **root hair**, the rhizoid of a vascular plant, is a tubular outgrowth of a trichoblast, a hair-forming cell on the epidermis of a plant root. As they are lateral extensions of a single cell and only rarely branched, they are invisible to the naked eye. They are found only in the region of maturation of the root. Just prior to the root hair cell development, there is a point of elevated phosphorylase activity.

Function

The function of root hairs is to collect water and minerals ions present in the soil and take this solution up through the roots to the rest of the plant. As root hair cells do not carry out photosynthesis they do not contain chloroplasts.

Formation

Root hair cells are outgrowths at a tip of the plants roots. Root hair cells vary between 5 and 17 micrometres in diameter, and 80 to 1,500 micrometres in length. They are found only in the zone of maturation, and not the zone of elongation, possibly because any root hairs that arise are sheared off as the root elongates and moves through the soil.

Importance

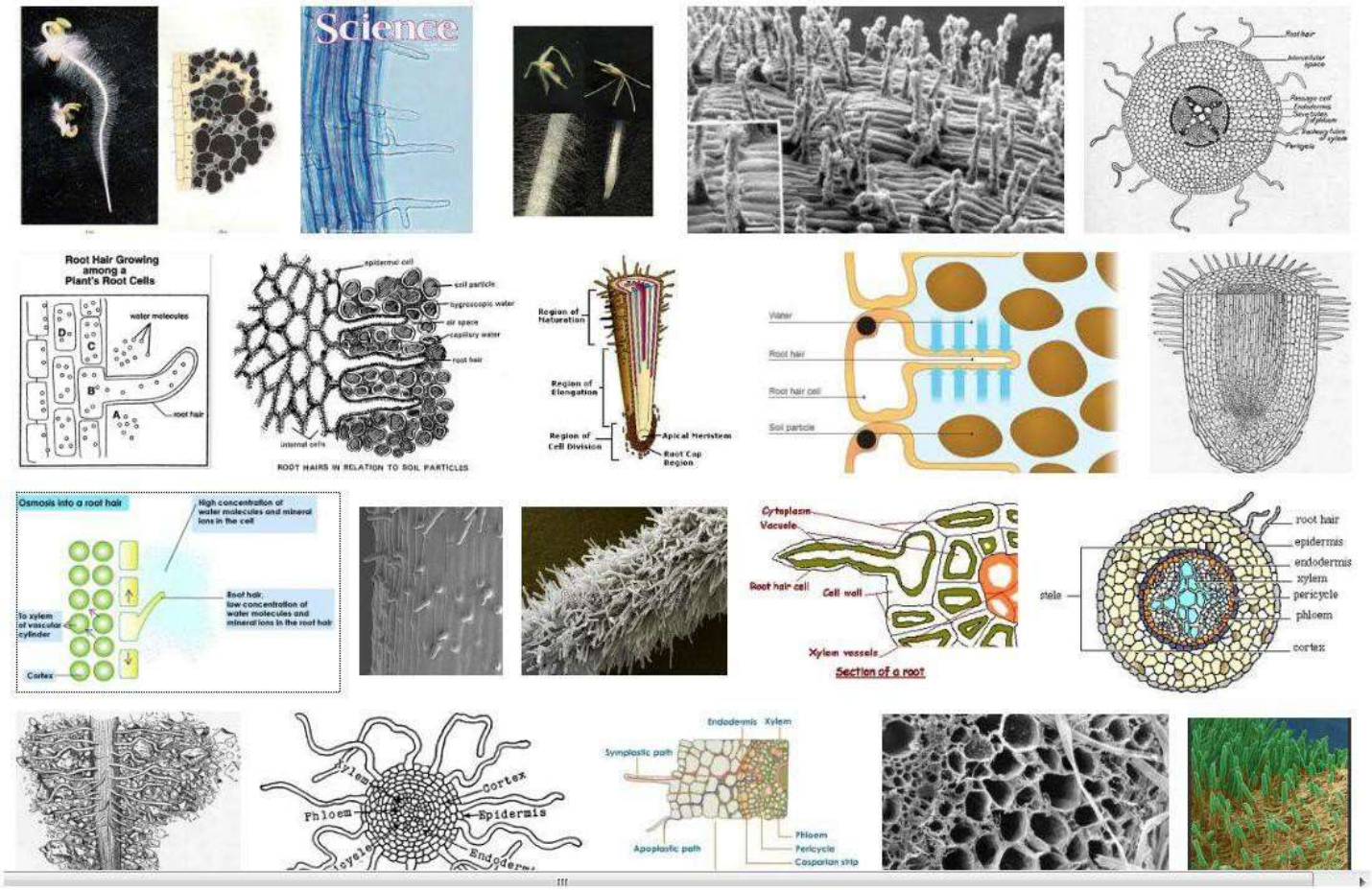
Root hairs form an important surface over which plants absorb most of their water and nutrients. They are also directly involved in the formation of root nodules in legume plants

They have a large surface area, this makes absorbing both water and minerals more efficient using osmosis. Also, root hair cells secrete acid (H^+ from malic acid) which exchanges and helps solubilize the minerals into ionic form, making the ions easier to take up.

Survival

Root hair cells can survive for 2 to 3 weeks and then die off. At the same time new root hair cells are continually being formed at the tip of the root. This way, the root hair coverage stays the same. When a new root hair cell grows, it excretes a poison so that the other cells in close proximity to it are unable to grow one of these hairs. This ensures equal and efficient distribution of the actual hairs on these cells.

It is, therefore, understandable that re-potting must be done with care, because the root hair cells are pulled off for the most part. This is why planting-out leaves the plant withered for some time.



***From Wikipedia, the free encyclopedia**

Back Yard Tomatoes ~ Sweden 2009

Chemical Fertilizers **MicroSoil®**

Note: the larger and more developed root system and plant size using MicroSoil® versus the standard synthetic chemical fertilizers.

MUSTARD GREENS and MicroSoil®

Tests were conducted under the supervision of Dr. Layan Dawud Said, PhD
Soil Physicist & International Agriculture Researcher

Mustard Greens originated in the Himalayan region of India more than 5,000 years ago. Egyptians pickled them, Greeks ate them in salads, and the Chinese added them to soups and stir-fry's. India, Nepal, China, and Japan are among the leading producers.

These mustard greens, Bassica *juncea*, were grown in Fresno, California in the San Joaquin Valley (largest valley in the world) solely with MicroSoil®. This was the second year that MicroSoil® was used in this field and absolutely no inorganic (chemical) fertilizers or pesticides were applied in either year.

Dr. Layan Dawud Said, PhD, enjoying the results of using MicroSoil® on Mustard Greens.

In September of 2007, MicroSoil® was roto-tilled in with compost and the field was left fallow. In the second week of August 2008, this area was irrigated to bring up the weeds, which were tilled in. Mustard seeds were planted on September 7, 2008 and these pictures were taken on November 19, 2008. Why are these pictures of the Florida broadleaf mustard greens so important? In the first place, by following the MicroSoil® protocols, they demonstrate the power of MicroSoil® and increased organic matter to energize the soil, such that the DNA of the Mustard Seed could manifest the power locked in the seed itself to produce such growth.

Normally, Florida Broadleaf Mustards measure about 12 inches (30 cm) in width and 24 inches (60 cm) long. Clearly, these mustards average 24 inches (60 cm) in width and are about 30 inches (76 cm) in height.

Mustard Green measuring 26 inches (66 cm) width, 29 inches (73.5 cm) height.

As regards to nutrition, Mustard Greens provide an excellent source of vitamins B1, B2, B3, B6, C, E, K, A, magnesium, protein, foliate, potassium, calcium, carotenes, manganese, copper, iron and fiber. They are low in calories and have great free radical scavenging power. They can be eaten either raw or cooked. Although these Mustard Greens are exceptionally large, they maintained their characteristic zesty, peppery, striking flavor.

Harvard medical school researchers have found that women who eat lots of Mustard Greens, cabbages, broccoli or brussel sprouts in their middle ages preserved more of their cognitive abilities as they entered their 70s (www.news=medical.net/?id=3423).

Other important uses include biomass production, seed oil, and green manures/mulch covering the soil to suppress weeds between crops. Mustard Greens can also be used to remove heavy metals from the soil in hazardous waste sites because of its higher tolerance for these substances and stores the heavy in its cells. Such plants are then harvested and disposed of properly. They also prevent erosion of soil from these sites thereby preventing further contamination.

The proud farmer, Mr. Eddie Standifer, in his Mustard Green field in Fresno, California USA.

"If ye have faith as a grain of mustard seed." ... A grain of mustard seed weighs 0.06 grams, and with the faith of a little MicroSoil®, you can unlock its green power and also experience this luxuriant growth and benefits.

Mustard Greens

Turnips

Turnips

When MicroSoil® is added to the soil, it becomes a functional part of the soil food web and as such is an energy source stimulating the proliferation of the indigenous microbial populations, while at the same time assisting in the creation of the optimum soil conditions for nutrient uptake, i.e., soil pH, porosity, organic matter decomposition, water holding capacity, cation exchange capacity, etc.

These pictures of the mustard green root system demonstrate the effect of MicroSoil® on root growth and development. MicroSoil® functions in a way which unlocks the tremendous growth potential of the mustard green seed, starting with seed germination to plant maturity. The root architecture demonstrates its capacity (function) in nutrient assimilation, transport, support and anchorage of the huge mustard green elephant ear plant leaves.

The plant, with its root architecture, and the soil are a single biological system – a single, balanced organism. Chemical farming (farming with petroleum) destroys the balance in this system. When you apply MicroSoil® to this system, MicroSoil® becomes an integral component, restoring the balance such that you will not be able to discern, on the molecular level, where the rhizoplane ends and the rhizosphere begins, i.e., where the root ends and the soil begins.

Biomassters Global, Inc.

MicroSoil®
Since 1996
Enhances the Dynamics of Natural Soil Systems
Above and Beyond Organics™

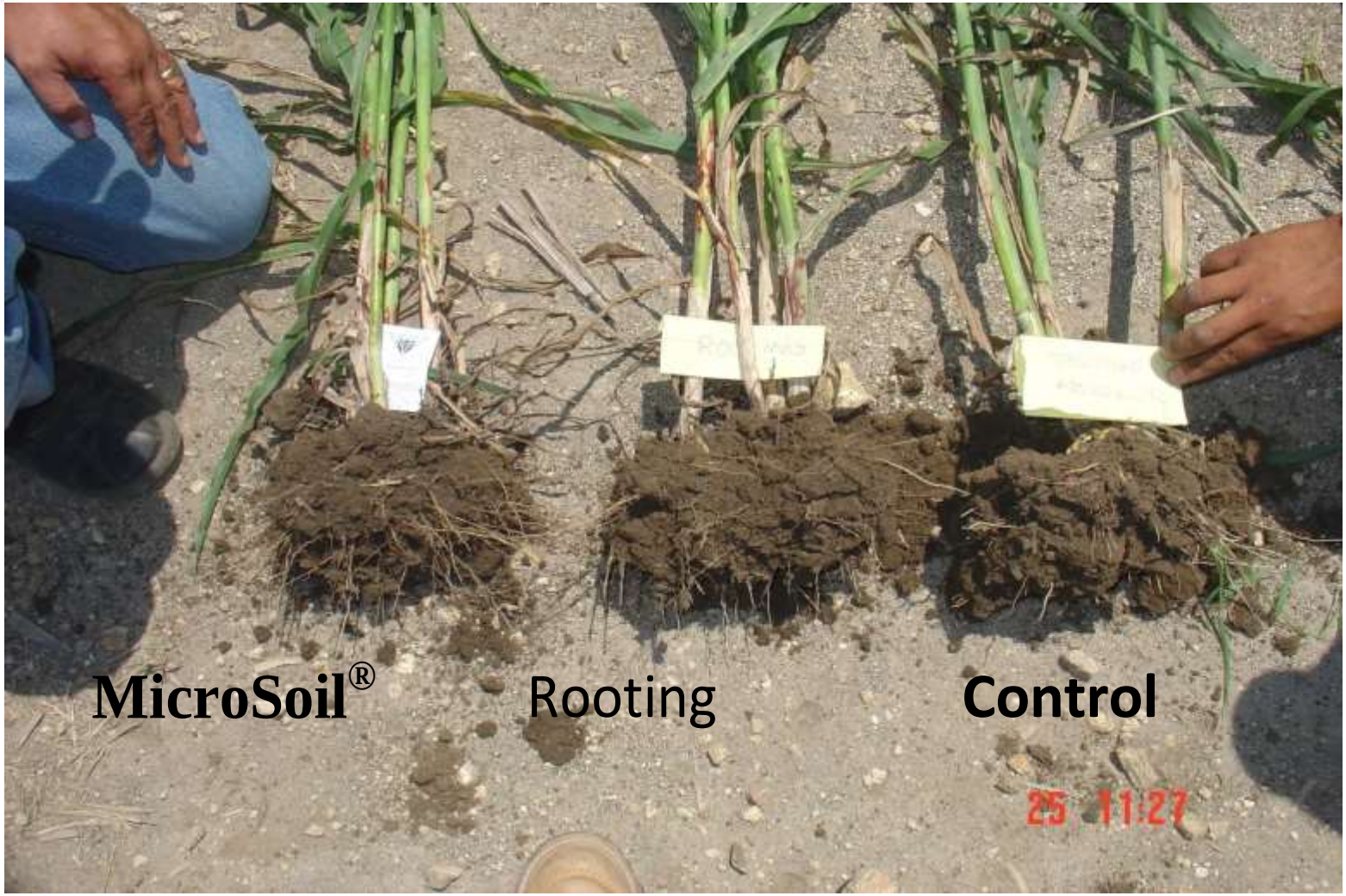
Sorghum Cultivation

Piche Campeche, Mexico

January 2007 – May 2007

Tests performed by:
Eng. Rodolfo Pinzon, Klaersa Biotraramientos
Eng. Roberto Mis, Agricola Santa Genoveva

Root Development

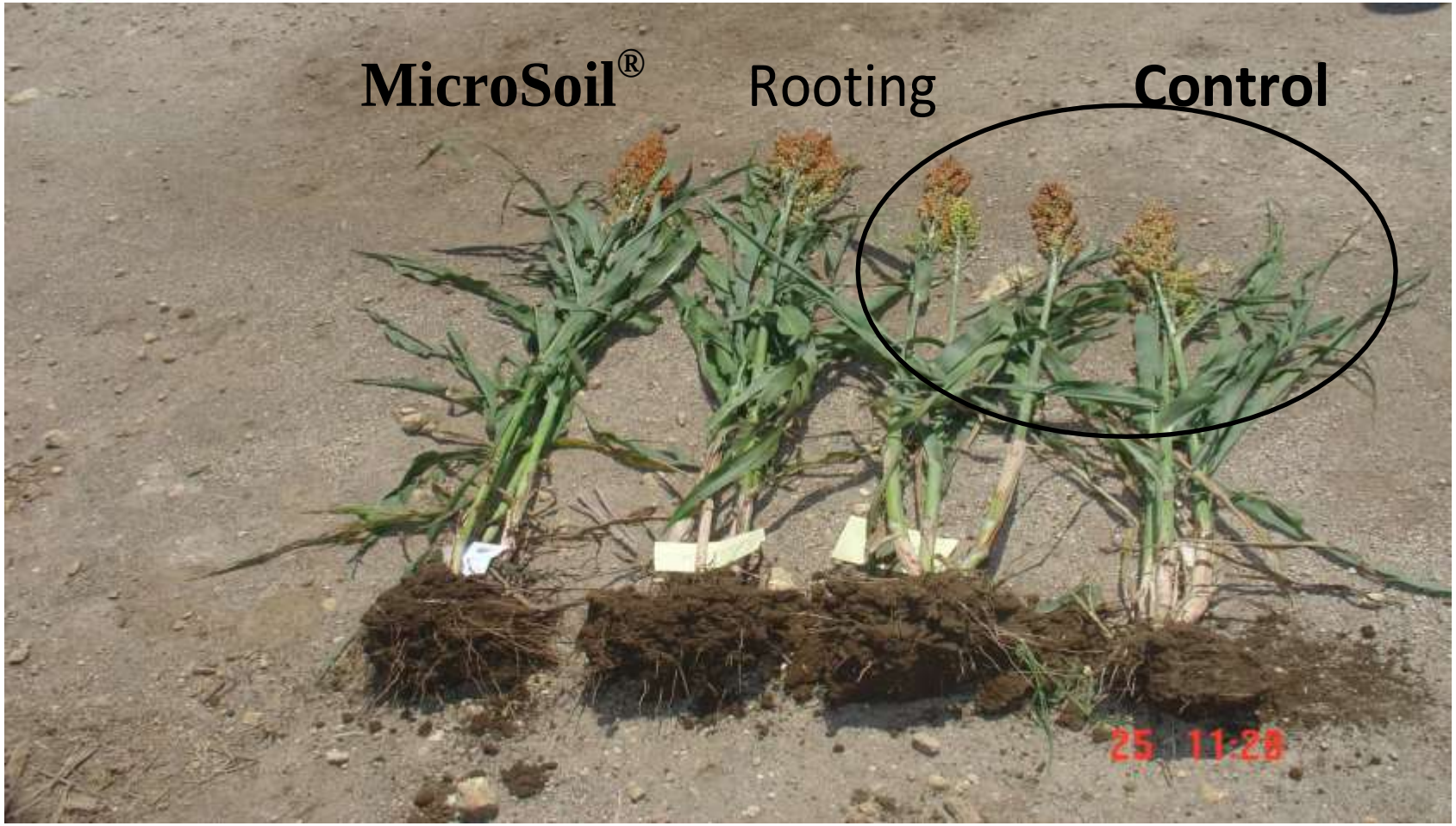


Root Development

Important – Volume of Adventitious Roots

Root Development

Plant Development



View of fields one week before harvest

Control

MicroSoil®

Fruiting with **MicroSoil®**
One week before harvest

CAÑA DE AZUCAR (sugarcane)
Zocatepec de Hidalgo, Mexico in 2013

Sin (without) MicroSoil®

Con (with) MicroSoil®

An increase in production per hectare of 33.22% over previous year's harvest.

English Translation of Letter from Sugarcane Grower

January 25, 2013

ING. JORGE AGUILAR TALAMANTES
CCEXIMM A. in P.

I hereby inform you about the request of Mrs. Maria de Lourdes Fernandez Olvera, the result of applying the Company Product MicroSoil that you represent and which was sold to senior producer Quentin Silva covers, information is following:

The sugarcane producer tasted in its plot which is located in the Tepeolal Tlaquiltenango belonging to the farm and has an area of 2.20 hectares, cycle plant, variety CP 72- 2086, when the cane had three (3) months old, was applied in doses of A (1) Liter/Hectare diluted in 100 Liters water.

The interest of Ms. Fernandez is knowing the yield corresponding to the harvest 2012/2013, which was as follows:

The production was 527.56 tons per hectare yield of 239.8 ton / hectare – compared to the performance of the previous year's harvest was 180.0 ton / hectare – giving an increase in production per hectare of 33.22%; attributing mainly to:

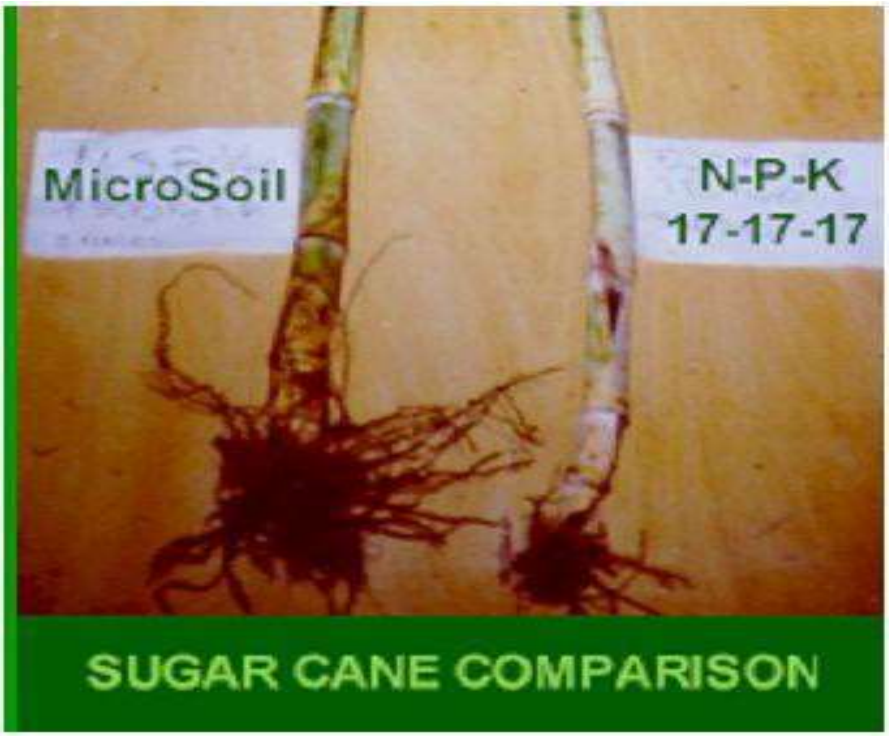
a) The Product MicroSoil®
b) Good producer
c) Low water conditions (12 irrigations)
d) Proper handling of the crop
e) Planting date (September 2011)
f) Balanced nutrition (fertilization)

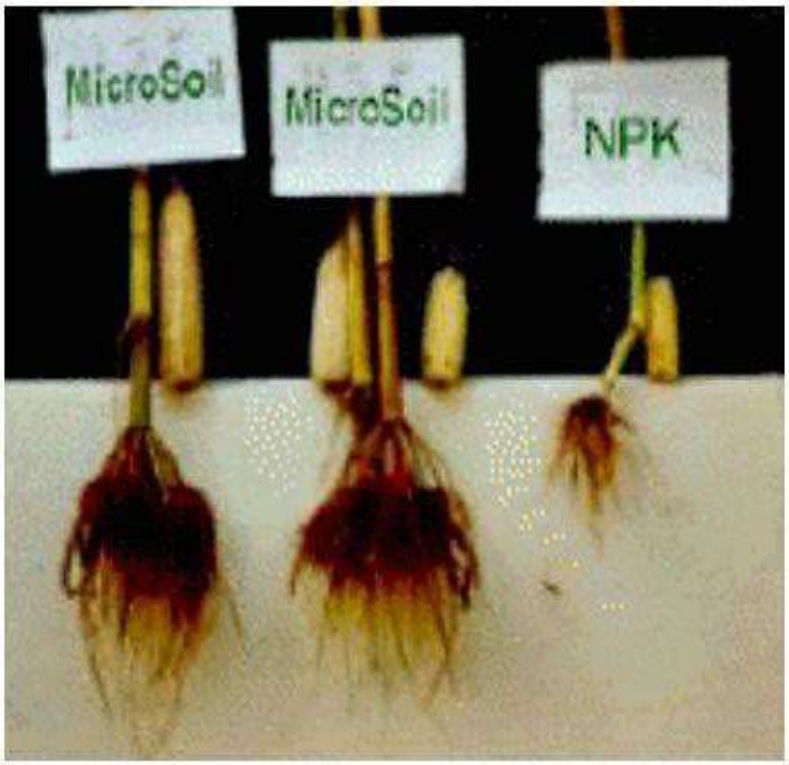
No more for now I remain.

ING. HECTOR LOPEZ NERIA
TECHNICAL FIELD SUPERINTENDENT

Root Development

Sugarcane Comparison – Mexico, 1997





Corn Crop – Mexico, 1997

Biomassters Global, Inc.

Above and Beyond Organics™

MicroSoil® Root Development Ten (10) Day Bean Test

THE PURPOSE OF THIS 10 DAY BEAN TEST WAS TO EVALUATE MicroSoil® ROOT DEVELOPMENT RESULTS VERSUS ROUTINELY USED CHEMICAL NITROGEN (NPK) FERTILIZERS.

An inexpensive and unfertilized soil purchased from a nursery was used. Sterilized soil was chosen to emphasize that the **MicroSoil®** formula is a complete, self-sustaining 'biomass" which generates is own organic matter. There were 6 test pots – 3 of the pots were treated with **MicroSoil®**, 25% nitrogen was added to 2 of them, while a third pot was treated ONLY with **MicroSoil®.** The other 3 pots were each treated with Miracle-Gro®, Medina®, and Peters Professionl®. Careful calculations were made to determine the appropriate amount of each product to add to the test pots, relative to the directions of each of the products. Four (4) beans were place in each pot.

The photograph shows the root structure from the 3 **MicroSoil®** pots on the left side as compared to the other 3 test pots on the right. Furthermore, there is simply no comparison in price, as **MicroSoil®** costs only a fraction of what you would pay for the others, not to mention its many environmental benefits.

*Bean plant roots Grown with **MicroSoil®** are on the left.*

Note: Medina® is a registered trademark of Medina Ag. Prod. Co. Inc., Miracle-Gro® is a registered trademark of Scott's Miracle-Gro® Products, Inc., Peters Professional® is a registered trademark of Spectrum Group, Division of United Industries Corporation and MicroSoil® is a registered trademark of Biomassters Global, Inc.

~ SERENDIPITY ~

A Natural Sanctuary Created from using MicroSoil®

A California beekeeper noted that his Mustard Greens not only were much bigger and healthier with increased blossoming, but he also had very high population of bees present in those fields treated with **MicroSoil®**. He stated that the increased sugar and nutrient uptake in the nectar routinely created by the use of the **MicroSoil®** product was responsible for creating this natural **NutrientRich™** sanctuary. The high Brix and nutrient content in the blossoms tend to attract many more bees and other beneficial insects and birds and since the blossoms are much richer in sugars and nectars, this makes for a more compatible and eco-friendly environment for the bees to collect those nutrients necessary for making their honey and maintaining their existence.

A Pristine Natural Sanctuary for Beneficial Birds, Animals and Insects

Hummingbird

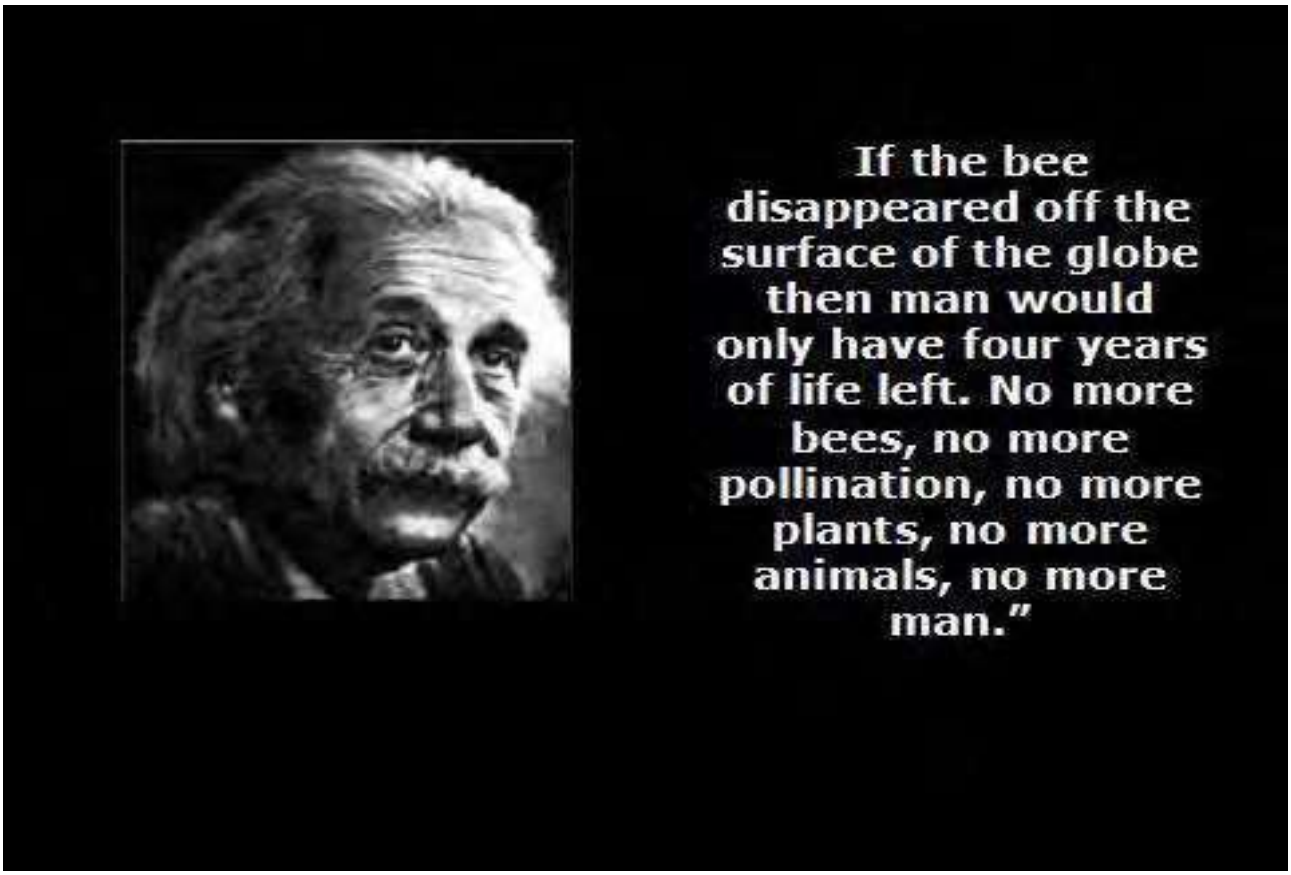
Lady Beetle

Monarch Butterfly

Earthworms

Praying Mantis

Above and Beyond Organics™



Albert Einstein

Please CLICK on Links below for critical information regarding bees and their struggles to survive in the harsh chemical environments they are forced to live in and especially, their value to all of us.

MORE THAN HONEY is available how. A copy of the DVD is only $12.99 (order on the official website or Amazon) ... as it is fascinating and relevant to what we're doing, it is well worth your ordering it!

WIKIPEDIA
More than Honey is a 2012 Swiss documentary film directed by Markus Imhoof about honeybee colonies in California, Switzerland, China and Australia. The film was nominated for an Oscar for Best Foreign Language Film at the 86th Academy Awards.[1][2] http://en.wikipedia.org/wiki/More_than_Honey

OFFICIAL WEBSITE (click arrow in the middle of the bee to see the film trailer)
http://buy.morethanhoneyfilm.com/

GIVE BEES A CHANCE

A new book written for children by **Alicia Previn.**

Book Review: http://theecoreport.com/give-bees-a-chance-was-written-for-children/

A bee covered with pollen.