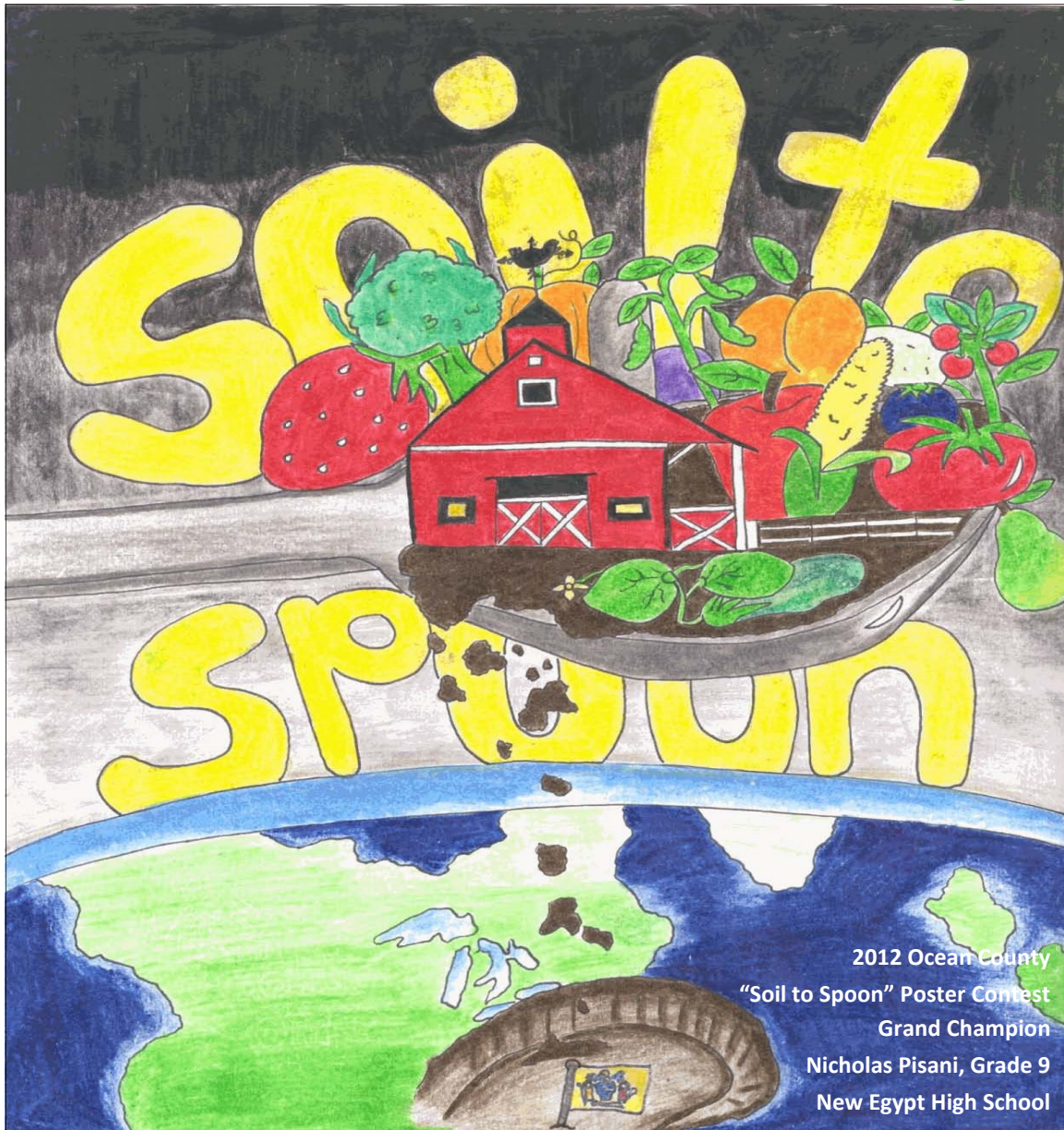




2012 Soil Health Conference

“Sustainable Opportunities through Soil”



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Special Thanks to Nina Sassano for coordinating registrations and organizing all things related to the Soil Health Conference.

Proudly sponsored by the New Jersey Association of Conservation Districts: <http://www.njacd.org/>

The purpose of the New Jersey Association of Conservation Districts is to conduct educational, scientific and charitable work concerning the conservation, maintenance, improvement, development and use of land, soil, water, trees, vegetation, fish and wildlife, open space and other renewable natural resources

“Soil health is essential to the sustainable management of turf and other landscape plants. Developing a better understanding of soil health and how management impacts the soil properties comprising soil health are intrinsic to much of the activities in my career.”

*Dr. James Murphy
Extension Specialist in Turfgrass Management,, Rutgers University*



Key Note and Plenary Speakers

Dr. Elaine Ingham

“What Goes on Underground?”

Soil is a Functioning Ecosystem! A Healthy Soil is a Living Soil.”

Chief Scientist, Rodale Institute



Dr. Elaine Ingham is a world renowned soil microbiologist who continues to study the microbial life of the soil, which in large part explains why organic "works." Elaine founded Soil FoodWeb, Inc. in 1996, helping farmers all over the world grow more resilient crops by understanding and improving their soil life. She is also an affiliate professor at Maharishi University of Management in Iowa and has served in academia for three decades.

*Alias: * also known as: The Biological Baroness; Sleuth of Salts; Lady of the Loam; Mycorrhizal Mogul; Head Honcho of Humates and Hydrolysate; Sorceress of the Subterranean; Queen of Compost; Priestess of the Protozoans; Maiden of the Mycosphere; Empress of Exudates; Mohammed Ali of Microscopy; etc.*

“I have worked since 1975 in this subject area; understanding the role and function of each group of soil organisms involved in determining soil health. My conclusions after some 36 years of investigating healthy soil is that soil is defined by the life present. By making certain that beneficial-to-plant life is functioning, we can sustainably feed the world.”

Key Note and Plenary Speakers

Dr. Stuart Schwartz

*“Returning to our Roots– Opportunities in Urban Soil Husbandry
as a Core Element of Land Transformation”*

Senior Research Scientist, Center for Urban Environmental
Research and Education (CUERE)



“I’ll defer to president Franklin D. Roosevelt, who said, ‘A nation that destroys its soil destroys itself’.”



Dr. Richard Shaw

*“Use Dependent Soil Properties: Results from Soil Studies
In NJ and NYC”*

State Soil Scientist, NJ NRCS



As healthy soil is the foundation for a healthy environment, our mission “Helping People Understand Soils” should include an understanding of Healthy Soils.



S.O.S. – Sustainable Opportunities through Soil
Healthy Soils: Helping Local Communities Move from Grey to Green Infrastructure

Proudly sponsored by New Jersey Association of Conservation Districts, Barnegat Bay Partnership, Ocean County Soil Conservation District & Members of the Planning Committee

May 30, 2012

Ocean County College – Arts & Community Center, Toms River, NJ

- | | |
|----------------------|--|
| 8:00 - 8:30 | <u>Registration/Refreshments</u> |
| 8:45 – 9:00 | <u>Opening Remarks</u> - Master of Ceremonies – Don Knezick

<u>Welcome to OCC</u> – Jon Larson, OCC President |
| 9:00 – 9:45 | <u>Key Note 1: What Goes on Underground? Soil is a functioning Ecosystem! A Healthy Soil is a Living Soil</u>

Dr. Elaine Ingham – Soil Biologist, Chief Scientist, Rodale Institute -
Pioneering Organic Farming through Research and Outreach |
| 9:45 – 10:30 | <u>Key Note 2: Returning to our Roots – Opportunities in Urban Soil Husbandry as a Core Element of Land Transformation.</u>

Dr. Stuart Schwartz – Senior Research Scientist, University of Maryland,
CUERE- Center for Urban Environmental Research and Education |
| 10:30 – 10:45 | <u>Q & A</u> – Facilitator – Don Knezick |
| 10:45 – 11:00 | <u>BREAK/Travel to Break out Session</u> |
| 11:00 – 12:00 | <u>Healthy Soils Provide Opportunities for Sustainability: Lessons Learned</u>
Concurrent Break-Out Sessions: Pre-registered for Track A, B or C
(25 minutes each speaker (50 minutes) & 10 Minute Q&A) |

Track A – Stormwater

Moderator: Dr. Stuart Schwartz, University of Maryland

Facilitator & Recorder: Kyra Hoffmann, NJDEP Supervising Environmental Specialist

1. **Social, Economic & Environmental Benefits of Implementing a Soil Management Plan** - Tony DiLodovico, Environmental Consultant
2. **County Basin Restoration: Restoring Soil Function in Basins & Lessons Learned** - David McKeon, Director, Ocean County Planning & Chris Smith, Retired NRCS Soil Scientist



“Healthy soil is critical to maintaining sufficient quantities of recharge and is the first layer of defense our groundwater resources have against the influx of many chemicals.”

*Timothy Reilly
Research Hydrologist US Geological Survey*

Track B – Surface Water & Groundwater – Quality and Quantity

Moderator: Dr. Rich Shaw, NRCS

Facilitator & Recorder: Titus Magnanao, NJDEP, Environmental Specialist III

1. Planning for Rain - Looking at the Whole Landscape & Assessing the Function of Soil - Marilyn Mroz, Soil Scientist & P.E.
2. Why Soil Health Matters to Recharge Quantity and Quality - Timothy J. Reilly, Research Hydrologist, US Geological Survey

Track C – Soil Health in the Landscape –

Moderator: Dr. Elaine Ingham, Rodale Institute

Facilitator & Recorder: Kerry Kirk Pflugh, Manager, NJDEP
Public Participation & Stakeholder Involvement Office of
Constituent Services

1. Soil Health Practices in the Landscape – Salvatore Mangiafico, Rutgers Cooperative Extension of Salem County
2. The Grass is GREENER when Planted in Healthy Soil – Dr. Jim Murphy, Rutgers Turf Management and Dr. Stephanie Murphy, Rutgers Soil Lab

Brief Q&A (10 minutes) after each session

12:00 PM LUNCH

12:45 PM Plenary Speaker: Interpreting and Adapting to Use-Dependent Soils Information - Dr. Rich Shaw, State Soil Scientist, NJ NRCS

1:30 PM – 3:00 PM On the Ground - SOIL HEALTH Assessment & Demonstrations
15 minutes each station (90 minutes)

Stations

1. Amoozemeter
2. Rainfall Simulator
3. Soil Health Kit – Biological, Chemical and Physical
4. Double-Ring Infiltrometer, Penetrometer& the 3 Rod System
5. Verti-quake
6. Spader

3:00 PM – 3:30 PM Next Steps :Sustaining Local Communities from the Ground Up

Facilitator: Dr. Fred Bowers, Princeton Soil Institute

Summation and Insight from Track A, B & C Moderators – Q & A

3:30 PM – 3:45 PM Wrap-Up/ Evaluations/Certificates/Door Prizes & Resources –
Don Knezick

“When thinking about preventing water pollution, the health of the soils throughout the watershed is an essential—and often underappreciated—factor. In most cases, healthy soils are able to infiltrate and purify rainfall and stormwater runoff. In contrast, compacted or degraded soils can increase pollutant loads to local waterbodies.”

*Salvatore Mangiafico,
Supervising Environmental Specialist Rutgers Co-operative Extension*



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Environmental Leadership

Exelon supports organizations and initiatives that enhance biodiversity and protect and improve the environment. Our efforts focus on promoting environmental education, conservation and preservation, developing cleaner sources of energy, protecting endangered species and beautifying neighborhoods.



Exelon is proud to support the Ocean County Soil Conservation District

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The Scotts Miracle-Gro company understands the importance of healthy greenspaces in our communities. Lawns, the most common groundcover in urban areas, help to protect soil and water resources by capturing and filtering water and preventing soil erosion.

The foundation of a healthy lawn is healthy soil. Soil provides a place for the plants to grow, protects plant roots, and act as a holding tank storing nutrients and water for the plant to use. A healthy plant and soil ecosystem supplies a path for the water to move and filter deeper into the soil. As the water moves through the soil, it is purified and cleansed by natural soil processes.

SMG is a proud supporter of the local, state, and national conservation districts. By working together with the conservation districts, we can reach a broader group of urban landowners and spread the word about the benefits of greenspace and conserving our soil and water resources in the urban environment.



Bronze Sponsors



"A healthy soil is the foundation of a healthy watershed. By protecting and restoring the soils, we can have a more natural hydrological cycle that leads to stream health."

*Kyra Hoffmann, Supervising Environmental Specialist
NJDEP– Watershed Restoration*



"In the state of NJ, there is a greater need to investigate and evaluate the health of soils. Pollutants and use of pesticides, fertilizers and herbicides have affected soils around the state."

*Titus Magnanao, Environmental Engineer III
NJ Department of Environmental Protection*

"A sustainable civilization does not destroy its soil. A sustainable society replenishes nutrients from vegetation by composting and reusing them, just as a natural ecosystem functions. Water is encouraged to recharge the aquifers, and soil erosion is negligible, and where the back yard, field, or farm does not cause the harm to anyone."

Dr. Fred Bowers, Princeton Soil Institute

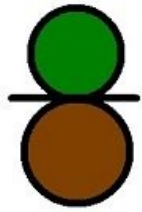


SPECIAL THANKS TO...

**Georgian Court University for the use of the Verti-quake,
Ocean County Road Department for the use of the Spader, and
Ocean County College for use of their facilities.**

"Soil health has been an unrecognized component of environmental or ecosystem health until very recently. The goal of preserving soil and improving its condition for agronomic and environmental sustainability has been central to my academic and outreach career, and it's gratifying that the soil conservation professionals in New Jersey have the same vision and have persevered in organizing this conference to share the concepts of soil quality and its importance to our society, even in non-agricultural landscapes. "

Dr. Stephanie Murphy Director, Rutgers/NJAES Soil Testing Laboratory



Soil health is similar to the continuous loop of an expanding figure eight. The plant community in the upper portion (above the soil surface) collects sunshine, nutrients and water. Then the plant drops leaves to the soil surface where the loop crosses into the lower portion of the soil. There roots uptake those same nutrients after decomposition, drawing larger and larger loops of energy and organisms in a complex web. *Chris Smith, Soil Scientist*

“Healthy Soil means healthy water, air, people, plants and animals. A healthy soil provides the biological, chemical and physical environment that sustains all life on this planet.”

-Eileen Miller, NRCS



A story with heart and soil.



**“THE FILM EXCELS!
It made me want to get my hands dirty.”**
—Tamara Krinsky, Documentary Magazine

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*DO YOU KNOW
THE STORY OF SOIL?*

“Healthy Soil is a key storm water management non-structural strategy for the control of existing and future non-point pollution sources that affect the quality of our State’s waters.”

**-Tony DiLodovico, Tony D
Environmental Permitting**



Dedicated to David Friedman, OCSCD District Director, for his 38 years of exemplary service, leadership and commitment. Thank you for being a true partner in natural resource conservation for the county and beyond, and for steadfastly promoting and supporting soil health. As you enter this new chapter of your life, know that you will be missed and remember:

HEALTHY SOIL: AT THE ROOT OF EVERYTHING!

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New Jersey Association of Professional Soil Scientists and a Generous, Anonymous NJAPSS Member...



www.njapss.org

NJAPSS members go on soils field trips, apply the sciences of biology, chemistry, and physics in soils, and exchange information on new technologies, legislation, and research.

... thank you for your interest and participation in this second conference on Soil Health in New Jersey.

A vibrant topic in contemporary society, Soil Science principles and practice are essential steps in ...

- Managing Stormwater
- Protecting Water Quality
- Restoring Damaged Soil
- Disposing of Onsite Wastewater
- Devising Fertilizer Application Rates and
- Living sustainably to grow the food we eat and allowing forest and other plant ecosystems to flourish!



Did you know...?

-Nature can take thousands of years to create 6" of topsoil in New Jersey. Replacing one acre of topsoil costs upwards of \$24,000.

-Organic matter applied to soil decomposes at a fairly rapid rate of 20% per year and must be added annually to continue good soil health. Mycorrhizae, symbiotic fungi, ease the uptake of nutrients via plant roots.

-Streptomycin, an antibiotic, changed the course of history by curing tuberculosis. Dr. Selman Waksman, a soil microbiologist, discovered this actinomycete at Rutgers in 1944 and was awarded a Nobel prize in Medicine.

-The soil bacterium, *Mycobacterium vaccae*, is linked to serotonin production in the brain, reported Bristol, UK researchers in 2007.

