

performing key functions that support food, fuel, fiber, and pharmaceuticals for humanity and maintain the balance of a healthy planet



Soil Biology and Biochemistry Division global issues addressed at the 2015



Describes the variability of all

Global Issuess

Increase our knowledge about soil biodiversity





biodiversity in ecosystem services across different soils, land uses, and climatic regions?

f Dr. Rattan Lal fr<u>om The Ohio State Univ</u>

Study the phytobiome as a system



Enhance our understanding of how different organisms influence, and are influenced by the plant, and how they shape soil health and functions.

Globalize methods and approaches

Identifying consistent and reliable metrics including sampling and scaling from genes to the globe.



organisms living in the soil.



Figure courtesy Dr. Nardi, Univ. of Illinois. Extracted from the SSSA book "Know soil, Know life"

Soil organisms categorized by size

with examples provided in parentheses:

• Microorganisms (bacteria, fungi, protozoa)

ASA-CSSA-SSSA meeting:



Connecting Phytobiomes

Society of America



PHYTOBIOMES

Global research in celebration of the International Year of Soils



Antibiotic and Antibiotic **Resistance Discovery**



Synchronize efforts to address climate change



What are the effects of climate change on soil biodiversity and how can soil biodiversity help mitigate climate change?

Manage biodiversity to address soil degradation An integrative, scaleappropriate approach may help reverse, alleviate and avoid soil degradation.



- Mesofauna (acari, nematodes, springtails)
- Macrofauna (earthworms, termites)
- Megafauna (rabbits, snakes, gophers)

Fun Facts

A teaspoon of garden soil may contain thousands of species, millions of individuals, and a hundred meters of fungal networks.



Only 5% of what is produced by green plants is consumed by animals; 95% is consumed by microorganisms.

"We know more about the movement of celestial bodies than about the soil underfoot" - Leonardo da Vinci

Soil Biodiversity Groups and New Resources!



Introducing t

NRCS Soil Health Division





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Join the SSSA - Soil Biology and Biochemistry Division!!

• This division brings together scientific experts in the fields of soil biodiversity, soil organisms, biochemical properties of soil organic matter, biogeochemical transformation of nutrients, and below-ground plant-microbe interactions.

• Our goal is to promote the acquisition and dissemination of scientific knowledge of soil biology & biochemistry for the conservation and restoration

of our agricultural soil resources for food production, and environmental quality.

