Summer Home School – Sustainable Ag Version

- Staying safe at home this summer to cope with COVID-19 pandemic?
- Looking for something different to read or watch?
- Exploring something interesting in your backyard?

- A series of videos related to Sustainable Agriculture that may help students to better understand healthy food production systems.

2020 Plant Health Awareness Year

Click to view a cartoon on Plant Health Awareness promo

The United Nations has declared 2020 as the **International Year of Plant Health (IYPH)**. The year is to raise global awareness on how protecting plant health can help end hunger, reduce poverty, protect the environment, and boost economic development.

INTERNATIONAL YEAR OF PLANT HEALTH 2020

Food and Agriculture Organization of the United Nations

Click on this picture to listen to the voice from Plants

- Plants make up 80% of the food we eat and produce 98% of the Oxygen we breathe.
- However, agricultural production must rise about 60% by 2050 in order to feed a larger and generally richer population.
- Scroll down to watch more videos from International Year of Plant Health (http://www.fao.org/plant-health-2020/home/en/)

INTERNATIONAL YEAR OF PLANT HEALTH 2020

Food and Agriculture Organization of the United Nations

Watch a film on how to manage plant pests organically

Plant pests are responsible for losses of up to 40% of food crops globally, and for trade losses in agricultural products worth over US $220 billion each year,

College of Tropical Agriculture and Human Resources
University of Hawai'i at Mānoa

International Year of Plant Health 2020

The amazing ways plants defend themselves

Sit back and click on a picture above to watch how plants can defend themselves even though they are not armored nor can they flee a scene upon attacked.

TED Ed
LESSONS WORTH SHARING

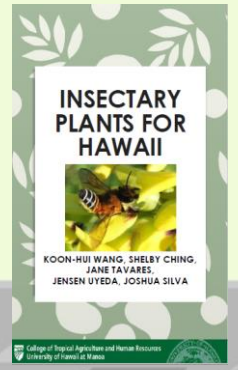
Valentin Hammoudi

Beneficial insects are vital for plant health

Insectary Plants for Hawaii

Beneficial insects are vital for plant health – for pollination, pest control, soil health, nutrient cycling – and yet, insect abundance has fallen 80% in the last 25-30 years.

Click to download a handbook on what plants to grow that can provide a habitat to support beneficial insects/arthropods.



Insect condominium

Lady beetles poster

Rose beetle trap

Two videos on “Insectary plants” for your garden

How to attract beneficial and lure away the pests in your gardens?

Sustainable Pest Management Lab
University of Hawai’i at Mānoa,
College of Tropical Agriculture and Human Resources

Bee Health and Biology

One third of the food we consumed is pollinators associated…..

Video on "What can you do to help with bee health?"

Animation on the "Life history of Bees"

Ethel Villalobos, Jonathan Wright, Scott Nikaido, Emma Shelly, Zhening Zhang

Conservation of Pollinators in Hawaii

Hawai'i is home to around 70 species of native bees and an additional 19 species of introduced bees, including honey bees. Planting native Hawaiian plants can help ensure your garden provides nutritious forage year round! Click here to a link of Plants for bees in Hawaii.

Click on these pictures to listen to two podcasts from HPR and OSU Pollination Extension

Protected Agriculture

Ecosystem
Enhanced
Screenhouse
Cucumber
Production

Farmers can also construct screenhouses to protect their crops from certain insect pests that are difficult to be managed. Watch these videos on screenhouse construction and how to draw beneficial insects into the screenhouse while blocking insect pests out.

Healthy Crops need Healthy Soil

Click on this picture to see The Living Soil: How Unseen Microbes in the Soil Affect the Food We Eat.

Jeff Dangl, Ph.D., University of North Carolina at Chapel Hill

How Keeping the Soil Cover Improve Soil Health

Soil Health Demo Video

Keeping the soil covered by growing cover crops protect soil from erosion, suppress weeds, provide food for beneficial soil organisms that are crucial for keeping the soil alive, recycling soil organic matter and maintain healthy root system for plant to grow.

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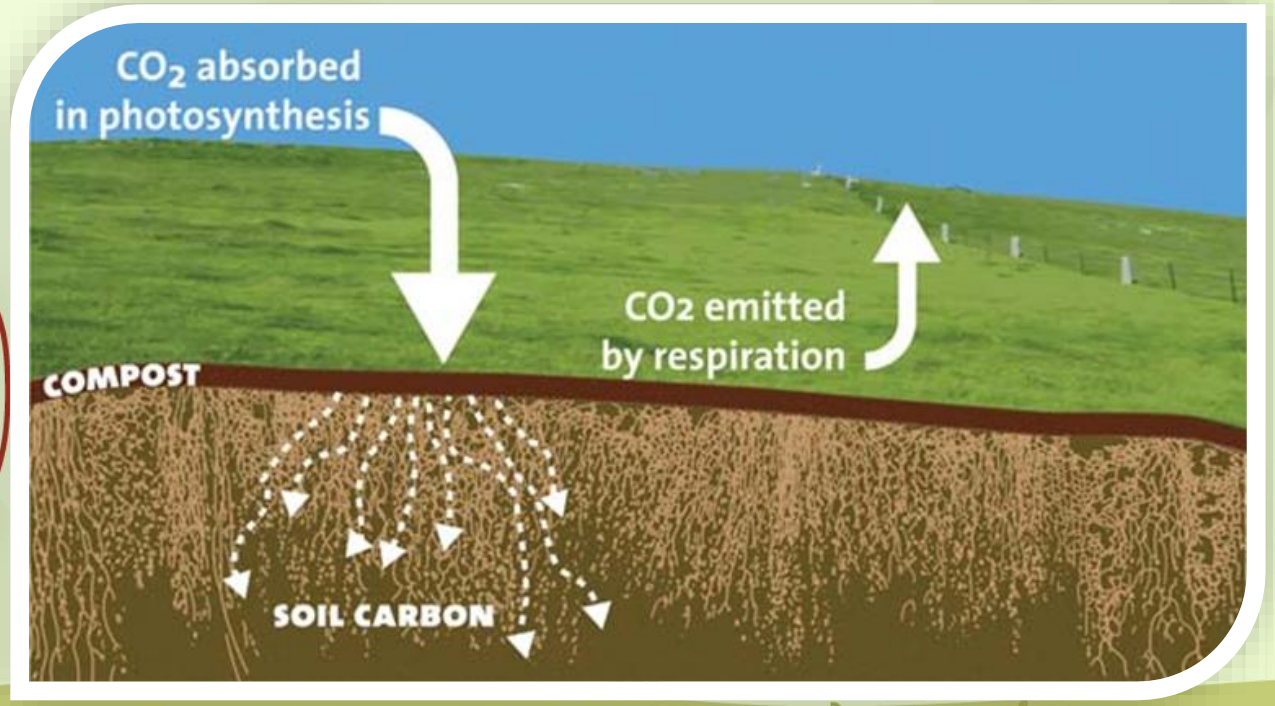
The Soil Solution to Climate Change Film



Climate change threatens to reduce not only the quantity of crops, lowering yields, but also the nutritious value. Rising temperatures also mean that more plant pests are appearing earlier and in places where they were never seen before. Watch this video on how the soil management can be the solution to climate change issues.

Soil health lessons in a minute: Benefits of no-till farming

Soil infiltration test

Soil slaking test

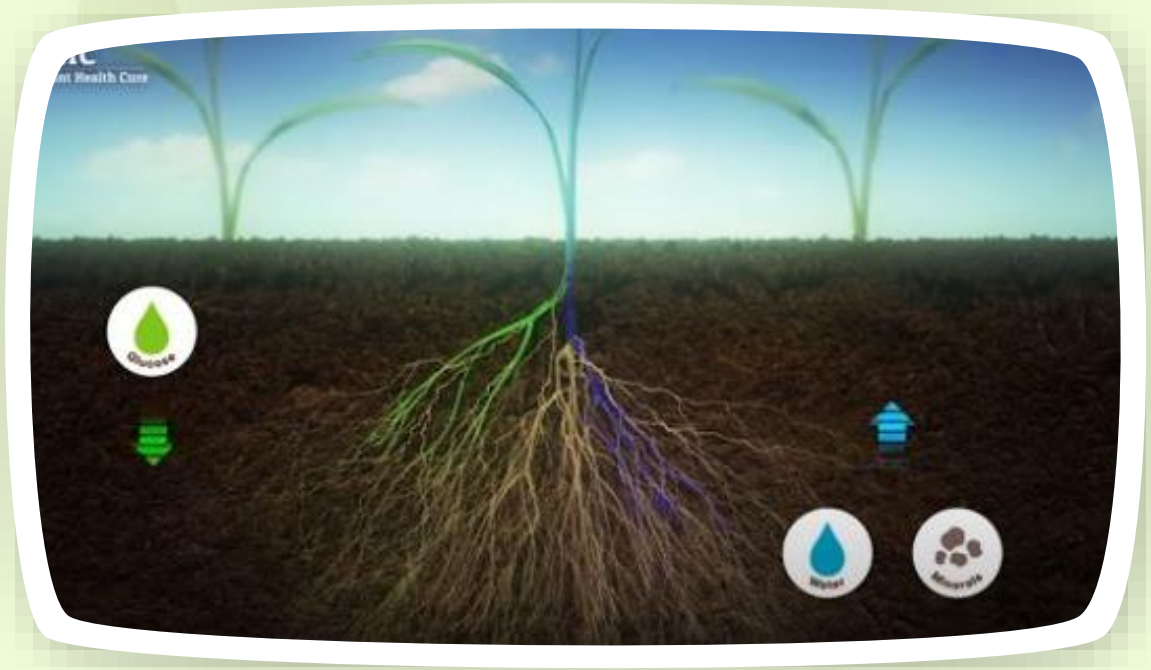
unlock the SECRETS IN THE SOIL

USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

Watch two soil demonstration to show how soil health management is benefiting the environment.

Ray Archuleta

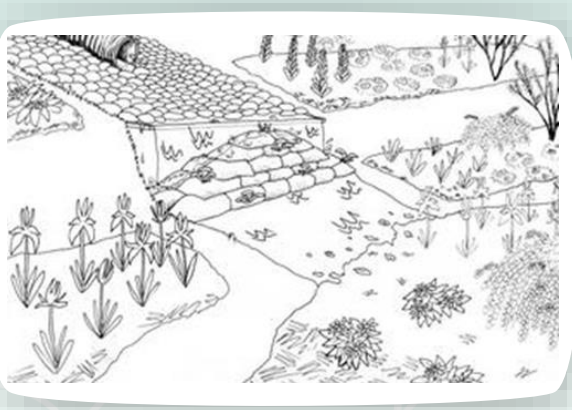
Soil is a living organism



The beautiful relationships between plant roots and soil microorganisms that support the life of soil microbes and plants, making soil a giant living organism.

PHC
Plant Health Cure

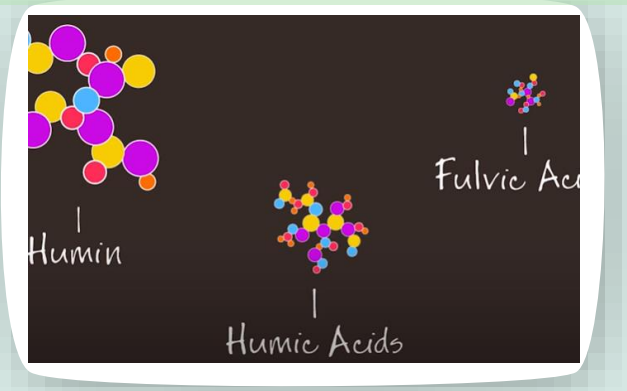
6 ways mushrooms can save the world

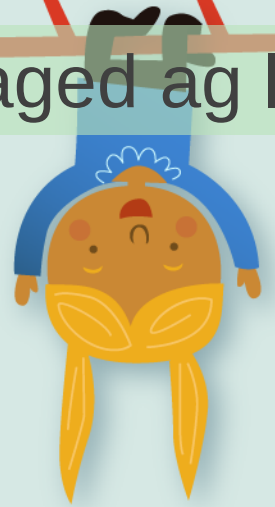


Mycologist Paul Stamets studies the mycelium -- and lists 6 ways that this astonishing fungus can help save the world.

TED
IDEASWORTHSPREADING

Why forest soil is so much more fertile than intensively managed ag land?

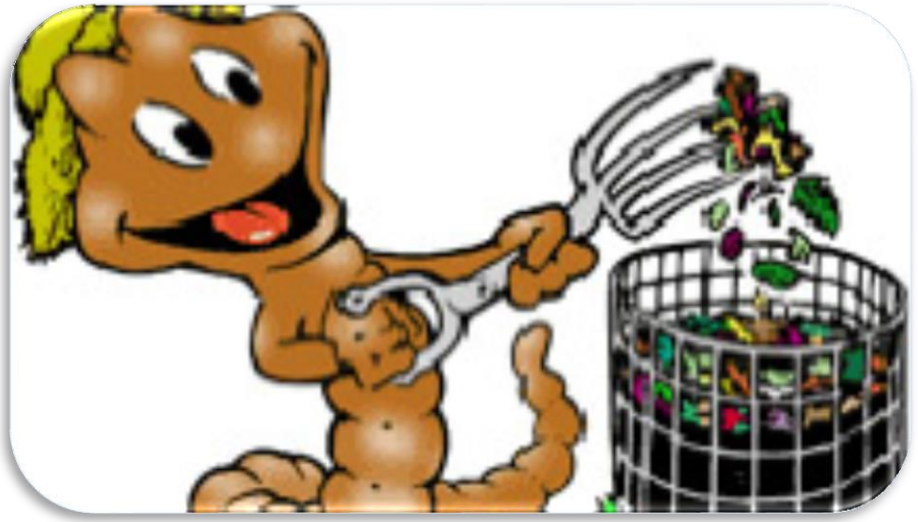




Humic Acid

Check out what humic acid can do to your soil.

Vermicomposting: How worms can reduce our waste - Matthew Ross



Benefits of Vermicompost

What are nematodes?

Click on the nematode picture above to learn more about nematodes with Deepak Haarith.

- Nematodes are tiny round worms only visible under a microscope – microscopic round worms.
- Parasitic nematodes attack plants while beneficial ones help plants to grow healthy by recycling nutrients.
- Click on the plant picture above to learn about how nematodes attack plants.

Good Nematodes: Entomopathogenic Nematodes

Entomopathogenic nematodes are nematodes that attacked insects. Some entomopathogenic nematodes are made into commercial biological control agents targeting on specific insect pests.

Bad Nematodes: Internal Animal Parasites

Some soil-borne fungi, e.g. *Dundingtonia fragrance*, are effective in trapping nematode parasites of animals, thus are developed into biological control agents to protect animal production.

Hope you enjoy these videos and gain some knowledge about Sustainable Agriculture

STAY HOME. SAVE LIVES.

HAWAIICOVID19.COM

Videos are gathered from various online postings. This power point is prepared by

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