

Fungi in the Soil

Organic Grower's School 2020
March 7-8

Types of Fungi

1. Saprobe
2. Mycorrhizae
3. Endophyte
4. Parasite
5. Yeast

Fungal Behavior

1. Places Fungi Live

2. Perception

a. Sight

b. Smell

c. Touch

3. Movement

a. Growth

b. Air

c. Water

d. Animals

e. Plants

4. Eating

a. Decomposition

b. Dissolution

c. Predation / Parasitism

d. Exchanges

5. Reproduction
 - a. Spores
 - b. Fragmentation

Fungi – Soil Interactions

1. Decomposition
2. Soil Building
3. Food Source
4. Water Retention
5. Nutrient Cycling
6. Carbon Sequestration
7. Decontamination

Cultivation / Application Techniques

1. Mycorrhizae

- Commercial inocula
 - o Bioorganics
 - o Mycorrhizal Applications

- Cultivation
 - o Rodale Institute (<https://rodaleinstitute.org/science/articles/quick-and-easy-guide-on-farm-production-of-arbuscular-mycorrhizal-fungus-inoculum/>)

 - o Ectomycorrhizae in culture

- Wild Types
 - o Compost

 - o Healthy soil

 - o Fruiting bodies

- Application
 - o Seeds or roots

 - o Dry powder

 - o Slurry

 - o Compost / Amendment / Tea

2. Saprobes

- Strain Specific

Media	Technique	Treatment	Species
Logs	Drill & Plug	None	Shiitake Oyster Lion's Mane Nameko Reishi
Straw / Wood Chip / Sawdust	Mulch Beds Containers	Pasteurization or None	Oyster Stropharia
Leaves	Leaf pile	None	Blewit
Pasteurization Type	Materials Needed	Treatment Range	Treatment Time
Heat	Metal Container Flame / Stove	140-170 F	60-90 min
Fermentation	Container	N/A	7-14 Days
pH	Soluble Lime	>12 pH	4 hrs

- Wild Types

- Mulch Piles

- Compost

- Wild Soils / KNF

- Inoculation Methods

- Mushroom Beds

- Soil Amendments
- Mulch additive
- Mycoswales
- Compost tea

Speaker Info:

Leif Olson
Integrated Land Enhancement
Integratedlandenhancement.com
mycoscapes@gmail.com

Upcoming Events:

March 27-29 “Hidden World of Fungi”
John C. Campell Folk School - Brasstown, NC
https://classes.folkschool.org/class_details.aspx?pk=22240

April 1 “Fungi in Environmental Remediation and Restoration”
Mushroom Club of Georgia – Atlanta, GA
<https://gamushroomclub.org>

April 5 “Gardening with Fungi”
Mushroom Mountain – Easley, SC
mushroommountain.com

April 6 “Fungi in Environmental Remediation and Restoration”
South Carolina Upstate Mycological Society – Clemson, SC
<https://scumsonline.com/>

May 28 “Fungi in Environmental Remediation and Restoration”
Asheville Mushroom Club – Asheville, NC
<https://ashevillermushroomclub.org/>