

Medicinal Mushrooms

*Practical Applications for Nutrition and
Wellness Practices*

HEALCON 2023

*National Association of Nutrition
Professionals*

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Real Mushrooms



*Naturopathic Doctor
-The Health Creation Lab*



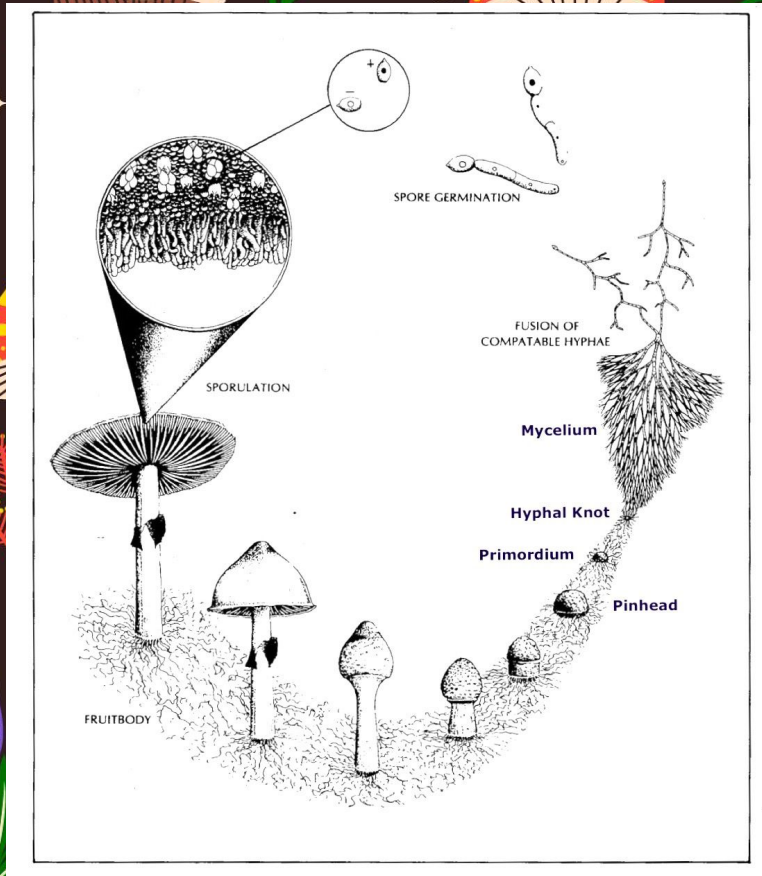




Introduction
Mycology
Fungal Part Used

Cases
Compounds
TCM & Historical
Synergy
Mushrooms

Summary
Q and A
Discussion

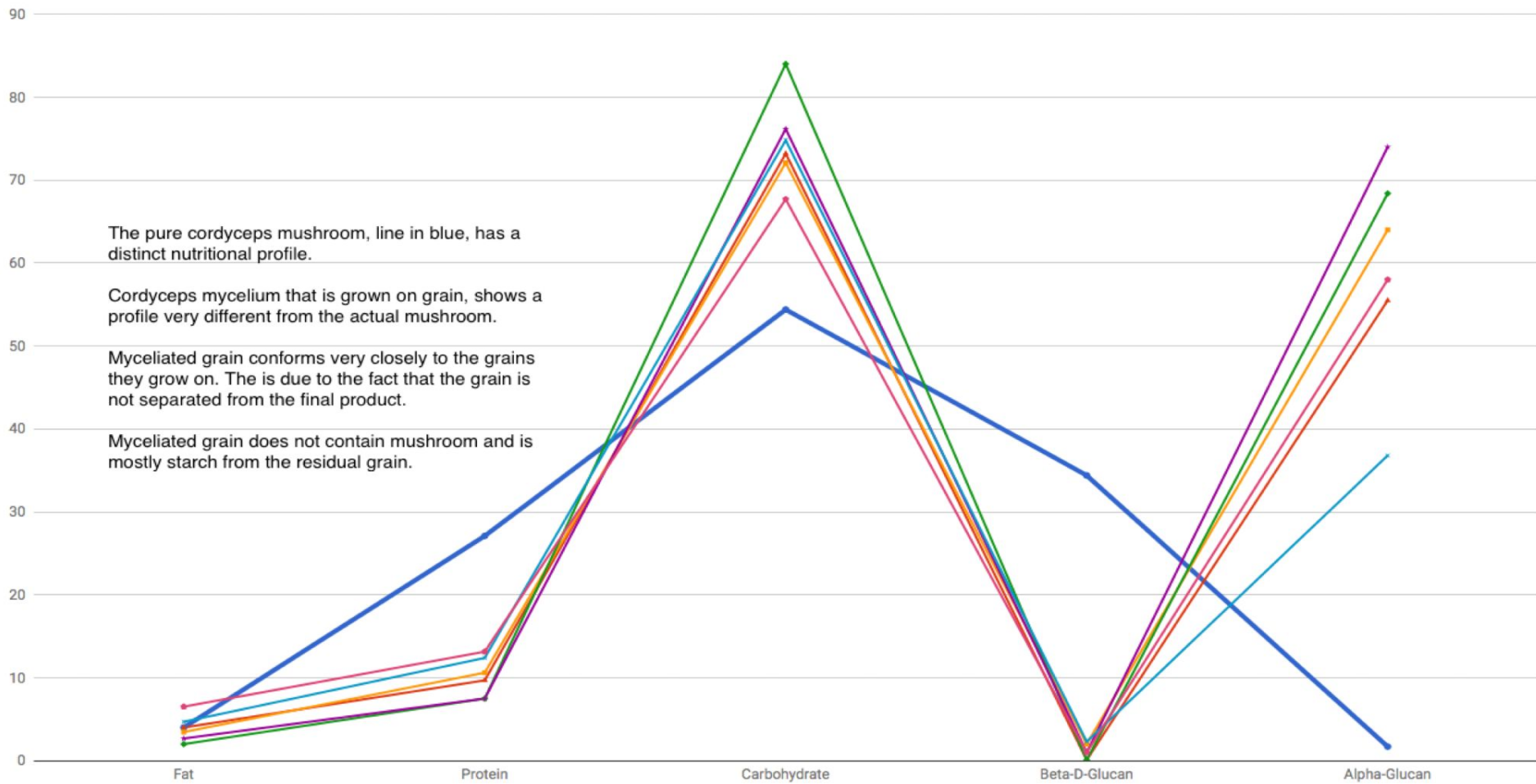


Life Cycle & Fungal Part
Used

Mechanism

Extraction Methods

Nutritional Comparison of Cordyceps mushroom and Cordyceps mycelium on grain



The pure cordyceps mushroom, line in blue, has a distinct nutritional profile.

Cordyceps mycelium that is grown on grain, shows a profile very different from the actual mushroom.

Myceliated grain conforms very closely to the grains they grow on. This is due to the fact that the grain is not separated from the final product.

Myceliated grain does not contain mushroom and is mostly starch from the residual grain.

● C. militaris Fruit Body ▲ Cordyceps mycelium on Sorghum ■ Sorghum ◆ Cordyceps mycelium on rice ★ Rice × Cordyceps mycelium on oats ● Oats



Health Prevention

Mood
Cancer prevention
Metabolic Resilience
Aging

Beta-glucans
Polyphenols
Ergothioneine
Ergosterol
Epi-Nutrients
Qi
Chitin/Fiber

Mushroom Consumption and Incident Dementia in Elderly Japanese: The Ohsaki Cohort 2006 Study

Edible Mushrooms as a Potential Component of Dietary Interventions for Major Depressive Disorder

Mushroom consumption and incident risk of prostate cancer in Japan: A pooled analysis of the Miyagi Cohort Study and the Ohsaki Cohort Study

Is ergothioneine a 'longevity vitamin' limited in the American diet?

Dietary mushroom intake and the risk of breast cancer based on hormone receptor status


A case-control study on the dietary intake of mushrooms and breast cancer risk among Korean women

Dietary factors and gastric cancer in Korea: a case-control study

Dietary intakes of mushrooms and green tea combine to reduce the risk of breast cancer in Chinese women

Edible Mushrooms as Novel Myco-Therapeutics: Effects on Lipid Level, Obesity, and BMI

Higher Mushroom Consumption Is Associated with Lower Risk of Cancer: A Systematic Review and Meta-Analysis of Observational Studies



100-500 mg
Beta-glucan
General Immune
modulation

Clinical Condition
Dose Based on Specific
Condition and Extract
Form or Traditional Use

- 3 mushroom meals per week
- 126-500 grams per week (fresh)
- +3 grams of Beta-glucan for cholesterol



Oyster, enoki, shiitake, agaricus, WBM and winter fungus
3-5 servings per week
0.5-18 grams per day (fresh)
>5mg Ergothioneine



CI: Allergy and medication adjustments



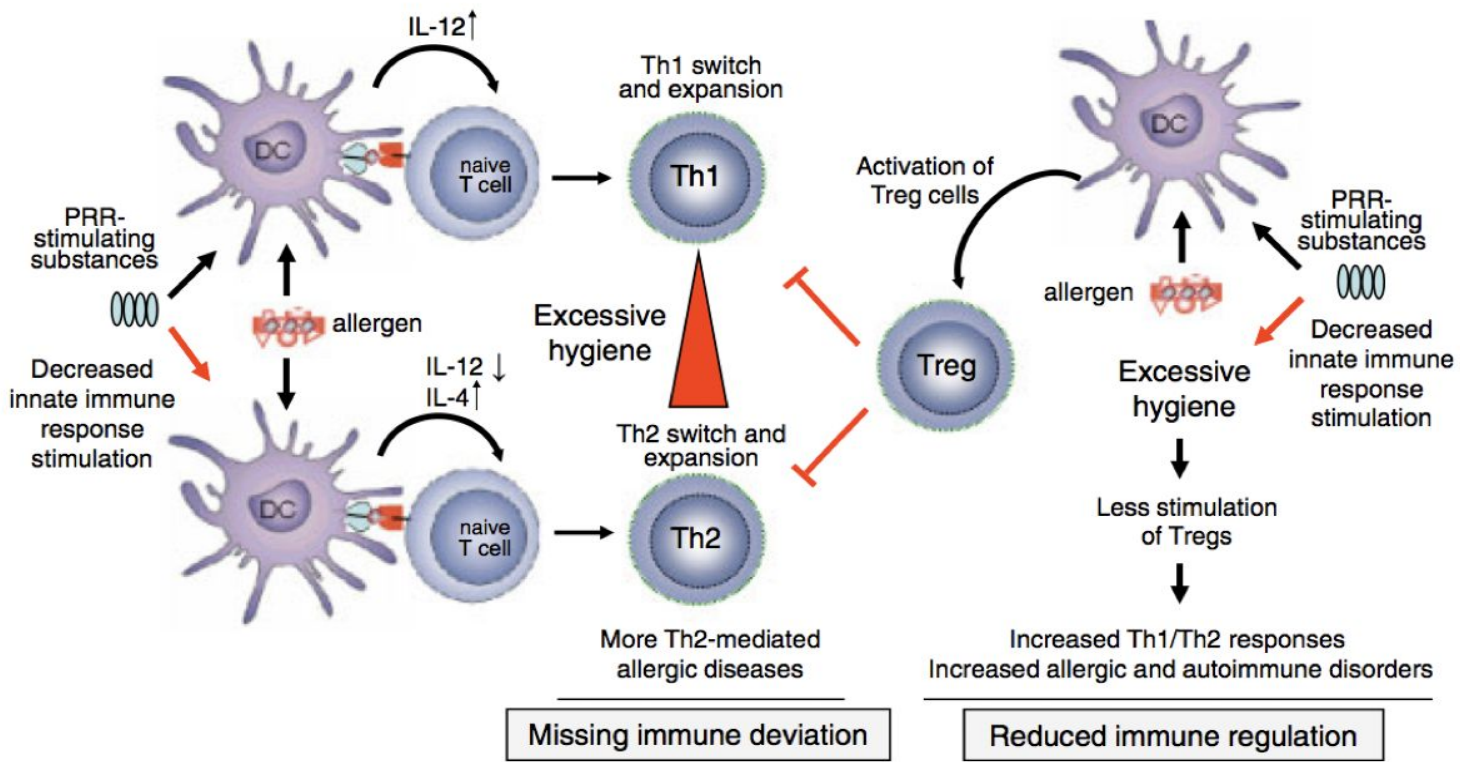
TCM longevity and qi
Synergy with soybean, green tea, berries polyphenols & veggies



Allergic Rhinitis

Immune modulation
Reversing Th1 to Th2
shift
T-Reg / Th1 Focus
Pattern Recognition
Receptors

Beta-glucans
Triterpenes (ganoderic
acids)
Oleic acid
Cyclooctasulphur
Wei qi



Role of Treg in immune regulation of allergic diseases (Palomares, 2010)




Reishi 1000 mg BID (2x/day) (acute) 2-4 weeks
Reishi 500 mg BID (maintenance) 4-8 weeks



Anticoagulant interactions possible over
1500 mg
Monitor insulin, hypertension and glucose
medications



TCM benefit Chest & Lungs
Synergy with histamine modulators
(quercetin 2g + bioflavonoids 150mg)



Sleep
Insomnia

Nervous system +
cortisol dysregulation

Chronic Pain, Anxiety &
Deficiency

HPA dysregulation &
increased allostatic load

Shen (mind)
Triterpenes
Adaptogenic
Compounds



Reishi 1000 mg HS (before bed)
Poria in formula (dose varies)



Grounding and stabilizing
energetics



TCM shen and blood support
Synergy with passionflower + lemon balm
favourite nervines
Magnesium 250 mg or to bowel tolerance

The background of the slide is a teal color with a repeating pattern of various mushrooms in different colors (orange, green, purple, brown) and sizes. The mushrooms are stylized with thick black outlines. There are also small blue dots scattered throughout the background.

Autoimmune

Heat/KD
IL-2/18/10/Th17
Immune modulation

Beta-glucans
Ergothioneine
Redox Regulators



Full spectrum formula 500 mg QD (per day) or
1500 mg QD
Reishi 1000 mg per day
Cordyceps 1500 mg per day
Oyster 100 mg beta-glucan per day (crohn's)



Relative Contraindication:
Acute Autoimmune Flare
Microbiome imbalance
Immune Suppression



Synergy with immune modulators
Gastrointestinal and immune tolerance
plan
Vitamin D (therapeutic dose), gotu kola,
astragalus, rosmarinic acid and LDN

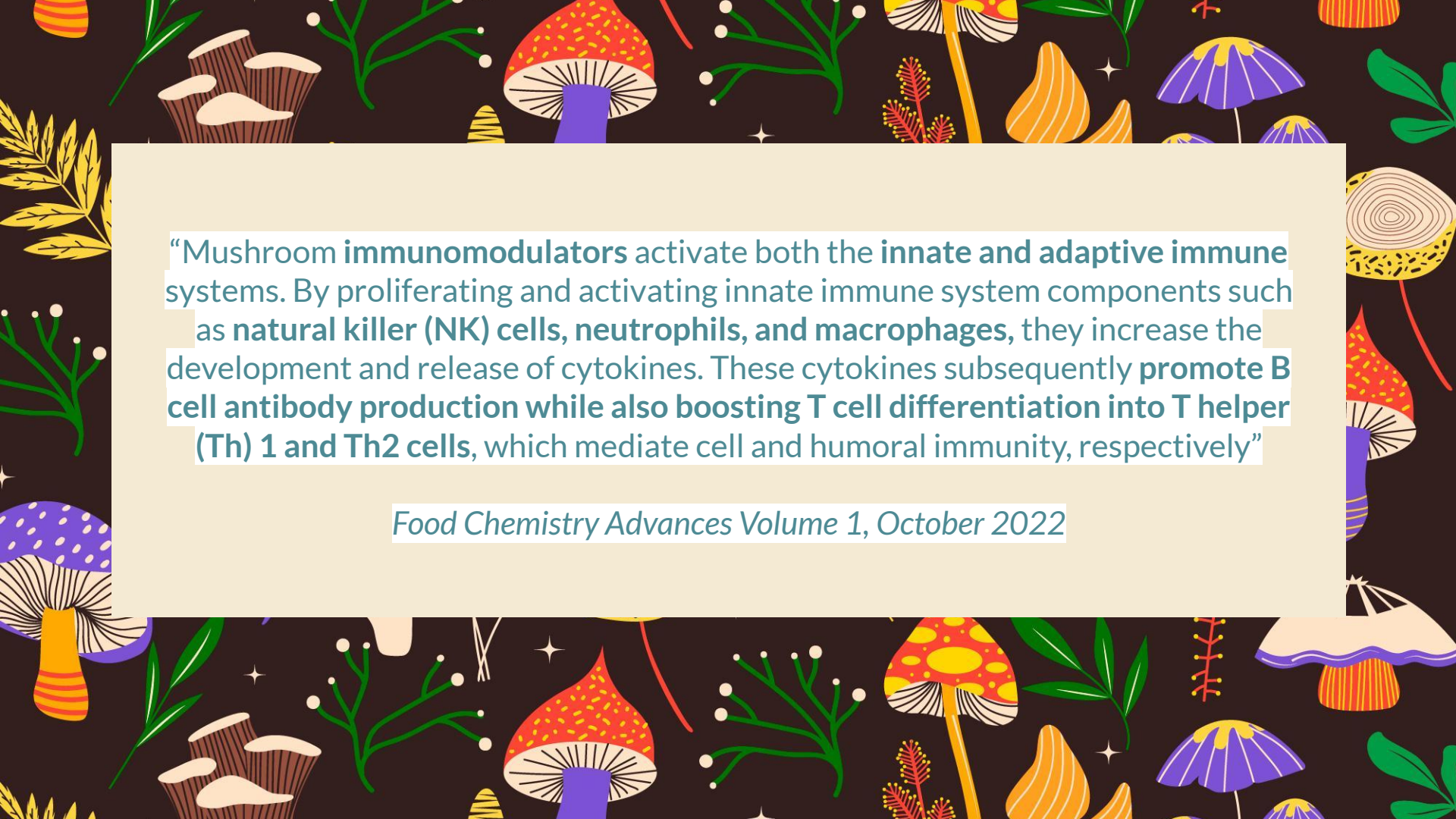


Acute Immune

Upper Respiratory
Infections

Viral Infections

Beta Glucans
Ergocalciferol
Pleuran



“Mushroom immunomodulators activate both the innate and adaptive immune systems. By proliferating and activating innate immune system components such as natural killer (NK) cells, neutrophils, and macrophages, they increase the development and release of cytokines. These cytokines subsequently promote B cell antibody production while also boosting T cell differentiation into T helper (Th) 1 and Th2 cells, which mediate cell and humoral immunity, respectively”

Food Chemistry Advances Volume 1, October 2022



Pleuran: 100mg QD (per day) or 10 mg/kg
for children
Oyster Mushroom extract roughly 125 mg
pleuran per 500 mg of extract



COPD
Athletes and Overreaching
Recurrent respiratory infections
Children



Synergy with reishi and turkey tail
Vitamin C 100 mg and Zinc +5 mg of zinc



Chronic Immune
Infections

Lyme and Co infections

HSV1 / 2/HPV

EBV

Pneumonia / Viral
Infection

Cordycepin
Beta-glucans
Polyphenols
Proteins




Cordyceps 1.5-4 grams BID (2 x per day)
Reishi 1g TID (3x per day)
AHCC 1-2 grams QD (per day)



Brain fog
Neurological
Anxiety, Pain and Fatigue



Synergy with chinese skullcap 30 gtt TID,
anti-microbial herbs, acer maple gemmo 15
gtt TID



A 34 year old male suffered chronic upper and lower lip herpes simplex virus type 1 (HSV-1) infections every 4 weeks.

Patient history revealed mild dysbiosis secondary to previous antibiotic use for unrelated infections. Infections increased in times of increased stress, travel and allostatic load.

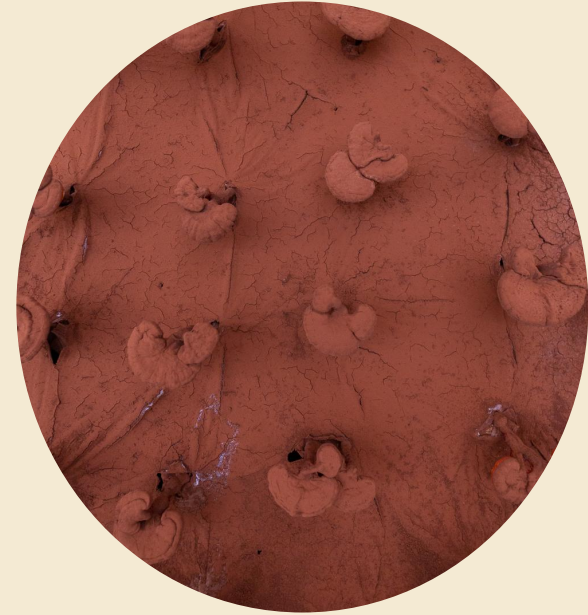
Daily dose of 1000 mg turkey tail and 500 mg reishi mushroom capsules (1500 mg total with 425 mg of active beta-glucans) taken by mouth for 16 weeks 5 days of the week




Reishi
Turkey Tail
Chaga
Cordyceps



Candida & fungal infections
HSV / HPV adjunct
Small intestine dysbiosis
Dysbiosis



Reishi 500 mg 8:1 DE for SIBO for 6 weeks
Anti-cholinesterase, redox regulating and
anti-bacterial
Pair with Atrantil 2 caps TID



Adaptogen and Tonic
Herbs

Polysaccharides

Entourage



Jujube
Ginseng
He Shou Wu
Schisandra
Goji



Astragalus
Licorice
Seaweeds
Yeast / Grains



Cannabis
Mushrooms
Earth Medicines

Turkey Tail

- Quality of life markers and reduction of side effects in adjunct cancer care
- Gut health and microbiome diversity
- Acute and chronic immune support for viruses (HSV, HPV)
- Breast, colon, rectal, lung, esophageal, liver and stomach adjunct cancer treatment

- Protein bound beta-glucans

Adjunct Cancer

- PSP / PSK / FB / MOG
- Dose: 2.4-9 grams/day

Immune Prevention

- 1-1.5 grams/day extract

Traditional dose

- 9-27 grams

Tremella

- Skin health
- Lung health
- Digestive health
- Memory and cognition
- Immune modulation in adjunct cancer care

Beta-glucans

Skin

- Dose: 1-2 grams day

Cognition

- 5 grams recommended minimum (1:1) HWE

Traditional dose

- 3-9 grams (culinary)



Cordyceps sp.

- Exercise performance
- Viral infections
- Lung infections
- Sexual function and prostate health
- Thyroid autoimmunity modulation (isolated fermented cordyceps product)
- Endocrine function
- Kidney protection



Exercise/Lung Function (1-3 grams/day)

- Pure Mycelium 999 mg/day for 12 weeks
- Cordyceps sinensis pure mycelium 3 grams/day

Kidney Function

- 100 mg per day

Traditional dose

- 3-9 grams/day

Immune

- 1.5-4 grams HWE QD

Beta-glucans &
Cordycepin

Chaga

- Gastrointestinal
- Redox
- Skin
- Immune Tonic
- Adjunct Cancer

Adjunct Cancer

- 1.5 grams QD DE

Immune Prevention

- 250 mg - 1 grams QD DE

Traditional dose

- 1 tsp 3x per day (powder) 30 mins before meals

Triterpenes

Oyster

- Recurrent respiratory infections
- Atopic dermatitis
- COPD immune support
- Immune modulation in athletes
- Nutrients

Pleuran
Beta-glucans
Lovastatin

Respiratory infections

- 1-2 grams HWE/day

Children

- 10 mg/kg pair with reishi

Traditional dose

- 10-30 grams per day (culinary)

Reishi

- Allergies
- Immune modulation, side effect modulation and quality of life adjustments in adjunct cancer care
- Heart tonic
- CNS sedation
- Immune support for acute and chronic infections
- Microbiome diversity
- Lower urinary tract symptoms
- Hepatoprotective
- Bronchitis

Adjunct Cancer

- Isolated extract / mushroom
- Dose: 1.4-5.4 grams /day DE

Children

- 400 mg beta-glucan/day

Traditional dose

- 3-15 grams (HWE)

Triterpenes & Proteins

Lion's Mane

A large, white, shaggy Lion's Mane mushroom is the central focus, growing on a piece of weathered, dark brown wood. The mushroom has a dense, fringed appearance with many fine, hair-like strands. To the left, a smaller, similar mushroom is partially visible. Green leaves and stems of other plants are scattered around the base of the wood and the mushroom.

Cognition
Memory
Nerve pain and
injuries (neuropathy)
Nerve growth factor
Neurological support

Cognition

- 2-5 grams QD HWE

Traditional dose

- up to 12 grams QD

Clinical

- Neuropathy with B1, Mitochondria nutrients, Low level laser therapy (ALA, NAC, resveratrol)

Hericenones, Erinacines
Isoindolinones and Hericine A
compounds (Diterpenoids)

Maitake

- Polycystic Ovarian Syndrome adjunct treatment
- Blood sugar modulation
- Immune modulation in adjunct cancer care
- Viral infections

D Fraction / SX Fraction**

Immune/Metabolic

- 180mg-6 grams/day

Traditional dose

- 3-7 grams culinary





Shiitake

- Improvements in innate immunity (IgA)
- Reducing inflammatory biomarkers
- Adjunct cancer care in select cancers & chemotherapies

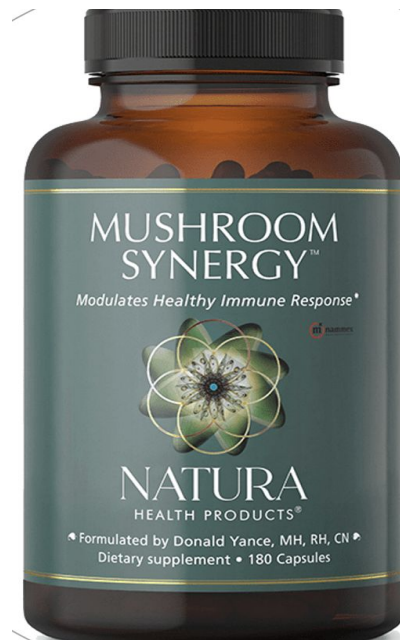
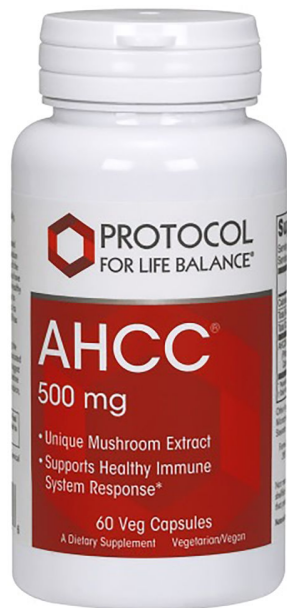
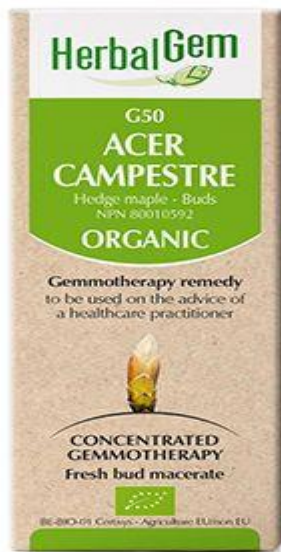
- Eritadenine
- Lentinan^{***}

Immune

- 1.5 grams HWE or 10 grams powder

Traditional dose

- up to 16 grams per day (culinary)





Mushroom	Possible Interactions	Notes
Turkey Tail	Cyclophosphamide, Cytochrome P450 2C9 (CYP2C9) Substrates	*Well tolerated with chemotherapy
Tremella	Limited data	*Culinary
Cordyceps	Prednisolone Drugs, Immunosuppressant Drugs, Cyclophosphamide drugs, Anti-coagulant and anti-platelet drugs	Theoretical
Chaga	Anti-coagulant and anti-platelet drugs, Anti-Diabetic Drugs, Immunosuppressant Drugs	In-vitro
Oyster	Anti-hypertension, Anti-cholesterol, Anti-diabetic	
Reishi	Anti-Coagulant and Anti-Platelet drugs, Anti-Diabetic Drugs, Anti-Hypertension Drugs	*1500 mg. Excellent adjunct therapy track record
Lion's Mane	Anti-Diabetic Drugs, Anti-coagulant and anti-platelet drugs	Blood thinning
Maitake	Warfarin, Anti-Diabetic Drugs, Anti-Hypertension Drugs	D fraction
Shiitake	Immunosuppressants	Dermatitis



Psilocybin & Psilocin

Neuroplastogen

5HT receptors

Default Mode Network

Serotonin

Nature Connection

Emotional Release

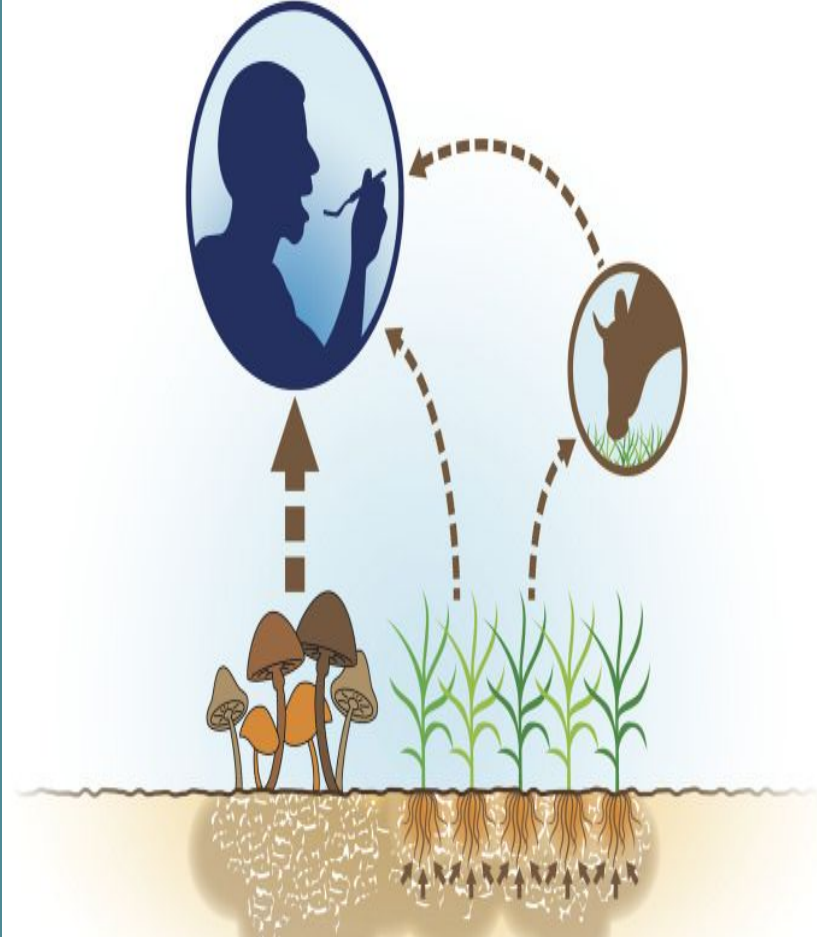
Ergothioneine

Longevity Vitamin

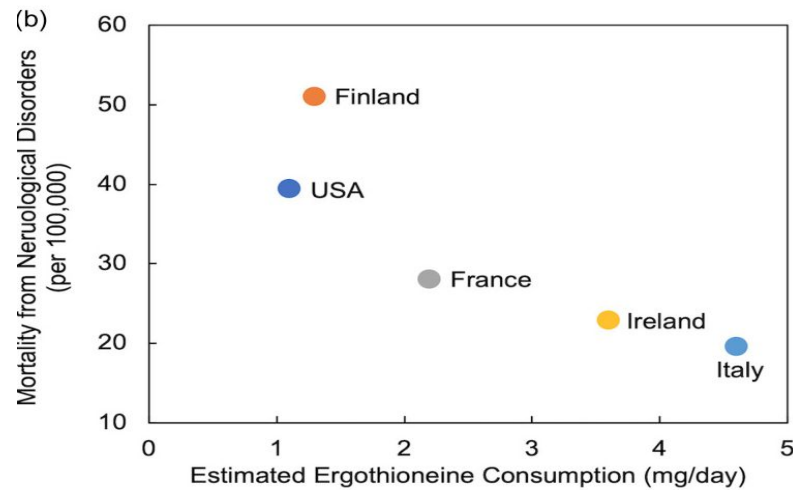
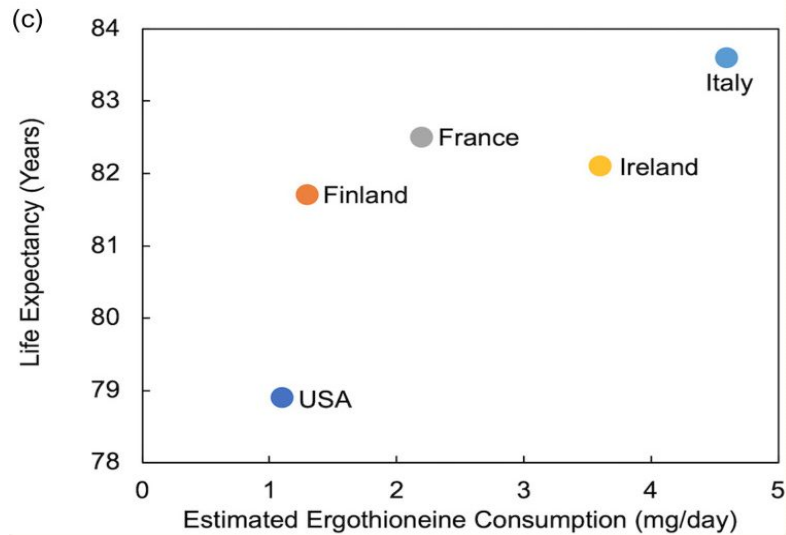
Potential Clinical Applications:

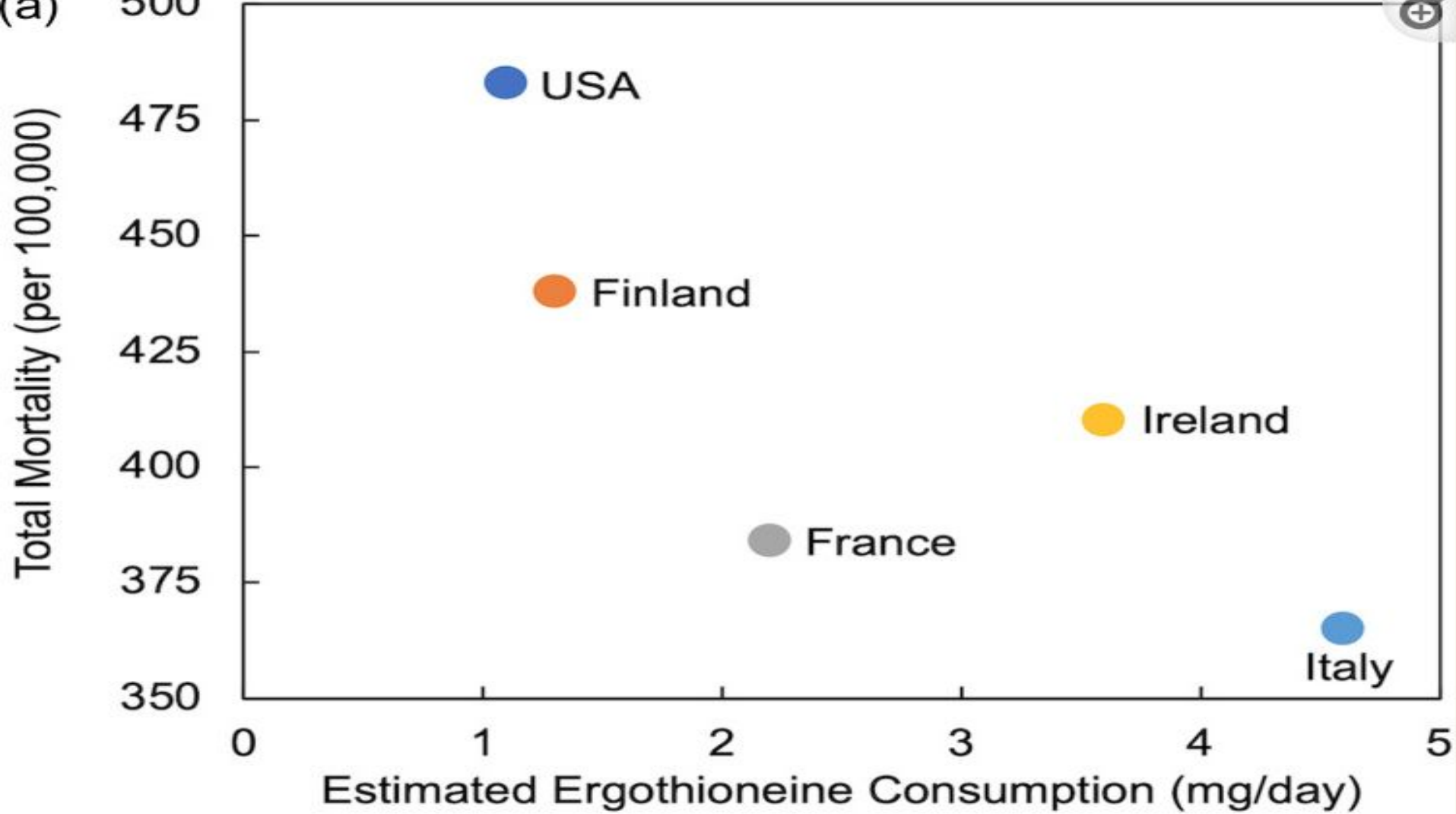
- Cardiometabolic cases
- Sleep
- Neurodegenerative Disorders
- Sickle Cell Anemia
- Cerebrovascular and neurodegenerative disease marker

Mushrooms & No till soil
Adaptive Antioxidant

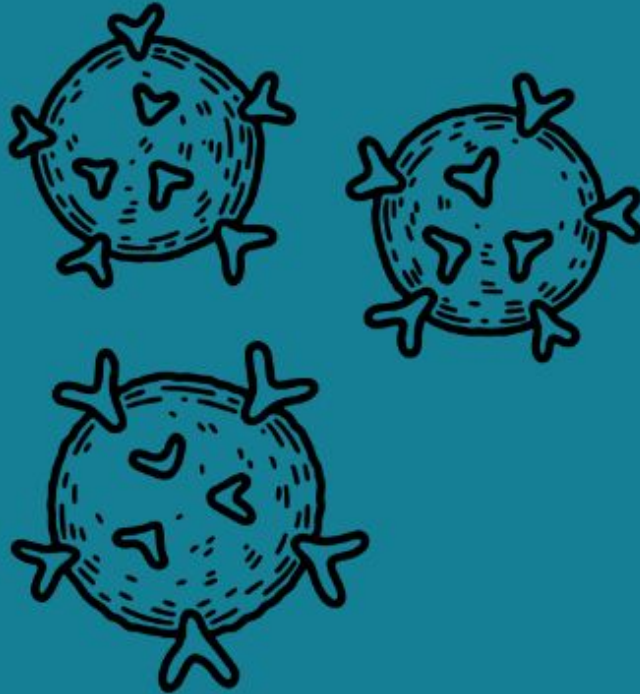
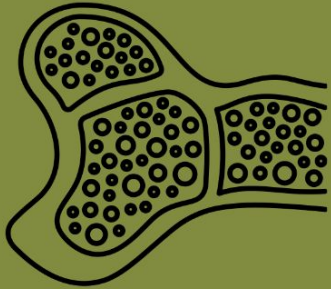


Is ergothioneine a 'longevity vitamin' limited in the American diet? (Beelman et al, 2020)





Trained Innate Immunity

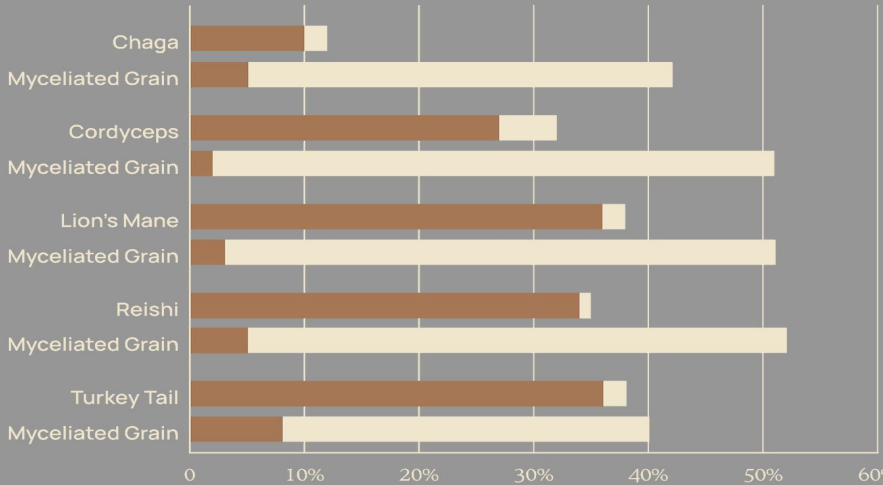




Real Mushrooms

Total Polysaccharides

Beta-Glucans Alpha-Glucans





REALMUSHROOMS



**SUPERIOR BLEND FOR IMMUNE HEALTH SUPPORT
SOURCED FROM NATURE**



REALMUSHROOMS



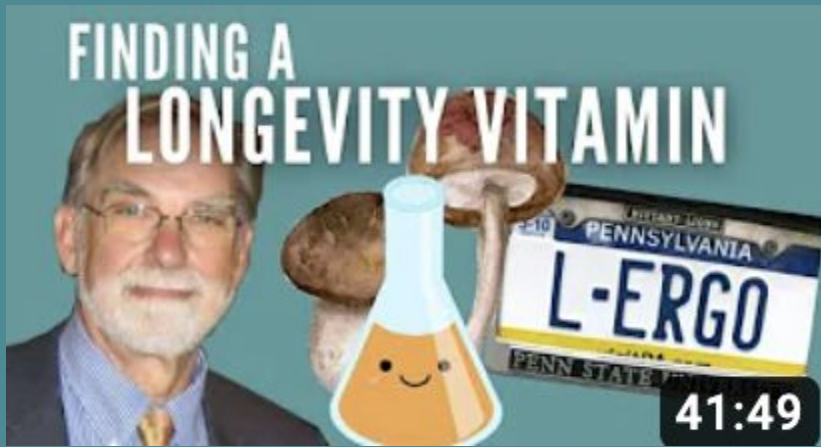
**SUPERIOR BLEND FOR IMMUNE HEALTH SUPPORT
SOURCED FROM NATURE**

Monthly
Practitioner
Education

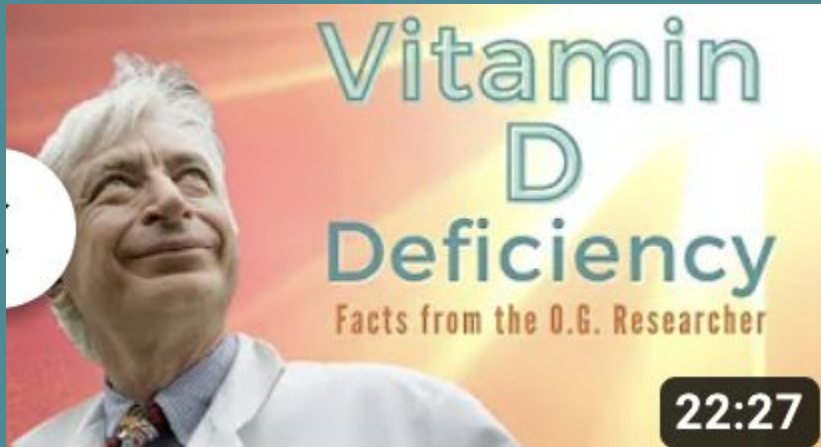
Research
Guides
Monographs

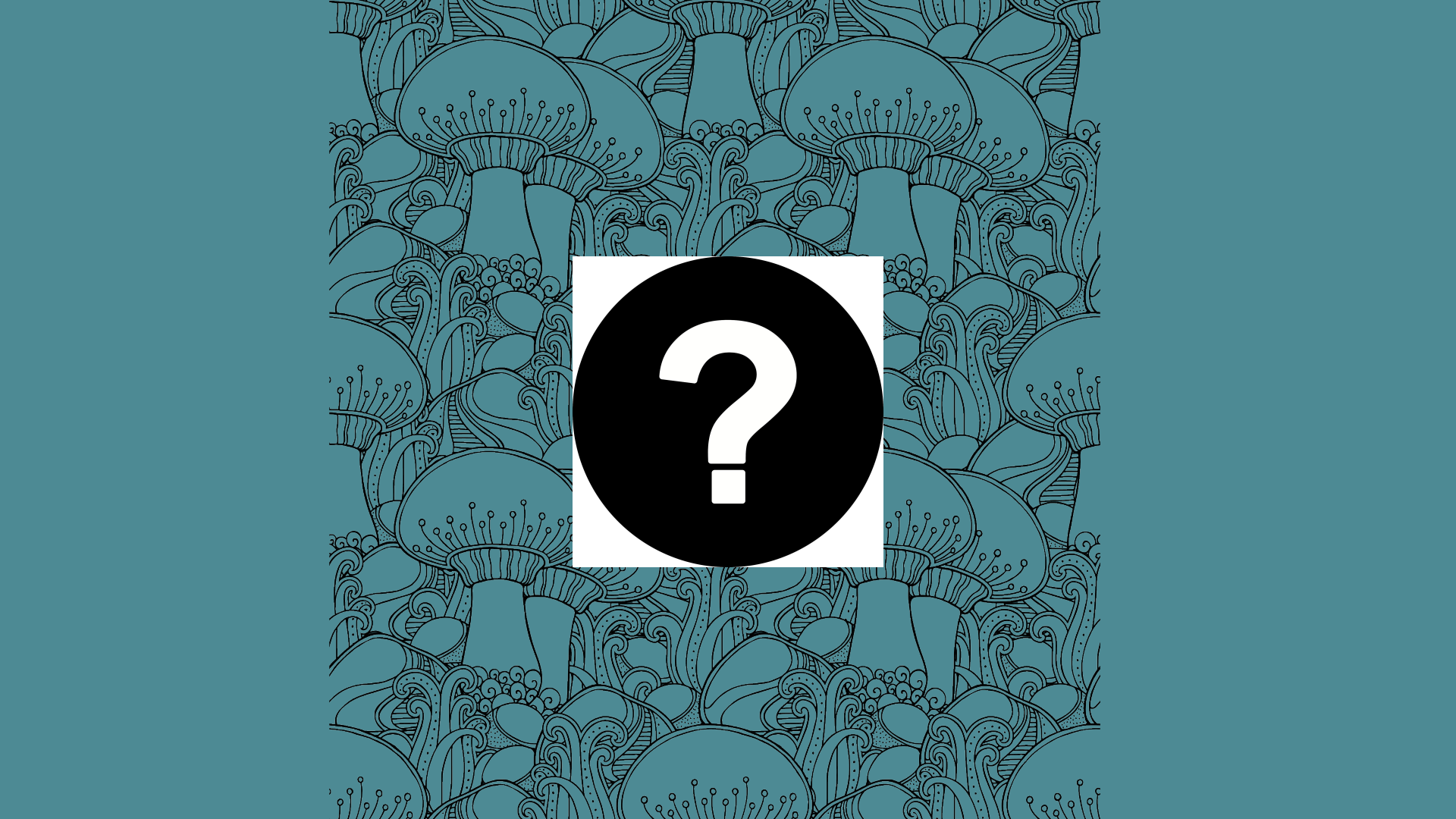
Monthly
Newsletter

Interviews
with
Mycology
Experts



www.realmushrooms.com





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