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This Mushroom Month, Feed Your Immune System

A Closer Look at Mushrooms' Nutrients

Redwood Shores, CA (Sept. 1, 2020) – September is Mushroom Month, an ideal time to celebrate mushrooms' many uses and wholesome, earthy flavor. Mushrooms, like other fruits and vegetables, can also play a positive role in supporting a healthy immune system.

"Mushrooms aren't just delicious on your plate, they are a healthy addition for your body, particularly as we become even more mindful of feeding our immune system as we head into fall and winter," said Bart Minor, president and CEO of The Mushroom Council.

The immune system is made up of a network of cells, tissues and organs that work together to protect the body against infection and maintain overall health.

Nutrients Found in Mushrooms Important for Overall Wellness

Studies¹ conclude that there are a variety of micronutrients important for supporting a healthy immune system. Consider these three nutrients, all found in mushrooms:

*Selenium*² is an essential trace mineral, which means your body must get this mineral in the food you eat. Selenium helps your body make special proteins, called antioxidant enzymes. These play a role in preventing cell damage.³ For example, four crimini mushrooms can provide 38% of the recommend daily allowance (RDA) for selenium⁴.

*Vitamin D*⁵ helps build and maintain strong bones by helping the body absorb calcium. Vitamin D is available via diet, supplements and sunlight, which is why it is also referred to as the "sunshine vitamin."

¹ <https://lpi.oregonstate.edu/mic/health-disease/immunity>. Written in March 2016 by: Giana Angelo, Ph.D. Linus Pauling Institute, Oregon State University. Reviewed in February 2017 by: Catherine Field, Ph.D. Professor of Nutrition, Department of Agricultural, Food and Nutritional Science, University of Alberta. This link leads to a website provided by the Linus Pauling Institute at Oregon State University. The Mushroom Council is not affiliated or endorsed by the Linus Pauling Institute or Oregon State University

² <https://ods.od.nih.gov/factsheets/Selenium-HealthProfessional/>

³ U.S. National Library of Medicine. Selenium in Diet. <https://medlineplus.gov/ency/article/002414.htm>

⁴ U.S. Department of Agriculture, Agricultural Research Service. FoodData Central, 2019. fdc.nal.usda.gov.

⁵ <https://ods.od.nih.gov/factsheets/VitaminD-HealthProfessional/>



Vitamin D has other roles in the body, including modulation of cell growth, neuromuscular and immune function, and reduction of inflammation³. One portabella mushroom, exposed to UV light, can provide 120% of the RDA for vitamin D⁴.

Vitamin B₆⁶ helps convert food into usable energy and assists in the formation of neurotransmitters, red blood cells, proteins and DNA⁷. Four whole shiitake mushrooms provide 13% of vitamin B₆ RDA⁴.

Modeling the Nutritional Impact of Adding Mushrooms to USDA Food Patterns

In addition, a recent study in *Current Developments in Nutrition*⁸ looked at the nutritional effect of substituting a serving of various foods recommended to be moderated in the diet by the U.S. current Dietary Guidelines or Dietary Guidelines 2015-2020 with an 84 g serving of mushrooms (five medium white button mushrooms) on nutrient profiles in USDA's Healthy U.S.-Style, Mediterranean and Vegetarian Eating Patterns. This is a similar approach that the USDA used for determining its Dietary Guidelines.

Simply adding five medium mushrooms, or one 84-gram serving, to USDA Food Patterns increased several shortfall nutrients including potassium and fiber as well as other B vitamins and minerals and had minimal to no impact on overall calories, sodium or saturated fat.

Addition of a serving (84g, 5 medium white button mushrooms) to USDA Food Patterns, each at 2,000 calorie levels¹	
Vitamin D (UV-light exposed to provide 50% of the Daily Value)	70-90% increase
Niacin	13-26% increase
Copper	13-22% increase
Riboflavin	14-15% increase
Potassium	9-11% increase
Fiber	2-6% increase
Calories	1% increase
Sodium	<1% increase

⁶ <https://ods.od.nih.gov/factsheets/VitaminB6-HealthProfessional/>

⁷ <https://lpi.oregonstate.edu/mic/health-disease/immunity#micronutrients>.

⁸ Agarwal S, Fulgoni III V, Modeling the Nutritional Impact of Adding Mushrooms to USDA Food Patterns, *Current Developments in Nutrition*, Volume 4, Issue Supplement_2, June 2020, Page 501, https://doi.org/10.1093/cdn/nzaa046_001



About the Mushroom Council:

The Mushroom Council is composed of fresh market producers or importers who average more than 500,000 pounds of mushrooms produced or imported annually. The mushroom program is authorized by the Mushroom Promotion, Research and Consumer Information Act of 1990 and is administered by the Mushroom Council under the supervision of the Agricultural Marketing Service. Research and promotion programs help to expand, maintain and develop markets for individual agricultural commodities in the United States and abroad. These industry self-help programs are requested and funded by the industry groups that they serve. For more information, visit mushroomcouncil.com.

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