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# UNDERSTANDING MEDICINAL MUSHROOMS

# **OVERALL HEALTH BENEFITS:**

When it comes to holistic pet care, medicinal mushrooms have remarkable health benefits. People have been interested in the medicinal powers of mushrooms and have used them effectively for thousands of years. Numerous varieties of mushrooms provide a blend of protein, fiber, and vitamins B and C, calcium, and other important minerals.

The most common use of medicinal mushrooms you've likely heard of recently is in the treatment and prevention of cancer. Research and results both suggest that whole-mushroom extracts contain compounds that lessen carcinogenesis and tumorigenesis at different stages.

In addition, medicinal mushrooms have been claimed to boost heart health, fight viruses, reduce inflammation, fight allergies, improve digestion, balance blood sugar levels, and support the body's detoxification mechanisms. Adding organic mushrooms to a pet's diet can boost your pet's immune system, which is helpful if your pet suffers from cancer, infections, or other immunity related ailments. Mushrooms may also increase every day wellness in pets.

# DISTINCTIVE HEALTH BENEFITS:

To better understand the powerful health benefits of mushrooms, it's important to look at them individually and how they function solo, as well as combined as you see in many health supplements.

**Chaga Mushroom Health Benefits** – this mushroom may boost immunity, help combat inflammation, relieve allergies, lower blood sugar levels, and even reduce cholesterol levels.

The leading benefit of chaga is the effect on the immune system. They have the unique property of not only boosting the immune system when necessary, but they'll also slow down the immune system that's running on overdrive – which is called a Biological Response Modifier. This is especially helpful for pets with allergies, and autoimmune diseases such as arthritis. If you have a pet with an over-active immune system, this mushroom is a must. Aside from immune diseases, a study in 2009 found that triterpenes, the compounds found in chaga and some other mushrooms, cause tumor cells to self-destruct. Unlike other cancer treatments, however, chaga doesn't cause damage to healthy cells.

Some of the earliest known uses of chaga were for stomach conditions such as ulcers, stomach pain, and inflammatory bowel disease. It's believed that the immune-stimulating traits of chaga help balance the gut bacteria and ease ulcers and gastritis.

Chaga mushrooms can help regulate blood sugar levels for pets with diabetes. Please note that if your dog is diabetic, you need to alert your vet when adding chaga mushrooms to their diet to avoid interactions with glucose levels and medications.

Lastly, a study in China showed that adding chaga to the diet could cause a significant decrease in cholesterol levels, and also boost good cholesterol. If your pet has hypothyroidism, they may be more prone to high cholesterol levels and chaga may be a great way to help with that.

**Maitake Mushroom Health Benefits** – this mushroom is classified by some as an adaptogen, which assists the body in fighting against any type of mental or physical difficulty. Maitake was used in traditional Chinese and Japanese medicine to enhance the immune system. It has been reported that maitake has the ability to regulate blood pressure and lipids, such as cholesterol, triglycerides, and phospholipids, and may also assist in weight loss.

Maitake is rich in minerals (such as potassium, calcium, and magnesium), various vitamins (B, D, and niacin), fibers, and amino acids. The active component in maitake for enhancing the immune activity was identified in the late 1980's as the protein-bound polysaccharide compound beta-glucan, an ingredient found especially in the Polyporaceae family. Cancer prevention is one of the purported uses of maitake mushroom extract. Maitake is thought to exert its effects through its ability to activate various effector cells, such as macrophages, natural killer cells, T cells, interleukin-1, and superoxide anions, all of which have anticancer activity.

**Reishi Mushroom Health Benefits** – This mushroom may boost the immune system through its effect on white blood cells. Reishi has been the top medicinal herb in traditional Chinese medicine for over 2,000 years. It is still the most important herb in Asia and the most researched. Reishi contains over 200 active ingredients and unique compounds that are the most biologically active obtainable from any plant source known to man. In order to obtain maximum benefit, reishi is best taken as an extract. The tough, woody mushroom and the raw biomass can be incredibly difficult to digest. Its dynamic antioxidant action and immune-stimulating effects are why reishi is so highly valued as a longevity herb.

Reishi is the only known source of a group of triterpenes, known as ganoderic acids, which have a molecular structure similar to steroid hormones. It is a source of biologically active polysaccharides. Unlike many other mushrooms, which have up to 90% water content, fresh reishi contains only about 75% water.

The antitumoral effect of reishi is not entirely known, but it is likely due to its polysaccharides and triterpenes with a combination of different mechanisms: inhibiting the angiogenesis (formation of arterial vessels that give nutrients to the tumor) and inducing and enhancing the apoptosis of tumoral cells.

The adaptogenic, antiallergenic, and antihypertensive effects are due to the presence of triterpenes. Research indicates that ganoderic acid has some protective effects against liver injury by viruses and other toxic agents in mice, suggesting a potential benefit of this compound in the treatment of liver diseases.

The Ganoderma extract has been employed to help substantially reduce or eliminate the side effects of radiotherapy and chemotherapy if it is taken before, during, and after the treatments. It has been found clinically to reduce side effects such as hair loss, nausea, vomiting, stomatitis, sore throat, loss of appetite, and insomnia.

**Shiitake Mushroom Health Benefits** – this mushroom may help boost immunity and support heart health. It's also a good source of fiber and B vitamins.

Shiitake have been cultivated for more than 1,000 years. Over centuries, it was found that the mushroom could be used as a remedy for upper-respiratory diseases, poor blood circulation, liver problems, exhaustion and weakness, and is a booster for life energy. It was also believed to prevent premature aging.

Shiitake mushrooms have been researched for their medicinal benefits, most notably their antitumor properties in laboratory mice. These studies have also identified the polysaccharide lentinan, a (1-3) beta-D-glucan, as the active compound responsible for the antitumor effects. Extracts from shiitake mushrooms have also been researched for many other immunological benefits, ranging from antiviral properties to possible treatments for severe allergies, as well as arthritis. Shiitake are also one of a few known natural sources of vitamin D.

**Turkey Tail Mushrooms Health Benefits** - this mushroom is best known for its benefits in fighting cancer, infections and other immunity related illnesses. It contains beta-glucan polysaccharides

which aid in activating the immune system. This may help protect your pet from infection and fight off diseases of all kinds.

Turkey tail mushrooms have two main medicinal components: Polysaccharide-K (PSK) and polysaccharide-P (PSP). They form part of the mushroom's cell wall and they give the cell its structure. Both PSK and PSP are called beta-D-glucans. These beta-glucans can bind directly to receptors in immune cells and trigger immune changes that can increase the activity of some immune cells, or restore a healthy immune response.

A 2012 study looked at the effectiveness of turkey tail mushrooms in treating dogs with hemangiosarcoma. Hemangiosarcoma is a vascular cancer with a very high rate of metastasis. It's an aggressive cancer that's primarily found in the spleen. The prognosis is poor in dogs with hemangiosarcoma, even when the spleen is removed. The median survival rate is from 19 to 86 days with less than 10% of dogs surviving past 12 months. In this study, they gave PSP from turkey tail mushrooms to dogs from a teaching veterinary hospital. All of the dogs were diagnosed with hemangiosarcoma. The dogs underwent a double-blind study with no concurrent treatments. When results were analyzed, researchers found the dogs given the PSP had a much longer time until metastasis. Additionally, survival time increased with the size of the dose.

Beyond the immense cancer benefits, Turkey tail mushrooms may also help protect pets against kennel cough, canine flu and other infection diseases. They may control inflammation in the digestive track and bladder. They are also a good source of prebiotics and rich in phytochemicals.

# SUMMARY:

To summarize, medicinal mushrooms are powerful healers that may help with many diseases and conditions, as well as improving overall wellness. When different medicinal mushrooms are mixed together, their individual positive effects become enhanced. Other holistic herbs and antioxidants, such as PCR hemp and Ceylon cinnamon, may also be added to this synergistic base for an optimal health supplement for your pets.

# **RESEARCH LINKS:**

- <u>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4684115/</u>
- https://penntoday.upenn.edu/news/compound-derived-mushroom-lengthens-survival-timedogs-cancer-penn-vet-study-finds
- https://www.ncbi.nlm.nih.gov/pubmed/22135889
- https://www.ncbi.nlm.nih.gov/pubmed/18434051
- https://www.ncbi.nlm.nih.gov/pubmed/18434051
- https://www.ncbi.nlm.nih.gov/pubmed/29521529
- https://www.ncbi.nlm.nih.gov/pubmed/10460691
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- https://www.ncbi.nlm.nih.gov/pubmed/12436306
- https://www.ncbi.nlm.nih.gov/pubmed/16566671
- https://www.ncbi.nlm.nih.gov/pubmed/22237782
- https://www.ncbi.nlm.nih.gov/pubmed/16786250
- https://www.ncbi.nlm.nih.gov/pubmed/9987601
- https://www.ncbi.nlm.nih.gov/pubmed/15588668
- <u>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3440946/</u>
- https://www.cancer.gov/about-cancer/treatment/cam/hp/mushrooms-pdg









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