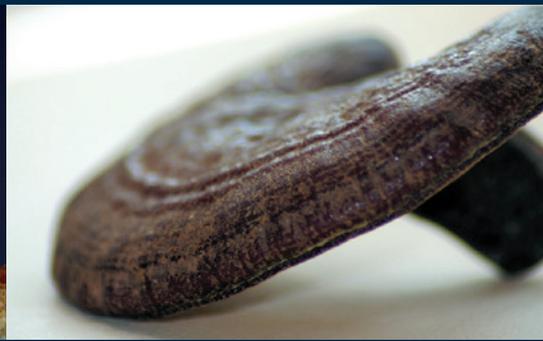


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Extraordinary
gifts
from nature's
pharmacy

This guide presents you with important information on the subject of medicinal mushrooms.

You will get to know the basics of healing mushrooms and their effects as well as their applicability in mycotherapy.

Medicinal mushrooms- one of the oldest natural remedies in the world

For more than 4,000 years, healthcare practitioners in China and Japan have used medicinal mushrooms to successfully prevent, abate, and cure a wide range of ailments. Mushrooms such as Shiitake and Reishi mushroom are even regarded by many to be the fabled, 'fountain of youth'.

To this day, medicinal mushrooms are known to strengthen the immune system, regulate blood pressure and glucose levels, strengthen and detoxify the liver, treat allergies, aid in weight loss, improve vitality, and heal many other illnesses of the body.

Medicinal mushrooms and their contents

The natural substances found in medicinal mushrooms are highly nutritious and unique. They are known to influence many vital bodily functions, slow down the process of ageing, and heal or encourage the healing process of numerous medical conditions- all without side effects.

Scientific studies have been able to verify over one hundred medicinally valuable substances in the fungi kingdom. Careful estimation suggests that this, however, is only a small fraction. The combination of vitamins, minerals, trace elements, fibres, essential amino acids and secondary substances with high bioactivity is especially unique and cannot be found anywhere else in nature.



Mycotherapy- Medicinal mushrooms and their health benefits

In order to understand the versatile array of health benefits of medicinal mushrooms, one needs to know that these medicines do not simply fight the illness but rather improve and strengthen the body as a whole.

Medicinal mushrooms can effectively regulate homeostasis. This term summarizes the balance of various ongoing processes in the body such as the balance of minerals, enzymes, hormones, water, electrolytes and immune cells. These properties and effects of medicinal mushrooms form the fundamentals of mycotherapy. They can counterbalance irregularities, meaning they can lower blood pressure in a person with high blood pressure, or raise blood pressure in someone with low blood pressure. This principle of homeostasis also applies to digestion, psyche, allergies and cancer. Only with this knowledge is it possible to understand the highly impressive and versatile range of application possibilities.

Medicinal mushrooms in cancer therapy

In the last few years, the treatment of cancer victims using medicinal mushrooms showed very interesting and encouraging results. In Asia and the USA, many of the active substances found in medicinal mushrooms are now officially approved medicines for cancer therapy.

The treatment is based on particular polysaccharides which have proven to have a debilitating effect on the development and growth of tumors. They do not directly attack the cancerous cells, but encourage the production of macrophages, cytotoxic T-helper cells and natural killer cells. Also, these polysaccharides release the body's own messengers such as interleukins and interferons. This gives the body information to recognise and destroy degenerate cells.

The medicinal mushrooms manage to strongly stimulate the body's immune defense, to an extent that not only one type of defence cell is stimulated, but practically the whole immune system.



“Studies have been able to verify over one hundred medicinally valuable substances”

The 11 most important medicinal mushrooms

Agaricus blazei murrill

The medicinal mushroom "Agaricus blazei murrill" (ABM) is also known as Himematsuake. It originates from rainforests in Brazil. The locals called it "mushroom of God" and used it not only as a "special" food, but also in the case of serious illness.

Forty years ago, Japanese scientists took notice of and examined this mushroom because the life expectancy in regions where this mushroom was consumed was higher and incidences of cancer were almost unheard of.

Meanwhile, this mushroom has experienced a true "boom" in naturopathy. It is cultivated in large quantities and is recognised as an approved anti-cancer substance in Japan, Brazil and the USA.



Significance in naturopathy

Pharmacologically valuable substances and the highest proportion of valued polysaccharides (especially β -glucane) amongst medicinal mushrooms are found herein. The remarkable anti-tumor effects are also attributed to ABM.

ABM often successfully stops the growth of cancer cells and can even bring about their degeneration. These effects were verified in studies of Leukaemia, intestinal/ pulmonary/ abdominal/ prostate cancer, as well as cancer of the liver, breasts and pancreas. It has been rendered especially helpful in countering brain tumors, skin cancer and gastric cancer, as well as Hepatitis B and Hepatitis C, hepatic cirrhosis and further diseases of the liver, spleen or the stomach. This is also applicable to cases where neither operations, nor radiotherapy or chemotherapy can be implemented.

At the same time, these ABM mushrooms can drastically reduce the dangerous side-effects caused by conventional therapies such as radiation and chemotherapy. They help to rapidly dismantle the toxins formed in the process and to encourage haematosis in the bone marrow.

The strengthened immune system also positively impacts the treatment of chronic inflammations, allergies, Asthma, bronchitis and migraines, as well as of chronic fatigue and especially of autoimmune diseases such as Polyarthritis, Diabetes Type I and pancreatic hyperfunction. Extracts of ABM are used in the supportive treatment of the human immuno-deficiency virus, AIDS.

Main areas of usage

Cancer therapy (accompanying conventional medicine)

Alleviates side effects of radiation and chemotherapy

Autoimmune disease

Auricularia polytricha

Auricularia, also known as “woodear”, is a medicinal mushroom which is widespread throughout the world. Its fruiting body is frost resistant and can be found all year round.

Auricularia is known from the Chinese cuisine, where it is added to soups or used to refine sauces. Woodear has a very mild taste of its own and is able to absorb aromas from spices.

Usually Auricularia is obtained in dried form. If woodear is allowed to soak before cooking, its volume increases greatly, ensuring a pleasant feeling in the mouth.



Significance in naturopathy

Auricularia is often used in the treatment of Arteriosclerosis in Traditional Chinese Medicine to regulate blood circulation and reduce cholesterol levels. It is also claimed to have anti-inflammatory effects.

Scientists continue to research the anti blood clotting properties which positively affect blood pressure. Positive results are reported, especially in the prevention of stroke, heart attack and circulatory disorders, even if it is not exactly known how the substances found therein work.

Further studies point to the regulating effect of Auricularia on the immune system, whereby the development of immune cells from the spleen may be improved. Like most medicinal mushrooms examined to date, the Auricularia seems to have positive effects on the strengthening of the immune system in tumorous diseases, and is hence used in the associated treatments.

Main areas of usage

Arteriosclerosis (encouragement of circulation)

Circulatory disorders

Thrombosis, heart attack and stroke prophylaxis

Blood pressure regulation

The 11 most important medicinal mushrooms

Cordyceps sinensis

Cordyceps sinensis, also known as the “chinese caterpillar fungus” originates from Tibet, where it grows in heights of up to 5000 meters. Its natural basic food resource is not wood or any other vegetational substrates, as in other mushrooms, but rather a specific type of caterpillar. It infests the caterpillar beneath the soil, kills it, and sprouts its finger shaped fruiting body in spring.



Alongside numerous vitamins, trace elements and essential amino acids, the chinese caterpillar fungus also contains valuable Polysaccharides. Until now, the substances cordycepin, ophiocordin and galactomannan are known, which can have a stimulating influence on the immune system.

Main areas of usage

Relieves fatigue and stress

Performance and endurance enhancement

Sexual dysfunction

Depression

Natural antibiotic

Significance in naturopathy

This extraordinary mushroom has become especially well known as an aphrodisiac. It encourages sexual activity and helps with both sexual malfunctions and irregular menstruation through its stimulating effects on the sexual organs. An explanation for this is its proven influence on the neuroendocrine system. Cordyceps stimulates the release of hormones from the adrenal cortex and helps the body reduce stress, insomnia, and depression.

This medicinal mushroom is also gladly taken by athletes because not only does it have a remarkable performance-enhancing effect, it also improves muscle regeneration. For centuries, Asian Olympic athletes have consumed cordyceps to improve performances in competitions and to recover from strenuous workout routines. Scientists believe that the performance and endurance-enhancing effects of Cordyceps are linked to the fungus' blood oxygenation capabilities of the respiratory organs and the entire cardiovascular system.

Cordyceps is helpful for joint and muscle pain, as well as rheumatism. It protects and strengthens the kidney, lungs, and liver. This medicinal mushroom is equally effective for anaemia, weakness, and chronic fatigue, as well as in respiratory diseases such as asthma, and also as a natural antibiotic for bacterial infections. Studies show that cordyceps stops the growth of Clostridium spp., whilst leaving bifidobacteria and lactobacilli undisturbed- unlike the drugs used in conventional medicine.

Furthermore, it stimulates the immune system and is recommended for AIDS and in cancer therapy. Herein it also noticeably relieves the side effects of a radio- or chemotherapy.

Coprinus comatus

Lawyer's wig

Coprinus comatus grows both in Europe and in Asia, although it is rarely used in the kitchen because it must be prepared when freshly harvested and cannot be stored. When prepared straight away, however, it is a delicious edible mushroom. It is also called "asparagus mushroom" due to its taste.

What makes this mushroom interesting for a healthy nutrition is the fact that it contains 20 amino acids, all of which are vital to humans. It is also rich in potassium, magnesium, iron, manganese and zinc and even contains niacin, riboflavin and thiamine. Lawyer's wig is also one of the few mushrooms that contains vitamin C.



Medical studies were able to verify a high content of lectins and L- ergothioneines. Lectins are structured so that they can directly attach to the human cell wall and thus affect processes such as cell division. Although its effects and individual active ingredients have not been researched in detail, there are signs that it could positively influence cancers associated with hormonal fluctuations, such as prostate cancer.

Coprinus has the highest attested lectin activity of all known edible mushrooms.

Significance in naturopathy

In traditional Chinese medicine, Lawyer's wig is mainly used in the treatment of haemorrhoids and digestive problems. Recent research also indicates positive effects on the regulation of blood glucose levels, making the Coprinus interesting for the treatment of diabetes type I and II.

Studies showed that it has a blood sugar reducing effect, which improves glucose intolerance and counteracts the long-term effects of Diabetes. In addition, Chinese scientists have proved that it has an inhibitory effect on the growth of sarcoma cells.

Main areas of usage

Lowers blood glucose in diabetes type I and II

Treatment of haemorrhoids

Digestive complaints

Reduction of long-term damage of diabetes

The 11 most important medicinal mushrooms

Coriolus versicolor

Rainbow bracket

The rainbow bracket is especially well known in Asia and South Africa, where it naturally grows on dead wood and is also cultivated. It has been used for a very long time in traditional Chinese medicine to treat a wide range of diseases such as infections and candidiasis, and was therefore tested for verifiable medicinal effects in several studies.

In Europe, it was regarded as uninteresting for a long time, as it is not suitable for cooking. Meanwhile this medicinal mushroom is, however, establishing itself in Europe as well and is highly appreciated for its contents.

Significance in naturopathy

The rainbow bracket is an excellent source of protein-bound polysaccharides, which are only broken down during digestion and count as biological response modifiers. This means, for example, that immune responses in healing processes can be positively influenced.

Attributed to the polysaccharides in the rainbow bracket are the positive effects especially on accompanying cancer therapy, but also on chest, intestinal and stomach illnesses. The active ingredients found in the mushroom also seem to ensure the stimulation of the immune system.

Studies of Leukaemia therapy imply that with the help of *Coriolus versicolor*, the deterioration of health during cancer therapy can be significantly slowed. Already in 1977, one of the substances found in the mushroom, cretin, was approved as the first cancer medication. The first studies point towards an antioxidant effect on strained liver cells- the rainbow bracket could thus mitigate the side effects of other medicaments, ensuring more vitality.

Furthermore, *Coriolus* is rich in minerals, trace elements, and vitamins such as provitamin D. Due to its natural polysaccharide content, it is frequently used as a natural remedy for wounds and infections of every type. It is favourably used for infections of the intestines, liver, prostates, ovaries and skin.

Main areas of usage

Inflammations

Infections

Cancer therapy



Maitake

Ram's head

The Japanese maitake stands for 'dancing mushroom', maybe as a successful collector would dance for joy at the sight of one of these mushrooms.

Maitake is also translated as 'ram's head', presumably because of its growth form.

Ram's head grows here in autumn, known as "hen of the woods". It mostly thrives at the foot of old oak trees, but also on linden, chestnut and beech trees.

Since 3000 BC, it has been collected and eaten in China and Japan.



Significance in naturopathy

Traditionally, Maitake is successfully used by those struggling with obesity to regulate blood pressure, and is also used for type II diabetes. This medicinal mushroom protects the liver, leading to improvements in the case of hepatitis and relieves irritable colon conditions. Maitake sustainably lowers blood cholesterol levels and prevents arteriosclerosis. It unfolds a beneficial effect on heart attacks, coronary vessel diseases and cardiac irregularity. Due to its high ergosterol (the antecedent of Vitamin D) content, the consumption of this mushroom can counteract osteoporosis.

The antitumor effect is especially worth highlighting. The main active ingredient of Maitake, the so-called "D-fraction" in the mushroom's extract, proved to be particularly effective for chest, lung, liver, and prostate cancer. The polysaccharide activates and strengthens the immune system, boosting resistance to various infections and reducing side effects of radiation and chemotherapy.

During the intense search for ways to fight HIV infection, the effectiveness of Maitake against the AIDS pathogen was confirmed by the National Cancer Research Institute in the USA and the National Health Authority in Japan. Tests showed that with the use of the Maitake D-fraction, the depletion of numbers of T-helper cells in the immune system, caused by the HIV virus, is reduced. This leads to the assumption that the development of an HIV infection to AIDS can either be considerably slowed or even completely prevented.

Main areas of usage

Diabetes mellitus type II

Cancer

Overweight

HIV/AIDS

The 11 most important medicinal mushrooms

Polyporus umbellatus

lumpy bracket

Polyporus umbellatus is found in the entire northern hemisphere, even though it prefers warmer regions. It is found growing mainly in woodlands.

The first traceable mention of the mushroom was as early as 2000 years ago, and since then it is a solid constituent in the traditional Chinese medicine. It contains ergosterol, folic acid, niacin and biotin as well as polysaccharides and polypeptides. At the same time it is rich in fiber and minerals. Particularly high levels of iron, calcium and potassium as well as copper, manganese and zinc were have so far been determined.

Significance in Naturopathy

This medicinal mushroom is said to have diuretic effects, although it does not wash out vital potassium which would subsequently need to be replaced, as opposed to synthetic compounds. Hence it is a gentle alternative for the treatment of irritations of the urinary tract, as well as for various forms of fluid retention and edema. Besides its diuretic effects, it is also believed to have antimicrobial effects, which help to treat infections.

Studies from China conclude that Polyporus inhibits the growth of sarcomas and lung cancer. There are also studies of liver diseases such as hepatitis B, which show a relationship between treatment with Polyporus and improved liver function readings, as well as an antioxidant effect in the blood plasma. Especially polyporusteron B found in this medicinal mushroom is said to effectively catch radicals. Hence, the bioactive components polyporusterones A and B could play a decisive role in the growth of new hair.



Main areas of usage

Edema

Drainage

Improvement of hair growth

Activation of lymph system

Reishi

glossy ganoderma

Reishi originally comes from Asia, although it also grows in European forests. In East Asian folk medicine, Reishi is to this day a popular healer, and has been so for over 4000 years. It is even approved as an anti-cancer drug in Japan.

Reishi is almost exclusively cultivated for processing into medicinal mushroom products. Over 4 million people regularly consume Reishi! Of all known medicinal mushrooms, it has the largest range of effects. This is attributable to the amounts of highly effective polysaccharides and triterpenes found within this astounding mushroom.



Significance in naturopathy

Recent scientific studies confirm that Reishi has a positive effect on high blood pressure, circulatory disorders and arteriosclerosis as well as in the regulation of blood fat and blood sugar levels. This can be attributed to triterpenes, which are abundant in this medicinal mushroom. These furthermore inhibit the release of histamines; hence Reishi is also used successfully in the therapy of allergies. This mushroom also unfolds its extraordinary effects on asthma, bronchitis, neurodermatitis, and numerous other skin diseases.

Several internal substances of Reishi have relaxing and calmative effects on the central nervous system. The ingestion of reishi extract leads to improvements in shingles, fatigue, fibromyalgia and menopausal complaints. This medicinal mushroom can reduce migraines, sleep disturbances, nervous disorders, restlessness and anxiety.

Clinical studies also confirmed a positive effect on the cardiovascular system. Scientists discovered a component of the mushroom's extract which improves the oxygen uptake of blood and improves blood flow, hence distinctly raising the performance of the heart muscle. Its use is therefore advised as a natural prophylaxis and as a remedy to treat a weak heart, diseases of coronary vessels, and cardiac arrhythmias.

This mushroom has a remarkable ability to activate the immune system. Reishi is traditionally recommended for the treatment of numerous diseases of the liver, such as hepatitis A, B and C and for strengthening the liver. It is also proven effective for treatment of infections as well as autoimmune diseases. It has been used successfully for decades as a stomach, liver, lung, skin, brain, kidney, and pancreas cancer therapy. Likewise it mitigates the side effects of chemotherapy and radiation.

Studies furthermore showed effectiveness in detoxifications and a particularly protective function in chronic environmental pollution, especially in the case of nicotine abuse. Hereby, the symptoms of diseases associated with smoking could be considerably reduced.

Main areas of usage

Cardiovascular disease

Cancer

Liver protection

Allergies

The 11 most important medicinal mushrooms

Shiitake

lentinula edodes

The medicinal mushroom Shiitake is considered the “king of mushrooms” and is among the most consumed mushroom in the world. For over 2000 years it is a delicatessen in Asia, where it is equally coveted for its legendary healing powers. A doctor of the Ming-dynasty described the mushroom as a “means of preserving health, which heals colds and stimulates blood circulation”.

Main areas of usage

Cardiovascular disease

Cancer

Liver protection

Allergies

Lethargy

Significance in naturopathy

Shiitake is traditionally advised for colds, flu-like infections and immunodeficiency, for blood pressure regulation, gout, rheumatism and arthritis, for various diseases of the liver, tumours, chronic fatigue syndrome, for diabetes, migraines, allergies and for many other afflictions.

Numerous scientific studies in the past decades were able to prove and explain the positive effects of Shiitake. This medicinal mushroom is very helpful for all cardiovascular diseases and especially for lipometabolic disorders. It regulates the cholesterol balance in a remarkable way, strengthens the arterial walls and can therefore counter arteriosclerosis.

Eritadenin, a substance found in this medicinal mushroom, accelerates the conversion of LDL- to HDL-cholesterols and thus reduces cholesterol in the blood. The provitamin D (ergosterol) present in Shiitake promotes calcium metabolism. It contributes to the removal of sclerotic deposited calcium from the arterial walls. At the same time, organic vital substances encourage the production of collagen. The natural amino acids found in shiitake are components of the collagen molecule and are needed directly for cell structure. They also protect from new inflammations and depositions in the blood vessels.

Even the long known anti-tumor effects have meanwhile been scientifically proven. After isolating the polysaccharide “lentinan” from Shiitake in 1969, it was determined that it could inhibit, or even fully degenerate, various tumours which were implanted into mice. Since then, studies have repeatedly showed that lentinan is effective in cancer therapy to both fight against tumors and mitigate the side effects of chemotherapy and radiation. In China, Japan and even the USA, Shiitake (or an extract from it) is approved as a medication in accompanying cancer therapy.



Hericium erinaceus

(bearded) hedgehog mushroom

Hericium erinaceus is also called “bearded hedgehog mushroom” or “lion’s mane” because of its appearance.

Translated from Chinese, it means “monkey head mushroom”, as the shaggy looks of this mushroom is reminiscent of a type of monkey found in China.



Significance in naturopathy

In traditional Chinese medicine, Hericium is beneficial for five organs; kidneys, liver, spleen, heart and stomach. It sustainably supports digestion, serves to generally strengthen, promotes vitality, and prevents cancer.

Indeed, the potential effects of the hedgehog mushroom are considerable. It regulates digestion and has a calming effect. At the same time it contributes significantly to the regeneration of stomach, intestinal and esophageal mucosa, relieves disturbances of enteric flora and helps with over acidification and heartburn.

Clinical studies have showed, that Hericium is very successful countering all infections and ulcerations as well as cancers of the digestive tract; so it can be used for stomach ulcers, esophageal cancer, stomach cancer, ulcerative colitis, Crohn’s disease, colon carcinoma and pancreatic cancer.

The anti tumor effects of this mushroom can be attributed to the polysaccharides and polypeptides found within, and their immunostimulatory effects. Also confirmed are antimicrobial substances which inhibit, for example, the growth of the bacterium Helicobacter pylori- a bacterium made responsible for causing stomach ulcers and stomach cancer.

This medicinal mushroom also has many more virtues. It helps with infections, asthma, allergies and neurodermatitis. Erinacines present in Hericium can stimulate the nerve growth factor. This could be useful for anxiety, nerve diseases and Alzheimer’s disease, and could support the regeneration of peripheral nerves in neuronal diseases and polyneuropathy. After several weeks of intake, Hericium has a balancing and harmonizing effect and can alleviate states of anxiety, depression, menopausal complaints, and especially insomnia. Studies reported a mood-enhancing effect of the juice extracts of the mushroom.

Main areas of usage

Gastrointestinal disease

Neurological diseases

The 11 most important medicinal mushrooms

Innonotus obliquus chaga mushroom

This mushroom grows on a variety of tree species, however there are indications that specimens harvested from birch trees in autumn or spring are the most curative.

The legendary chaga mushroom has been used for centuries in Siberia to treat serious illnesses of the gastrointestinal tract. It is known as a tonic, serves to cleanse blood, treat tuberculosis and heart disease, and has been a standard constituent of the Russian medicine for centuries.

Significance in naturopathy

Chaga is a great means of treating all diseases of the digestive system, including ulcers and inflammations of the stomach (gastritis) and the duodenum. It is furthermore suitable for the treatment of adenoids in the stomach and intestines. The rehabilitating effect on the digestive system can be taken advantage of during the treatment of allergic skin diseases such as eczema and psoriasis.

Besides this, the use of this mushroom strengthens the general defences against infection and encourages metabolic stimulation. It satisfies hunger, dispels fatigue and improves performance. It is furthermore used in the treatment of chronic fatigue syndrome (CFS), as it has an immunostimulant effect. The first scientific evidence of this mushroom's antiviral effects was given by Kahlos et al. in 1996. In this study, extracts from the black exterior coat of the mushroom were able to repress the influenza virus by 100%. Shibnev V. A. et al. was able to show an inhibitive effect of the mushroom's aqueous extract on the hepatitis C virus in cell cultures. Internally, it is helpful for inflammatory diseases of the liver and spleen, as well as diseases of the lymphatic system. The anti-inflammatory and pain-relieving qualities of the mushroom were shown by Park Y. M. et al. in 2005.

The mushroom's most important field of use is, however, its use in the treatment of cancers (lung cancer, skin cancer), focusing particularly on that of the gastrointestinal tract and of white blood cells (Hodgkin lymphoma). It improves the general health of patients, for example, after surgical removal of a tumour, and alleviates the side effects of a conventional chemotherapy.

Meanwhile, there is a whole range of scientific studies on cancerous cells which reveal the anticarcinogenic properties of the mushroom and its extracts.

The chaga mushroom is nontoxic over a wide range of doses and is generally well tolerated.



Main areas of usage

Cancer

Gastritis

Defence against infection

Performance enhancement

ORGANIC QUALITY

ORGANIC quality

organic certification and quality management

Organic certifications guarantee that the medicinal mushrooms are organically cultivated, which alleviates the consumer of worries about pesticide and heavy metal contamination. To Wholrab, this certification is absolutely necessary. Organic farming represents the ideal type of sustainable agriculture, being essential not only for sustainable production, but more importantly for the health and wellbeing of the consumer.

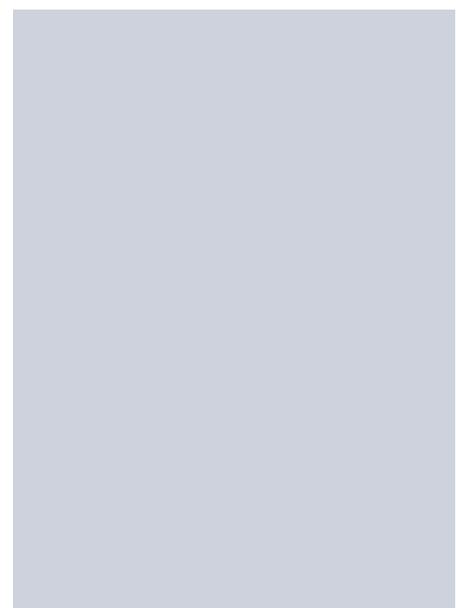
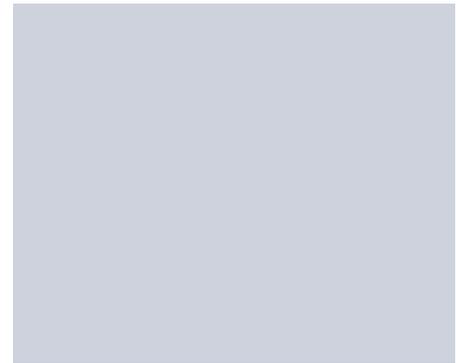
The boundaries of conventional as opposed to organic products differ greatly. Whereas conventional production cannot ensure heavy metal and pesticide-free products, our organically certified product can. Medicinal mushrooms are consumed as a dietary supplement with medicinal qualities, and we strongly believe that they should unfold their healing abilities rather than sicken the consumer.

Only a statement of the following type indicates a conclusive quality management:

*Organic medicinal mushrooms, including their extracts and powders, **are certified organic under the guidelines of the EU.** Organic seals, as well as test and quality seals, are presented to identify them as ecologically farmed products. Compliance with criteria by the grower is ensured by a duty of documentation, i.e. by disclosure of all documents, as well as regular sample taking and product examination. Compliances with regulations of all organic products are monitored by the responsible organic certifying authorities.*

Especially large manufacturers should be certified according to the guidelines of ecological farming. Although such a certification is associated with increased expenditures and production costs (making a marginally higher price inevitable), consumers should only purchase high-quality products which are certified organic.

Organic is worth it!



Most recent scientific research

Publications and studies of healing powers and potentials of medicinal mushrooms are continuously being published. A variety of research teams are working internationally on researching and identifying the potential effects of bioactive substances in medicinal mushrooms. As an example, the following will briefly delineate scientific progresses made on the Reishi mushroom, being the best known representative of medicinal mushrooms:

In 2012 alone, 3 new active substances were identified in the **Reishi mushroom**, which have an **inhibitory effect on tumor growth**. "A study from the Tokyo Medical University was able to show that these active substances inter alia induce apoptosis in cancer cells".¹

Likewise, a study in 2012 by Chen et al. was able to show that contents of the Reishi mushroom have the ability to stimulate neurons in the brain, hence offering the possibility of increasing the chances of success in therapy for neuro-generative diseases such as Huntington's chorea. The study showed, that extracts from the Reishi mushroom increase the production of nerve growth factors, which in turn supports the development of healthy neurons and their mitochondrial activity.²

Another study by the pharmacological faculty of the Kobe University in Japan revealed the effectiveness of *Ganoderma lucidum* in therapy for patients with allergic rhinitis (**hayfever**).³ Allergic rhinitis is an allergy induced inflammation of nasal mucosa and furthermore a trigger for asthmatic diseases.



1. Gao P, Hirano T, Chen Z, Yasuhara T, Nakata Y, Sugimoto A. Isolation and identification of C-19 fatty acids with anti-tumor activity from the spores of *Ganoderma lucidum* (reishi mushroom). *Fitoterapia*. 2012 Apr;83(3):490-9.
2. Chen LW, Horng LY, Wu CL, Sung HC, Wu RT. Activating mitochondrial regulator PGC-1alpha expression by astrocytic NGF is a therapeutic strategy for Huntington's disease. *Neuropharmacology*. 2012 May 24.
3. Mizutani N, Nabe T, Shimazu M, Yoshino S, Kohno S. Effect of *Ganoderma lucidum* on pollen-induced biphasic nasal blockage in a guinea pig model of allergic rhinitis. *Phytother Res*. 2012 Mar;26(3):325-32.

Cooperation partners and suppliers from certified organic growers:

- **Balev BIO**
247 Botevgradsko Shose Blvd.
1517 Sofia
Bulgaria
- **Praxis für Ganzheitsmedizin & Prävention**
Dr.,ed.univ. Matthias Freutsmiedl
04109 Leipzig
www.ganzmed.eu
- **nu3 GmbH**
10115 Berlin
www.nu3.de
- **Pharma BAU Ltd.**
Dr. Bernadett Bucskó
4220 Hajdúböszörmény Ady tér 11.
Hungary
- **Pilze Wohlrab GmbH & Co. KG**
85307 Entrischenbrunn
www.vitalpilze-naturheilkraft.de

Important utilizations of medicinal mushrooms

The following summary will allocate some of the more frequently mentioned diseases to the corresponding traditionally applied medicinal mushroom.

The name of the mushroom is in bold print if its effectiveness has been sufficiently proven by clinical studies.

Complaint/ disease	Applicable medicinal mushroom
Allergies, neurodermatitis	Reishi , Shiitake, ABM
Arteriosclerosis	Auricularia, Shiitake, Reishi , Maitake
Arthritis	Shiitake, Reishi
Asthma	Reishi, ABM, Cordyceps
Blood clotting, thrombosis	Reishi , Shiitake, Maitake
Bronchitis	Reishi , Shiitake, ABM, Cordyceps
Cancers, tumours	ABM, Maitake, Cordyceps, Reishi, Shiitake
Cardiovascular disease	Reishi, Shiitake, ABM, Maitake, Cordyceps
Circulatory disorders	Reishi , Shiitake, Maitake
Common cold	Shiitake, Reishi, Cordyceps
Depression	Reishi, Cordyceps
Diabetes	Maitake, Reishi , Shiitake, ABM
Digestive complaints	Reishi, Shiitake, Maitake, ABM
Enteric flora disturbances	Reishi
Fatigue, exhaustion	Cordyceps, Shiitake , Reishi, ABM
Gout	Shiitake , Reishi
Heartburn	Reishi, ABM
High blood pressure	Reishi, Shiitake , Maitake, ABM
HIV infection, AIDS	Maitake, ABM, Cordyceps
Infections	Cordyceps, Reishi, Shiitake, Maitake, ABM
Inflammations of all kinds	Cordyceps , Reishi, Shiitake, Coprinus, ABM
Intestinal inflammations	Hericium , Reishi, Shiitake, Maitake
Libido disorders	Cordyceps, Reishi, ABM
Lipid metabolic disorders	Cordyceps, Shiitake, Reishi , Maitake
Liver diseases, hepatitis	Reishi, ABM, Maitake , Shiitake, Cordyceps
Menopausal complaints	Reishi
Migraines	Reishi, Shiitake, ABM
Nerve diseases	Cordyceps , Reishi
Oedemata	ABM , Polyporus, Reishi
Overweight	Maitake , Reishi, Cordyceps
Rheumatism	Cordyceps, Shiitake
Skin diseases	Reishi, ABM
Stomach inflammations and ulcers	Reishi, Shiitake, ABM
Sleep disorders, anxiety	Reishi, Hericium, Cordyceps

Frequently asked questions and their answers concerning medicinal mushrooms

What is the difference between mushroom powders and mushroom extracts?

Medicinal mushrooms come into use as powders, tablets or mushroom extracts, usually in the form of capsules. Even mixtures of medicinal mushrooms can be purchased. The powder is made by grinding the dried mushrooms, and contains all the substances within that mushroom.

Extracts are obtained from the mushroom's powder with help of a solvent, such as water or alcohol. They are approximately 20x more concentrated than the powder itself and so their effects on the immune system are accordingly stronger.

Extracts however only contain the soluble components of the medicinal mushrooms- still a considerable abundance of active substances and especially the highly active polysaccharides, but they simply do not replace the mushroom's entirety, as nature provides us. Extracts are rather used for more serious illnesses. Mushroom powders are not as easily absorbed into the body, as the cell walls first have to be broken.

When and how should medicinal mushroom products be consumed?

Optimally, medicinal mushroom products should be taken immediately before a meal with a glass of water. Potential bloating can be avoided by splitting the daily dose of the given medicinal mushroom into two or three portions.

What dose of medicinal mushrooms should I take?

The dose is dependent on the type and seriousness of the disease, as well as the consumer. A recommended dose of the respective mushrooms can therefore only be given individually, and has to be individually tried and tested. The following figures are average values of use of medicinal mushrooms:

Normal dose:	extract 0.25 to 1g per day
Duration of intake:	approx. 3 months
High dose:	approx. double of normal dose
Duration of intake:	approx. 1 to 2 months
Prevention:	approx. half of normal dose

Medicinal mushrooms can mutually aid each other considerably; hence it is often useful to take a variety of types of mushrooms concurrently. If the amount stays constant, the effects of the medicinal mushrooms are stronger. A combination of powders and extracts are also possible.

Is an overdose possible and how long does Mycotherapy take?

An overdose is not possible. Considerably large amounts of mushroom powder can be consumed, i.e. 15 to 20g per day. The same applies to extracts: higher doses are proven harmless, although they are not necessarily more effective. A standard Mycotherapy lasts 3 to 6 months, which may be altered according to the initial severity of the condition.

Where are medicinal mushrooms found?

Look for medicinal mushrooms from reliable suppliers, preferably from ecological cultivators whose uppermost priorities are hygiene and quality control. Medicinal mushrooms presenting the organic seal assure a controlled high-quality purchase, but it is advised that you request to see a certificate.

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