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 - The role of MN in nourishing the Earth (Spleen & Stomach)
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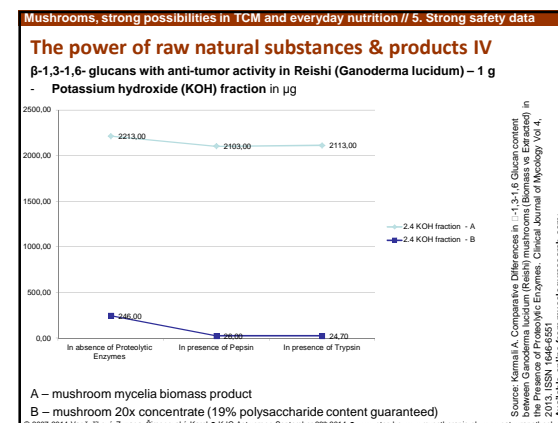
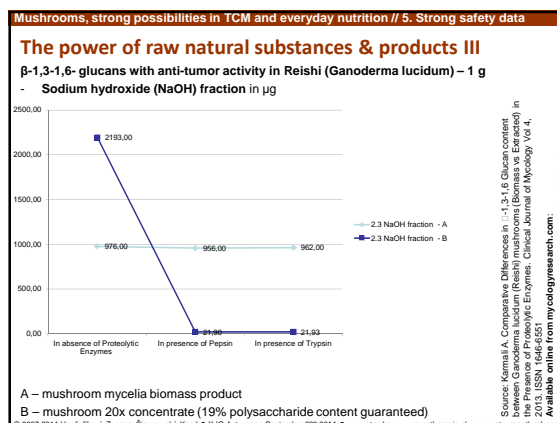
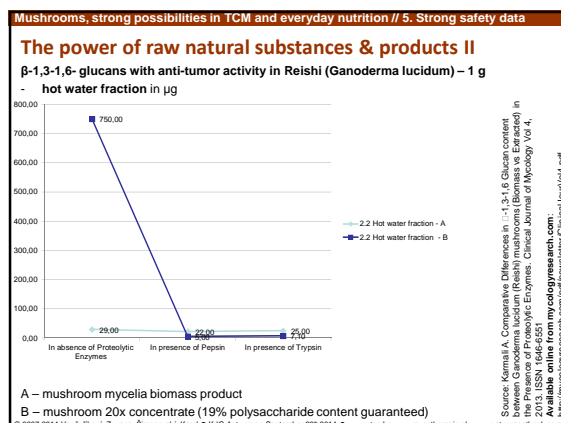
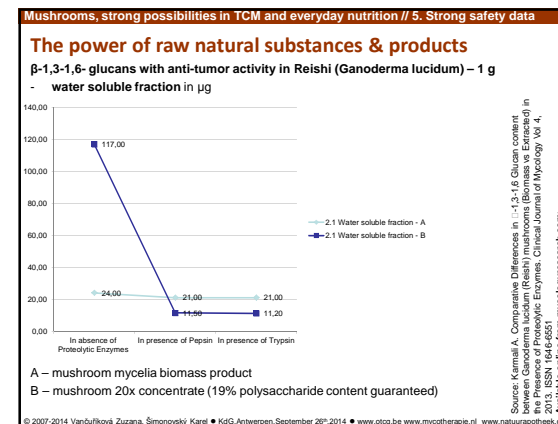
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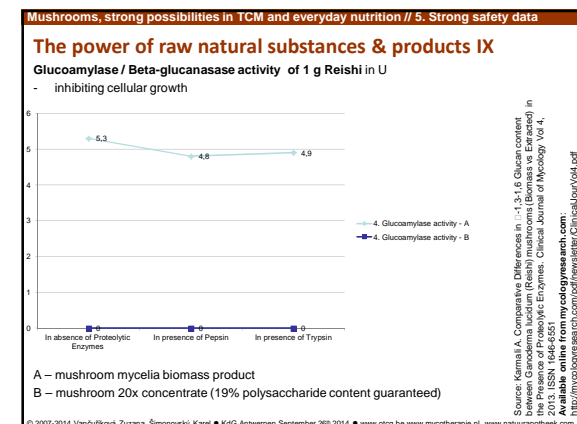
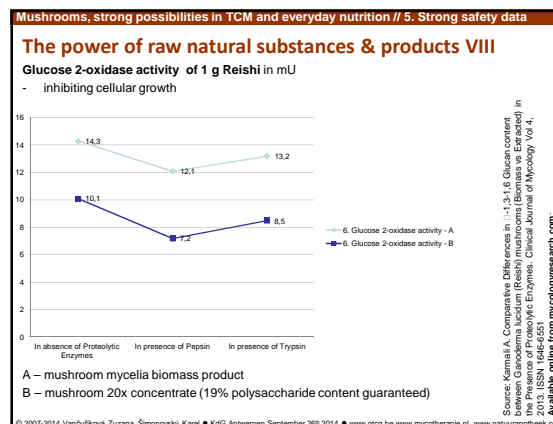
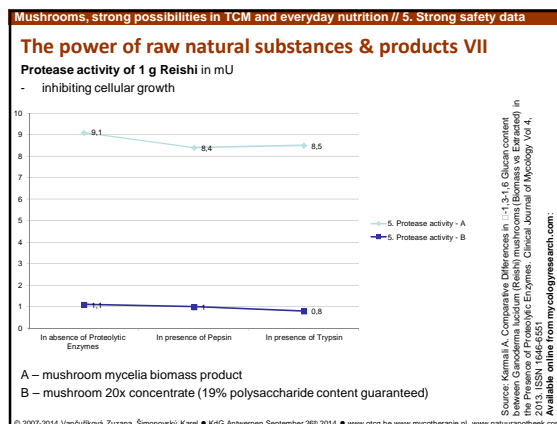
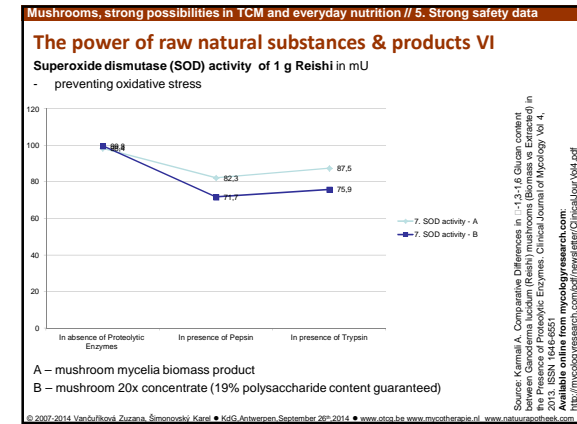
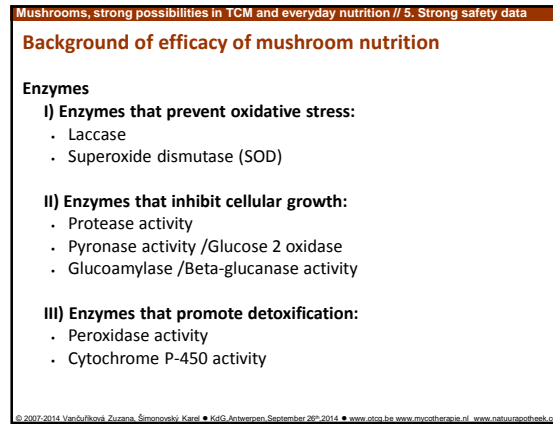
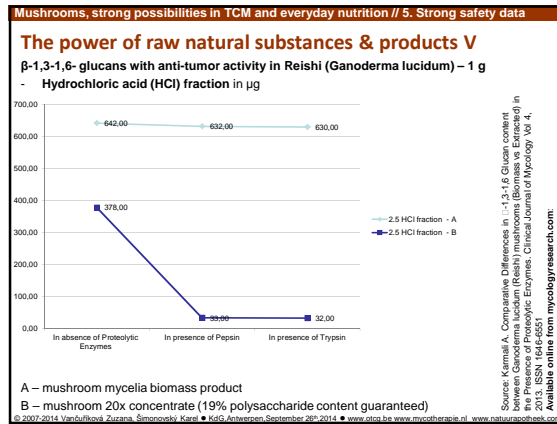
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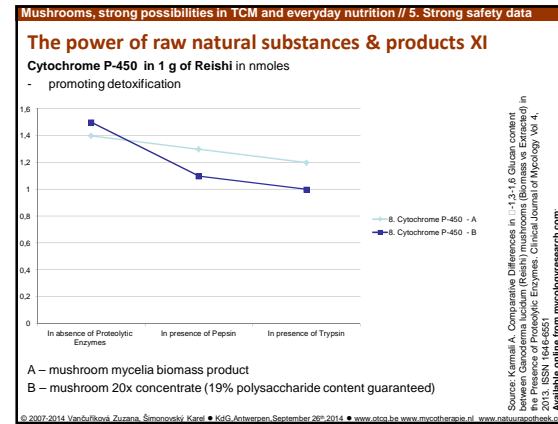
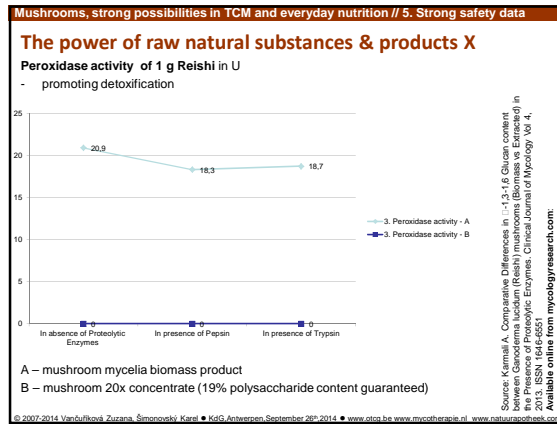
Background of efficacy of mushroom nutrition

- Mycelium Content**
Mycelium and primordia (germs of fruiting bodies) content allows exploitation of both. Mycelium plays an important role in the life of fungi – it produces the digestive enzymes necessary for metabolism, is able to resist the surrounding competitors and pathogens, and actively seeks optimal habitat.
- Enzyme Content and Activity**
Enzymes are essential components of the efficacy of fungal biomass. These protein substances are part of and partially control many vital processes of metabolism in the body, contributing greatly to the promotion of good health, protecting the body and also aiding the treatment of diseases.
For viral diseases, enzymes are an integral part of the mechanisms of the body in ensuring prevention and (self) treatment.
- Mechanisms of Traditional Chinese Medicine (TCM)**
TCM represents empirical summary of properties of the whole complex of active ingredients and mechanisms, both identified or as yet unknown by the West. When not using modified new modern preparations (with no history of use such as extracts or multiple concentrates) – we are endowed with the opportunity to use TCM holistic knowledge for selection according to the needs of each individual.
- Content of Micro and Macro Elements**
Dietary fibre, vitamins, trace elements, terpenes, sterols, secondary metabolites, amino acids and polysaccharides (glucans) in a natural context, i.e. in a natural ratio with intact protein binding and in an unconcentrated non-extracted form.
- Production Process**
Must allow no contamination by other fungi and pesticides as well as **low temperature (+/- 40 °C) processing to preserve enzyme content and activity.**

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Fungi taxonomy

Phyla	Subphyla	Class	Subclass	Order	Family	Genus, species	
Basidiomycota	Agaricomycotina	Agaricomycetes	Hymenochaetales	Auriculariales	Auriculariaceae	<i>Auricularia auricula</i> Helmsler	
				Hymenochaetales	Hymenochaetaceae	<i>Inonotus obliquus</i> Chaga	
				Russulales	Hericiaceae	<i>Hericium erinaceus</i> Lion's mane mushroom	
				Russulales	Pleurotaceae (previously Tricholomataceae)	<i>Pleurotus ostreatus</i>	
			Agaricomycetes	Agaricales	Agaricomycetidae	Tachinomataceae or Marasmiaceae or Omphalotaceae	<i>Lentinula edodes</i> shiitake, shungyu
					Agaricomycetidae	Agaricaceae	<i>Agaricus blazei</i>

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Phyla	Subphyla	Class	Subclass	Order	Family	Genus, species	
Basidiomycota	Agaricomycotina	Agaricomycetes	incertae sedis	Polyporales	Polyporaceae	<i>Coriolus versicolor</i> Yamada <i>Polyporus umbellatus</i> Zhuang <i>Poria cocos</i> Tsiang	
					Ganodermataceae (prev. Polyporaceae)	<i>Ganoderma lucidum</i> , lingzhi-reishi	
					Meripilaceae	<i>Grifola frondosa</i> matsutake	
					Hymenochaetales	Hymenochaetaceae	<i>Inonotus obliquus</i> (chaga)
					Ascomycota	Sordariomycetes	Hypocreomycetidae

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History of mushroom nutrition

includes

- anecdotal (?) „Ötzi the Iceman“
- Western tradition
- Eastern tradition esp. Chinese Medicine
- Pharmaceutical industry of 20th century esp. Japan, China, Hong Kong

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Eastern tradition Shénnóng 神農(神农) Divine Farmer

Earliest records of mushroom usage in China:

- Classics of Poetry (Shijing 詩經/诗经) cca 10th – 7th century BC
- Wushi'er bingfang 五十二病房 (168 BC)
- Divine Farmer's Materia Medica 神農本草經(神农本草经) cca 250 AD

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Divine Farmer's Materia Medica divides healing herbs into three categories:

The upper class contains items, which are:

- non-toxic,
- strengthen the body,
- can be used preventively (mild effect, long-term use) rather than curatively (strong effect, short-term use); i.e. they are suitable for constitutional supplementation to maintain and promote health.

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Upper class of Divine Farmer's Materia Medica contains a.o.:

- ginseng (*Panax ginseng radix, rensen*)
- astragalus (*Astragali radix, huangqi*)
- and following mushrooms:
 - **lingzhi** (*reishi - Ganoderma lucidum*)
 - **fuling** (*Poria cocos*)
 - **dongchong xiacao** (*Cordyceps sinensis*)

Middle class a.o.:

- **zhuling** (*Polyporus umbellatus, Grifola umbellata*)
- **heimuer** (*Auricularia auricula*)

Lower class a.o.:

- **zhuling** (*Polyporus umbellatus, Grifola umbellata*)

(in some editions of *Shennong bencaojing*)

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Raw Materials


- Substrate Determination for Optimum Growth
- Organic Grains Only
- Monitored Well Water from the Sierra Aquifer

Production

- Substrate Dispensed to Micropore Filtered Container (<0.1 micron)
- Steam Sterilized at 121°C for 1 hour
- Temperature Verified by Calibrated Probe

Inoculation

- Substrate Cooled to Target Temperature in 99.7% DOP HEPA-Filtered Air
- Inoculated with Pure Culture Under Aseptic Conditions
- Hermetically Sealed



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Incubation

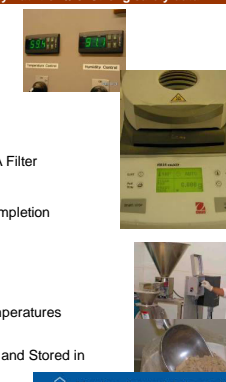
- Controlled Environmental Conditions
- Regularly Inspected
- Standardized Incubation Period
- Documented Harvesting Stage

Drying

- Room Under Positive Pressure by 99.7% HEPA Filter
- Low Drying Temperature
- Moisture Content Monitored to Determine Completion of Drying

Granulation

- Processed in 99.7% DOP HEPA-Filtered Air
- Controlled Feed Rate to Keep Equipment Temperatures Low
- Granulated Product is Bagged with Desiccant and Stored in Sealed Buckets



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Quality Control

- **Microbiologically Testing**
 - Aerobic Bacteria
 - Yeast & Mold
 - E. coli and Total Coliforms
- **Independently Verified**

Shipping

- Verified
- Labeled
- Palletized
- Shipped



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General usage of mushroom nutrition

For health care practitioners mushroom nutrition can serve as:

- stand-alone nutritional strategy
- adjunct strategy for
 - standard/other nutritional therapy, including herbal therapy
 - Western medicine treatment
 - acupuncture therapy

For utilization of mushroom nutrition's full potential holistic approaches such as TCM are of unquestionable value for individual assessment and selection of most suitable mushroom

"Let food be thy medicine and medicine be thy food."
Hippocrates, 460-370 BC

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Comparing Effects of Mushrooms According to TCM I.

Name	Effects
Ganoderma lucidum (<i>lingzhi-reishi</i>) Polypore Mushroom	Supporting fundamentals and jing essence Strengthens heart blood, tonifies spleen qi Dissolves phlegm Calms the spirit
Coriolus versicolor (<i>yunzhi</i>) Turkey Tail	Invigorates liver and kidney Tonifies spleen qi (Slightly) clears heat Dissolves tan plegm Slightly drains dampness
Lentinula edodes (<i>xianggu-shiitake</i>) Shiitake	Tonifies spleen and kidney Tonifies qi and blood
Cordyceps sinensis (<i>dongchongxiacao</i>) Caterpillar Fungus	Invigorates kidney yang and lung yin Tonifies defensive qi (weiqi) Transforms tan phlegm

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Comparing Effects of Mushrooms According to TCM II.

Name	Effects
Agaricus blazei (<i>jisongrong</i>) Agaricus Blazei Mushroom	Replenishes insufficiency in cold syndromes Aids and warms up digestion Promotes discharge of phlegm , relieves spasm
Grifola frondosa (<i>huishuhua-maitake</i>) Hen of the Woods	Supplements qi Supports the spleen and digestion Discharges damp heat Regulates weight
Polyporus umbellatus (<i>zhuling-chorei</i>) Grifola Umbellata	Drains harmful dampness and water
Hericium erinaceus (<i>houtougu-yamabusitake</i>) Monkey Head	Aids digestion Reduces inflammation , cleanses and transforms Benefits the spleen and stomach Calms the spirit Resolves digestive problems related to mental strains

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Mushroom nutrition according to the seasons - basics

Selection is based solely on the evaluation of environmental factors/weather (not the patient condition):

- Fall
 - Shiitake+Ganoderma/Reishi+Cordyceps (each 1/3) // general immune support
 - Poria (*fuling*) or Maitake // dampness or heat&dampness
- Winter
 - Shiitake+Ganoderma/Reishi+Cordyceps (each 1/3) // general immune support
 - Cordyceps (*dongchongxiacao*) or Blazei // warming
 - Reishi (*lingzhi*) or Cordyceps // in asthmatic patients to prepare them for Spring
- Spring
 - Blazei+Maitake+Poria(*fuling*) // warming&clearing
 - Blazei+Maitake+Polyporus(*zhuling*) // warming&bigger clearing
 - Chaga // promoting Qi&Blood circulation
 - Reishi (*lingzhi*) or Cordyceps // in asthmatic patients

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Treat disease before it arises/appears.
Huangdi Neijing cca 250 AD

治未病
zhì wèi bìng

Good therapist treats the being, not the illness

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Thank you for your attention!

KdG, Antwerpen, September 26th, 2014

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