



EU Agriculture  
SI-EKO-001

# HIGH-END SOLUTIONS IN FUNGI CULTIVATION

Assist. Prof Dr. Andrej Gregori Pharm. Tech.

**MycoMedica Ltd.**



## LOCATION

MycoMedica Ltd. is situated in Podkoren - Northwestern part of Slovenia in a close proximity to Triglav National Park



# Humble start



- Good mentors and friends (for obtaining knowledge and used equipment)
- Good unofficial and official education





## START - MUSHROOM SPAWN/CULTIVATION KITS



## FORMER RESEARCH PROJECTS

- ❑ Shanghai Edible Fungi Institute
- ❑ Shanghai Normal Univeristy
- ❑ Joanneum research, Austria
- ❑ Aloha medicinals, USA





## Comparative analysis of phenols in the core and in the cortex of red belt conk (*Fomitopsis pinicola*)

Manca Novak<sup>1</sup>, Zala Serianz<sup>1</sup>, Katjuša Krupenko<sup>1</sup>, Neža Ribnikar<sup>1</sup>, Kaja Ličef<sup>1</sup>, Katarina Trontelj<sup>1</sup>, Alen Šest<sup>2</sup>, Andrej Gregori<sup>3</sup>

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## COMPARATIVE ANALYSIS OF CAESIUM IN RED BELT CONK (*Fomitopsis pinicola*)



Manca Novak<sup>1</sup>, Zala Serianz<sup>1</sup>, Katjuša Krupenko<sup>1</sup>, Neža Ribnikar<sup>1</sup>, Kaja Ličef<sup>1</sup>, Katarina Trontelj<sup>1</sup>, Alen Šest<sup>2</sup>, Andrej Gregori<sup>3</sup>

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## FORMER RESEARCH PROJECTS

Antioxidative compounds and Cs137 content in *Fomitopsis pinicola*



## Short Note

Matej Skočaj, Andrej Gregori, Maja Grundner, Kristina Sepčič and Mija Sežun\*

**Hydrolytic and oxidative enzyme production**

Journal of Cleaner Production 197 (2018) 253–263



ELSEVIER

Contents lists available at ScienceDirect

## Journal of Cleaner Production

journal homepage: [www.elsevier.com/locate/jclepro](http://www.elsevier.com/locate/jclepro)

Valorisation of deinking sludge as a substrate for lignocellulolytic enzymes production by *Pleurotus ostreatus*



Maša Vodovnik <sup>a,\*</sup>, Katja Vrabec <sup>a</sup>, Patrick Hellwig <sup>b</sup>, Dirk Benndorf <sup>b,g</sup>, Mija Sežun <sup>c</sup>, Andrej Gregori <sup>d</sup>, Lalitha D. Gottumukkala <sup>e</sup>, Robin C. Anderson <sup>f</sup>, Udo Reichl <sup>b,g</sup>

## FORMER RESEARCH PROJECTS

Sludge from deinked paper as a substrate for enzyme production (Slovenian Paper and Pulp Institute)



## FORMER RESEARCH PROJECTS

Mycelial composites in design



# MycoMedica Ltd. - Research

- Slovene Enterprise Fund – R&D of new products
- PhD students, Master students (University of Nottingham, University of Ljubljana)
- Master students (University of Maribor, Slovenia)
- Univeristy of Pavia, Italy
- Nottingham University, UK
- Shanghai Academy of Agricultural Sciences
- Shanghai Normal University
- ....



## CURRENT RESEARCH

Collection of over 300 medicinal mushroom strains - largest in Slovenia



## CURRENT RESEARCH

Purification of cordycepin:

- Shanghai Academy of Agricultural Sciences,
- Faculty of chemistry and chemical technology, University of Ljubljana)





Open Access Article

## Culture Degeneration Reduces Sex-Related Gene Expression, Alters Metabolite Production and Reduces Insect Pathogenic Response in *Cordyceps militaris*

by Peter A. D. Wellham <sup>1,2,3</sup> , Abdul Hafeez <sup>1,2</sup> , Andrej Gregori <sup>4</sup> , Matthias Brock <sup>3</sup> , Dong-Hyun Kim <sup>2</sup> , David Chandler <sup>5</sup> and Cornelia H. de Moor <sup>1,\*</sup>

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\* Author to whom correspondence should be addressed.

# CURRENT RESEARCH

# MycoMedica Ltd. - Production

- Medicinal mushroom cultivation
- Production of medicinal mushroom food supplements for humans and animals
- Production of mycelia for medicinal mushroom cultivation
- All 100% EU made, vegetarian, organic
- 1M EUR annual revenue on 700m<sup>2</sup>
- 7 full-time employees



## PRODUCTION

All substrates for mushroom cultivation are produced under a sterile laboratory conditions under HACCP regulations and are regularly controled by Health inspectorate of the Republic of Slovenia.





## PRODUCTION

Cultivation techniques are adapted to the cultivated medicinal mushroom species and targeted medicinal compounds. A part of cultivation takes place in a sterile environment under strictly controlled laboratory conditions.



## PRODUCTION

Second part of cultivation takes part in a greenhouse.





## PRODUCTION

In an in-house analytical laboratory basic analytics of mushrooms and extracts are performed.





11<sup>th</sup> INTERNATIONAL  
Medicinal  
Conference

A NEWLY DEVELOPED  
SUPPLEMENT WITH  
A STANDARDIZED  
CONTENT

Marija Gregori<sup>1</sup>, Erik Bir  
Boštjan Jančar<sup>2</sup>, Tinka

1 Mycomedica Ltd, Podkore  
2 PharmaHemp Ltd, Koprsk



BELGRADE  
SERBIA

SHORT  
ORAL  
PRES 07

LECTURE 08

erdenc<sup>2</sup>,  
t<sup>3</sup>, Andrej Gregori<sup>1,4</sup>



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REPUBLIC OF SLOVENIA  
MINISTRY OF ECONOMIC DEVELOPMENT AND  
TECHNOLOGY

## PRODUCTION

Production of erinacine A from *Hericium erinaceus* – a newly developed food supplement with standardized erinacine A content



## COPRO PROJECT: DEVELOPMENT OF A STANDARDIZED FOOD SUPPLEMENT

Erik Bird<sup>1</sup>, Mariia Gregori<sup>1</sup>



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TECHNOLOGY



IPS

SHORT  
ORAL  
PRES 07

LECTURE 09

rezeli<sup>2</sup>, Rok Pikon<sup>2</sup>.

## PRODUCTION

- Development of a new organic food supplement from *Cordyceps* sp. with standardized cordycepin content (Slovene Enterprise Fund, Kobis Ltd)
- Research on *Cordyceps* sp. medicinal compounds (Nottingham University)



## PRODUCTS

Wood plug spawn for mushroom cultivators





## PRODUCTS

Medicinal fungi food supplements

- ❑ GOBA brand
- ❑ Raw materials

**Thank you for all of your attention**