

# ACTIVITIES AND PROJECT OF INDUSTRY CLUSTER FOR THE DEVELOPMENT OF THE HEMP SECTOR IN THE CZECH REPUBLIC

**HANA GABRIELOVÁ**

14/5/2024 - CBE JU NATIONAL INFORMATION DAY 2024

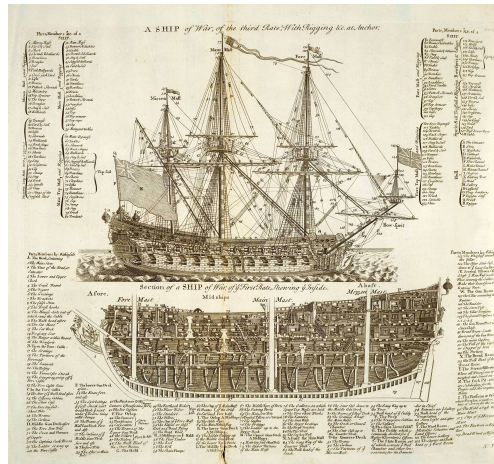


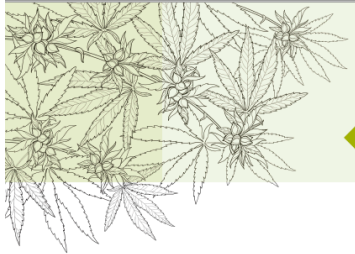
**CZECHHEMP**



# Traditional crop

- One of the oldest cultivated plants
- 105 B.C. the first hemp paper from old cloth
- 15-16 century - ropes and sails
- 18-19 centuries - the golden era of growers





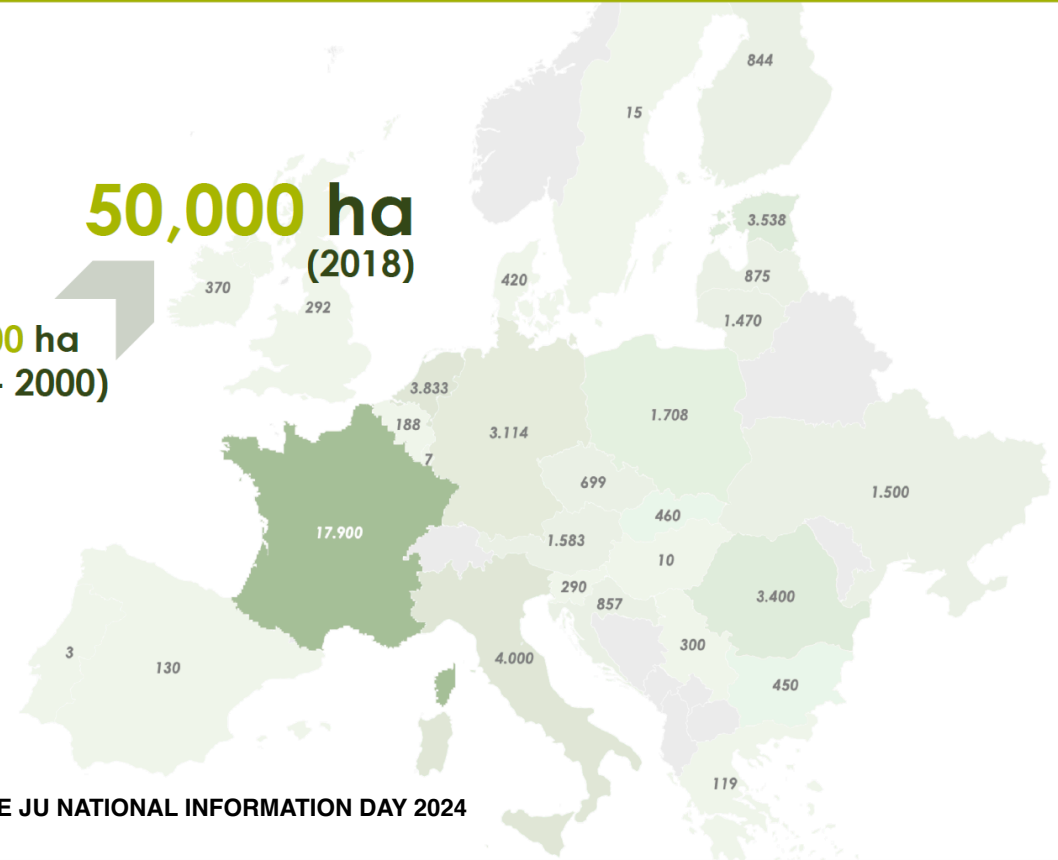
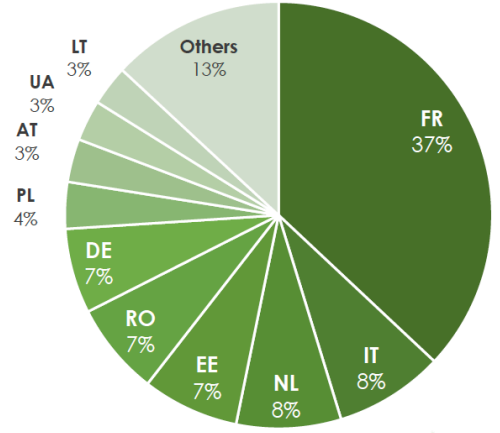
# The great comeback



**400,000 ha**  
(1940)

**50,000 ha**  
(2018)

**10,000 ha**  
(1960- 2000)



Cannabineae.



Annual crop

Mature in 100 days

Grows up to 5 m high

Does not compete with food crops

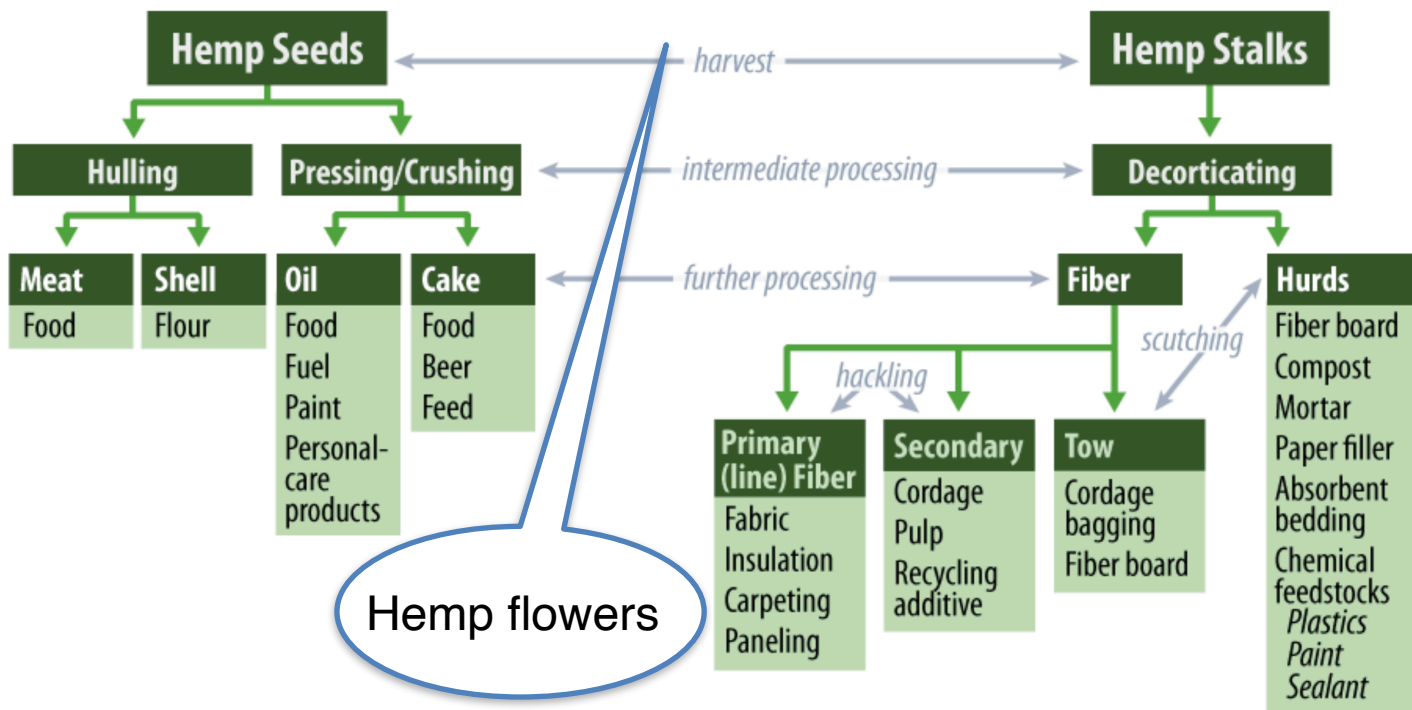
Produce 1 - 1,5 t / ha of seeds

Grows from Spain up to Finland

Produce 6-10 t / ha of stem



# Hemp value chain



Source: CRS, adapted from D. G. Kraenzel et al., "Industrial Hemp as an Alternative Crop in North Dakota," AER-402, North Dakota State University, July 23, 1998.

A photograph of a hemp field. The plants are tall and green, with some showing signs of maturity. A person is standing in the distance on the right side of the field, providing a sense of scale. The background shows a clear sky and a distant landscape with hills and buildings.

**Strong fiber**

**High protein content**

**Carbon negative buildings**

**Phytofarmacy**



# Actual need of hemp materials in CZ

- 2000 t fiber for insulations
- 4500 t fibers for paper industry
- 200 t shives for building
- 75 t shives for bedding
- 200 t seeds for feed
- 100 t seeds for food
- 50 t oil for cosmetics
- 200 tun flowers for extraction

**10x more than actual supply.  
Solution: 5000 ha grown hemp national**



# CzechHemp - intro

- Established 2018
- The main idea: To strengthen the cooperation and know-how of the Czech cannabis and medical cannabis industry.
- The goal: to improve the production and processing chain and bring new technologies for the bioeconomy that will lead to the widespread use of hemp as a natural resource.”
- 40 entities including growers, universities, producers, processors, NGOs and individuals
- Member of NCA, Platform for Bioeconomy of the Czech Republic, European cluster cooperation platform EIHA





# CzechHemp - working groups

- **Industrial hemp - use of fibres and seed**
  - Czechinvest/EcoTechHUB, HempTheClimate, MZe, MpMR, UCEEB, VŠCHT, ICUK
- **Medical cannabis - availability of MC to patients**
  - KOPAC, FNUSA, APLK
- **Legislative - removal of legislative barriers**
  - PML, CBD, "adult use" regulation, Think Thank for a rational drug policy



# CzechHemp - projekty



**Midas**

Horizon 2022-2027

- Marginal lands and industrial crops for the European bioeconomy. Combining bio-based products, climate resilience and biodiversity through innovative agricultural value chains.



**Hemp  
Club**

Cosme 2021-2024

- HempClub project works to unlock the potential of hemp by creating EU value chains for biobased applications and new business opportunities for primary producers and chemical companies.



# CzechHemp - projekty

## Really Hempful!

Erasmus 2024-2026

- To create educational resources covering the hemp value chain from cultivation to the production of hemp products and their application on the European market.
- Focus on high school students and preparation of business plans.

## Cannabis Embassy

UN policy advocacy since 2024

- A world where humankind has the fundamental right to live in harmony with Cannabis sativa L. –in its versatile uses, across ecosystems, histories and cultures– thereby contributing to the wellbeing of all life.

**BIOPIRACY**  
**TRADITIONAL USES**



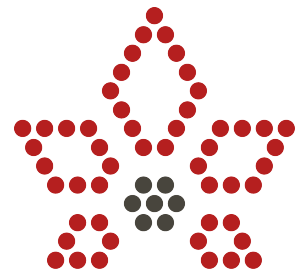
# CzechHemp - national projects

## ICUK - innovation centre of Region Ústí n/L

- Building a hemp raw material processing plant
- Implementation with the support of the "Just Transformation" fund
- Research into the application of hemp materials in industry
- Use of post-mining land for hemp cultivation



UKRAINIAN  
HEMP®



HEMPOINT



# CzechHemp - events

**21<sup>st</sup> EIHA Conference**  
& Experience Hemp Prague  
June 5-7, 2024



**CHECK OUT THE  
CONFERENCE  
PROGRAMMING**

and MORE!

EXPERIENCE  
HEMP  
Czech Republic

**EIHA**  
European Industrial Hemp Association  
eiha-conference.org  
experiencehemp.com/prague

**International conference  
Hemp & industry**

**16–17 October 2023**

Prague, Czech Republic

companies presentation on site | match

**Hemp Club**  
Competent and Connected Clusters Unfold the Hemp  
Industry Potential for the European Bioeconomy

**8th Conference  
Cannabis & Science  
April / Brno**

*přednáška*



**KONOPI  
NA TALÍŘI**

ANEB JAK POMOCI KONOPNÝCH POTRAVIN A  
FUNKČNÍHO ENDOKANABINOIDNÍHO SYSTÉMU  
PŘEDCHÁZET CIVILIZAČNÍM CHOROBÁM

PŘEDNÁŠEJÍCÍ: MGR. FRANTIŠEK ŠVEJDA  
14.5.2024 OD 17.00  
VE STUDOVNĚ KAŠ (SLEZSKÁ 7, PRAHA 2)  
WWW.KAS.UZEI.CZ

**KAŠ** ZEMĚDĚLSKÁ KNIHOVNA ANTONÍNA ŠVEJDY  
**ÚZEI** ÚSTAV ZEMĚDĚLSKÉ EKONOMIKY A INFORMACÍ





# CzeHemp - outputs



## CANNABIS & SUSTAINABLE DEVELOPMENT

Paving the way for the next decade in  
*Cannabis and hemp policy*

FAAT EDITIONS

**THE HEMP  
MANIFESTO**  
*for a*  
  
**green  
recovery**

  
European Industrial Hemp Association

April 2020



# Hemp growing

- More than 100 registered varieties in the EU for fiber and seed production
- Act 167/1998 - reporting obligation over 100m<sup>2</sup>
- Limit on THC content in the Czech Republic up to 1%, EU up to 0.3%
- Medicinal cannabis - MZČR license



PLANTS

Plant variety database - European Commission

European Commission > Food Safety > Plants > Plant variety catalogues & databases > Plant variety database - European Commission > Agricultural plant species



HEALTH

FOOD

ANIMALS

PLANTS

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# Hemp flowers







# Hemp supports

- Biodiversity
- Soil quality / protects against erosion
- Phytoremediation
- CO2 storage - 15 t/ha
- Carbon farming
- Lower / no consumption of pesticides and herbicides
- It makes good use of organic fertilizers
- Regenerative agriculture





# Biocomposites and automotive industry



**BMW i3 series: a range of electric vehicles which use hemp composite door panels**







# Hemp paper

- More durable (doesn't turn yellow, doesn't crack) and can be recycled multiple times.
- Solving deforestation.
- Lower consumption of chemicals during production
- Hemp stems grow in 4 months, while trees take 20-80 years.





# Use of hemp fiber



**KOBE-CZ  
Ecoinsul**

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# Use of hemp in other sectors

- Furniture
- Building
- Veterinary
- Spa
- Geotextiles





# Hemp shives in building sector





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# Nutritional benefits

## NON ESSENTIAL

can be created in the body  
from essential amino acids

alanine  
arginine  
asparagine  
aspartate  
cystine  
glutamic  
glycine  
ornithine  
proline  
serine  
tyrosine

## HEMP

## ESSENTIAL ACIDS

cannot be created in the body  
and must be consumed

histidine  
isoleucine  
leucine  
lysine  
methionine  
phenylalanine  
threonine  
tryptophan  
valine

The use of  
cannabis is  
recommended  
long-term and  
regularly in  
small doses



# Animal feed

- <https://www.feedmaterialsregister.eu/register>
- cold pressed hemp oil
- hemp powder
- hemp plant material - hemp plant material, in particular leaves, stems and flowers, whole or ground, fresh or dried
- hemp plant material after extraction (free of organic solvents)
- hemp seed husks



# What the hemp industry needs?

- to get from boutique production to the mainstream
- break the stigma and tackle the myths surrounding cannabis
- support of the state administration

## **What needs to be done about it?**

- internal standards and LCA studies of the value chain
- supporting regulations and updating implementing decrees
- education on all fronts (re-skilling/up-skilling)



# Green deal for infrastructure

## Protection and restoration of ecosystems

- Local resources
- Circular economy
- Climate neutral products
- Substitution of fossil fuels

## Mobilization of industrial sectors

- construction industry
- textile
- plastics



**The Czech Republic is to receive EUR 581 million**



**Thank you for your attention**

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