



**ÚSTŘEDNÍ KONTROLNÍ A ZKUŠEBNÍ ÚSTAV ZEMĚDĚLSKÝ**  
**ISO 9001: 2008**

# Research into organic agriculture in the Czech Republic

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# Content

- History and context, current state (connection to other countries)
- Czech Technology Platform for Organic Agriculture
- Significant projects – already finished
- Current projects
- Long-term experiment in OA at ÚKZÚZ
- Bionet, recommendation of varieties and model farms
- Conclusion – driving forces

# History of research into OA in CR

- 1990 – 2000: mainly the interest of farmers in practical information. Translations of foreign publications.
- 2000 – 2008: transmission of research results from FiBL, Bioinstitut established in 2004
- First national research projects. International projects. Since 2000 a scientific section at Biacademy in Lednice n. Mor. (from Bioacademy originated Biosummit and ICOAS)

# 2009 established Czech TP Organics

- **Czech Technology Platform for Organic Agriculture** brings together farmers, consumers, research institutes, universities and advisors.
- **CTPEZ coordinator** :  
Bioinstitut OLOMOUC
- **CTPEZ activities** : Gathering results of ongoing projects and transferring the results to practical use and education.
- Promotion of organic research, PR and response to adverse PR attacks on OF and organic food in the media.
- Lobbying for complex large-scale national research projects.



ČESKÁ  
TECHNOLOGICKÁ  
PLATFORMA  
PRO EKOLOGICKÉ  
ZEMĚDĚLSTVÍ

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# Past projects - examples

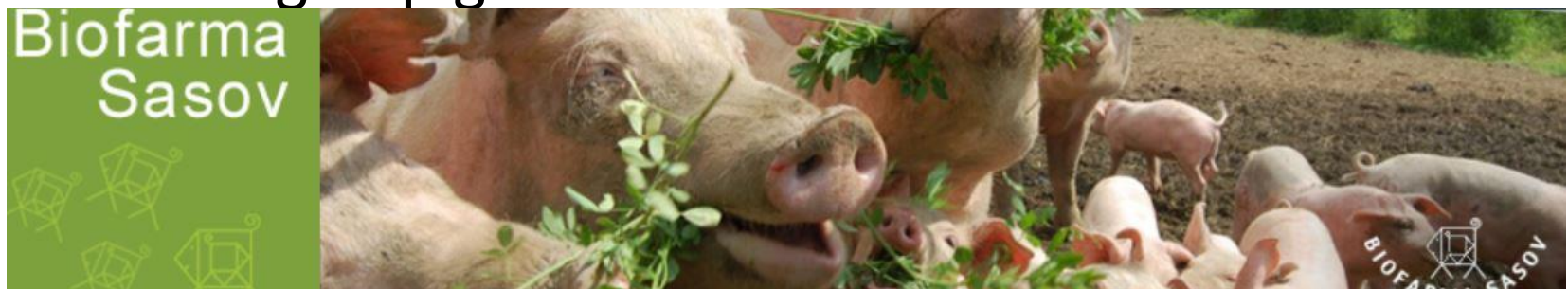
- *Project Quality Low Input Food (QLIF)*
- *Healthy Minor Cereals (HMC)*
- *Pro Pig „Improvement of health and welfare of pigs“*
- *Participatory breeding for organic farming*
- *Various projects on development of natural preparations for plant protection and biological protection (viticulture, olericulture, pomology)*
- *Mixtures of legumes and cereals (growing and animal nutrition in OA)*
- *Funding: NAZV, TAČR, EU (Framework programmes), EU – Rural development programme, Norwegian funds, foundations... almost 3% from total research funding does not correspond to the importance of OA in the CR.*

# CZ – basic organic data and needs

<b>Farmers</b>		<b>4 300</b>
<b>Acreage (ha)</b>		<b>more then 500 000</b>
<b>Share of total farmland in CZ (%)</b>		<b>12 %</b>
<b>Arable land (ha)</b>		<b>about 66 000</b>
<b>Permanent grassland (ha)</b>		<b>about 420 000</b>
<b>Ochards (ha)</b>		<b>about 4 000</b>
<b>Vineyards (ha)</b>		<b>about 1 000</b>
<b>Hop - fields (ha)</b>		<b>14</b>
<b>Otherland (ha)</b>		<b>16 000</b>
<b>Processors</b>		<b>600</b>

# Currently running projects - examples

- Rather decreasing in number – there are less projects focused concretely on organic agriculture.
- Biofarma Sasov – the biggest bio pig breeder in CR: Project „**Separation of leaves and stems of legumes**“ resulted from the need of the farm in Sasov near Jihlava to maintain from own sources a sufficient amount of protein feed for organic breeding of pigs.



# Currently running projects – VÚRV Praha Horizon 2020

**BRESOV** (“Breeding for Resilient, Efficient and Sustainable Organic Vegetable Production“) has set out:

to improve the competitiveness of three important vegetable crops in an organic and sustainable environment. With a strong participation of stakeholders from the breeding and farming sector, the project aims to create a pipeline for crop improvement that will accelerate the production of high-quality organic seeds for breeders and farmers around the world.





# Currently running projects - VÚRV Praha Horizon 2020

- **ECOBREED will increase the competitiveness of the organic and low-input breeding and farming sectors.** The objectives are:
  - To increase the availability of seeds and varieties for the organic and low-input sector
  - To identify traits and combinations of traits suited to organic and low-input production environment including high
    - nutrient use efficiency and weed competitiveness/allelopathy
  - To increase breeding activities for organic crop production.



# Long-term experiment in organic agriculture at ÚKZÚZ

- Established by a state testing institution – for at least 3 repetitions of crop rotation = for 21 years
- 100% financed from the state budget, searching for additional research projects and partners.
- Small-plot experiment, randomized in 3 repetitions
- Cooperation of whole UKZUZ + research organisations and universities. Meets the international research parameters for publication of results.





Lumbricus

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## Location of testing stations with experiment in OA

- Experiment established in autumn 2014 at 5 testing stations in different conditions throughout the CR (duration – till 2035)
- Experimental sites have been registered in OA system (annual inspection by the control body KEZ, o.p.s.)
- Production after the transition period is „bio“ certified







## Description of different experimental combinations

3 repetitions of each combination

Combination of fertilisers:

1. unfertilised (check)
  2. GM (green manure)
  3. GM + renewable external inputs
  4. GM + renewable external inputs + intensifying inputs
  5. GM + farm fertilisers
  6. GM + farm fertilisers+ intensifying inputs
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## Crop rotation

(after completing the cycle – 7 years a change in the methodics is possible + additional new testing sites also abroad)

Year of CR		Combination of fertilisers	
		1, 2, 3, 4 (without animals)	5 and 6 (with animals)
1.	2015	Winter wheat	Winter wheat
2.	2016	Potatoes	Potatoes
3.	2017	Winter spelt	Winter spelt
4.	2018	LOS (barley + pea)	Maize for silage
5.	2019	Winter wheat	Spring barley, underseeding alfalfa
6.	2020	Buckwheat	Alfalfa
7.	2021	Pea	Alfalfa

# Model ecofarms - from theory to practice and education



# Bionet CZ and recommendation of varieties

- Bioinstitut:  
Bionet – a net of companies performing verification of varieties and agrotechnological procedures in field conditions. On farm research.
- ÚKZÚZ, PRO-BIO, Bioinstitut:  
state guaranteed recommendation of varieties for OA. Small-plot experiments, repetition, statistical evaluation. Experiments also at ecofarms.

# Conclusion – driving forces

- The CR lacks a specialised research institute for OA, with regard to the scope of OA the research into OA is insufficient and underfinanced.
- Positive developments: establishment of ČTPEZ (technology platform), existence of Bioinstitut with connection to FiBL, and „introduction“ of research into OA to state administration (ÚKZÚZ).
- **Threat ?, challenge ?, trend?:**  
Calls (conditions) for research projects are more general: ecologization, regional production, integrated pest management, sustainable agricultural systems.  
Opportunities for finding funds for solving complex topics just in OA are decreasing.



Thank you for your attention  
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