



# Effective decision making to support the national AKIS

## Case study: demonstration farms as transformative tool

The poster is based on the organization's internal projects.

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### The introduction:

The AKIS is a complex and „alive“ system therefore we need flexible interventions with flexible tools to manage and evaluate them.

Any decision process needs comprehensive background information about the current situation in the field. The same situation is when we decide about the interventions/supports to AKIS and we need to communicate that with the relevant actors to motivate them towards desirable change.

The way and language of communication need to be enough simple on one hand and enough sophisticate on the other hand, to be easily understandable to practitioners and sufficiently tailored to reach the change.

In this poster we would like to present the simple but effective structure to keep overview about intervention; identified the missing support and introduce it.

To clearly structure the complex AKIS we need to identified:

- Receiver of the information
- Provider of the information as paid/unpaid
- What and how the information is provided or what kind of change should happen
- Who is paying (allowing/stopping) the provision
- In which environment does it happen
- What is the opinion of the society

The AKIS is multi-actor concept and includes hundreds of combination in interaction. One person could play several role in different interactions. In one interaction, the advisors are in role of Clients, in other, they are in role of Actor/provider of information.

For many actors as well as managing authorities (in our case the Ministry of Agriculture), it is difficult to recognize all needed interactions and their parts. The CATWOE structure could help in keeping the overview of main Clients, Actors and Transformations, for the effective decision-making of the managing authorities.

### The CATWOE concept:

Base is established on Soft system methodology, namely the CATWOE structure (Bergvall-Kareborn, Mirijamdotter, and Basden, 2022), which allows to structuralize the complex reality into the clear overview suitable for the effective decision making.

- C – clients** ... Receiver of the information
  - for example, farmers, agricultural organizations, advisors
- A – actors** (providers) ... Provider of the information as paid/unpaid
  - for example, advisors (accredited/non-accredited), certified organizations, researchers, IAEI, technological platforms, other farmers (such as peer-to-peer learning, demonstration farm)
- T – transformation** ... What and how the information is provided, what change should happen
  - for example, transfer of knowledge and innovation
- W – worldview** ... What is the opinion of the society
  - for example, opinion of EC: knowledge transfer is crucial
- O – owner** ... Who is paying (allowing/stopping) the provision
  - for example, Ministry of Agriculture
- E – environment** ... In which environment does it happen
  - for example, constraints in actors' minds; time and communication gaps among the farmers information needs and information gathering by research (back office).

Table 1: CATWOE brief overview of some interaction:

	Program 9.F.m	Certification/Acreditation	Peer-to-peer learning	Task: Support for managing AKIS
<b>Clients</b>	Farmers	Farmers	Farmers	Ministry of Agriculture (MoA)
<b>Actors</b>	Demonstration farms	Certificated organization and accredited advisors	Innovative farmers	Researchers
<b>Transformation</b>	Farmers with low/without experience ↓ Farmers with practical experience	Unknown quality ↓ Known quality ... of advisors	No/low use ↓ Wider use ... of digital technol. by farmers	Undescribe uncontrollable system ↓ Controlable system
<b>Worldview</b>	EC: knowledge transfer is crucial, we need to support it and have evidence of progress			
<b>Owners</b>	MoA	MoA	Farmers	MoA
<b>Environment</b>	Constraints in actors' minds; time and communication gaps among actors			

### Demonstration farms in the Czech Republic (supported by MoA)

#### Development:

- Since 2016 Czech Ministry of Agriculture started a formation of the method for a subsidy policy called „Demonstration farms“ to help farmers in the form of illustrative practical demonstrations of comprehensive sustainable farming practices.
- The first seven individual farms got supported in 2017 and the main topic was “Soil protection”.
- From the original 7 farms, the number has almost tripled to 20 demonstration farms approved and supported in 2023, of which 6 are registered organic farmers.
- The activities of the demonstration farms are supported by national subsidies from the Ministry of Agriculture (MoA) within the framework of the Agricultural Advisory Support Programme 9.F.m. - Demonstration farms, for which CZK 15 million is allocated annually (until 2024 based on EU notification).

#### Farm characteristics:

Demonstration farms range in size from less than 40 hectares to over 5,000 hectares, most are traditional commercial farms, but there are also research or educational demonstration farms.

The farms are managed in different climatic conditions (from 180 to 600 metres above sea level, with an average rainfall of 400 to 700 mm).

The number of employees (AWU) is related to the size of the farms and ranges from 2 people on a family farm to 180 employees on the largest farm (on average around 25 hectares per AWU).

The aim is to ensure that all types of production are represented: pure field production, livestock farming - cattle and sheep, cultivation of permanent crops (orchards and vineyards), as well as mixed farms.

The average amount of support is around EUR 25,500 (from EUR 16,000 to a maximum of EUR 40,000, i.e. CZK 1 million, depending on the number of demonstration events organised on the farm).

#### Conclusion:

The evaluation of the Programme 9.F.m. shows that one demonstration farm carries out an average of 25 to 30 events per year, including 3 to 4 larger field days, around 4 to 5 group consultations and 20 individual consultations. In 2022, the 20 approved demonstration farms conducted a total of 517 demonstration events with a total of 3,651 participants, more than half of whom were farmers.

Although interest in the Programme 9.F.m. has increased each year, the potential of the program and demonstration events has not yet been fully realized. A maximum of 6% of farms can be reached and the allocated budget is only 0.5% of the national subsidies (from the Ministry of Agriculture budget).

The Czech Republic still lacks a system for monitoring and evaluation of demonstration farms and their activities, either to a) improve the impact of the implemented activities in the form of e.g. aftercare, or b) improve future demonstration actions through continuous learning. There is considerable scope for improvement and learning from the experience of other countries.

The better structure based on CATWOE concept will help the Ministry of Agriculture (MoA) to managed discussion with actors, therefore the intervention could be established, communicate and implemented in more effective way.

Map 1: The Czech demonstration farms supported by national subsidies: Programme 9.F.m.

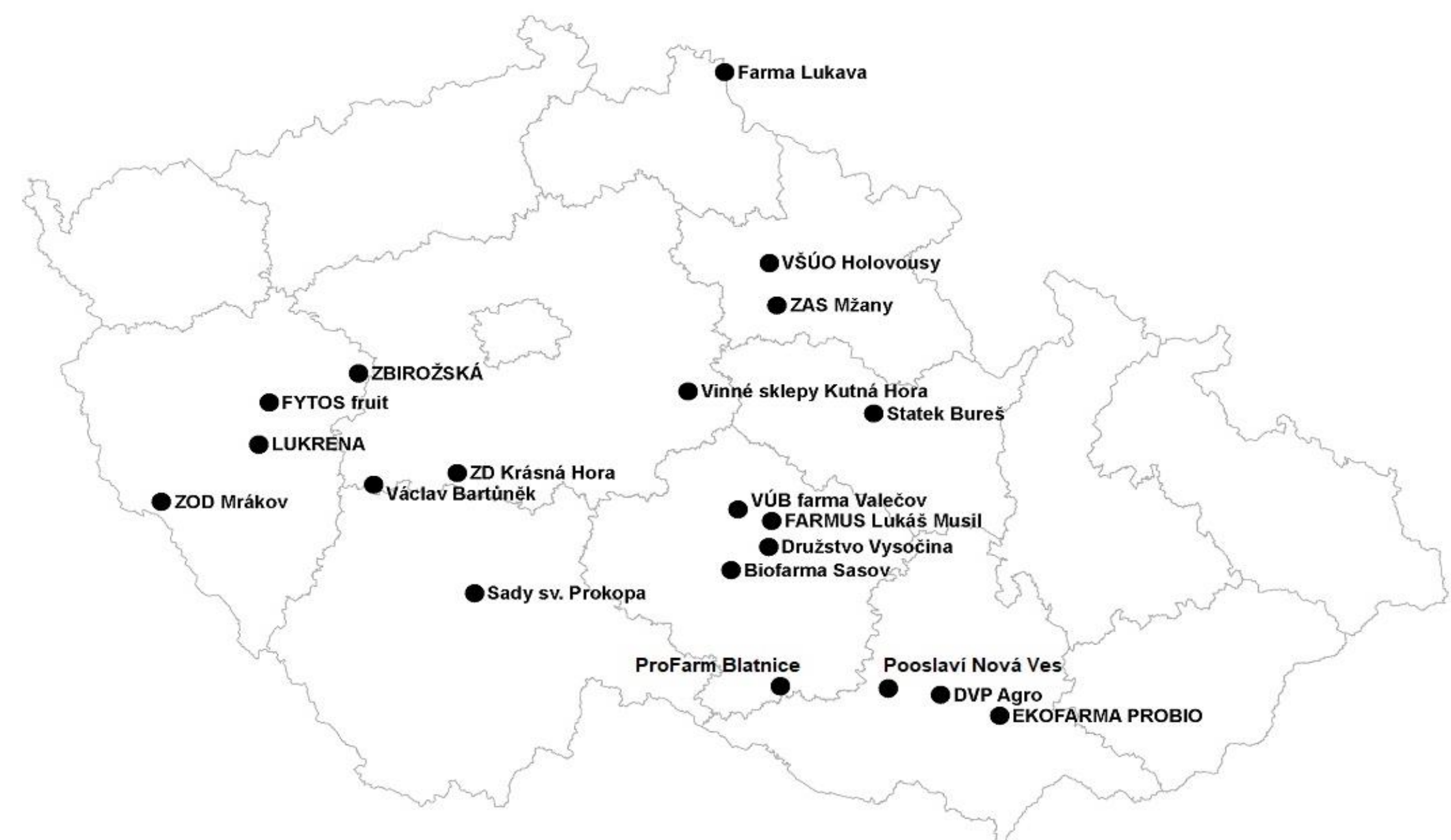
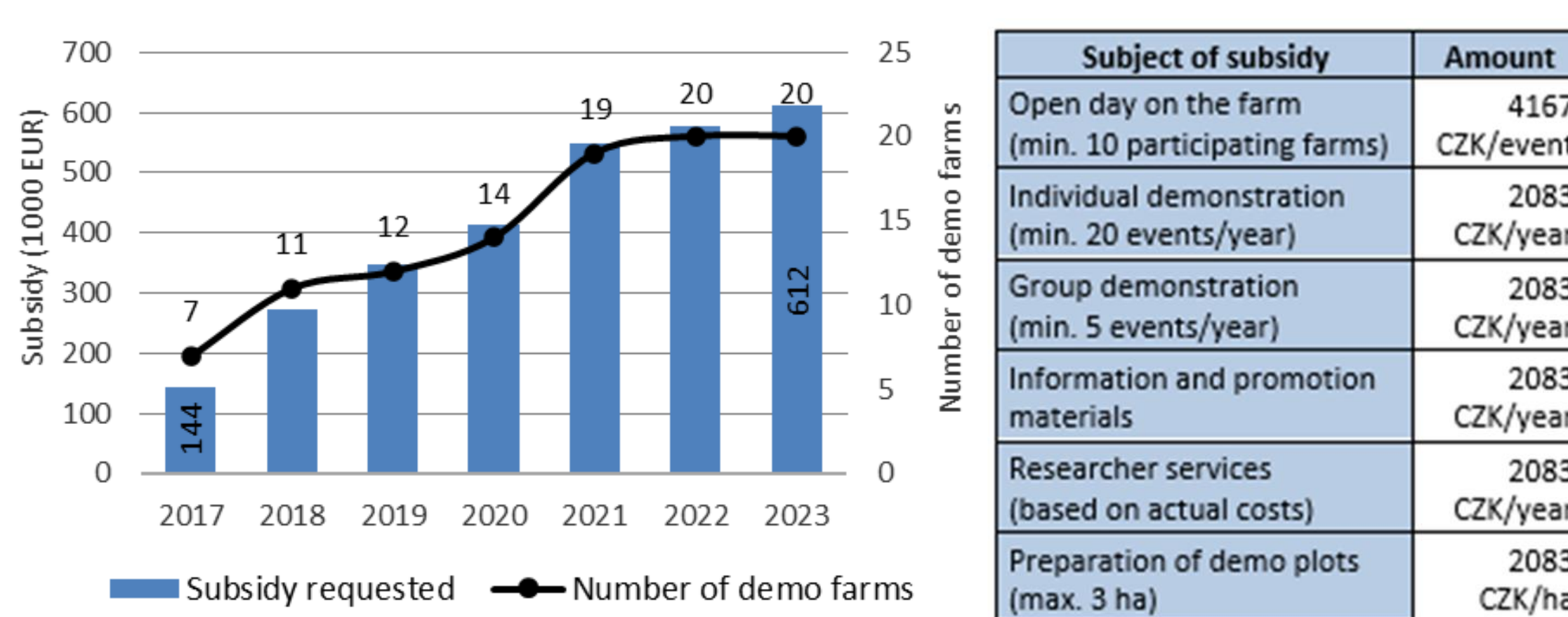


Table 2: Development of the number of demonstration farms, the amount of subsidies paid from Programme 9.F.m. and individual rates (exchange rate 24 CZK/EUR)



Subject of subsidy	Amount
Open day on the farm (min. 10 participating farms)	4167 CZK/event
Individual demonstration (min. 20 events/year)	2083 CZK/year
Group demonstration (min. 5 events/year)	2083 CZK/year
Information and promotion materials	2083 CZK/year
Researcher services (based on actual costs)	2083 CZK/year
Preparation of demo plots (max. 3 ha)	2083 CZK/ha

### Main advantages of concept:

The CATWOE model allows to describe individual intervention and its parts: mainly Clients, Actors/providers, Transformations, Owners.

The CATWOE allows to aggregate evaluation of more interventions together by its main parts (for example by particular type of actors/providers).

The CATWOE facilitates the evaluation of an intervention or group of interventions in the evaluation criteria as requested for strategic plan of CAP, particularly the effectiveness, efficiency and relevance (European Evaluation Helpdesk for the CAP 2022).

### Application to the programme 9.F.m:

So, the question could be: Do the demonstration farms support the transformation process of agriculture - in the context of climate change, ensuring nutrition and social requirements?

### A deeper description of the Programme 9.F.m according to CATWOE:

The main Clients for demonstration farms are the farmers, however, the demonstration events are open to a wide range of other Clients such as advisors, state administrators, students, and researchers. Some events like "Open days" are very interesting for families.

The Actors (providers of information and experience) are demonstration farms, usually with close linkages with researchers and less often with advisors.

The Transformation is provided by sharing knowledge and experience mainly through presentation PPT, excursion on site, and discussion with the researchers or special experts. As mentioned below the fields covers also the topic of soil and water management in the context of climate change, ensuring nutrition and social requirements.

All these activities are financed by the Ministry of Agriculture (the Owner), so by its decision could be interaction boosted or diminished. For example, by changing the allocated budget or by adjusting the eligibility criteria.

### Limits identified:

The low cross-country cooperation due to limited language ability of the Client, Actors/providers diminish the possible opportunity to cooperate with abroad farms, platforms, networks and other sources.

### Therefore, the recommendation for more effective management would be:

To support the broker for cross-country cooperation or motivate demonstration farms by preference criteria.

### Programme targeting:

Demonstration activities are mainly focused on soil care, supporting the presentation of practices and technologies to reduce water and wind erosion, excessive soil compaction, practices contributing to water retention in the landscape or presenting measures to adapt to climate change and mitigate its impacts. From 2018, these soil-friendly practices are demonstrated in the organic farming system, and from 2019 in the integrated plant protection system. In 2023, an emphasis on the use of precision farming technologies in agronomic practices has been added.

### In 2023, the following five targets are supported:

- Integrated farming systems with emphasis on soil conservation and water retention in the landscape,
- Low conservation value cropping technologies in line with GAEC 5,
- Soil organic matter and its impact on erosion, water management and water retention in the landscape,
- Integrated plant protection as a comprehensive system of arable land and orchard management,
- Organic farming as a comprehensive system for arable land and vineyards.

### Eligibility conditions:

A farm applying for „Demonstration farms“ status must meet a number of requirements. The basic conditions applicable for all five targets are:

1. Compliance with GAEC standards with no violations.
  2. No erosion event has occurred on the farm's land according to national monitoring.
- Requirements for targets a) and b):
3. The proportion of arable land at risk of erosion is higher than 10%.
  4. The proportion of crops with a low protective function (maize, potatoes, beet, soya...) in the crop rotation is greater than 10 %.
  5. The use of soil conservation technologies applicable to the fulfilment of the GAEC 5.

Requirement for target c):

6. The farm has a balanced or improving organic matter balance (national assessment).

Requirement for target d):

7. The farm has integrated pest management practices in place.

Requirements for target e):

8. The organic farm without parallel conventional production.
9. The farm has no serious breaches of the OF rules in the last 3 years.
10. The farm has at least 50 ha of arable land and grows at least four cash crops on a significant part of the rotation. For vegetables, herbs and vines, a minimum total area of 1 ha is required.

**PROJECTS:**  
Duration: 1 roky  
Start: January 2023  
End: December 2023  
Project manager:  
Institute of Agricultural Economics and Information (IAEI), CZ

ID project	1155	1286
Name	Coordination of a complex system of AKIS in the Czechia (focused on the scope of the Ministry of Agriculture)	MicroAKIS of demonstration farms
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**Institute of Agricultural Economics and Information (IAEI)**  
is state-subsidized organization established by Ministry of Agriculture.  
IAEI is the expert centre for the agricultural economy, food, agricultural advice and information. In 2012, the Institute celebrated 100 years since the founding.  
IAEI is also the Library of Antonín Svehla, which is the third largest specialist library in the world. IAEI is an expert institute in economics, food and agriculture, and to the extent the economy and sociology in the sectors of agriculture and food.

**The main activities of IAEI:**

- basic and applied research and development in the field of agricultural economics
- a service for the Ministry of Agriculture and other civil service;
- the function of the Liaison Agency FADN CZ,
- through Agricultural Consulting-Training Center ensuring function of the counselling and training centre for agriculture, food and rural development;
- through a Library of Antonín Svehla provision of library, information and reference services.

**Links:**  
<https://eagri.cz/public/web/mze/puda/demonstracni-farmy> (only Czech)  
<https://agronavigator.cz/demo-objekty/demonstracni-farmy> (only Czech)

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