



Korinna Varga (Hungary)



Breakout session I: Lighthouses and living labs

EIP-AGRI brokerage event

'Get involved in the EU Mission: A Soil Deal for Europe'

ÖMKi On-farm Living Lab

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ÖMKi On-Farm Living Lab

Agroecology-focused nationwide participatory experimentation network that includes variety of field trials and technology tests co-designed and co-implemented with farmers with the aim to improve and/or develop new organic/agroecological practices, products, technologies



Background



ÖMKi

Ökológiai Mezőgazdasági Kutatóintézet

Research Institute of Organic Agriculture | Forschungsinstitut für biologischen Landbau

ÉLVONALBELI KUTATÁS. ÖKOLÓGIAI SZEMLÉLET. FENNTARTHATÓ JÖVŐ.

Host organization: Hungarian Research Institute of Organic Agriculture (ÖMKi)

Aim: Fostering scientific research of organic agriculture and agroecology in Hungary on an international level.

- **2011:** Foundation of ÖMKi, the Hungarian Research Institute of Organic Agriculture Public Benefit Non-profit Ltd.
- **2012:** Launch of on-farm participatory research network
- **2020:** Living Lab certification by ENoLL

Research

Living Lab Ecosystem



Crop diversification for food system stability

- Ancient cereal variety tests and product development
- Landrace tomatoes - cultivation technologies
- Soybean in the crop rotation



Soil-building cultivation technologies

- Species-rich inter-row cover in vineyards and orchards
- Organic nutrient replenishment
- Herbicide-free tillage technologies (reduced-till, ground cover, etc.)

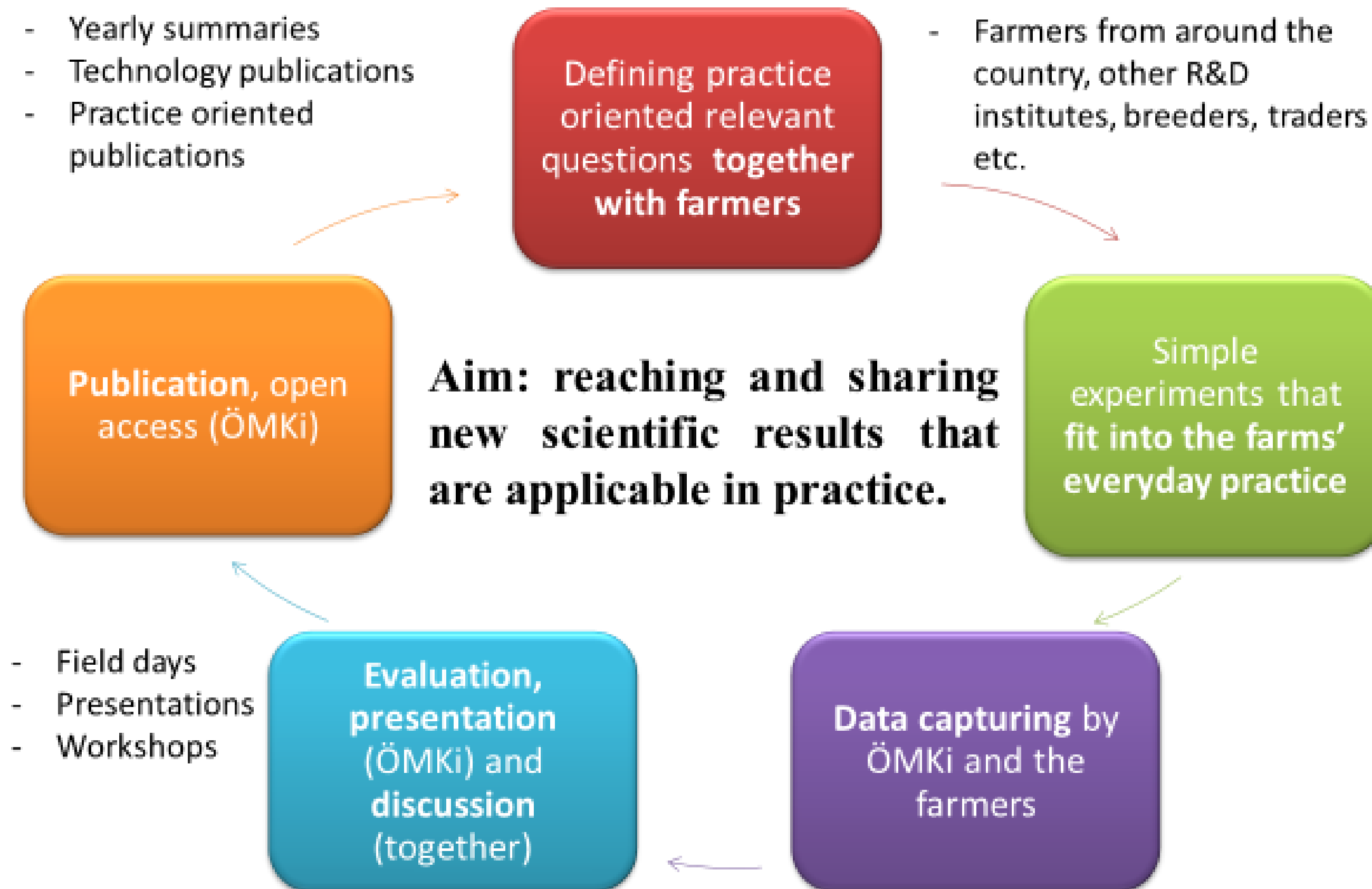


Precision farming solutions for organic agriculture

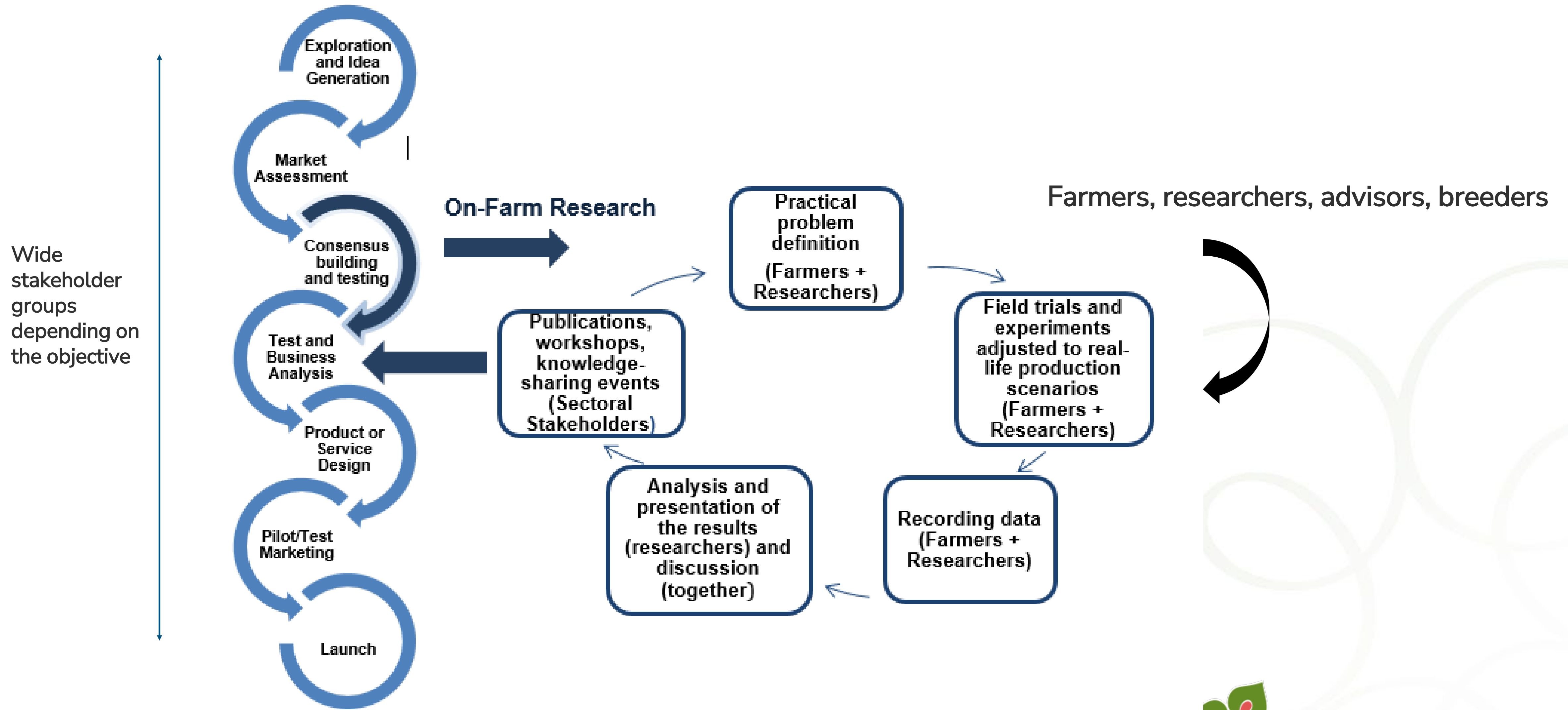
- Remote sensing for plant protection
- Sensors for developing customized feeding and disease prevention system

ON-FARM Method

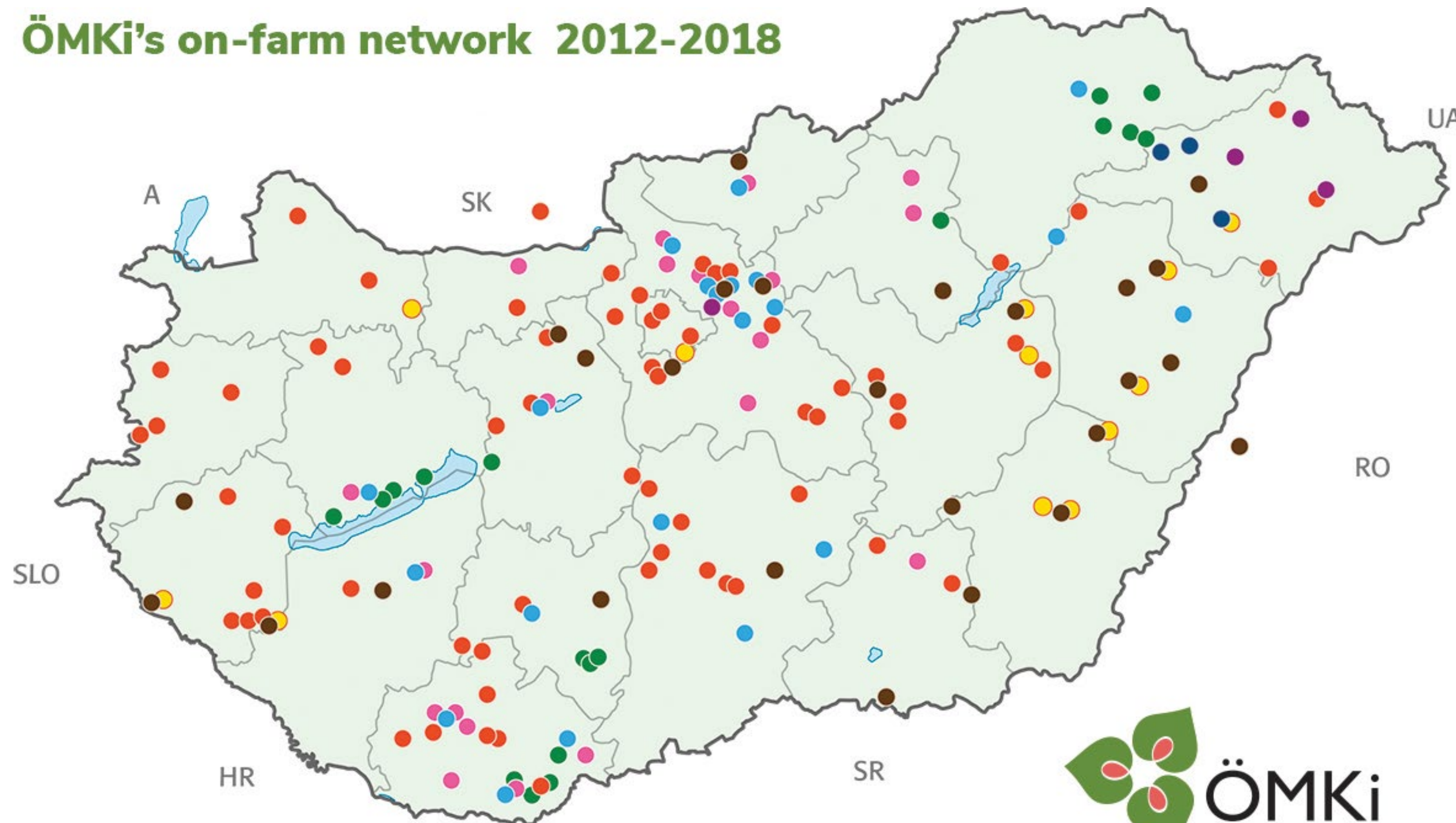
On-farm experimentation network



Product development



ÖMKi's on-farm network 2012-2018



Wheat variety tests



Soy varieties tests



Potato varieties tests



Tomato landrace tests



Inter-row cover crop seed tests



Testing organic beekeeping methods



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Testing cherry fruit fly control methods



Testing plant conditioners in apple orchards

ÖMKi On-farm Living Lab

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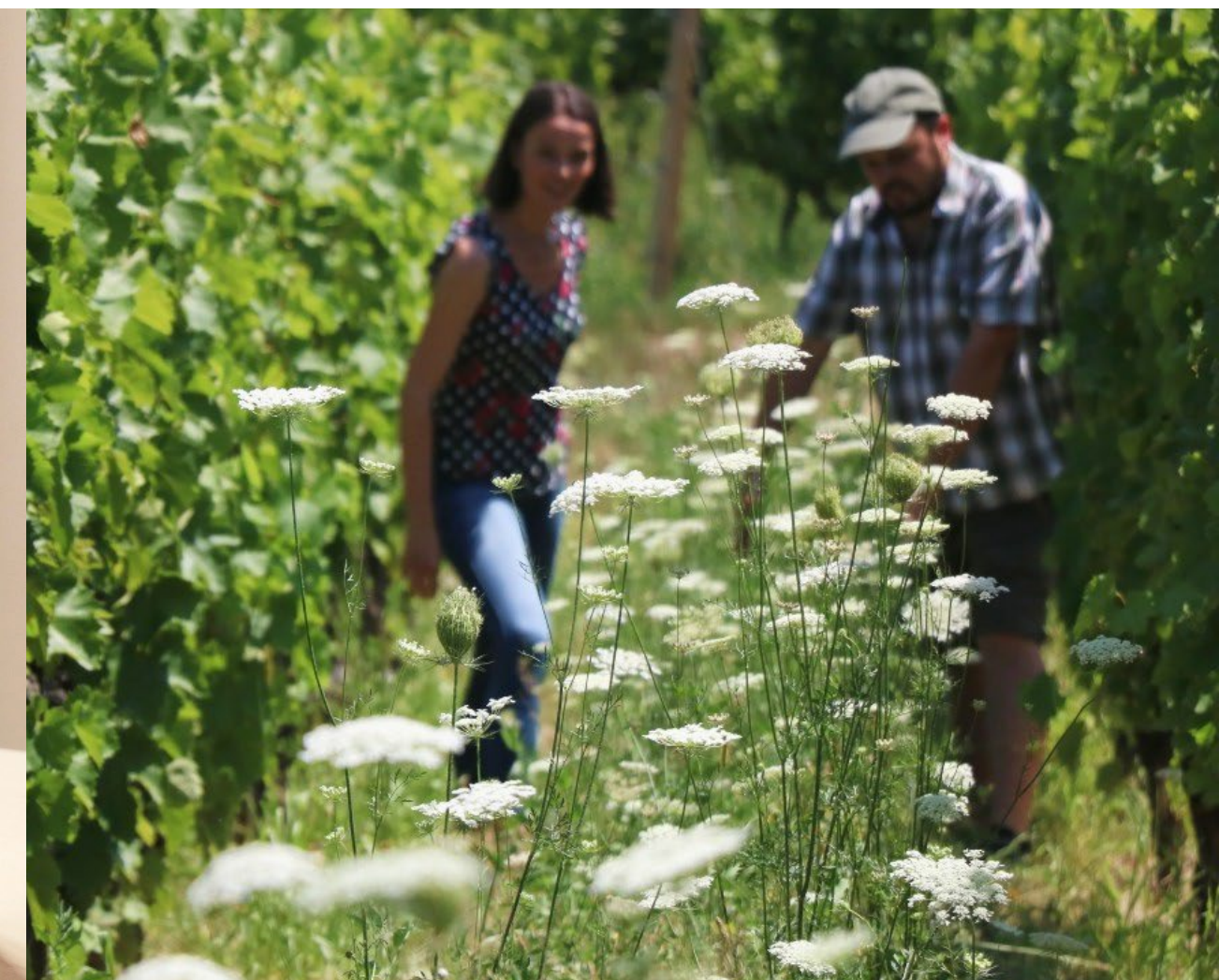
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Living Lab Achievements

Living Lab Products/Services on the Market:

- 1. ÖMKi Living Interrow:** Species rich seed mixture developed for interrows.
- 2. Landrace Tomato Seedling:** Re-introduction of landrace tomatoes as seedlings
- 3. Organic Landrace Flour (Einkorn, Emmer):** Reintroduction of ancient cereals in arable cropping
- 4. Advisory service for organic and agroecological farmers**



Soil health related research



AIM:

- Reduction of soil degradation processes (erosion, deflation, dehydration, loss of structure), increase of soil life, increase of soil organic matter content.
- Introduction of cultivation technologies at regional level that are more resilient and economical to environmental challenges.
- Implementing carbon capture efficiently and economically



1. Species-rich inter-row cover in vineyards and orchards
2. Testing herbicide-free tillage technologies (reduced-till, ground cover, etc.)

Species-rich inter-row cover in vineyards and orchards

Farms: 6 vineyards (3 Tokaj wine region, 3 Eger wine region, 3 apple orchards (Nagykálló)

- Trials including sown species-rich mixtures and control interrow treatments (spontaneous weed flora and mechanically cultivated row spacing) are set up in the rows of orchards and vineyards in frame of on-farm experiments
- Various (botanical, faunistic, plant pathological, soil moisture, soil microbiological, agronomic) assessments, and measure the effect of treatments regarding yield quantity and quality, erosion, and soil climate gas emissions.
- Summary of results, statistical evaluation.
- **Individual and on-farm group workshops, organization of field events**
- **Actors involved: botanists, farmer advisors, entomologists and private seed trader company**

Outcome:

- ✓ new, **optimised seed mixture for orchards and vineyards** introduced to market
- ✓ **Improved technology for soil management** in grapes and fruit production (effect on soil conditions and biodiversity)
- ✓ **Input for advisors** about optimal soil management techniques adapted to local soils



Testing herbicide-free soil conservation tillage technologies

Farms: 2 organic farms so far (Szár and Füzesgyarmat)

- **Examining**
 - the impact and potential of soil-friendly cultivation (reduced tillage)
 - effects of cover crops / green manure
 - intercropping
- Various soil properties are analysed structure, moisture content, nutrient content biological activity (basal respiration, dehydrogenase, beta-glucosidase enzyme activity)
- Individual and on-farm group workshops, organization of field events
- **Actors involved: researchers, organic farmer, advisors, private cover crop seed company**

Outcome:

- ✓ **technological description of best practices** of organic conservation tillage methods
- ✓ **specific reduced/no-till recommendations adapted to local soil conditions,**
- ✓ **practical advice on green manure application** under organic conservation system

! LL under continuous improvement



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Thank you for
your
attention!

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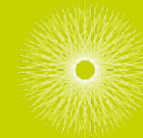
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EIP-AGRI brokerage event **'Get involved in the EU Mission:** **A Soil Deal Europe** **8-9 June 2022, Brussels, Belgium**

All information on the brokerage event is available on
www.eip-agri.eu

on the event webpage:
<https://ec.europa.eu/eip/agriculture/en/event/eip-agri-brokerage-event-%E2%80%99get-involved-eu-mission>

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