



# Subgroup on Innovation

## Tuesday 17 November 2015

**interactive session 1**

**Introductory presentation**

**Biodiversity, ecosystem services,  
soil functionality and sustainable  
water management**





**Meeting Subgroup on Innovation  
Brussels, 17 November 2015**

# **SOLMACC: Organic farmers countering climate change**

**Bram Moeskops  
IFOAM EU**



# CONTEXT OF THE PROJECT



**Farming** is a main contributor of climate change:

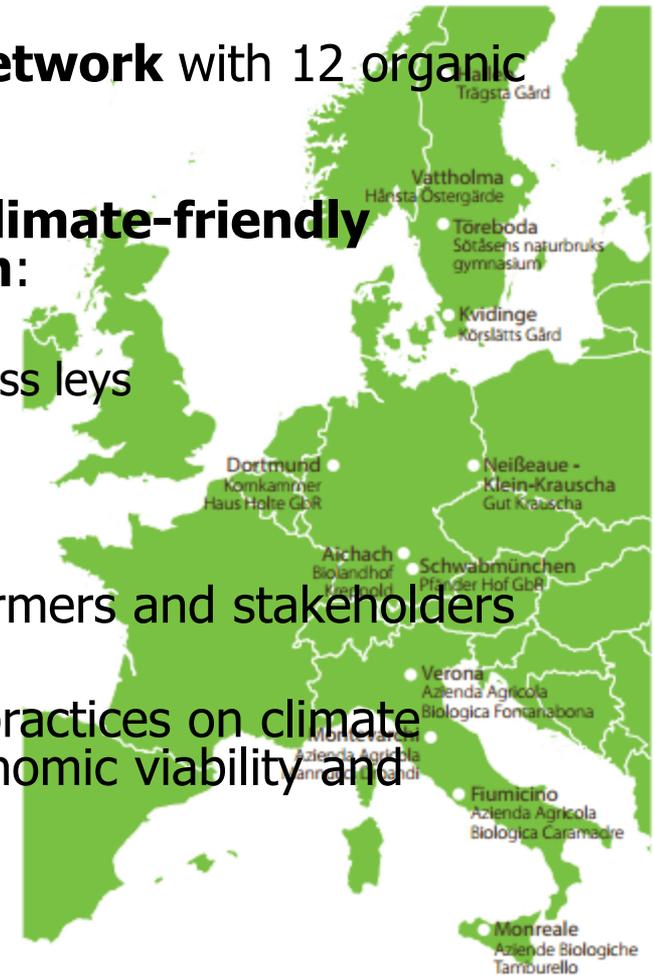
- Greenhouse gas emissions from agriculture in the EU account for about 10% of total GHG emissions (2009)
- At the same time agriculture is extremely vulnerable to the consequences of climate change

→ Agriculture faces serious challenges both in terms of climate change mitigation and adaptation

# MAIN ACTIVITIES



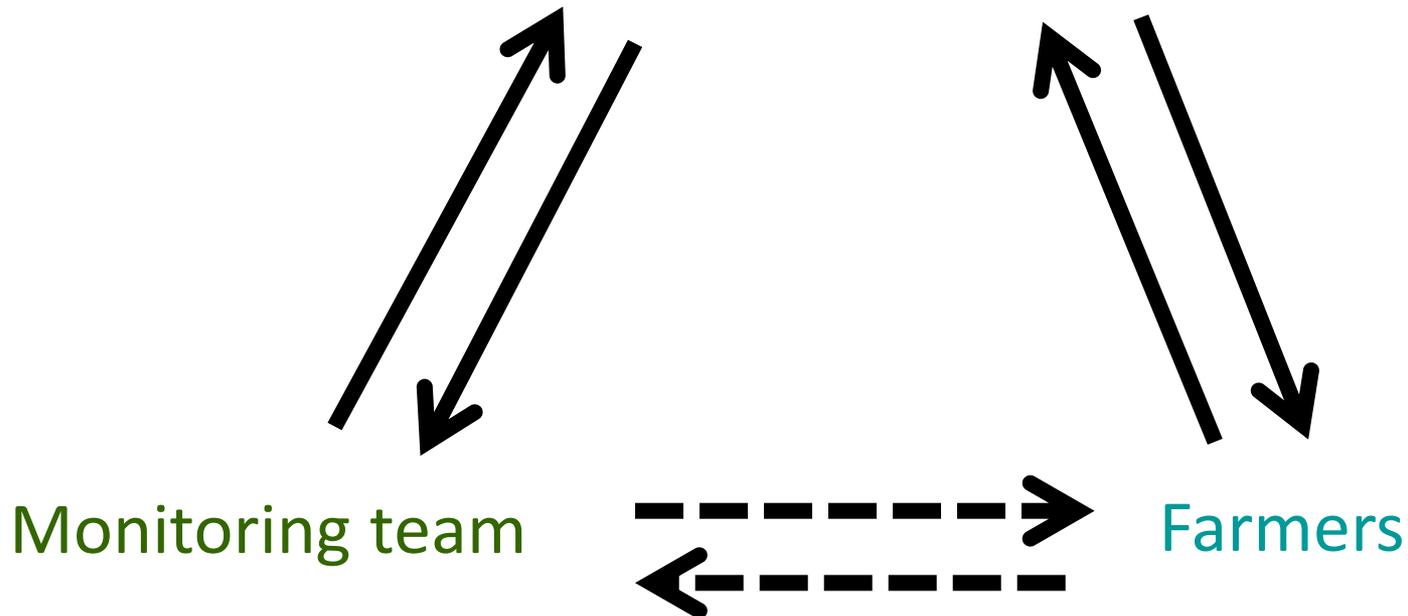
- Setting up a **demonstration farm network** with 12 organic farms in DE, IT and SE
- Training the farmers to **integrate 4 climate-friendly practices into their farming system**:
  - optimised on-farm nutrient recycling
  - optimised crop rotations with legume-grass leys
  - optimised tillage system
  - Agroforestry
- Demonstrating the practices to local farmers and stakeholders
- **Monitoring the impact** of the new practices on climate change mitigation and adaptation, economic viability and technical feasibility



# Continuous interaction for successful implementation



Regional advisors (AIAB,  
Bioland, Ekologiska Lantbrukarna)



# Practices on different farms: Germany



Farm	Kreppold (south)	Pfänder GbR (south)	Gut Krauscha (east)	Kornkammer (west)
Improved on-farm nutrient management	Forage-manure cooperation and composting of on-farm residues	Composting of on-farm residues	Composting of on-farm residues	Anaerobic treatment (biogas) of on-farm residues
Optimised crop rotations with legumes	Introduction of grain legumes and maintenance of existing forage legumes	Maintenance of existing grain legumes as well as summer and winter green manure lay with legume grasses	Maintenance of existing grain and forage legumes	Maintenance of existing grain and forage legumes
Optimised tillage systems	Reduced tillage and undersown crops	Reduced tillage and undersown crops	Reduced tillage	Reduced tillage
Agroforestry	Hedgerows and tree strips along agricultural fields	Hedgerows and tree strips along agricultural fields	Hedgerows and tree strips along agricultural fields	Hedgerows and tree strips along agricultural fields

# Composting of farmyard manure (Kreppold)

GHG emissions from solid manure handling	kg CO <sub>2</sub> eq./t DM fresh manure	kg CO <sub>2</sub> eq./LU and year	kg CO <sub>2</sub> eq./kg N
<b>Manure compost («new practice»)</b>			
Cover fleece	1.4	2.2	
Fuel consumption turning	2.7	4.4	
CH <sub>4</sub> emissions composting	69.3	110.3	
direct N <sub>2</sub> O emissions composting	253.8	403.9	
indirect N <sub>2</sub> O emissions composting	166.7	265.3	
Compost loading and field application	5.4	8.6	
Direct post application N <sub>2</sub> O emissions	150.9	240.2	
Indirect post application N <sub>2</sub> O emissions	21.6	34.4	
<b>Total</b>	<b>672.0</b>	<b>1069.3</b>	<b>20.9</b>
<b>Stacked manure («old practice»)</b>			
CH <sub>4</sub> emissions storage	239.0	380.3	
direct N <sub>2</sub> O emissions storage	507.6	807.8	
indirect N <sub>2</sub> O emissions storage	71.2	113.2	
Manure loading and field application	10.1	16.1	
Direct post application N <sub>2</sub> O emissions	120.8	192.3	
Indirect post application N <sub>2</sub> O emissions	57.9	92.2	
<b>Total</b>	<b>1006.7</b>	<b>1601.9</b>	<b>39.0</b>
<b>Difference (Manure compost – stacked manure)</b>	<b>-334.7</b>	<b>-532.6</b>	<b>-18.1</b>

Negative Values are savings of GHG emissions; LU = livestock unit, calculations are based on Gattinger et al. in prep. and Pardo et al. 2014; C sequestration is not considered. In the case of anaerobic digestion for biogas (Farm 2 and 3 in Sweden) the savings are even higher!

# PROJECT DATA



- DURATION: Start: 01/09/2013 - End: 30/09/2018
- BUDGET: €2.140.121 (50% paid by DG ENVI/LIFE)
- PARTNERS
  - Ekologiska Lantbrukarna, SE
  - IFOAM EU Group (Day-to-day Coordinator),
  - AIAB, IT
  - Bioland Beratung GmbH, DE
  - FiBL, DE





About SOLMACC

SOLMACC is a LIFE-co-funded project that runs from 2013 to 2018. Its ambition is to demonstrate that by applying optimised farming practices organic farming can be climate-friendly. 12 demonstration farms are therefore adjusting their farming techniques under the close supervision and monitoring of agricultural scientists. Read more about the SOLMACC objectives

Recent news



SOLMACC newsletter #1 The first newsletter, sent out to recipients all over Europe, is now Read More... Posted on 08/26/2014

Project website: www.solmacc.eu in four languages