Crop diversification for weed management in North European organic arable cropping systems

Introduction to the study of international research-network on diversification and weed management: PRODIVA

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Introduction

The research-network PRODIVA focuses on a better utilization of crop diversification for weed management in North European organic arable cropping systems. The goal is to maintain diverse arable weed vegetation that is manageable in the long-term and could fulfill other necessary system-functions including support of beneficial organisms.

The partners in PRODIVA will:

- Synthesize knowledge from existing literature, previous and new experiments on cover crops, variety mixtures and crop mixtures.
- Survey regional fields for weeds to safeguard the relevance of the experimental research.
- Involve and interact with relevant stakeholders and extension services in agriculture from the participating countries to assist in the research. Project and results will be disseminated to them.

Objectives

- To strengthen the scientific foundation for utilization of crop diversification.
- To survey the weed flora regionally.
- To link the weed situation to the applied agronomic measures in farms.
- To bridge the information from surveys with the scientific groundwork.
- To disseminate important results and recommendations to extension services and growers.

Hypotheses

Weed management can be improved with:

- Pertinent crop sequencing, mitigating noxious weed species.
- Selected competitive cover crop species.
- Improved cover crop establishment.
- Better utilization of growth resources with crop mixtures.
- Stronger pressure on weeds with variety mixtures.

Project details

Work package 0: Project coordination
Location: *Denmark*

Work package 1: Weed dynamics in crop rotations with cover crops
Location: *Finland, Latvia, Denmark*

Work package 2: Crop mixtures for weed suppression
Location: *Sweden, Poland*

Work package 3: Variety mixtures for weed suppression
Location: *Denmark, Poland, Latvia*

Work package 4: Crop diversification applications and weed flora on farms
Location: *Germany, Denmark, Sweden, Finland, Latvia, Poland*

Work package 5: Project dissemination
Location: *Germany, Denmark, Sweden, Finland, Latvia, Poland*

Progress

This project takes has a duration of three years: 01.03.2015-28.02.2018.

First year experiments were preformed in 2015 and will continue with the second year data collection in 2016. Deliverables are met in the form of aforementioned experiments, literature reviews, group meetings, representation on relevant conferences, reports and articles. These are available on Organic Eprints and the Core Organic website.

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Contact

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Sonchus arvensis; a problematic perennial weed. Source: B Melander

Weed suppressive ability of different spring barley varieties. Source: B Melander

Grain-pea crop mixture. Source: R Krawczyk

PRODIVA partners l. to r. L de Cock (Core Organic), T Verwijst (SE), J Salonen (FI), L Zarina (LV), B Melander (DK), S Kaczmarek (PL), MAJ Hofmeijer (DE), R Krawczyk (PL), B Gerowitt (DE), A Lundkvist (SE). Source: L Zarina

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