OSCAR

Optimising Subsidiary Crop Application in Rotations

SEVENTH FRAMEWORK PROGRAMME

www.oscar-covercrops.eu

A collaborative European research project to develop more sustainable systems of agriculture and increase the diversity of cover crops and living mulches

OSCAR – Optimising Subsidiary Crop Application in Rotations

Subsidiary crops are plants that are grown for the ecological services they provide rather than as a cash crop. They include cover crops, catch crops and living mulches.

OSCAR is an EU-funded project that aims to extend the existing knowledge base available on these subsidiary crops and to disseminate this information to growers and producers.

OSCAR will develop new cropping systems based around the use of cover crops and living mulches and will optimise these systems for use in low-tillage agriculture.

A durum wheat crop at an Italian field site that is part of the multi-environment experiment

The seeds of a subterranean clover (*Trifolium subterraneum*) plant, a self-fertilising legume whose seeds develop underground, and one of the plants being assessed for use as a subsidiary crop as part of the project.

OSCAR will provide viable systems with which to:

- increase the duration of soil coverage by plant canopies;
- minimise the need for soil tillage and reduce tillage intensity;
- increase the diversity of species within the plant canopy and the rotation;
- reduce the need for fertilisers, pesticides and herbicides; and
- in dry climates, conserve water and reduce need for irrigation.

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A transnational multi-environment experiment

OSCAR involves twenty partners from nine European countries, plus Morocco and Brazil. The project brings together scientific researchers and agronomists with small businesses that are experienced in technological innovation for the production of farm machinery.

The core of the experimental programme is a set of coordinated field trials in twelve different environments, ranging from Scandinavia, through central Europe and the Mediterranean, to North Africa.

An all-in-one machine developed for the OSCAR project to allow non-inversion tillage and synchronous drilling of up to three different seed types at various depths. www.eco-dyn.com

Crimson clover (*Trifolium incarnatum*) cover crop

These experiments will investigate the climatic and environmental conditions under which different subsidiary crop species are best suited and the best approaches for using such crops.

Two key objectives will be the identification of new species and genotypes, and the development of new farm technology and machinery to facilitate the cultivation of subsidiary crops.

Cover Crop and Living Mulch Toolbox

Coordinator

Prof. Dr. Maria R. Finckh
University of Kassel Faculty of Organic Agricultural Sciences, Ecological Plant Protection group, DE
mfinckh@uni-kassel.de

ÖkologischeAgrarwissenschaften UNIKASSEL

Partners

Research Station Agroscope ART Reckenholz-Tänikon	CH
Norwegian Institute for Agricultural and Environmental Research, Plant Health and Plant Protection Division	N
Agronomic Institute of Paraná	BR
The International Center for Agricultural Research in the Dry Areas	MO
Institut National de la Recherche Agronomique	MO
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Wageningen University, Department of Plant Sciences	NL
Arcoiris s.r.l	I
Ferrari Costruzioni Mecchaniche s.r.l.	I
Marangon Srl.	I
P.H. Petersen Saatzucht Lundsgaard GmbH	DE
Friedrich Wenz GmbH	DE

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April 2012 - March 2016

The main output of the project will be a comprehensive, publicly available knowledge base known as the Cover Crop and Living Mulch Toolbox.

The Toolbox will contain many user-interactive elements including:

- a cover crop and living mulch database;
- an equipment and technology database;
- a decision support tool, providing comprehensive advice on how to apply subsidiary crops;
- and a wiki, providing a continually evolving knowledge resource (www.covercrops.eu).

The interactive nature of the Toolbox will create a legacy for the project enabling the research and ideas to continue to grow and develop after the projects completion.

Assessment of cover crops by researchers and a farmer in the UK