



## Living mulch in vegetables

– Enhancing multifunctional benefits of cover crops – vegetables intercropping

INTERVEG



### Aim of the project:

Organic vegetables may benefit from intercropping with living mulches, and in this project, scientists from 4 Northern and Mediterranean EU countries assess and evaluate the effects of the technique on the product and on the environment.



## Introduction

Living mulches in a cash crop are not common practice in professional vegetable production, nevertheless their introduction in the organic cropping systems can be an useful tool for managing soil nutrients, weeds as well as crop pests and diseases.

The practical implementation needs a detailed assessment in different European contexts where open field organic vegetable productions are economically and agronomically relevant, and under a wide range of different soil and climatic conditions.

## Background

Within the organic sector, in fruit production and to a lesser extent, in arable crops, practical implementations of low-external input systems based on the agro-ecological approach are already available and put into practice, whereas in vegetable production they are still in an early and underdeveloped stage. Despite that, vegetable production plays an important role in terms of farm income and consumers perception since vegetables are the most consumed organic items.



## Benefits of the project

The project outcomes will benefit organic (and conventional) vegetable growers as knowledge on systems to manage organic vegetables with lower use of external inputs (fertilizers, plant protection products, water, energy etc.) will become available. It will improve farm profitability and lead to more resilient farming systems that grant long-term productivity and quality while respecting the environment. The organic sector will also benefit from the higher credibility towards consumers of the innovative production methods based on lower external inputs and higher biodiversity.

The community as a whole will gain from the project outcome in terms of improved environmental profile of organic vegetable farms and this will reduce the negative environmental impacts on soil and water. Furthermore, the increase of plant diversity in the field will enhance the natural biodiversity of the agro-ecosystems.



## Expected results

The main expected result is the development of cropping practices based on intercropping/living mulches tailored for each crop/system studied for the different areas. The systems proposed need to be optimized at local level in order to really reach sustainability and the different perspectives supplied by partners as well as the practical experiences provided by involved producers (in all participating countries) grants a thorough assessment before the final release.

## Expected long-term impacts

The project will increase the knowledge about effect of intercropping/living mulches technique in organic vegetable productions on yield and produces quality as well as environmental impact. It is expected that, the on the long run, project outcomes will give a contribution to the debate about the risk of the so called “conventionalization” of organic farming.

### Target groups

Main target group of the project are vegetable growers (organic and interested to conversion) who can make practical use of the project outcome. But important users will be as well extension experts (who can facilitate the knowledge transfer towards producers) and local authorities (who can urge and support the implementation of project outcome at the farms within their territories). All this for the countries directly involved in the project as well as for other countries where the experience can be shared.



## Main activities

Two years field experiments will be carried out in 4 CORE countries, namely :Italy, Germany, Denmark and Slovenia. The field trials will be carried out in long term organically managed experimental facilities (experimental sites) as well as commercial organic farms (pilot farms). The experimental sites will be used to carry out studies which need a fully controlled experimental design, needing frequent, time spending and detailed measurements (i.e. yield quality assessment, nutrients availability, weed management). Pilot farms will be involved partly to upscale the experiments and partly for demonstration purposes.





## Coordinator

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## Partners

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## Related projects

Orweeds (Agroecological, indirect methods for weed control in vegetable production organic systems)  
[www.sinab.it/index.php?mod=ricerca\\_sperimentazione&m2id=192&navId=1372&idp=257](http://www.sinab.it/index.php?mod=ricerca_sperimentazione&m2id=192&navId=1372&idp=257)

Valorbio (Exploitation of vegetables local genotypes for organic productions)  
[www.sinab.it/index.php?mod=ricerca\\_sperimentazione&m2id=192&navId=1372&idp=276](http://www.sinab.it/index.php?mod=ricerca_sperimentazione&m2id=192&navId=1372&idp=276)

SosBio [www.sinab.it/index.php?mod=ricerca\\_sperimentazione&m2id=192&navId=1372&idp=254](http://www.sinab.it/index.php?mod=ricerca_sperimentazione&m2id=192&navId=1372&idp=254)

VegQure [www.icrofs.org/pdf/darcofill/vegquire.pdf](http://www.icrofs.org/pdf/darcofill/vegquire.pdf)

## Project dissemination

- National web portal and newsletter dealing with organic farming (i.e. SINAB);
- National magazines (i.e. Bioagricoltura in IT);
- Peer reviewed scientific journal dealing with organic farming and sustainable agriculture (to be defined);
- Communication at national and international conferences and congresses;
- Direct communication towards farmers and other stakeholders (i.e. field visits)

## How to reach the endusers

Stakeholders will be involved in the project from the beginning through local discussion panels that will evaluate project methodology and approach. The evaluation will consider not only scientific data and methods but specific concern will be placed on acceptability of the innovation from producers point of view and adaptation needs of specific areas/farm types.

## Further information

This project is funded via the ERA-net CORE Organic II by national funds to each partner. CORE Organic II is a collaboration between 21 countries on initiating transnational research projects in the area of organic food and farming. In 2011, CORE Organic II selected this project and 10 more for funding.

Read more about the project at the CORE Organic II website: <http://www.coreorganic2.org/interveg> and in Organic Eprints: <http://orgprints.org/view/projects/interveg.html>