

INBIOSOIL

AT A GLANCE

Title: Innovative biological products for soil pest control

Instrument: FP7-ENV-2011-ECO-INNOVATION

Total Cost: 6,387,361 €

EC Contribution: 4,984,654 €

Duration: 36 months

Start Date: July 1st 2012

Consortium: 15 partners from 8 countries

Project Coordinator: Georg-August-University of Göttingen (Germany)

Project Web Site: <http://inbiosoil.uni-goettingen.de>

Key Words: Sustainable crop protection strategies; biological control agents



THE CHALLENGE

INBIOSOIL IS A TIMELY PROJECT THAT PROPOSES NOVEL ENVIRONMENTALLY FRIENDLY TECHNOLOGIES SUBSTANTIALLY CONTRIBUTING TO A REDUCED INPUT OF CHEMICAL PESTICIDES FOR CONTROLLING SUBTERRANEAN CROP PESTS OF GLOBAL ECONOMIC IMPORTANCE. THIS GOAL WILL BE ACCOMPLISHED THROUGH INNOVATIVE FORMULATIONS OF SUBTERRANEAN BIOLOGICAL CONTROL AGENTS (BCAs) BASED ON ENTOMOPATHOGENIC FUNGI AND NEMATODES, TO BE USED IN INTEGRATED PEST MANAGEMENT STRATEGIES. THESE NEW FORMULATIONS EXPLOIT SYNERGIES BETWEEN BCAs AND SEMIOCHEMICALS RESULTING IN ENHANCED PEST MORTALITY. THE PROJECT MEETS THE CHALLENGES OF GLOBALIZATION, CLIMATE CHANGE, AND NEW PLANT PROTECTION POLICIES LEADING TO THE PRODUCTION OF HIGH-QUALITY AND ENVIRONMENTALLY SAFER CROPS; THUS, INBIOSOIL IS IN ACCORDANCE WITH THE SCOPE OF THE ECO-INNOVATION CALL FP7-ENV-2011-3.1.9.-1. INBIOSOIL CONTRIBUTES TO IMPLEMENTATION OF EC REGULATION 1107/2009 AND DIRECTIVE 2009/128/EC MAKING IT OBLIGATORY FOR EU MEMBER STATES TO IMPLEMENT PRINCIPLES OF IPM, WITH PRIORITY BEING GIVEN TO NON-CHEMICAL METHODS OF INTEGRATED PEST MANAGEMENT.

PROJECT OBJECTIVES

THE PROPOSED STRATEGIES WITHIN THE INBIOSOIL PROJECT WILL:

1. CONTRIBUTE TO REDUCED PESTICIDE INPUTS IN SUSTAINABLE AGRICULTURAL AND HORTICULTURAL SYSTEMS
2. OFFER SOLUTIONS FOR BOTH ORGANIC AND CONVENTIONAL FARMS, THUS ENSURING THE COMPETITIVENESS OF EUROPEAN GROWERS
3. OFFER NEW CONTROL OPTIONS FOR SPECIFIC PEST PROBLEMS, GENERATING ADDITIONAL INCOME FOR GROWERS
4. PROMOTE BIODIVERSITY



METHODOLOGY

FOLLOWING THE EVALUATION OF THE MOST EFFECTIVE STRAINS OF ENTOMOPATHOGENIC FUNGI AGAINST THE TARGET PEST SPECIES, AND COMBINED WITH ENTOMOPATHOGENIC NEMATODES, THESE WILL BE CO-FORMULATED WITH CARRIERS ENHANCING THEIR MAINTENANCE IN THE SOIL AND THEIR SHELF LIFE. LAB, GREENHOUSE, AND FIELD STUDIES WILL BE SET-UP TO PROVE THE EFFICACY OF THESE SPECIFIC FORMULATIONS UNDER REALISTIC FIELD CONDITIONS AND TO MONITOR THE FATE OF SPECIFIC COMPOUNDS IN THE ENVIRONMENT. ECONOMIC DATA ON PRODUCTION COSTS WILL BE EVALUATED TO PREPARE A BUSINESS PLAN FOR THE PRODUCTS.

EXPECTED RESULTS

INBIOOIL ADDRESSES BOTH DIRECT AND INDIRECT IMPACTS, AS WELL AS PRIMARY AND SECONDARY EFFECTS BETWEEN PESTS AND BCAs, AND WILL DEMONSTRATE A SUBSTANTIAL IMPROVEMENT OF THE SUSTAINABILITY PERFORMANCE OF BCAs ALONG THE ENTIRE LIFE CYCLE WITH REGARD TO THE PROPOSED SOLUTIONS. INBIOOIL ALSO CONSIDERS REBOUND EFFECTS WITH RESPECT TO CURRENTLY AVAILABLE STATE-OF-THE-ART TECHNOLOGIES OR SOLUTIONS. PRODUCTS, DERIVED FROM THE NEW FORMULATIONS, WILL BE TRANSFERRED TO COMPANIES FOR MARKET PRODUCTION.

PROJECT PARTNERS	COUNTRY
Department of Crop Sciences, Section of Agricultural Entomology, Georg-August-University of Goettingen	DE
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Faculty of Biology, Institute of Microbiology, Leopold-Franzens University of Innsbruck	AT
Department of Biosciences, College of Science, Swansea University	UK
Department of Plant and Environmental Sciences, University of Copenhagen	DK
Department of Biodiversity and Environmental Management, Molecular Ecology, Agroscope Reckenholz-Tänikon ART, FDEA-ART	CH
University of Cordoba, Dpto de Ciencias y Recursos Agrícolas y Forestales. Unidad de Entomología Agrícola	ES
Center of Life and Food Sciences Weihenstephan, Agriculture and Food Economics Group, Technical University of Munich	DE
ToxMinds BVBA	BE
E-Nema Gesellschaft für Biotechnologie und Biologischen Pflanzenschutz mbH	DE
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