



Sveriges lantbruksuniversitet  
Swedish University of Agricultural Sciences

EPOK – Centre for Organic Food & Farming

Swedish Research on

# Organic Food and Farming 2008–2015

*Updated version – November 2015*



# Contents

**EPOK – Centre for Organic Food & Farming** at The Swedish University of Agricultural Sciences (SLU) works with communication and knowledge transfer as well as with collaboration of research and education on organic agriculture in a Swedish, Nordic and international perspective. EPOK coordinates and initiates research covering a wide range of research topics with relevance for organic farming.



## A Swedish Research Agenda for Organic Agriculture 2013

A Swedish research agenda for organic agriculture was developed by EPOK in an open process together with stakeholders in the food chain, as well as in dialogue with researchers and research funding bodies. The main aim of the research agenda is to provide a firmly established document to facilitate research priorities. Another important aim is to guide and inspire researchers to address relevant problems and draw attention to areas where knowledge is lacking. The research agenda is operating from 2013 and can be downloaded from [www.slu.se/epok](http://www.slu.se/epok)



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# Introduction

Swedish research on organic farming is to a large extent funded by directed calls for research on organic food systems. The funders are the research council Formas, the Swedish Board of Agriculture and SLU EkoForsk at the Swedish University of Agricultural Sciences. Furthermore, the Swedish Farmers' Foundation for Agricultural Research (SLF) is funding research on organic farming within their ordinary research programs. In 2013 a special program for research on organic farming was launched, which was a joint call of SLF and Formas for the period 2014–2016. The Ekhaga foundation ([www.ekhagastiftelsen.se](http://www.ekhagastiftelsen.se)) also support research mainly focused on organic food quality, but is not reported here.

Swedish research on organic farming is also funded by international funding bodies, e.g. the EU framework programs. Furthermore, several ERA-Net programs, mainly funded by national partners, are relevant for organic agricultural research. In this report only projects within the ERA-Net CORE Organic are included.

In this publication the funded research projects since 2008 are listed. From SLU EkoForsk and Formas the three latest calls are listed together with the joint SLF/Formas call. Also, projects funded by Formas in a new four-year organic research program that will start in 2015 are reported. Projects that were granted funds from the Swedish Board of Agriculture 2014 and 2015 are also listed here.

Present and recent research activities cover a wide range of topics within organic crop and animal production as well as about food quality and marketing of organic products. Animal health and welfare issues in organic pig, poultry,

dairy and meat production systems are high research priorities. Another important task is to optimise production and improve cultivation stability of protein feed crops, and also to find new feed protein sources. The potential for effective production based on high quality forage and grazing is one central research topic in dairy production.

Research on crop and animal breeding has become of increased interest to meet the need of specific traits and breeding goals in organic farming systems, as an important part of building robust farming systems.

Effective weed control, both direct weed regulation and preventive measures, not the least of perennial weed species is another research focus in both agricultural and horticultural cropping systems. Pest and disease control with biological and preventive methods is a strong research area. The potential for conservation biological control to decrease pests and diseases is of high interest together with related research on effects of organic farming on biological diversity and ecosystem services on landscape level. A number of research projects are conducted on how to achieve high nutrient use efficiency of organic fertilisers, manure as well as a wide range of rest-products from society. Timing of fertiliser nutrient release in relation to crop nutrient needs to avoid environmental harmful emissions is one challenge.

Most of the research is conducted to meet knowledge needs in agricultural primary production, but some projects deal with other parts of the food system e.g. analysing organic markets and how to secure organic values throughout the food chain.

# Funders

## SLU EkoForsk

The Swedish University of Agricultural Sciences (SLU) coordinates a programme for research projects within organic agriculture and horticulture called SLU EkoForsk.

The aim is to improve the knowledge base for the development of crop cultivation, animal husbandry and the production of fruit, berries and vegetables. Projects should contribute to the development of a sustainable production in terms of environmental concerns, animal welfare, resource management, income level and productivity.

EkoForsk funded 45 projects from 2008–2016. ([www.slu.se/sv/centrumbildningar-och-projekt/ekoforsk/](http://www.slu.se/sv/centrumbildningar-och-projekt/ekoforsk/))

## Formas

The Formas programme for organic agriculture research may cover different parts of the food chain from primary production in agriculture and horticulture to the processing and marketing of organic food. Research of an interdisciplinary nature is encouraged. The research Formas finances should be of high relevance for current organic production and food systems.

Formas funded 38 projects from 2008–2018 and 6 projects 2014–2016 in a joint SLF/Formas program, see below.

## Swedish Farmers' Foundation for Agricultural Research (SLF)

The Swedish Farmers' Foundation for Agricultural Research (SLF) is normally funding research on organic farming within their ordinary research programs. However, in 2013 a special program for research on organic farming was launched, which was a joint call of SLF and Formas for the period 2014–2016.

Fifteen projects from 2014–2016 are funded, 6 projects funded by Formas program and 9 projects funded by SLF research.

## The Swedish Board of Agriculture

The Swedish Board of Agriculture funds research and development projects aiming at strengthen applied knowledge in animal health, animal husbandry, horticulture and crop management within organic agriculture.

The Swedish Board of Agriculture funded 8 ongoing and 6 new projects in the year of 2014.



## CORE Organic

CORE Organic is a European transnational research cooperation project, which is part of the ERA-Net Scheme supported by the European Commission ([www.coreorganic.org](http://www.coreorganic.org)). CORE Organic has been run for three- to four-year periods and is coordinated by The International Centre for Research in Organic Food Systems (ICROFS). Three programs, 2008–2018 and are included in this report. Formas is the Swedish partner in CORE Organic. The aim of CORE Organic is to enhance the quality, relevance and

utilisation of resources in European research in organic food and farming through coordination and collaboration. Learn more from the web site: [www.coreorganic.org](http://www.coreorganic.org).

A number of projects have been funded by the CORE Organic programs, with Swedish partners in three (CO I), six projects (CO II) and eight projects CO Plus) which are reported in this brochure.

## Current funding of research on organic agriculture in Sweden [million SEK]

Year	2013	2014	2015
SLU Ekoforsk	7	7	7
Formas	18	-	12
SLF/Formas	-	10	10
The Swedish Board of Agriculture	2	6	3
CORE Organic	5	-	6
Ekhaga Foundation*	≈2	≈3	≈3
<b>Sum</b>	<b>≈34</b>	<b>≈26</b>	<b>≈41</b>

\*Research projects are not reported here.

# Projects

## SLU EkoForsk 2014–2016

*All project leaders are based at the Swedish University of Agricultural Sciences.*

*Ecology and plant protection of organic cropping systems, turnover and recycling of plant nutrients*

**Northern highbush blueberries – crop management in high tunnel and in the open field with emphasis on substrate and nutrients**

Grant (SEK): 1 200 000

Håkan Asp, Department of Biosystems and Technology, [hakan.asp@slu.se](mailto:hakan.asp@slu.se)

**Tomato – combined biological control with microorganisms and biofumigation**

Grant (SEK): 2 498 000

Hanna Friberg, Department of Forest Mycology and Pathology/Centre for Biological Control, [hanna.friberg@slu.se](mailto:hanna.friberg@slu.se)

**Apples – application of ARs for protection against storage diseases**

Grant (SEK): 1 624 000

Hilde Nybom, Plant Breeding and Biotechnology, [hilde.nybom@slu.se](mailto:hilde.nybom@slu.se)



**Cut fallow to replace black fallow**

**– effect on couch grass**

Grant (SEK): 1 092 000

Göran Bergkvist, Department of Crop production Ecology, [goran.bergkvist@slu.se](mailto:goran.bergkvist@slu.se)

**Potatoes – development of new hybridization material for improved resistance to late blight**

Grant (SEK): 1 069 000

Ulrika Carlson-Nilsson, Plant Breeding, [ulrika.carlson@slu.se](mailto:ulrika.carlson@slu.se)

**Pelleted fertilizer – optimal placement with regard to nitrogen use efficiency, weeds and grain yields**

Grant (SEK): 1 680 000

Sofia Delin, Soil and Environment, [sofia.delin@slu.se](mailto:sofia.delin@slu.se)

**Functional botanical diversity – a path to robust cropping systems with aphids in focus**

Grant (SEK): 600 000

Velemir Ninkovic, Ecology, [velemir.ninkovic@slu.se](mailto:velemir.ninkovic@slu.se)

**Fusarium in oats and spring wheat – variety and species mixtures for healthy crops with high quality**

Grant (SEK): 1 664 600

Paula Persson, Crop Production Ecology, [paula.persson@slu.se](mailto:paula.persson@slu.se)

*Optimization of animal production systems*

**Dairy cows – Automatic foot spray disinfecting with environmental-friendly hypochlorous acid as alternative to traditional foot bath with polluting copper sulphate or antibiotics**

Grant (SEK): 899 100

Christer Bergsten, Biosystems and Technology, [christer.bergsten@slu.se](mailto:christer.bergsten@slu.se)

**Livestock on pasture – automatic weighing as an animal health monitoring tool**

Grant (SEK): 1 666 200

Katarina Arvidsson, Animal Environment and Health, katarina.arvidsson@slu.se

**Total mixed ration for dairy cows**

**– an economic feeding strategy for organic farmers with automatic milking?**

Grant (SEK): 2 231 000

Eva Spörndly, Animal Nutrition and Management, eva.sporndly@slu.se

**Lamb production – animal welfare through breeding**

Grant (SEK): 578 000

Anna Näsholm, Animal Breeding and Genetics, anna.nasholm@slu.se

**Deep litter for sheep – plant nutrient value and comparison of straw and reed canary grass as bedding materials**

Grant (SEK): 2 129 700

Cecilia Palmberg, Agricultural Research for Northern Sweden, cecilia.palmberg@slu.se

**Piglet production – development of an organic production system where batch-wise group weaning is made possible by exploring the natural physiology of the sow**

Grant (SEK): 656 000

Ylva Sjunnesson, Clinical Sciences, ylva.sjunnesson@slu.se

**SLU EkoForsk 2011–2013**

*All project leaders are based at the Swedish University of Agricultural Sciences.*

*Ecology and plant protection of organic cropping systems, turnover and recycling of plant nutrients*

**Apple production – protection against storage diseases**

Grant (SEK): 1 370 100

Hilde Nybom, Plant Breeding and Biotechnology, hilde.nybom@slu.se

**Cereal cultivars – locally adapted for quality in production and product**

Grant (SEK): 1 690 000

Eva Johansson, Agriculture – Farming systems, Technology and Product quality, eva.johansson@slu.se

**Clover seed production – development of odor-based strategies to control seed-eating weevils**

Grant (SEK): 1 490 000

Åsa Lankinen, Plant Protection Biology, asa.lankinen@slu.se

**Couch grass – optimal timing of stubble cultivation and cutting of a grass/clover catch crop**

Grant (SEK): 822 000

Lars Andersson, Crop Production Ecology, lars.andersson@slu.se

**Faba bean – yield stability in varietal mixtures**

Grant (SEK): 1 000 000

Georg Carlsson, Agriculture – Farming systems, Technology and Product quality, georg.carlsson@slu.se

**Northern Highbush Blueberries – Organic Production Systems**

Grant (SEK): 1 474 000

Håkan Asp, Horticulture, hakan.asp@slu.se

**Tomato Production – Balanced Fertilisation**

Grant (SEK): 1 200 000

Birgitta Båth, Department of Crop Production Ecology, birgitta.bath@slu.se

**Vegetables – improved weed control effect through prolonged germination period combined with false seedbed and delayed sowing**

Grant (SEK): 2 070 000

David Hansson, Agriculture – Farming Systems, Technology and Product Quality, david.hansson@slu.se

**The weed mower - mowing of *Cirsium arvense* and *Tripleurospermum inodorum* in winter wheat and leys for seed production**

Grant (SEK): 1 498 400

Anneli Lundkvist, Crop Production Ecology, anneli.lundkvist@slu.se



*Optimization of animal production systems*

**Erysipelas – why are organic laying hen flocks affected**

Grant (SEK): 140 000

Claes Fellström, Clinical Sciences, claesfellstrom@slu.se

**Milk from cereals and high quality herbage only**

Grant (SEK): 754 000

Eva Spörndly, Animal Nutrition and Management, eva.sporndly@slu.se

**Milk production – optimization of protein feeding in relation to economy and environment**

Grant (SEK): 2 625 000

Pekka Huhtanen, Agricultural Research for Northern Sweden, pekka.huhtanen@slu.se

**Mussel meal fed to slow- and fast growing broilers**

Grant (SEK): 752 400

Lotta Jönsson, Animal Nutrition and Management, lotta.jonsson@slu.se

**Pig production – does leg health in growing finishing pigs improve by change of sire breed?**

Grant (SEK): 1 137 000

Anna Wallenbeck, Animal Breeding and Genetics, anna.wallenbeck@slu.se

**Roundworm infection – pathways on organic laying hen farms**

Grant (SEK): 1 094 000

Johan Höglund, Biomedical Sciences and Veterinary Public Health, johan.hoglund@slu.se



## SLU EkoForsk 2008–2010

All project leaders are based at the Swedish University of Agricultural Sciences.

*Ecology and plant protection of organic cropping systems, turnover and recycling of plant nutrients*

### Biological control – utilization selective biodiversity and targeted crop rotation

Grant (SEK): 330 000  
Birgitta Rämert, Plant Protection Biology, birgitta.ramert@slu.se

### Oilseed rape – nitrogen management strategies

Grant (SEK): 1 758 463  
Maria Stenberg, Soil Sciences, maria.stenberg@slu.se

### Oilseed radish and mustard – disease saniters with great potential

Grant (SEK): 1 921 200  
Paula Persson, Crop Production Ecology, paula.persson@slu.se



### Orchards – new weed control methods

Grant (SEK): 1 649 000  
David Hansson, Agriculture – Farming systems, Technology and Product quality, david.hansson@slu.se

### Organic apples – improving quality and storability

Grant (SEK): 762 100  
Ibrahim Tahir, Plant breeding and Biotechnology, ibrahim.tahir@slu.se

### Peas – effects of Brassica intercrops

Grant (SEK): 2 511 000  
Kerstin Berglund, Soil Sciences, kerstin.berglund@slu.se

### Potato production – faster emergence and earlier tuber development

Grant (SEK): 1 622 000  
Jannie Hagman, Crop Production Ecology, jannie.hagman@slu.se

### Thistle mower – an evaluation of a vegetation cutter

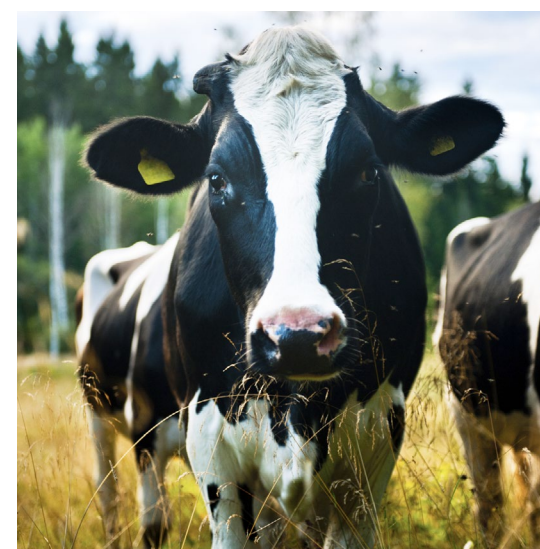
Grant (SEK): 1 094 500  
Anneli Lundkvist, Crop Production Ecology, anneli.lundkvist@slu.se

### Tomatoes – nitrogen and phosphorous availability

Grant (SEK): 1 390 000  
Birgitta Båth, Crop Production Ecology, birgitta.bath@slu.se

### Tussilago farfara – weed management

Grant (SEK): 1 133 000  
Lars Andersson, Crop Production Ecology, lars.andersson@slu.se



### Optimization of animal production systems

#### Finishing pigs – lower nitrogen losses and improved hygiene of the outside concrete area

Grant (SEK): 1 245 700  
Jos Botermans, Rural Buildings and Animal Husbandry, jozef.botermans@slu.se

#### Dairy and beef – improved nutritional value in forage

Grant (SEK): 1 800 000  
Rolf Spörndly, Department of Animal Nutrition and Management, rolf.sporndly@slu.se

#### Ley seed production – development by participatory learning

Grant (SEK): 799 000  
Johanna Björklund, Urban and Rural Development, johanna.bjorklund@slu.se

#### Maize – weed management

Grant (SEK): 1 985 420  
Ewa Magnuski, Crop Production Ecology, ewa.magnuski@slu.se

### Milk production based on herbage and cereal feeding – effects on milk and methane production

Grant (SEK): 1 240 000  
Eva Spörndly, Animal Nutrition and Management, eva.sporndly@slu.se

### White and red clover seed – increased biodiversity improves pollination

Grant (SEK): 1 662 000  
Lars Andersson, Crop Production Ecology, lars.andersson@slu.se

## Formas 2015–2018

### Perennial crops – key components for robust and sustainable production systems?

Grant (SEK): 2 931 000  
Anna Westerbergh, Swedish University of Agricultural Sciences, Plant Biology, anna.westerbergh@slu.se

### Biological control of pathogenic microorganisms in the aquaculture production

Grant (SEK): 2 051 000  
Alyssa Joyce, University of Gothenburg, Biological & Environmental Sciences, alyssa.joyce@bioenv.gu.se

### Encouraging intercropping in Swedish organic farming through participatory research

Grant (SEK): 2 998 000  
Erik Steen Jensen, Swedish University of Agricultural Sciences, Biosystems and Technology, erik.steen.jensen@slu.se

**Multifunctional farming systems – linking plant-plant interactions, insect pest control and wildlife**

Grant (SEK): 6 836 000

Velemir Ninkovic, Swedish University of Agricultural Sciences, Ecology, velemir.ninkovic@slu.se

**Fertilization strategies in organic tomato production**

Grant (SEK): 1 488 000

Birgitta Båth, Swedish University of Agricultural Sciences, Crop Production Ecology, birgitta.bath@slu.se



**Integrated dairy and beef – effects of low-intensity organic cattle production on land use, environment and economy**

Grant (SEK): 3 200 000

Christel Cederberg, Chalmers University of Technology, Energy and Environment, christel.cederberg@chalmers.se

**Digestate a valuable fertilizer in organic production with added value for the environment and the farm**

Grant (SEK): 4 740 000

Eva Salomon, SP Technical Research Institute of Sweden, JTI, eva.salomon@jti.se

**Cost effective support to organic farming to benefit the conservation of biodiversity and ecosystem services**

Grant (SEK): 5 367 000

Henrik Smith, Lund University, Conservation biology, henrik.smith@biol.lu.se

**Antibiotics and antibiotic resistance in organic dairy production**

Grant (SEK): 4 323 000

Ulf Emanuelson, Swedish University of Agricultural Sciences, Clinical Sciences, ulf.emanuelson@slu.se

**Production of organic beef and other ecosystem services by grazing on a mosaic of pasture and forest**

Grant (SEK): 6 447 000

Annemieke Gärdenäs, Swedish University of Agricultural Sciences, Soil and Environment, annemieke.gardenas@slu.se

**Biological control of plant pathogenic nematodes in organic crop production with the nematode parasitic fungus *Clonostachys rosea***

Grant (SEK): 1 610 000

Dan Funk Jensen, Swedish University of Agricultural Sciences, Forest Mycology and Plant Pathology, dan.jensen@slu.se



**Sustainable supply of organic clover seed – a crucial issue for organic agriculture**

Grant (SEK): 6 009 000

Mattias Larsson, Swedish University of Agricultural Sciences, Plant Protection Biology, Mattias.Larsson@slu.se

**Formas 2011–2013**

**Effects of land use change on multifunctionality in agroecosystems: Biodiversity and ecosystem services after transition to organic production**

Grant (SEK): 9 486 000

Jan Bengtsson, Swedish University of Agricultural Sciences, Ecology, jan.bengtsson@slu.se

**Actor Based Life Cycle Assessment – towards green food chains for eco-products**

Grant (SEK): 2 532 000

Birgit Brunklaus, Chalmers University of Technology, Energy and Environment, birgitb@chalmers.se

**Effects of fertilisation through nutrient recycling on soil biological functions and plant nutrient uptake and growth in organic crop production**

Grant (SEK): 3 602 000

Sigrun Dahlin, Swedish University of Agricultural Sciences, Soil and Environment, sigrun.dahlin@slu.se

**Risk factors responsible for development of leg weakness in pigs housed in outdoor organic systems. Studies aimed at clarifying the pathogenesis behind the joint lesions, and find preventive tools**

Grant (SEK): 2 852 000

Stina Ekman, Swedish University of Agricultural Sciences, Biomedical Sciences and Veterinary Public Health, stina.ekman@slu.se

**Viral infections in organic dairy herds – risks, biosecurity and resiliency**

Grant (SEK): 3 150 000

Nils Fall, Swedish University of Agricultural Sciences, Clinical Sciences, nils.fall@slu.se

**FISHWELFARE – Identification of key aspects for ecologically sustainable fish aquaculture under Swedish conditions**

Grant (SEK): 905 000

Björn Frostell, KTH Royal Institute of Technology, Industrial Ecology, frostell@kth.se

**The importance of natural enemy diversity and food-web structure for biological control at organic and conventional farms**

Grant (SEK): 4 264 000

Mattias Jonsson, Swedish University of Agricultural Sciences, Ecology, mattias.jonsson@slu.se





**The role of *Paenibacillus polymyxa* biofilm formation in protection of nursery plantlets against *Pythium* root rot**

Grant (SEK): 1 853 000

Salme Timmusk, Swedish University of Agricultural Sciences, Forest Mycology and Plant Pathology, salme.timmusk@slu.se

**Breeding strategies for organic animal husbandry**

Grant (SEK): 2 605 000

Anna Wallenbeck, Swedish University of Agricultural Sciences, Animals Breeding and Genetics, anna.wallenbeck@slu.se

**Sustainable livestock management with respect to animal transports and production systems: animal welfare and spread of disease**

Grant (SEK): 3 313 000

Uno Wennergren, Linköping University, Physics, Chemistry and Biology, unwen@ifm.liu.se

**Reproduction: the bottleneck in organic pig production – is there a biological management solution?**

Grant (SEK): 3 336 000

Ulf Magnusson, Swedish University of Agricultural Sciences, Clinical Sciences, ulf.magnusson@slu.se

**Cereal leaf microflora in different agricultural production systems – implication for biological control of *Fusarium***

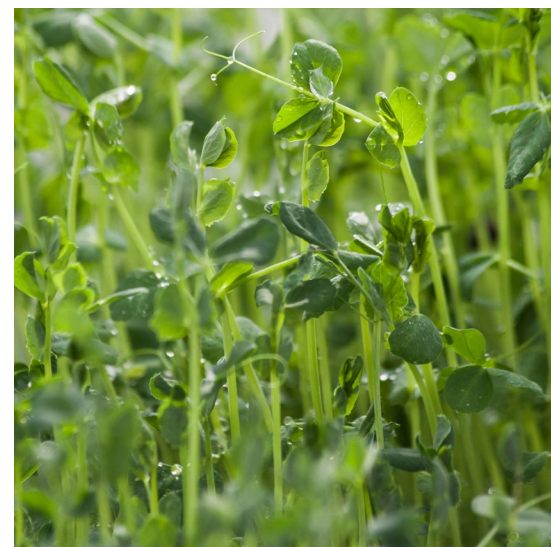
Grant (SEK): 3 765 000

Paula Persson, Swedish University of Agricultural Sciences, Crop Production Ecology, paula.persson@slu.se

**Development of pest management strategies in organic apple production in collaboration with farmers utilizing complementary biological control strategies**

Grant (SEK): 6 190 000

Birgitta Rämert, Swedish University of Agricultural Sciences, Crop Production Ecology, birgitta.ramert@slu.se



**Formas 2008–2010**

**Dormancy in reproductive vegetative buds in creeping perennials dominating the agricultural weed flora in Scandinavia**

Grant (SEK): 3 301 000

Lars Adersson, Swedish University of Agricultural Sciences, Crop Production Ecology, lars.andersson@slu.se

**Biodiversity and ecosystem services after transitions to organic production**

Grant (SEK): 4 575 000

Jan Bengtsson, Swedish University of Agricultural Sciences, Ecology, jan.bengtsson@slu.se

**Pollination and pest control in organic clover seed production – effect of field and landscape diversification**

Grant (SEK): 2 925 000

Riccardo Bommarco, Swedish University of Agricultural Sciences, Ecology, riccardo.bommarco@slu.se

**Predation rate and prey choice by generalist predators on organic farms**

Grant (SEK): 2 321 000

Barbara Ekbom, Swedish University of Agricultural Sciences, Ecology, barbara.ekbom@slu.se

**Exploiting soil microbial activity to enhance nutrient acquisition and sustainable pathogen control**

Grant (SEK): 2 574 000

Roger Finlay, Swedish University of Agricultural Sciences, Forest Mycology and Plant Pathology, roger.finlay@slu.se

**The green farm – an organic farm self-supplying with energy from renewable sources**

Grant (SEK): 3 030 000

Per-Anders Hansson, Swedish University of Agricultural Sciences, Energy and Technology, per-anders.hansson@slu.se

**Phosphorus feeding in organic dairy production**

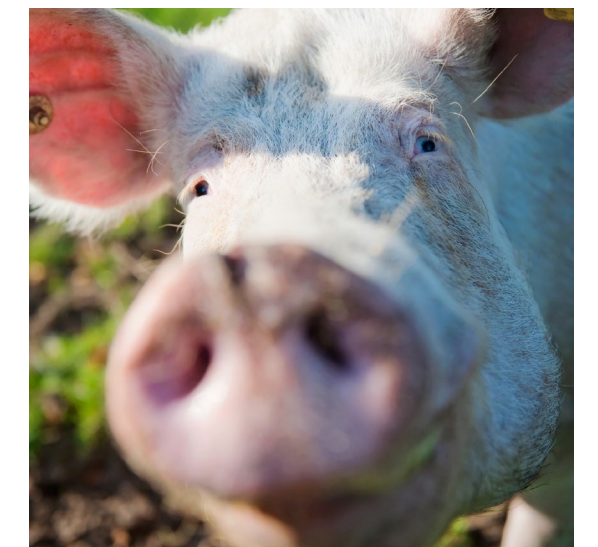
Grant (SEK): 708 000

Kjell Holtenius, Swedish University of Agricultural Sciences, Animal Nutrition and Management, kjell.holtenius@slu.se

**Cropping systems in Organic Vegetable Production: The Behavioural and Chemical Basis of Ecological Processes in Brassica Crops**

Grant (SEK): 4 045 000

Richard Hopkins, Swedish University of Agricultural Sciences, Ecology, richard.hopkins@slu.se





#### Endophytic fungi in forage grasses

Grant (SEK): 2 310 000

Kerstin Huss-Danell, Swedish University of Agricultural Sciences, Agricultural Research for Northern Sweden, kerstin.huss-danell@slu.se

#### Parasite Management in Organic Cattle

Grant (SEK): 3 474 000

Johan Höglund, Swedish University of Agricultural Sciences, Biomedical Sciences and Veterinary Public Health, johan.hoglund@slu.se

#### Supplying organic farming with plant nutrients – resource and environmental aspects in a life cycle perspective

Grant (SEK): 3 405 000

Håkan Jönsson, Swedish University of Agricultural Sciences, Energy and Technology, hakan.jonsson@slu.se

#### Biological Pest Management in Oilseed Rape for Organic Oil Production

Grant (SEK): 6 245 000

Johan Meijer, Swedish University of Agricultural Sciences, Plant Biology & Forest Genetics, johan.meijer@slu.se

#### Utilization of synergies between enhanced biological control through selective biodiversity and targeted crop rotation

Grant (SEK): 3 890 000

Birgitta Rämert, Swedish University of Agricultural Sciences, Crop Production Ecology, birgitta.ramert@slu.se



#### The role of *Paenibacillus polymyxa* biofilm formation in protection of nursery plantlets against *Pythium* root rot

Grant (SEK): 1 853 000

Salme Timmusk, Swedish University of Agricultural Sciences, Forest Mycology and Plant Pathology, salme.timmusk@slu.se

#### Hempseed (*Cannabis sativa*) as a nutritional resource in organic poultry production

Grant (SEK): 1 750 000

Helena Wall, Swedish University of Agricultural Sciences, Animal Nutrition and Management, helena.wall@slu.se

#### Micronutrient management strategies in organic systems: How to utilize local and site specific resources for sustainable crop and animal production of high quality products?

Grant (SEK): 7 995 000

Ingrid Öborn, Swedish University of Agricultural Sciences, Soil Science, ingrid.oborn@slu.se

#### The Swedish Farmers' Foundation for Agricultural Research in cooperation with Formas 2014–2016

(project titles are translated by editor, not confirmed by project leader)

##### Broiler chicken

#### Sustainable production systems for organic chicken meat – Effect of breeding material and production environment on productivity, animal welfare and environmental impact

Grant (SEK): 1 650 000

Anna Wallenbeck, Swedish University of Agricultural Science, Animal Breeding and Genetics, anna.wallenbeck@slu.se

#### Mapping the intestinal health of organic chicken and efficacy of vaccination against coccidiosis

Grant (SEK): 847 000

Désirée Jansson, National Veterinary Institute, desiree.jansson@sva.se



##### Dairy

#### Producing milk with forage and grain only – an organic model that could be economically viable, but does all cows fit?

Grant (SEK): 2 595 000

Rolf Spörndly, Swedish University of Agricultural Science, Department of Animal Nutrition and Management, rolf.sporndly@slu.se

##### Meat

#### Field beans to pork in conventional and organic production – properties and usability of different varieties

Grant (SEK): 1 935 000

Maria Neil, Swedish University of Agricultural Science, maria.neil@slu.se

#### New method for determining virulence of footrot bacteria in sheep

Grant (SEK): 995 000

Erik Eriksson, National Veterinary Institute, erik.eriksson@sva.se



#### Potatoes

##### **Development of late blight resistant potato varieties for the whole of Sweden**

Grant (SEK): 2 000 000

Ulrika Carlson-Nilsson, Swedish University of Agricultural Sciences, Plant Breeding, [ulrika.carlson@slu.se](mailto:ulrika.carlson@slu.se)

#### Horticulture

##### **Development of control strategy against storage diseases in organic apples and pears, a collaborative project**

Grant (SEK): 1 920 000

Marie Olsson, Swedish University of Agricultural Science, Plant Breeding, [marie.olsson@slu.se](mailto:marie.olsson@slu.se)

##### **Control strategies with mini fallow and interval crops against black and green nightshade in an organic crop rotation with potato, carrot and onion**

Grant (SEK): 1 980 000

David Hansson, Swedish University of Agricultural Science, Biosystems and Technology, [david.hansson@slu.se](mailto:david.hansson@slu.se)

##### **Application technique with a focus on biological plant protection**

Grant (SEK): 1 984 000

Klara Löfkvist, JTI – Swedish Institute of Agricultural and Environmental Engineering, [klara.lofkvist@jti.se](mailto:klara.lofkvist@jti.se)

#### Crop production

##### **Variety mixing – a robust cropping system**

Grant (SEK): 2 400 000

Velemir Ninkovic, Swedish University of Agricultural Science, Ecology, [velemir.ninkovic@slu.se](mailto:velemir.ninkovic@slu.se)



##### **Breeding of pea for increased resistance to root rot**

Grant (SEK): 1 250 000

Magnus Karlsson, Swedish University of Agricultural Science, Forest Mycology and Plant Pathology, [magnus.karlsson@slu.se](mailto:magnus.karlsson@slu.se)

##### **Effective utilization of slurry and digestate – Online analysis of manure quality that enables balanced fertilization**

Grant (SEK): 1 071 000

Bo Stenberg, Swedish University of Agricultural Science, Soil and Environment, [bo.stenberg@slu.se](mailto:bo.stenberg@slu.se)

##### **Control of insect pests in clover seed crops with biological methods**

Grant (SEK): 1 766 000

Olle Anderbrandt, Lund University, Biology, [olle.anderbrandt@biol.lu.se](mailto:olle.anderbrandt@biol.lu.se)

##### **Increased harvest and crop safety with optimized distribution of seeds in the row at sowing on 25 cm row spacing**

Grant (SEK): 1 297 000

Per Ståhl, Swedish Rural Economy and Agricultural Societies, [per.stahl@hushallningssallskapet.se](mailto:per.stahl@hushallningssallskapet.se)

#### Business

##### **"You don't get anything for nothing" – how can ecosystem services be included in the farm's sustainability work?**

Grant (SEK): 1 999 000

Christel Cederberg, SIK – the Swedish Institute for Food and Biotechnology, [christel.cederberg@sik.se](mailto:christel.cederberg@sik.se)

### **The Swedish Board of Agriculture 2014 and 2015**

*(project titles are translated by editor, not confirmed by project leader)*

#### Biodiversity

##### **GPS positioning of lapwing nests in ley can streamline nature conservation**

Grant (SEK): 109 000 (2015)

Sofia Kämpe, Agroväst livsmedel, [sofia.kampe@agrovast.se](mailto:sofia.kampe@agrovast.se)

##### **Competition between honeybees and wild pollinators, in which habitats and what time of the season is this a problem**

Grant (SEK): 110 000 (2015-2016)

Magnus Stenmark, Faunistica AB, [magnus.stenmark@faunistica.se](mailto:magnus.stenmark@faunistica.se)

#### Bioenergy

##### **Evaluation of farm-based biogas production - monitoring technology and methane emission issues in established plants**

Grant (SEK): 784 000 (2015)

Sara Nilsson, Swedish Rural Economy and Agricultural Societies, [sara.nilsson@hushallningssallskapet.se](mailto:sara.nilsson@hushallningssallskapet.se)

##### **Measures to minimize GHG emission losses from storage with digested and not digested animal manures**

Grant (SEK): 1 028 000 (2015-2017)

Lena Rodhe, JTI – institute of Agricultural and Environmental Engineering, [lena.rodhe@jti.se](mailto:lena.rodhe@jti.se)

#### Crop production

##### **Sulphur and potassium fertilization to organic clover/grass ley**

Grant (SEK): 114 000 (2015)

Ola Hallin, Swedish Rural Economy and Agricultural Societies, [ola.hallin@hushallningssallskapet.se](mailto:ola.hallin@hushallningssallskapet.se)

##### **Cheaper and better basis for varied liming with a national NIR database**

Grant (SEK): 501 000 (2015)

Johanna Wetterlind, Swedish University of Agricultural Science, Precision Agriculture and Pedometrics Unit, [johanna.wetterlind@slu.se](mailto:johanna.wetterlind@slu.se)

##### **Nitrogen effect of organic fertilizers for spring and winter cereals**

Grant (SEK): 2 307 000 (2012-2015)

Sofia Delin, Swedish University of Agricultural Science, Soil and Environment, [sofia.delin@slu.se](mailto:sofia.delin@slu.se)



**Mini fallow and catch crops – a new strategy against black and green nightshade and free-living nematodes in an organic crop rotation with potato, carrot and onion**

Grant (SEK): 383 000 (2014–2016)

David Hansson, Swedish University of Agricultural Science, Biosystems and Technology, david.hansson@slu.se

**Autumn fertilization in organic timothy seed ley**

Grant (SEK): 1 077 000 (2012–2014)

Eva Stoltz, Swedish Rural Economy and Agricultural Societies, eva.stoltz@hushallingssallskapet.se

**Optimal utilization of nitrogen in the use of organic special fertilizer to winter wheat**

Grant (SEK): 395 050 (2012–2014)

Henrik Nätterlund, Swedish Rural Economy and Agricultural Societies, henrik.natterlund@hushallingssallskapet.se

**EKOKALK: Structure liming for improved soil structure and reduced phosphorus losses in organic farming**

Grant (SEK): 721 000 (2014)

Kerstin Berglund, Swedish University of Agricultural Science, Soil Sciences, kerstin.berglund@slu.se

*Animal husbandry*

**Improved protein quality of local feed materials by heat treatment**

Grant (SEK): 1 467 000 (2012–2014)

Mårten Hetta, Swedish University of Agricultural Science, Agricultural Research for Northern Sweden, marten.hetta@slu.se

*Horticulture*

**Strategy for safe organic tomato production – combined disease control by fertilizer, biofumigation and biological control**

Grant (SEK): 690 000 (2014–2016)

Anna Mårtensson, Swedish University of Agricultural Science, Soil and Environment, anna.martensson@slu.se

**Plant protection in organic raspberry cultivation during extended season**

Grant (SEK): 592 000 (2012–2014)

Birgitta Svensson, Swedish University of Agricultural Science, Biosystems and Technology, birgitta.svensson@slu.se

**Weed control in the early establishment of row-vegetables in organic farming**

Grant (SEK): 1 760 000 (2012–2014)

David Hansson, Swedish University of Agricultural Science, Biosystems and Technology, david.hansson@slu.se

*Crop protection*

**Propagation methods for biological control organisms in field crops**

Grant (SEK): 290 000 (2014–)

Klara Löfkvist, JTI – Swedish Institute of Agricultural and Environmental Engineering, klara.lofkvist@jti.se

**Biological measures for the control of root diseases of strawberry**

Grant (SEK): 470 000 (2014)

Sammar Khalil, Swedish University of Agricultural Science, Biosystems and Technology, sammar.khalil@slu.se

**Biological control of *Acrothecium*-rot in carrots**

Grant (SEK): 1 435 000 (2012–2014)

Margareta Hökeberg, Swedish University of Agricultural Science, Forest Mycology and Plant Pathology, margareta.hokeberg@slu.se

**Control of black grass (*Alopecurus myosuroides* Huds.) through various integrated cultivation measures**

Grant (SEK): 1 001 000 (2012–2014)

Anders TS Nilsson, Swedish University of Agricultural Science, Biosystems and Technology, anders.ts.nilsson@slu.se

**Which barley cultivar mixtures should be grown?**

Grant (SEK): 200 000 (2014)

Velemir Ninkovic, Swedish University of Agricultural Science, Ecology, velemir.ninkovic@slu.se

**CORE Organic Plus 2015–2018 – Projects with Swedish researchers**

**FertilCrop: Fertility building management measures in organic cropping systems**

Coordinator: Andreas Fliessbach, Research Institute of Organic Agriculture (FiBL), Switzerland

Swedish participator: maria.stenberg@slu.se

**ReSolVe: Restoring optimal Soil functionality in degraded areas within organic Vineyards**

Coordinator: Edoardo Costantini, Research Centre for Agrobiological and Pedology, Italy

Swedish participator: anna.martensson@slu.se

**PRODIVA: Crop diversification and weeds**

Coordinator: Bo Melander, Department of Agroecology, Aarhus University, Denmark

Swedish participators: theo.verwijst@slu.se, anneli.lundkvist@slu.se

**ECOORCHARD: Innovative design and management to boost functional biodiversity of organic orchards**

Coordinator: Lene Sigsgaard, UCPH, Denmark

Swedish participator: mario.porcel@slu.se

**PROPara: Tackling the parasitological challenges in organic ruminant farming practices**

Coordinator: Spiridoula Athanasiadou, SRUC, United Kingdom

Swedish participator: johan.hoglund@slu.se

**ORGANICDAIRYHEALTH: Improving animal health and welfare in organic cattle milk production through breeding and management**

Coordinator: Jan Tind Sorensen, Aarhus University, Denmark  
Swedish participator: anna.wallenberg@slu.se

**EcoBerries: Innovative and eco-sustainable processing and packaging for safe, high quality and healthy organic berry products**

Coordinator: Marie Alminger, Chalmers University of Technology, Sweden  
Swedish participators:  
marie.alminger@chalmers.se  
& lilia.ahrne@sp.se

**SusOrganic: Development of quality standards and optimised processing methods for organic produce**

Coordinator: Barbara Sturm, University of Kassel, Germany  
Swedish participator:  
girma.gebresenbet@slu.se



## **CORE Organic II 2011–2013 – Projects with Swedish Researchers**

**COBRA: Coordinating Organic plant Breeding Activities for Diversity**

Coordinator: Principal Researcher Dr Thomas Döring, The Organic Research Centre, United Kingdom.

Swedish participator:  
nils-ove.bertholdsson@slu.se

**Healthy Growth: From niche to volume with integrity and trust**

Coordinator: Associate Professor Egon Noe, Agroecology, Aarhus University, Denmark.

Swedish participator:  
rebecka.milestad@abe.kth.se

**Softpest multitrap: Management of strawberry blossom weevil and European tarnished plant bug in organic strawberry and raspberry using semiochemical traps**

Coordinator: Research Director PhD Atle Wibe, Bioforsk – Organic Food and Farming Division, Norway.

Swedish participator: akbk@kth.se

**HealthyHens: Promoting good health and welfare in European organic laying hens**

Coordinator: Head of department Prof. Dr. Ute Knierim, Department of Farm Animal Behaviour and Husbandry, Faculty of Organic Agricultural Sciences, University of Kassel, Germany.

Swedish participator:  
stefan.gunnarsson@slu.se



**ICOPP: Improved contribution of local feed to support 100 % organic feed supply to pigs and poultry**

Coordinator: Head of research unit John E. Hermansen, Dep. of Agroecology and Environment, Faculty of Agricultural Sciences, University of Aarhus, Denmark.

Swedish participator: maria.neil@slu.se

**SafeOrganic: Restrictive use of antibiotics in organic animal farming – a potential for safer, high quality products with less antibiotic resistant bacteria**

Coordinator: PhD, Research Leader Søren Aabo, Technical University of Denmark, National Food Institute, Denmark.  
Swedish participator: bjorn.bengtsson@sva.se

## **Core Organic I 2008–2010 – Projects with Swedish Researchers**

**COREPIG: A tool to prevent diseases and parasites in organic pig herds**

Coordinator: Tine Rousing Nielsen, University of Aarhus, Faculty of Agricultural Sciences, Dept. of Animal Health, Welfare and Nutrition.

**PHYTOMILK: What makes organic milk healthy?**

Coordinator: Anne-Maj Gustavsson, Swedish University of Agricultural Sciences, Agricultural Research for Northern Sweden.

**PathOrganic: Assessing and reducing risks of pathogen contamination in vegetables**

Coordinator: Doz. Dr. Angela Sessitsch, AIT Austrian Institute of Technology GmbH, Bioresources Unit.





*EPOK – Centre for Organic Food and Farming  
at the Swedish University of Agricultural Sciences  
(SLU) works with collaboration and communication  
within organic agriculture research in a Swedish,  
Nordic and international perspective.*

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