



Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

EPOK – Centre for
Organic Food and Farming

Research on Organic Animal Husbandry in Sweden

– Production and Animal Welfare



Ongoing projects 2012



Introduction

Studies on animal husbandry in the research regarding organic production in Sweden place a high emphasis on animal welfare and adaptation of production systems to local conditions. Rotational clover/grass ley is the most abundant crop due to excellent growing conditions and forms the base in Swedish dairy and beef production. During the growing season, grazing is compulsory for all animals according to the standards of organic production in Sweden. One important resource for researchers in Sweden is the unique data

available from the herd monitoring databases created by Swedish farming organisations. Research on organic production is coordinated by EPOK (Centre for Organic Food and Farming) at the Swedish University of Agricultural Sciences. The main topics of current research in organic animal husbandry are animal health, welfare and breeding and how these factors interact with different feed sources or feeding strategies that have the potential to mitigate environmental effects.

A Swedish Research Agenda on Organic Farming and Food Systems

A Swedish research agenda is being developed by EPOK in an open process together with stakeholders in the food chain, researchers and research funding agencies during 2012.

The research agenda will focus on the main future challenges for developing increased sustainability in organic agriculture and will include specific topics of high relevance for organic agriculture in Sweden and will emphasise the importance of strengthening interdisciplinary research and international cooperation.

The aim of the agenda is to serve as decision support for prioritising topics in research calls

and as a guide for researchers. For around two decades there have been directed research calls towards organic food and farming in Sweden and this research agenda is specifically aimed to be a steering document for coming directed calls.

EPOK – Centre for Organic Food and Farming at The Swedish University of Agricultural Sciences (SLU) is cooperative body between researchers and other parties within the field of organic farming and food chain. EPOK coordinates and initiates research covering a wide range of research topics with relevance for organic farming.

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Ongoing projects

Local feed production

Milk from cereals and high quality herbage only

Funder: SLU Ekoforsk

Total grant (SEK): 754 000

Eva Spörndly, Swedish University of Agricultural Sciences, Department of Animal Nutrition and Management, eva.sporndly@slu.se

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

Funder: SLU Ekoforsk

Total grant (SEK): 2 625 000

Pekka Huhtanen, Swedish University of Agricultural Sciences, Department of Agricultural Research for Northern Sweden, pekka.huhtanen@slu.se

Mussel meal fed to slow- and fast growing broilers

Funder: SLU Ekoforsk

Total grant (SEK): 752 400

Lotta Jönsson, Swedish University of Agricultural Sciences, Department of Animal Nutrition and Management, lotta.jonsson@slu.se

Organic milk – participatory research to investigate the impact of feeding programmes on the quality of organically produced milk

Funder: The Swedish board of Agriculture Grant 2012 (SEK): 270 150

Ritha Jonsson, The County Administrative Board of Västernorrland, ritha.johnsson@lansstyrelsen.se

New crops for 100 % organic feeding of fattening pigs

Funder: The Swedish board of Agriculture Grant 2012 (SEK): 385 000

Anne-Charlotte Olsson, Swedish University of Agricultural Sciences, Department of Rural Buildings and Animal Husbandry, anne-charlotte.olsson@slu.se

100 percent organic poultry feedstuff

Funder: The Swedish board of Agriculture Grant 2012 (SEK): 615 000

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

100 percent organic fodder to poultry, primary products for proteins and animal welfare

Funder: The Swedish board of Agriculture Grant 2012 (SEK): 400 000

Åsa Odelros, Åsa Odelros AB, asa@odelros.se

Feed efficient cows

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant (SEK): 2 600 000

Pekka Huhtanen, Swedish University of Agricultural Sciences, Department of Agricultural Research for Northern Sweden, pekka.huhtanen@slu.se

Ensiling roughages.

Part 1 – Controlling losses

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant 2012 (SEK): 1 730 000

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

Increased utilization of crude protein content in local feed sources by heat treatment

Funder: The Swedish board of Agriculture
Grant 2012 (SEK): 300 000

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

Sustainable animal production by using 100 % locally produced feeds – Planning grant

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant (SEK): 70 000 SEK

Margareta Emanuelson, Swedish University of Agricultural Sciences, Department of Animal Nutrition and Management,
margareta.emanuelson@slu.se

Seeding mixtures with lucerne – homegrown protein in a drier climate

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant (SEK): 1 940 000

Bodil Frankow-Lindberg, Swedish University of Agricultural Sciences, Department of Crop Production Ecology,
bodil.frankow-lindberg@slu.se

Intercropping maize with faba beans improves protein content in silage and reduces weed problems in organic farming

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant (SEK): 950 000

Eva Stoltz, HS Konsult AB,
eva.stoltz@hushallningsallskapet.se

Protein feeds for Swedish lamb production

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant (SEK): 200 000

Gun Bernes, Swedish University of Agricultural Sciences, Department of Agricultural Research for Northern Sweden, gun.bernes@slu.se

White-flowering faba beans

(*Vicia faba*) in sow diets

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant (SEK): 1 100 000

Maria Neil, Swedish University of Agricultural Sciences, Department of Animal Nutrition and Management, maria.neil@slu.se

Complete feed with ley crops to growing/finishing pigs – a possibility to use local feed resources for improved animal welfare?

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant (SEK): 995 000

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

Locally produced protein feed stuffs for calves – part 2

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant (SEK): 1 490 000

Birgitta Johansson, Swedish University of Agricultural Sciences, Department of Animal Environment and Health, birgitta.johansson@slu.se

Cold-pressed rapeseed cake and rapeseed to dairy cows – milk production and business economics

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant (SEK): 840 000

Birgitta Johansson, Swedish University of Agricultural Sciences, Department of Animal Environment and Health, birgitta.johansson@slu.se

Shallow injection of slurry in grassland – saves nitrogen, but when will it be utilised by the crop?

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant (SEK): 440 000

Lena Rodhe, JTI – Swedish Institute of Agricultural and Environmental Engineering, lena.rodhe@jti.se

Greenhouse gases (methane and nitrous oxide) during storage and after application of dairy cattle slurry, digested or non-digested – Swedish and Danish conditions

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant (SEK): 1 800 000

Lena Rodhe, JTI – Swedish Institute of Agricultural and Environmental Engineering, lena.rodhe@jti.se

How to increase production of beans and peas by using modern technique for seeding and harvesting

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant (SEK): 900 000

Fredrik Fogelberg, JTI – Swedish Institute of Agricultural and Environmental Engineering, fredrik.fogelberg@jti.se

Exclusive use of locally produced feed – optimised, cost-effective feed with communication of motives to consumers

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant (SEK): 864 000

Anders H Gustafsson, Swedish Dairy Association, anders.h.gustafsson@svenskmjolk.se

Swedish soya bean production for domestic supply of protein fodder

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant (SEK): 600 000

Fredrik Fogelberg, JTI – Swedish Institute of Agricultural and Environmental Engineering, fredrik.fogelberg@jti.se

Yield, quality, persistence and economy of frequently harvested leys

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant (SEK): 1 111 000

Bodil Frankow-Lindberg, Swedish University of Agricultural Sciences, Department of Crop Production Ecology, bodil.frankow-lindberg@slu.se

Swedish grown protein in feed to broiler chickens

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant (SEK): 300 000

Maria Eriksson, Swedish University of Agricultural Sciences, Department of Animal Nutrition and Management, maria.eriksson@slu.se

Optimized combination of legume silage and other locally produced protein feed stuffs to dairy calves

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant (SEK): 290 000

Birgitta Johansson, Swedish University of Agricultural Sciences, Department of Animal Environment and Health, birgitta.johansson@slu.se

Improved utilisation of protein in the dairy production for a better environment and economy

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant (SEK): 870 000

Pekka Huhtanen, Swedish University of Agricultural Sciences, Department of Agricultural Research for Northern Sweden, pekka.huhtanen@slu.se

Milk round II – Integrated logistics for locally produced food

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant (SEK): 600 000

Ljungberg David, Swedish University of Agricultural Sciences, Department of Energy and Technology, david.ljungberg@slu.se

Sustainable recruitment gilts – feed allowance and lysine levels in the feed during the growing period.

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant (SEK): 1 030 000

Maria Neil, Swedish University of Agricultural Sciences, Department of Animal Nutrition and Management, maria.neil@slu.se

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

Funder: Core Organic II and national funders
Swedish contact: Kristina Andersson, Department of Animal Nutrition and Management, kristina.andersson@slu.se

Grazing, outdoor management and animal welfare

Vitamins in organically grown ley leguminous plants and grasses

Funder: The Swedish board of Agriculture
Grant 2012 (SEK): 100 000
Elisabet Nadeau, Swedish University of Agricultural Sciences, Department of Animal Environment and Health, elisabet.nadeau@slu.se

Investigation of the unexplained portion of forages

Funder: The Swedish Farmers' Foundation for Agricultural Research
Total grant (SEK): 350 000
Peter Udén, Swedish University of Agricultural Sciences, Department of Animal Nutrition and Management, peter.uden@slu.se

Erysipelas – why are organic laying hen flocks affected

Funder: SLU Ekoforsk
Total grant (SEK): 140 000
Claes Fellström, Swedish University of Agricultural Sciences, Department of Clinical Sciences, claes.fellstrom@slu.se

Roundworm infection – pathways on organic laying hen farms

Funder: SLU Ekoforsk
Total grant (SEK): 1 094 000
Johan Höglund, Swedish University of Agricultural Sciences, Department of Biomedical Sciences and Veterinary Public Health, johan.hoglund@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

Funder: Formas
Total grant (SEK): 2 852 000
Stina Ekman, Swedish University of Agricultural Sciences, Department of Biomedical Sciences and Veterinary Public Health, stina.ekman@slu.se

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

Funder: Formas
Total grant (SEK): 3 150 000
Nils Fall, Swedish University of Agricultural Sciences, Department of Clinical Sciences, nils.fall@slu.se

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

Funder: Formas
Total grant (SEK): 3 313 000
Uno Wennergren, Linköping University, Physics, Chemistry and Biology, unwen@ifm.liu.se

Withstanding trampling – Establishment of resistant leys and protection of especially exposed surfaces

Funder: The Swedish Farmers' Foundation for Agricultural Research
Total grant (SEK): 970 000
Eva Spörndly, Swedish University of Agricultural Sciences, Department of Animal Nutrition and Management, eva.sporndly@slu.se

Mapping of *Ascaridia galli* at Swedish poultry farms

Funder: The Swedish board of Agriculture
Total grant (SEK): 275 000
Johan Höglund, Swedish University of Agricultural Sciences, Biomedical Sciences and Veterinary Public Health, johan.hoglund@slu.se

Studies on the immune response to the cattle lungworm *Dictyocaulus viviparus*

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant (SEK): 165 800

Anna Lundén, Swedish University of Agricultural Sciences, Department of Biomedical Sciences and Veterinary Public Health, anna.lunden@slu.se

Development of vaccines against coccidiosis in broilers

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant (SEK): 750 000

Eva Wattring, National Veterinary Institute – SVA, eva.wattring@sva.se

Epidemiological studies of fasciolosis in Sweden

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant (SEK): 700 000

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

Influence of shadow during the grazing period on dairy cattle welfare. Effect of the length of the grazing period on hoof health.

Funder: The Swedish board of Agriculture
Total grant (SEK): 802 000

Per Petz Nilsen, Swedish University of Agricultural Sciences, Department of Animal Environment and health, per.peetz.nielsen@slu.se

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

Funder: SLU Ekoforsk

Total grant (SEK): 1 137 000

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

Breeding strategies for organic animal husbandry

Funder: Formas

Total grant (SEK): 2 605 000

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

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

Funder: Formas

Total grant (SEK): 3 336 000

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

Automatic fastening for cattle – evaluation of full-scale prototype

Funder: The Swedish board of Agriculture
Grant 2012 (SEK): 350 000

Kristina Lindgren, JTI – Swedish Institute of Agricultural and Environmental Engineering, kristina.lindgren@jti.se

Practical solutions to enable rich amounts of straw at farrowing

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant (SEK): 690 000

Helena Elmquist, Svenskt Sigill Kvalitetssystem AB, helena.elmquist@sigill.lrf.se

Why is longevity not increasing in Swedish dairy cows?

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant (SEK): 670 000

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

**Methods of pain relief
at castration of male piglets**

Funder: The Swedish board of Agriculture

Total grant (SEK): 600 000

Nils Lundeheim, Swedish University of Agricultural Sciences, Department of Animal Genetics, Nils.Lundeheim@slu.se

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

Funder: Core Organic II and national funders

Swedish contact: Stefan Gunnarsson, Swedish University of Agricultural Sciences, Department of Animal Environment and Health, Stefan.Gunnarsson@slu.se

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

Funder: Core Organic II and national funders

Swedish contact: Björn Bengtsson, Statens veterinärmedicinska anstalt (SVA)

Potential net reductions of greenhouse gas emissions from land use for livestock feed production

Funder: The Swedish Farmers' Foundation for Agricultural Research

Total grant (SEK): 900 000

Stefan Wirsenius, Chalmers University of Technology, stefan.wirsenius@chalmers.se

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

Funder: Formas

Total grant (SEK): 905 000

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