Research on Organic Animal Husbandry in Sweden
– Production and Animal Welfare

Ongoing projects 2012
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.
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@lansstyrelsens.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@hushallningssallskapet.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 viviparous
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 Wattrang, National Veterinary Institute – SVA, eva.wattrang@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.emanuelson@slu.se
Methods of pain relief at castration of male piglets
Funder: The Swedish board of Agriculture
Total grant (SEK): 600 000
Nils Lundéheim, 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
Björn Frostell, KTH Royal Institute of Technology, Industrial Ecology, Frostell@kth.se