With a grant from the Swedish government, SLU established the Centre for Biological Control (CBC) in late autumn 2011. CBC, which is focused on pest control with living organisms, will contribute to a sustainable use of biological resources. Five researchers associated with the centre conduct research that aims to stimulate the development and application of biological control, in close collaboration with stakeholders. During 2011-2012 the centre has been established as a competence driven actor in biological control, both nationally and internationally. Around 15 researchers from SLU are part of the centre. Here we present a brief overview of our activities during the first years of activity for the centre.

**Centre for Biological Control (CBC)**

**Highlights of 2011 & 2012**

**Biological control?**

Biological control is a collective term for various strategies to inhibit pests and diseases with living organisms and is an important component of integrated pest management. Biological control has a great potential to restrict the damage caused by harmful organisms like insects, plant pathogens and other pests.

**A New Centre is Formed**

Five scientists has been recruited for five identified key areas for CBC; fungi, formulation and stabilization, bacteria, insects and arachnids and safety and regulations.

**Mattias Jonsson** is specialised in insects and arachnids for biocontrol. His research is mainly focused on conservation biological control of invertebrate pests in agroecosystems.

**Sebastian Håkansson**’s areas of interest are that of long-term stabilization of microorganisms and life in the dry state, anhydrobiosis. At the CBC Sebastian’s special focus is both formulation and stabilisation of beneficial microorganisms.

**Margareta Hökeberg**’s research area concerns bacteria for biological control. She has, for many years, worked with biological seed treatment with bacteria. Her current interest is also how to use combinations of different biocontrol agents and combining biocontrol with other control measures for sustainable disease control.

**Ingvar Sundh** works with issues related to safety and regulatory measures. He focuses on strategies to determine that a biocontrol agent has no unacceptable adverse effects in humans, non-target organisms in agriculture and forestry, and the general environment.

**Hanna Friberg** works on fungi in biocontrol. She focuses on plant pathogenic fungi causing disease in agricultural crops - how they can be managed without chemical control and how different cultural practices influence their abundance and activity.

From the left: Mattias Jonsson, Sebastian Håkansson, Margareta Hökeberg (Director of CBC), Ingvar Sundh (deputy director of CBC) and Hanna Friberg.
Towards Integrated Biological Control
- Inauguration Symposium at Ultuna

The symposium gave insights to how Swedish farmers and advisors are viewing biological control and which problems must be solved to increase the use of biological control. Several interesting international research projects were also presented.

One important point that most speakers emphasized was the difficulties to get microbial pesticides registered and approved. Within the EU, chemical and microbial pesticides are assessed within the same regulatory framework (EU Regulation 1107/2009), which inhibits the development.

– We are really happy to have so many international participants at the symposium and such a broad coverage of different aspects of biological control. This was an excellent start for CBC, says Director Margareta Hökeberg.

Director Margareta Hökeberg and Stefan Källman (Ministry for Rural Affairs) were happy when they inaugurated CBC.

Mingle before the dinner at Loftet. Ingvar Sundh, Mattias Jonsson (both CBC) and Anneli Widenfalk (Swedish National Food Agency).

Sunita Hallgren (LRF) in discussion with Johan Schnurter (Deputy Vice-Chancellor at SLU and steering committee chair of the CBC).

Dinner at Loftet. From left: Tahsein Amein (SLU), Mariann Wikström (Plant pathology consultant) and Per Widen (Lantmännen BioAgri).

The symposia ended with a panel discussion. From the left: David Cary (CEO, International Biocontrol Manufacturers’ Association), Kersti Gustafsson (scientific advisor, Swedish Chemicals Agency), Felix Wäckers (Director FoU, Biobest) and Mark Goettel (Agriculture & Agri-Food Canada).

SLU researchers among grass and pests

Ingvar Sundh was interviewed in a radio program about biological control of weeds on Radio P4 Uppland on the 3rd of May.

– You need to find their natural enemies, says Ingvar to Radio P4 Uppland.

Listen to the radio show (in Swedish).

Ingvar Sundh. Photo: Klara Klintbo Skilje/SR
Can different agricultural production system have implications for biological control of fungi?

Fungi within the genus *Fusarium* cause severe economic losses in cereal production throughout the world. Several studies have recently shown lower levels of *Fusarium* produced mycotoxins in organically produced cereals than conventional production.

In this project CBC will investigate the possibility that this difference is caused by a more intense competition from microorganisms colonizing the plant surface. These may act as a natural biological control in organic production systems. The results will be a contribution to serve as a base for *Fusarium* control programs based on designing production systems that give the best potential for *Fusarium* biological control. The project is carried out in collaboration with French researchers from INRA.

CBC arranges Theme Day for Stakeholders in Alnarp

CBC arranged, in collaboration with “Area Plant Protection Biology”, “Partnership Alnarp” and the Swedish Board of Agriculture, a well-attended theme day on biological control at the SLU campus in Alnarp on November 1.

The meeting “Biological Control and its role in integrated pest management” was specially aimed at stakeholders and had over 100 participants.

Highlights of the day included Geoff Gurr, keynote speaker from Australia, who showed results suggesting that biological control can be just as effective as chemicals.

Representatives from the Swedish Chemicals Agency talked about the process of getting biological control methods registered. The Swedish Board of Agriculture reported progress with implementation of IPM. In addition, current research on both horticultural and agricultural crops was presented.

International Work and Collaborations

CBC researchers have participated in several IPM (Integrated Pest Management) meetings nationally and internationally.

The centre has been presented and its’ research at international conferences where many new contacts have been coupled to our work in for example South Korea, Denmark, Estonia and France.

In 2012, CBC has acquired two new international duties: A membership of the EFSA (European Food Safety Authority, Parma, Italy) scientific panel “Plant Protection Products and their Residues” and participation in the planning group for the research programme Humid Tropics which is led by the International Institute of Tropical Agriculture, Ibadan, Nigeria.