



Swedish University of
Agricultural Sciences

Mini-Symposium

“Diversifying Agriculture - Impacts on Crop Production and Ecosystem Services”

We welcome you to an open mini-symposium on how diversifying agriculture affects crop production and related ecosystem services.

When: 9.00 - 12.00 Friday 15 January 2016.

Where: Swedish University of Agricultural Sciences (SLU), Campus Ultuna, Ulls hus, Sal S.

Why: Diversifying cropping systems is often heralded as a way to make food and bioenergy production more sustainable and maintain high and stable crop yields while reducing negative impacts on the climate, environment and biodiversity.

Diverse agriculture is suggested to be resource use efficient and less dependent on external inputs, such as mineral nutrients and pesticides, since it is proposed to bolster biological processes generated within the agroecosystem that support yield and related ecosystem services such as nutrient cycling, pollination and biological pest control.

But what is the actual evidence for this? World-leading researchers in ecology and agronomy will highlight what we know and don't know about it, and when diversified agriculture does support yields and related ecosystem services below and above ground.

Talks:

“Pollinators as ambassadors for diversified farming systems” *Prof. Claire Kremen, University of California, Berkeley, USA*

“Soil biodiversity, sustainability and ecological intensification” *Prof. Dr. Marcel van der Heijden, Agroscope, Zürich, Switzerland*

“Cropping system diversification in the U.S. Corn Belt for enhanced performance and resilience” *Prof. Matt Liebman, Iowa State University, USA*

“What we know and don't know about Agricultural Diversification” *Dr. Thomas Wanger, Swedish University of Agricultural Sciences, Sweden*

Organisers: Sara Hallin, SLU Sara.Hallin@slu.se
Riccardo Bommarco, SLU Riccardo.Bommarco@slu.se

Funding: FORMAS (www.formas.se)

Who:

Claire Kremen is Professor in the Department of Environmental Science, Policy and Management at University of California, Berkeley. She is an ecologist focusing on the nexus between sustainable agriculture, conservation of biodiversity and ecosystem services. Her current research focuses on exploring the ecological, social and economic benefits, costs and barriers to adoption of diversified farming systems, and on restoring pollination and pest control services in intensively farmed landscapes in California, using both predictive modeling and field studies in a variety of cropping systems, including melons, sunflower, almond, strawberries, broccoli and tomato. Her work reaches from theory to practice and includes hands-on conservation action such as, for example, the scientific design and establishment of a network of protected areas to protect Madagascar's endemic flora and fauna. In 2007, she was awarded the MacArthur Foundation Fellowship for her contributions to ecology, agriculture and biodiversity, and in 2013 she was elected to the California Academy of Sciences. She co-directs the Center for Diversified Farming Systems and the Berkeley Food Institute at the University of California. <http://nature.berkeley.edu/kremenlab/>

Prof. Dr. Marcel van der Heijden, is an ecologist and agronomist, heading the plant-soil-interactions group at the Swiss federal research institute Agroscope. He is also Professor at the University of Utrecht and the University of Zurich. His research showed that plant symbionts play a key role in ecosystems and regulate biodiversity, plant productivity and ecosystem functioning. His current research interests include: (1) the impact of microbial symbionts (mycorrhizal fungi, nitrogen fixing bacteria) and microbial diversity on plant productivity, nutrient cycling and ecosystem functioning, (2) the significance of soil biodiversity for sustainable agriculture and ecosystem functioning, (3) development of sustainable farming systems.

<http://www.uu.nl/en/research/plant-microbe-interactions/marcel-van-der-heijden>

Matt Liebman is a Professor of agronomy and the H.A. Wallace Chair for Sustainable Agriculture at Iowa State University. He received an A.B. in biological sciences from Harvard in 1978 and a Ph.D. in botany from the University of California-Berkeley in 1986. Before joining the ISU faculty in 1998, Matt worked at the University of Maine for 11 years. He became a fellow of the American Society of Agronomy in 2009 and was a member of the National Academies committee that produced the 2015 report titled "A Framework for Assessing Effects of the Food System". His research, teaching, and outreach activities focus on ways to improve environmental quality and agricultural productivity while reducing dependence on agrichemicals and fossil fuels. Specific interests include diversified cropping systems, weed ecology and management, and the use of native prairie species for soil, water, and wildlife conservation and biofuel production. Matt is a member of the board of directors for Wheatsfield Cooperative Grocery in Ames, Iowa, which has 65 employees and more than 5,000 owner-members. <https://www.agron.iastate.edu/personnel/userspage.aspx?id=646>

Dr. Tom Wanger is a quantitative and experimental ecologist, broadly interested in the interactions between different land-use types, biodiversity, and ecosystem services in temperate and tropical systems. As a PostDoc at SLU, he is working on a broad overview of what we know and don't know about agricultural diversification. Tom is also involved in a project on diversification of cocoa agroforestry systems to facilitate ecosystem services in Indonesia and Ghana. Recently, Tom also developed an interest in the multi-stakeholder issues around trophy hunting in Africa. Before coming to Sweden, Tom worked in Germany and the US as a PostDoc and did his PhD on biodiversity conservation issues in cocoa agroforestry systems in Australia and Singapore.

<http://www.slu.se/en/departments/ecology/personal-webbpages/-wanger-thomas-cherico/>
