

## CV – Lena Engström

### **Personal information**

Born 1959 06 02 in Umeå, Sweden. Home address: Backgården 5, Öttum, 53592 Kvänum, Sweden.

### **Working address**

Swedish University of Agricultural Sciences  
Department of Soil and Environment  
PO Box 234, SE-532 23 Skara

Telephone: +46 511 67274, Fax +46 511 67134

E-mail: [lena.engstrom@slu.se](mailto:lengstrom@slu.se)

### **Higher education qualification(s)**

Master of science (M sc) in Agriculture 5 October 1995 at Swedish University of Agricultural Sciences (SLU), Uppsala, Sweden. Thesis work: *Inducerat försvar mot bladlöss i havreplantor. Induced defence in oat plants against aphids.*

### **Doctoral degree**

Doctor of Philosophy in Agriculture 10 January 2011 at Swedish University of Agricultural Sciences (SLU). Subject: Soil science especially soil fertility and plant nutrition. Title of dissertation: Nitrogen dynamics in crop sequences with winter oilseed rape and winter wheat. Supervisor: Börje Lindén/Bo Stenberg.

### **Current position**

At the Division of Precision Agriculture and Pedometrics, Department of Soil and Environment, SLU, Skara. Research assistant, April 1997 to September 2018. Researcher from october2018.

### **Previous positions and periods of appointment**

- Farm adviser at County administrative board of Västra Götaland, Vänersborg from January to June 1995.
- Farm adviser for traditional and organic farms at Skaraborgsläns hushållningssällskap (the Rural Economy and Agricultural Society of Skaraborg) from July 1995 to April 1997.

## Supervision

Main supervisor for agronomy student (soil/plant) Henrik Roth writing his exam work/thesis (30 hp) at the Dep. of Soil and Environment 2019. Title of thesis: Nitrogen demand in different winter wheat varieties 2016-2018, p. 41.

Main supervisor for Maja Brisman, a BYS student (Agrotekniker) at a two year non-university post high school education, part of the Biological Higher Vocational Education (eftergymnasial yrkesutbildning), at Uddetorp lantbruksskola 2019. Title of thesis: Tre skördedatum och tio timotejsorter, p. 14.

Main supervisor for agronomy student (soil/plant) Annika Nilsson writing her exam work/thesis (30 hp) at the Dep. of Soil and Environment 2016. Title of thesis: Effects of nitrogen fertilization strategies on yield and yield components 2013-2015, p. 38.

Assistant supervisor for agronomy student Ola Sixtensson (30hp) at the Dep. of Soil and Environment 2006. Title of thesis: Nitrogen in soil and plant from sowing to harvest during cultivation of winter oilseed rape (*Brassica napus* L.), p. 62.

## Other information

Teaching experiences:

Five week course in "Precision agriculture" for Agrotekniker (BYS-students), a two year non-university post high school education, part of the Biological Higher Vocational Education (eftergymnasial yrkesutbildning).

Single lectures about "Production biology of cereals" in courses for BYS-students given yearly since 2000 (SLU, Skara).

Guiding and planning the yearly field trip for agronomy students at the course "Marken i odlingen" SLU, Uppsala, 2010-2019.

Lectures at a post-graduate courses on "Sustainable ruminant production systems" October 27-31, 2008 and a Nordic post-graduate course on "Sustainable beef and lamb production systems in an international perspective – NOVA2" April 22-26, 2013 (lectures and group discussions).

Presentations of results from finished or ongoing research projects are done yearly at several regional "Crop production" meetings and conferences.

## Publications

### Peer-reviewed original articles

**Engström, L.**, Stenberg, M., Wallenhammar, A.C., Gruvaeus, I., Ståhl, P. 2014. Organic winter oilseed rape response to N fertilisation as affected by preceding crop. *Field Crops Research* 167, 94-101.

Stenberg, M., **Engström, L.**, Wallenhammar, A.C., Gruvaeus, I., Lööf, P.J. 2013. Nitrogen management strategies in organic winter oilseed rape (*Brassica napus* L.) production. *Organic Agriculture*, 3, 71-82. DOI 10.1007/s13165-013-0044-0. Number of citations (1).

**Engström, L., Lindén, B.** 2011. Temporal course of net N mineralisation-immobilisation in topsoil during autumn and winter following incorporation of crop residues of winter oilseed rape, peas and oats in a northern climate. *Soil Use and Management* 28, 436-447. Number of citations (1).

**Engström, L., Stenberg, M., Aronsson, H., Lindén, B.** 2010. Reducing nitrate leaching after winter oilseed rape and peas in mild and cold winters. *Agron Sust Develop* 31, 337-347. Number of citations (10).

Delin, S., **Engström, L.**, 2010. Timing of organic fertiliser application to synchronise nitrogen supply with crop demand. *Acta Agr. Scand. B–SP* 60, 78-88. Number of citations (6).

**Engström, L., Bergkvist, G.** 2009. The effects of three N strategies on tillering and yield of low shoot density winter wheat. *Acta Agriculturae Scandinavica Section B – Soil and Plant Science* 59, 536-543. Number of citations (4).

**Engström, L., Lindén, B.,** 2009. Importance of soil mineral N in early spring and subsequent net N mineralisation for winter wheat following winter oilseed rape and peas in a milder climate. *Acta Agriculturae Scandinavica, Section B – Plant Soil Science* 59: 402-413. Number of citations (5).

#### Peer-reviewed conference contributions

**Engström, L., Delin S.** 2018. Impact of broadcasting and incorporation of meat bone meal pellets. Proceedings of the 20<sup>th</sup> Nitrogen Workshop. Coupling C-N-P-S cycles. 25-27 June 2018. Renne, France.

**Engström, L., Wetterlind, J., Söderström, M., Piikki, K., Stenberg, B.** 2018. Decision support tools for spring N fertilisation of winter oilseed rape – estimation of N-uptake in late autumn using UAV. Proceedings of the 20<sup>th</sup> Nitrogen Workshop. Side event: Nutrient management and decisions support systems. Coupling C-N-P-S cycles. 27 June 2018. Renne, France.

**Engström, L., Piikki, K., Wetterlind, J., Söderström, M., Stenberg, B.** 2017. Decision support tools for spring N fertilisation of winter oilseed rape. Proceedings of the 11<sup>th</sup> European conference on Precision Agriculture – Innovating through research. 17-20 July 2017, Edinburg, UK

**Engström, L., Delin S.** 2016. Nitrate leaching under winter oilseed rape as effected by sowing date and early incorporation of slurry. Proceedings of the 19<sup>th</sup> Nitrogen Workshop. Efficient use of different sources of nitrogen in agriculture – from theory to practice. 27-29 July 2016. Skara, Sweden.

**Engström, L., Delin, S.** 2014. Incorporation of organic fertilisers in spring to winter wheat. Proceedings of the 18<sup>th</sup> Nitrogen Workshop. The nitrogen challenge: building a blueprint for nitrogen use efficiency and food security. 30<sup>th</sup> June – 3<sup>rd</sup> July 2014. Lisboa, Portugal. ISBN 978-972-8669-56-0. pp. 77-78.

**Engström, L.** 2012. Optimising the spring N fertilisation rate to winter oilseed rape. In:

Richards, K.G., Fenton, O., Watson, C.J. (Eds). Proceedings of the 17<sup>th</sup> Nitrogen Workshop- Innovations for sustainable use of nitrogen resources. 26<sup>th</sup>-29<sup>th</sup> June 2012, Wexford, Ireland. ISBN 978-1-84170-588-0. pp. 192-193.

**Engström, L.**, Lindén, B., Aronsson, H., Stenberg, M., 2009. Methods to reduce nitrate leaching after winter oilseed rape and peas. Preceedings of the 16<sup>th</sup> Nitrogen Workshop. Connecting different scales of nitrogen use in agriculture. June 28th-July 1st, 2009, Turin, Italy.

**Engström, L.**, Lindén, B., Söderström M., Börjesson, T., Nissen, K., Gruvaeus I., Niklas, L. 2008. Determination of canopy properties of winter oilseed rape using remote sensing – techniques in field experiments. Conference paper for IAMFE Denmark 2008, June 30th – July 3rd 2008.

**Engström, L.**, Stenberg, M., Lindén, B. 2007. Crop sequences with oilseed rape and peas – methods to reduce the risk of N-leaching. Abstracts for the 15<sup>th</sup> Nitrogen Workshop. Towards a better efficiency in N use. Maj 28-30, 2007, Lleida, Spanien.

#### Peer-reviewed books and book chapters

**Engström L.**, Lindén B., Börjesson T., Söderström M., Nissen K., Gruvaeus I., Hagner O., Lorén N. 2009. Determination of canopy properties of winter oilseed rape using remote sensing techniques in field experiments. In: van Henten, E.J., Goense, D. & Lokhorst, C. (eds.). Precision Agriculture '09. Wageningen Academic Publishers. ISBN 978-90-8686-113-2. pp. 113-118.

#### Books and book chapters in Swedish

**Engström, L.**, Delin, S., Bertilsson, G. 2014. Växtnäring. In: Elmquist, H. and Arvidsson, J. (Eds), Höstvete mot nya höjder. Stagnation of winter wheat yields. Rapporter från Jordbearbetningen nr 129. Stockholm, Sweden. pp. 84-102.

#### Reports in Swedish

**Engström, L.**, Lindén, B., Aronsson, H., Stenberg, M, 2008. Höstraps och ärter i växtföljden – metoder att minimera den större N-utlakningsrisken. Sveriges lantbruksuniversitet, Institutionen för mark och miljö, Precisionsodling och pedometri, Skara. Precisionsodling 2008:5.

Delin, S., **Engström, L.** 2008. Kvävemineringsförlopp efter gödsling med olika organiska gödselmedel vid olika tidpunkter. Course of nitrogen mineralisation after application of organic fertilisers at different times of the year. Sveriges lantbruksuniversitet, Institutionen för mark och miljö, Precisionsodling och pedometri, Skara. Precisionsodling 2008:1.

**Engström, L.**, Lindén, B. 2008. Kväveförsörjning i ekologiska odlingssystem med vall - höstraps – vete. N-supply in organic cropping systems with ley – winter oilseed rape – wheat. Avd. för precisionsodling, Institutionen för markvetenskap, Sveriges lantbruksuniversitet, Skara, Rapport 16.

**Engström, L.,** Börjesson, T., Lindèn, B. 2007. Beståndstäthet tidigt på våren i höstvetete – samband med topografi, förrådskalium, skörd, Yara N-sensor- och NIR-mätning Avd. för precisionsodling, Inst. för markvetenskap, Sveriges lantbruksuniversitet, Skara. Precisionsodling Sverige. Teknisk rapport nr 8.

**Engström, L.,** Lindén, B., Roland, J. 2007. Ekologiska demonstrationsodlingar på Lanna försöksstation 1996-2006. Avd. för precisionsodling, Institutionen för markvetenskap, Sveriges lantbruksuniversitet, Skara. Teknisk rapport 5.

#### **Presentations at international conferences and workshops (invited to speak)**

**Engström L.,** Nissen, K. 2015. N leaching and optimal N fertilisation in winter oilseed rape. International Workshop at Thünen Institute, Braunschweig, 4-5march 2015.

<https://www.ti.bund.de/en/ak/news-and-service/reviews-of-conferences-and-workshops/international-workshop-greenhouse-gas-emission-from-oilseed-rape-cropping-and-mitigation-options/>

**Engström, L.,** Stenberg, M., Lindèn, B. 2007. Crop sequences with oilseed rape and peas – methods to reduce the risk of N-leaching. Abstracts for the 15<sup>th</sup> Nitrogen Workshop. Towards a better efficiency in N use. Maj 28-30, 2007, Lleida, Spanien.

**Engström, L.,** Myrbäck, Å., Stenberg, M. 2006. Increased nitrogen utilization by direct drilling of winter wheat after oilseed rape. Conference paper for International conference on soil tillage research, Kiel, August 28 – September 3, 2006.