

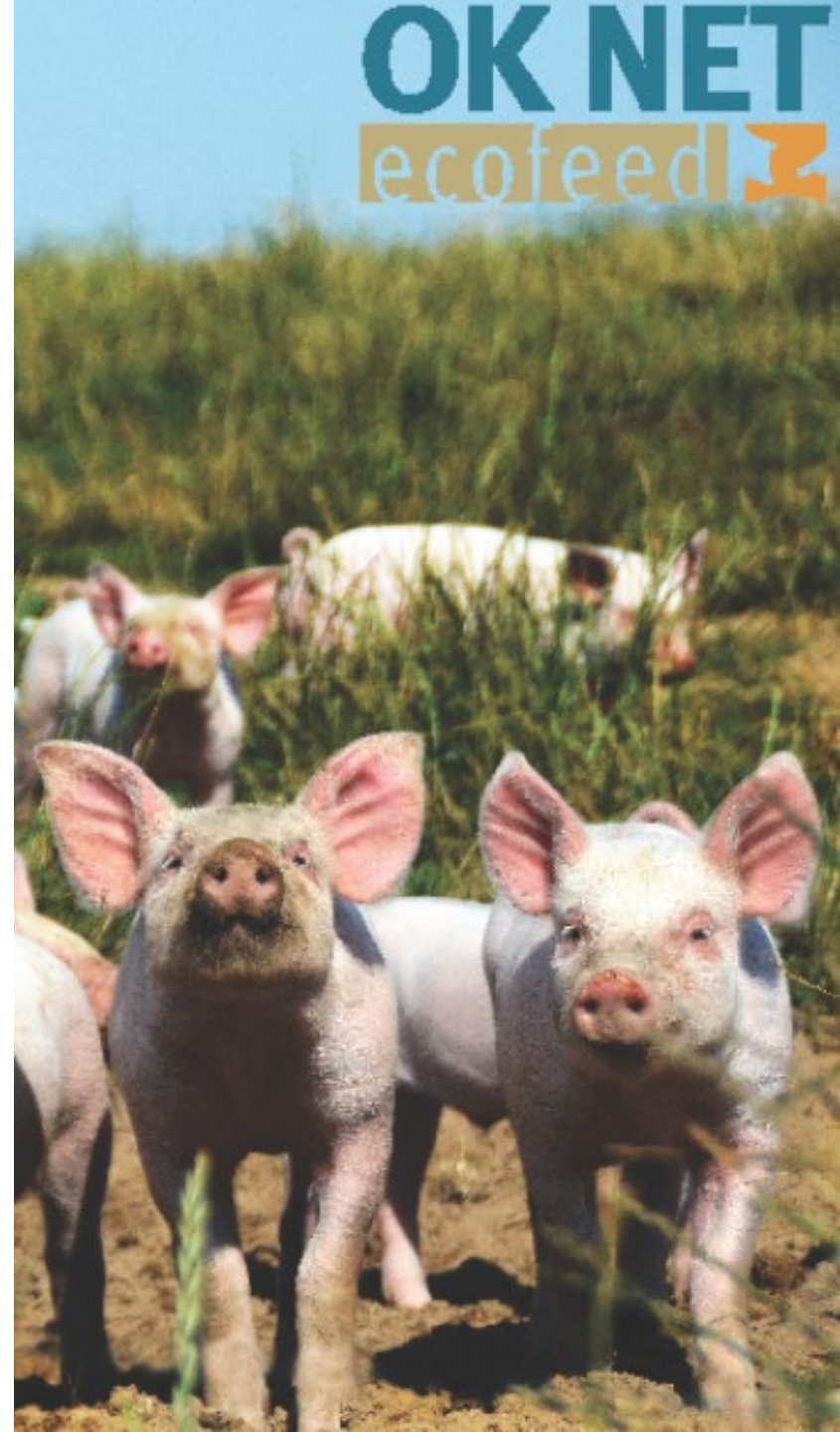


– ett kunskapsnätverk om ekologiskt och regionalt odlat foder till ekologiska grisar och fjäderfä



EKOLOGISK PRODUKTION
OCH KONSUMTION

Hushållnings
sällskapet



OK NET
ecofeed



UNIVERSIDAD DE CORDOBA



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Syfte

- Att hjälpa lantbrukare, uppfödare och avelsföretag och foderindustri att nå målen om 100 procent ekologiskt och regionalt producerat foder till grisar och fjäderfä inom Europa
- Europeisk plattform
 - kunskapsutbyte mellan olika aktörer
 - [Organic Farm Knowledge](#) om foder till enkelmagade djur



Syfte

- Kartlägga kunskapsläge och behov
- Innovationstester
- Ta fram material
 - syntes, videos, faktablad, praktiska guider, foderplaneringsverktyg



Innovations- & Temagrupper

11 Innovationsgrupper

Ekologiska producenter, rådgivare, olika aktörer från industri och bransch

3 Temagrupper

- 1) Gris
- 2) Slaktskyckling
- 3) Värphöns

Innovationsgrupp Scania

- En grupp ekologiska grisproducenter i Skåne och deras rådgivare Ingela Löfquist, foderexperten Malin C. Slåttermann och SLU-forskaren Magdalena Åkerfeldt
- SLU Ekologisk produktion och konsumtion (EPOK) koordinerade den svenska delen



Innovationsgrupp Scania

- Kartläggning av kunskapsläget
 - broschyrer, rådgivningsmaterial, faktablad, videos, presentationer/workshops, syntesarbeten, vetenskapliga publikationer etc.
 - Databas med 110 olika "källor" som ska sammanfatta kunskapsläge, tillgänglig information och nya innovationer
 - Utgångspunkt för diskussioner i innovationsgruppen



Knowledge											
ID	Topic_ID	Keywords	Title	Summary	Type of mat	Authors	Year	Country	Language	Link	
2	Feed	Alfalfa/lucerne	Innovative technology for animal feed rich in	Massai – concept.			2015	France	French, Bulgar	https://ec.europa.eu/food/food/quality/organic/organic_fodder_en	
3	Feed	Peas, Lucerne, etc.	Different research projects on protein source:				2015	Germany	German	http://www.fcrl.de/	
4	Feed	Lucerne, Soya, etc.	Different research projects on protein source:				2015	Germany	German	https://www.ceris.fr/	
5	Feed		Alternative protein sources as substitutes for				2016	Germany	german		
6	Pig	feed prescription, energy/amino acid	Foder till ekologiska grisar	Feeding organic pigs, energy/amino acid	report 5pp		2009	Sweden	Swedish	http://www.gripen.se/	
7	Feed	Roughage, grassing, whole crop, straw	Foder i ekologisk produktion	The report includes the most common	Report 24 pp		2016	Sweden	swedish	https://www2.lantern.se/	
8	Feed	nutritient needs, whole crop, straw, lucerne	Vägen mot 100 procent ekologiskt foder till en	Synthesis report on (at the time) common	Report 46 pp		2005	Sweden	Swedish	https://www.svea.se/	
9	Weaners	feeding trials, growth, soya, amino acid	100% ekologiskt foder til slaktgrisar - ett foder	Feed with 100% organic and Swedish	Fact sheet		2010	Sweden	swedish	https://www.ras.se/	
10	Feed	nutrient content, nutritient needs, whole crop	Foder i ekologisk produktion	The report includes the most common	Report 24 pp		2016	Sweden	swedish	https://www2.lantern.se/	
11	Weaners	amino acid level	Influence of dietary amino acid level on performance	amino acid level in diets for organic	Article 11pp		2007	Sweden	English	https://doi.org/10.1016/j.jas.2007.03.001	
12	Weaners	Digestibility, crude protein, amino acid	Digestibility of amino acids in organically cultivated	oilseed cakes studied (hemp seed cake)	Article 11pp		2011	Sweden	English	https://www.tandfonline.com/doi/abs/10.1080/00036811.2011.584441	
13	Weaners	Faba beans, tannin, pigs, weaners, and amino acid	Åkerböna til gris i konventionell och ekologisk produktion	Faba bean is a viable alternative protein source	report 10pp	Ivarsson, E. & Ivarsson, E.	2017	Sweden	swedish	http://www.lantern.se/	
14	Feed	Faba beans, tannin, pigs, weaners, and amino acid	Variations in nutritional and antinutritional components	Faba bean is a viable alternative protein source	Article 8pp	Ivarsson, E. & Ivarsson, E.	2018	Sweden	Swedish	https://doi.org/10.1016/j.jas.2018.03.001	
15	Feed	local, synthesis report	Improved contribution of local feed to support		Report 94 pp	Jo Smith1, Catli	2014		English		
16	Feed	Insect, cricket					0				
18	Feed	Bellotas/ Acorn (Quercus sp.) Pastos	Foraging of Iberian fattening pigs grazing natural	Grazing time, components of the diet	Article 18pp	V. Rodríguez-Esté	2009	Spain	English	https://bit.ly/2XqZqZq	
19	Feed	Bellotas/ Acorn (Quercus sp.)	Producción de bellota en la dehesa: factores que	State of knowledge.Factors affecting	Article 18 pp	Rodríguez-Esté	2007	Spain	Spanish	https://bit.ly/2XqZqZq	
20	Feed	Bellotas/ Acorn (Quercus sp.)	Dimensiones y características nutritivas de las	Weight, size and nutritional composition			2008	Spain	Spanish	https://bit.ly/2XqZqZq	
21	Feed	Bellotas/ Acorn (Quercus sp.)	Evaluación de la producción y composición de	Ph thesis about acorn production, composition			2011	Spain	Spanish	https://bit.ly/2XqZqZq	
22	Feed	Castaña/ Chestnut (Castanea sativa)	El arbolado y la Patria [The woodland and the	Importance of chestnut and other			1912	Spain	Spanish	https://bit.ly/2XqZqZq	
23	Feed	Several ingredients; i.e. Castaña/ Chestnut	Racionamiento del ganado [Cattle rationing].	Information of different feed resources			1928	Spain	Spanish	https://bit.ly/2XqZqZq	
24	Feed	Castaña/ Chestnut (Castanea sativa)	Caracterización bromatológica de los frutos de	Nutritional composition and characteristics			2016	Spain	Spanish	https://bit.ly/2XqZqZq	
25	Feed	Algarroba/ Carob tree (Ceratoniasiliqua)	Situación y mejora del cultivo del algarrobo, cultivo	Possibilities for intensive cultivation		Joan TOUS MA	2017	Spain	Spanish	https://bit.ly/2XqZqZq	
26	Feed	Algarroba/ Carob (Ceratoniasiliqua)	Effect of including carob pulp in the diet of fattening	Experimental study of feeding pig			2017	Italy	English	https://bit.ly/2XqZqZq	
27	Feed	Algarroba/ Carob tree (Ceratoniasiliqua)	Garrofa 15% humedad [Carob 15% humidity].				2011	Spain	Spanish	https://bit.ly/2XqZqZq	
28	Feed	Algarroba/ Carob tree (Ceratoniasiliqua)	Caracterización morfológica, composición química	Nutritional study of different Spanish			1990	Spain	Spanish	https://bit.ly/2XqZqZq	
29	Feed	Acebuchina/ Wild olive (Olea europaea)	Estudio analítico comparado entre el aceite de	Characterization of the wild olive			2005	Spain	Spanish	https://bit.ly/2XqZqZq	
30	Feed	Pastos/ Pastures Cultivos forrajeros/	Organic growing pigs in pasture systems – effects	Identification of factors affecting	Master thesis	Jakobsen, Malin	2014	Denmark	English	https://bit.ly/2XqZqZq	
31	Feed	Bellotas/ Acorn (Quercus sp.) Pastos	Effects of herbage ingestion on the digestion	Experimental study of Iberian fattening			2007	Spain	English	https://bit.ly/2XqZqZq	
32	Feed	Pastos/ Pastures Cultivos forrajeros/	Forage for swine.			Kenneth B. Keen	2010	USA	English	https://bit.ly/2XqZqZq	
33	Feed	Cultivos forrajeros/ forage crops	Forage plants as an alternative feed resource	Nutritive value of different forage			2014	Belgium	English	https://bit.ly/2XqZqZq	
34	Feed	Alfalfa/ Lucerne (Medicago sativa) H	Cebo de cerdos [Fattening pigs].	Fattening pigs with different natural			1960	Spain	Spanish	https://bit.ly/2XqZqZq	
35	Feed	Alfalfa/ Lucerne (Medicago sativa)	Fattening and slaughtering performance of grower	Lucerne as fodder for organic grower			2017	Germany	English	https://bit.ly/2XqZqZq	
36	Feed	Alfalfa/ Lucerne (Medicago sativa)	Pigs benefit from alfalfa in winter (nutrition).	Lucerne as fodder for pigs			2001	-	English	-	
37	Feed	Alfalfa/ Lucerne (Medicago sativa)	Alimentación de cerdos en crecimiento y engorde	Experimental study using lucerne				Spain	Spanish	https://bit.ly/2XqZqZq	
38	Feed	Alfalfa/ Lucerne (Medicago sativa)	Efectos de la alfalfa fresca en la alimentación	Performance and quality study about			1972	Spain	Spanish	https://bit.ly/2XqZqZq	
39	Feed	Alfalfa/ Lucerne (Medicago sativa)		These Pigs Eat Almost Entirely Hay			2017	-	English	Video: https://www.youtube.com/watch?v=...	
40	Feed	Siembras forrajeras mixtas cereal-leguminosas	Producción y calidad de forraje en mezclas de	Forage production and quality of			2016	Mexico	Spanish/ English	https://bit.ly/2XqZqZq	
41	Feed	Siembras forrajeras mixtas cereal-leguminosas	Veza común [Common vetch].				2010	Spain	Spanish	https://bit.ly/2XqZqZq	
42	Feed	Siembras forrajeras mixtas cereal-leguminosas	Cebada 2C nacional 9,6% PB [Spanish 2 rows b	Composition and nutritive value of			2016	Spain	Spanish	https://bit.ly/2XqZqZq	
43	Feed	Siembras forrajeras mixtas cereal-leguminosas	Cebada 2C nacional 11.3% PB [Spanish 2 rows b	Composition and nutritive value of			2016	Spain	Spanish	https://bit.ly/2XqZqZq	
44	Feed	Diferentes forrajes invernales/ Seve	El Caurel, las plantas y sus habitantes [The Cai	Ethnobotany study about traditional			1996	Spain	Spanish	-	

Innovationsgrupp Scania

- Workshops för att diskutera och ranka olika råvaror och process- eller utfodringstekniker eller strategier
 - Styrkor/möjligheter/svårigheter
 - Kunskaps- eller resursbehov
 - Vägar att gå framåt (goda exempel, innovationer, tankar osv.)
- Välja ut ett antal råvaror och process- eller utfodringstekniker eller strategier intressanta att arbeta vidare med



	Värde	Kostnad	Säkerhet
Värde	5	1	1
Kostnad	5	4	2
Säkerhet	5	4	2



	Värde	Kostnad	Säkerhet	Miljöpåverkan	Resurseffektivitet
Värde	5	4	5	5	5
Kostnad	5	4	5	5	5
Säkerhet	5	4	5	5	5
Miljöpåverkan	5	4	5	5	5
Resurseffektivitet	5	4	5	5	5

Tester

- Ensilage med cikoria till smågrisar för minskad stress och problem med avvänjningsdiarré
- Gräs/klöverensilage som komplementfoder till slaktgrisar med blötutfodring



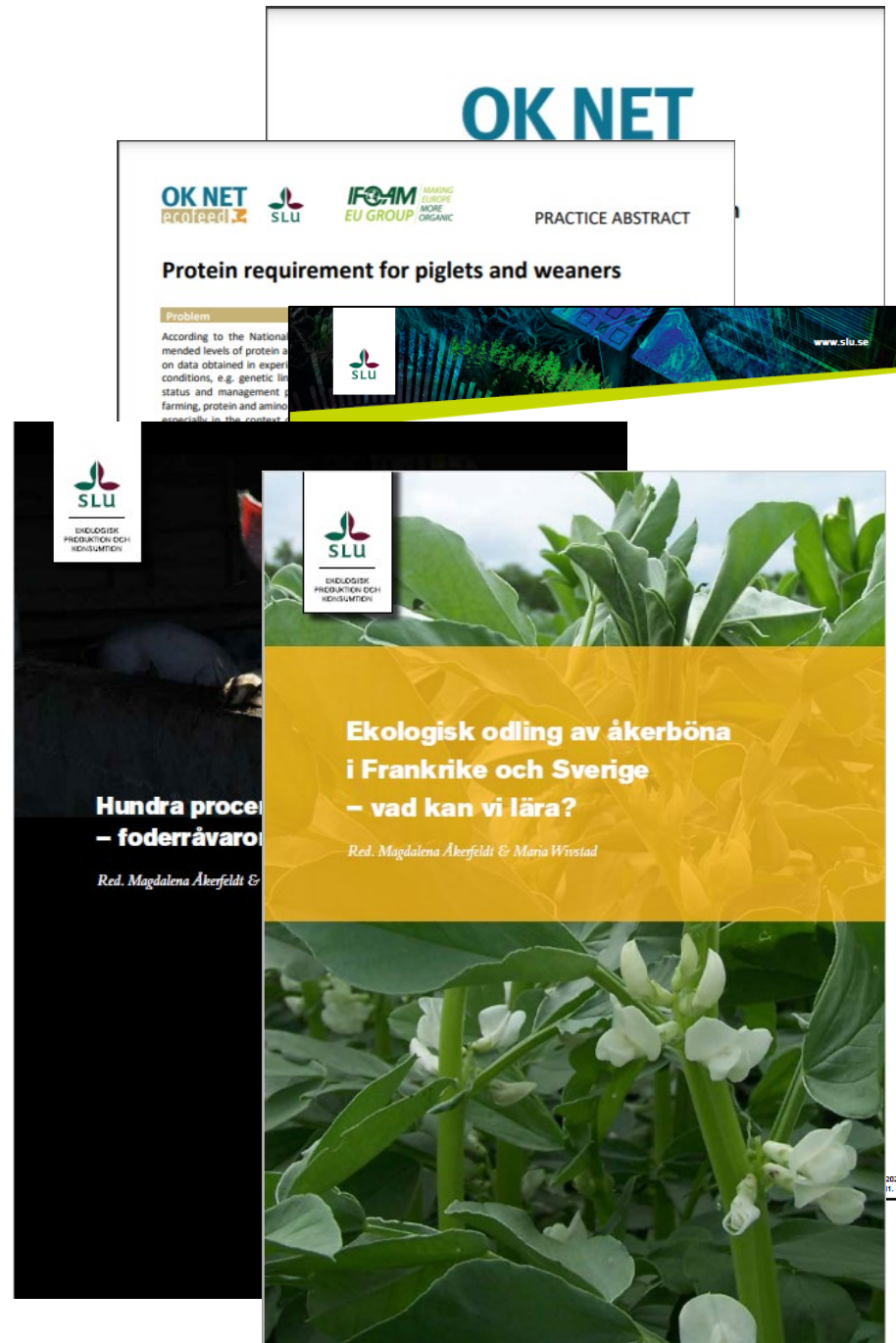
Tester

- Etablering av sommarrovor på betet som kompletterande foder till dräktiga suginor
- Automatisk utfodring av ensilage till grisar



Material

- 1 Kunskapssyntes
- 3 Praktiska guider
- 2 Faktablad
- 2 Skrifter





PROJECT RESULTS OK-NET ECOFEED

V.Ö.P

Verbund Ökologische Praxisforschung



https://organic-farmknowledge.org/fileadmin/Medien/news_events/2021/Results-project-OK-NetEcoFeed.pdf



Försök i projektet

IG	Topic	Try	Challenge	youtube link
Soil Association (UK)	Laying hens	Sprouted vetch and wheat seeds for green fodder	Processing, nutritional value	https://youtu.be/GPC66IDYFIY
	Broilers	Feed potential of clean-out cereals	Nutritional value	https://youtu.be/vzWM0VVDuCw
	Pigs	Heat treatment of field beans on the farm	Processing, nutritional value	https://youtu.be/0QxxjbimLG8
Bioland (DE)	Laying hens	Nettle cultivation and feeding	Cultivation, processing	https://youtu.be/-a2-HCyLXys
	Laying hens	Fine-grained legumes in the chicken run	Cultivation, feeding, nutritional value	https://youtu.be/xeyPFPUJgJc
Ecovalia (ES)	Pigs	Brewer's yeast silage	Processing, feeding	https://www.youtube.com/watch?v=e7tRD3cTyp4
ITAB (FR)	Laying hens	100% organic feed	Feeding, ration planning	https://www.youtube.com/watch?v=_cEkTy-OgjQ
	Broilers	Substitution of soy in feed with regional feedstuffs	Feeding, ration planning	https://www.youtube.com/watch?v=un0epC6c7rw
	Pigs	Protein-rich plants for fattening pigs	Cultivation, feeding	https://www.youtube.com/watch?v=hAhMjzJoXx8

Försök i projektet

IG	Topic	Try	Challenge	youtube link
AIAB (IT)	Laying hens	growing and feeding camelina	Cultivation, feeding	https://www.youtube.com/watch?v=cFjbWN8hJvc&t=10s
AU/ICROFS (DK)	Laying hens	Biorefining of clover grass protein	Processing, feeding, nutritional value	https://youtu.be/d3VWZbCo83c
	Broilers	Effect of lactic acid bacteria on intestinal health	Feeding, animal health	https://youtu.be/qvqBQSUHrWE
Scania/SLU	Pigs	Chicory silage for weaned piglets	Feeding, animal health	https://www.youtube.com/watch?v=zNCyNYp2MxU&feature=youtu.be
	Pigs	Silage feeding with straw bedding	Feeding, animal health	https://youtu.be/Zl2UR5xNHqQ
	Pigs	Silage feeding with liquid feed	Feeding, animal health	https://youtu.be/m1XU-mm9kZ4
	Pigs	Fodder beet for sows	Cultivation, feeding, animal health	https://youtu.be/G6EZLYXUO-0
Danube Soy	Pigs, poultry	Infrared nutritional analysis of processed soybeans	Processing	https://youtu.be/VWC79HqIAXs



3

Particularly relevant trials in other countries



Nettle cultivation and feeding

Published info

- [Video of the experiment](#) (DE + EN)
- [Practice Abstract on cultivation](#) (DE + EN)
- [Practice Abstract on feeding](#) (DE + EN)



A white chicken with a prominent red comb and wattle is standing in a lush green field of clover. The field is densely packed with clover plants, many of which have small, light-colored flowers. The chicken is positioned on the right side of the frame, facing slightly to the left. A semi-transparent text box is overlaid on the bottom left of the image.

4

Experiment with clover varieties
in the chicken run

Trials in Italy



Experiment: Cultivation and feeding of camelina sativa

- Question: How can vegetable protein for monogastric animals be produced locally while increasing diversity in crop rotation and adapting to climate change? Soy should be replaced by regional alternatives.
- To the experiment
 - Feed with 3.5 % camelina sativa expeller and 1.5 % camelina sativa oil.
 - Method/animals: One run with 3,000 laying hens
- Links
 - Practice Abstracts: [Use of organic Camelina in laying hen feed, processing, cultivation](#) (EN)
 - Video [Cultivation, processing and use of camelina for organic layers feed](#)



Image: Cristina Micheloni, AIAB

Var hittar jag information?

- **Organic Farm knowledge** [https://organic-farmknowledge.org/
https://organic-farmknowledge.org/news-events/news/detail/ok-net-ecofeed-project-ends](https://organic-farmknowledge.org/https://organic-farmknowledge.org/news-events/news/detail/ok-net-ecofeed-project-ends)
- OK NET Ecofeed <https://ok-net-ecofeed.eu/>
- SLU Ekologisk produktion och konsumtion (EPOK)
<https://www.slu.se/centrumbildningar-och-projekt/epok-centrum-for-ekologisk-produktion-och-konsumtion/publikationer/faktablad/ok-net-ecofeed/>

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