



Organic Knowledge Network on Monogastric Animal Feed OK-Net EcoFeed

Fact sheets

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Author(s)	<i>Helga Willer, Andreas Basler, Ambra De Simone, Bram Moeskops</i>



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0.1	14.09.2020	Andreas Basler	First draft
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1.0	30.09.2020	Bram Moeskops	Approved final version

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Executive summary

This deliverable is part of the Horizon 2020 project – OK-Net EcoFeed. The overall aim of OK-Net EcoFeed is to help farmers, breeders and the organic feed processing industry in achieving the goal of 100% use of organic and regional feed for monogastrics, in particular pigs, broilers, laying hens and parents of broilers and laying hens. The aim of “Work package 4 (WP4)- Evaluation of existing tools and development of new tools” is to collect and prepare end-user materials and develop new tools adapted to the needs of farmers, feed processors and breeders and helping to solve the challenge of organic and regional feed for monogastrics. The specific objectives of WP4 are to collect, evaluate and describe existing tools and end-user material, translate and adapt most promising tools, create fact sheets and videos and develop ration-planning tools for pigs, broilers and laying hens. This deliverable presents the work done in task 4.3 “Creation of fact sheets and videos” by the Research Institute of Organic Agriculture (FiBL). The fact sheets provide a wide range of topics from feeding strategies for layers, broilers and pigs, to processing feed, using byproducts as feed, increasing digestability of feed and using alternative sources of protein.

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I. Introduction

The Research Institute of Organic Agriculture (FiBL) was tasked to publish 30 fact sheets (also referred to as “Practice abstracts”¹) created by the partners and Innovation groups (IGs) of the OK-Net EcoFeed project until the end of Month 33 (September 2020). The fact sheets collect and summarise practical and technical recommendations for practitioners in easy-to-understand language based on the EIP common format for practice abstracts. The list of the 30 fact sheets and their publication details can be found in Annex I. All fact sheets will be made available on [Organic Farm Knowledge](https://organic-farmknowledge.org/) (https://organic-farmknowledge.org/), which is the knowledge platform that was created by OK-Net Arable and is being developed further by OK-Net Eco-Feed. At the time of submission of this deliverable, the 30 fact sheets are available on [Organic Eprints](https://orgprints.org/) (https://orgprints.org/), the database behind Organic Farm Knowledge.

¹ On Organic Farm Knowledge, the fact sheets are referred to as practice abstract. For the sake of clarity, the term fact sheet is used in this deliverable.

Themes

The main themes that are dealt with in the 30 fact sheets are

- Pigs (11 fact sheets)
- Broilers (4 fact sheets)
- Layers (6 fact sheets)
- Feeding and ration planning (15 fact sheets)
- Processing and handling of harvested feed (13 fact sheets).

The statistics above make double counting as some factsheets covered more than one theme.

II. Process

The fact sheets were written by project partners, using a template that had been created by FiBL specifically for the fact sheets. It was based on the MS Word template² used in the Horizon 2020 project OK-Net Arable, where 43 practice abstracts related to arable crops were produced (Micheloni et al. 2018).

Once a fact sheet was submitted by a partner, FiBL did a first quality check and then sent it to an expert (from the OK-Net Ecofeed partnership), who then reviewed it. Some fact sheets were reviewed by two experts. Once the review was done, the feedback was communicated to the author(s), who then implemented the reviewers' comments and adapted the fact sheets accordingly. In some cases, the reviewers were consulted a second time.

Once the review was done, a language check was carried out and the layout was finalized.

The following fact sheets are available on Organic Eprints:

1. Rotating pasture for pregnant sows	https://orgprints.org/35449/
2. Foraging of pigs in outdoor areas	https://orgprints.org/37100/
3. Silage feeding for laying hens	https://orgprints.org/35470/
4. Guide for assessing the protein quality in soya feed products	https://orgprints.org/35520/
5. Foraging of broilers in outdoor areas	https://orgprints.org/35469/
6. Maize germ cake	https://orgprints.org/37794/
7. Dry Forages: Process and techniques	https://orgprints.org/37881/
8. Feeding strategies for broiler chicken	https://orgprints.org/37940/
9. Green protein from locally grown crops	https://orgprints.org/37034/
10. Phase feeding for growing and finishing pigs	https://orgprints.org/35451/
11. Starfish as feedstuff	https://orgprints.org/37559/
12. Protein requirements for piglets	https://orgprints.org/38395/
13. Relevance of roughage feeding to pigs	https://orgprints.org/36930/
14. Blue mussels as feedstuff	https://orgprints.org/37800/
15. Seaweed as feed supplement	https://orgprints.org/37244/
16. Single-phase feeding and compensatory growth in growing and finishing pigs	https://orgprints.org/37512/

² Currently, FiBL is experimenting with the uploading of practice abstracts to Organic Farm Knowledge in HTML format, which should ease the automatic translation of the material.

17. Using raw soya beans with reduced content of trypsin inhibitors in organic pig fattening	https://orgprints.org/38419/
18. Recommendations for using soy-based feedstuffs for poultry production	https://orgprints.org/37896/
19. Recommendations for using soya-based feedstuffs in pig husbandry	https://orgprints.org/37897/
20. Sunflower oil cake	https://orgprints.org/37801/
21. Guide for farms to plan small scale soya bean processing equipment	https://orgprints.org/38314/
22. Okara: Including a soya by-product into the poultry diet	https://orgprints.org/37898/
23. Feeding grass silage to fattening pigs	https://orgprints.org/36454/
24. Utilisation of waste heat from biogas plants for drying fine-grained legumes	https://orgprints.org/37511/
25. Acorns for fattening free-range pigs	https://orgprints.org/37476/
26. Brewer's yeast for organic pigs	https://orgprints.org/38116/
27. Whey for fattening organic pigs	https://orgprints.org/38117/
28. Focus on the amino acid content of energy feedstuff components	https://orgprints.org/38082/
29. Feeding insects for organic layers – video abstract	https://orgprints.org/38429/
30. Free choice feeding - an alternative feeding method for laying hens	https://orgprints.org/38443/

Of the 30 fact sheets that were published:

- 3 were contributed by AIAB
- 7 were contributed by Aarhus University
- 3 were contributed by Bioland
- 4 were contributed by Donausoja
- 3 were contributed by Ecovalia
- 3 were contributed by FiBL
- 1 was contributed by ITAB
- 1 was contributed by Naturland
- 3 were contributed by SLU
- 2 were contributed by the Soil Association

All fact sheets (practice abstracts) will be submitted to EIP Agri in the common format in the course of autumn 2020. Furthermore, they are all disseminated via various channels (see following chapter).

III. Dissemination of the fact sheets

Once finalized, the fact sheets are uploaded (via the online archive Organic Eprints) unto the Organic Farm Knowledge platform (<https://organic-farmknowledge.org>).

A news item is created for each tool as well as Facebook posts and Tweets that then are linked to the tool entry to facilitate discussion.

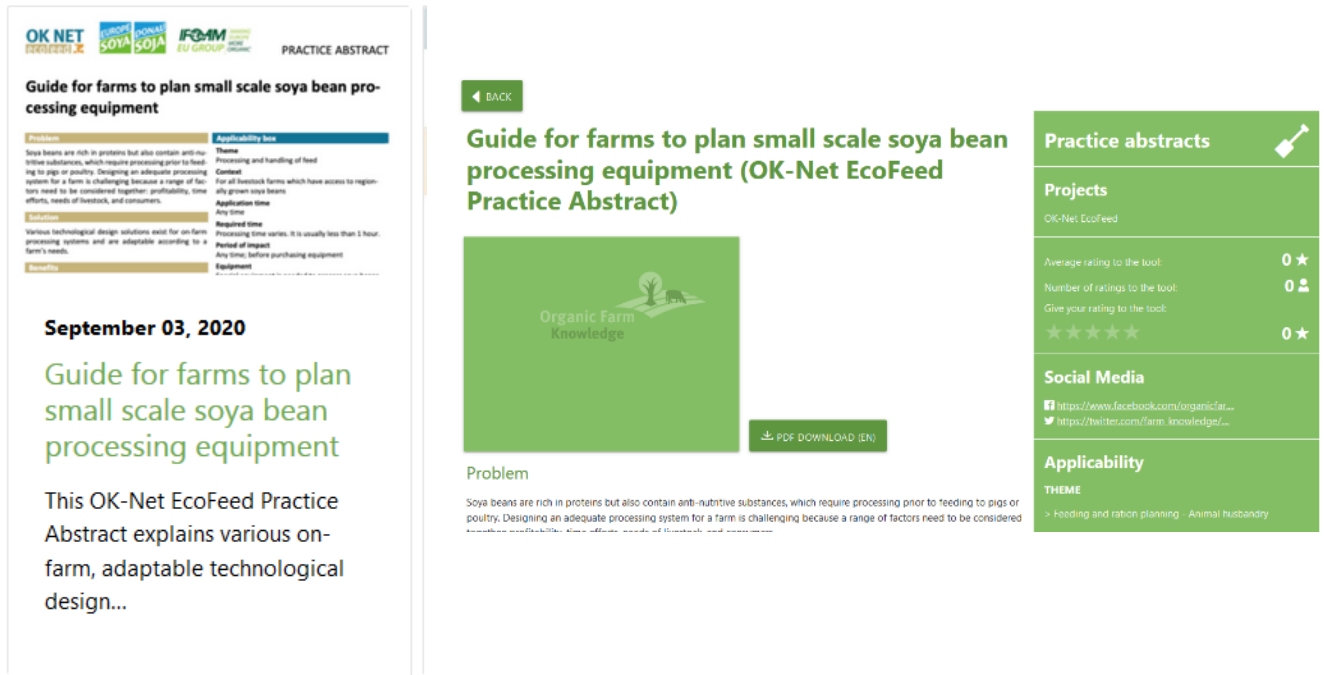


Figure 1: Example of a news item and tool view

News items and social media posts are shared with the project partners to facilitate the dissemination among their networks and social media.

Recently, a newsletter was created for Organic Farm Knowledge, which also features the fact sheets (<https://organic-farmknowledge.org/news-events/newsletter>).

IV. Translations

Each fact sheet has an entry in the toolbox of Organic Farm Knowledge (e.g. <https://organic-farmknowledge.org/tool/38117>). This entry contains a summary of the fact sheet in English, which can be translated using the platform’s automatic translation facility.

Five fact sheets have been translated “manually” by Ecovalia, the Spanish OK-Net Ecofeed partner. Nine have been translated by the French partner ITAB. FiBL will translate its own as well as some further fact sheets into French and German. Aarhus University is working on translations into Danish.

V. Conclusions

In the 30 fact sheets that were compiled in the framework of OK-Net EcoFeed, existing knowledge in the field of feeding (organic) monogastrics was made accessible to a wider audience, using the Organic Farm Knowledge platform, project and partners’ social media accounts as the key communication channels.

With the production of these fact sheets, a major step towards reaching the OK-Net EcoFeed aims of

- a) helping organic pig and poultry farmers in achieving the goal of 100% use of organic and regional feed and
- b) exchanging and co-creating knowledge among farmers, business actors, researchers and advisors was achieved.

However, to disseminate the knowledge wider, local dissemination is needed.

This means that translations of the fact sheets (and further tools compiled in the framework of OK-Net Eco-Feed) are important. While “manual” translation is the most desirable way forward, it is not feasible in all cases. Therefore, it would be good to expand the automatic translation, applying it to the fact sheets as a whole and not only their summaries. Technical solutions are needed to achieve this.

VI. Reference

Micheloni, Cristina; Bortolussi, Stefano; Moeskops, Bram; Conder, Malgorzarta, Padel, Susanne and Willer, Helga (2018): Collection of end-user material. OK-Net Arable Deliverable Report 3.3. AIAB, IFOAM EU, <https://orgprints.org/36333/>

VII. Annex I

VII.1 List of 30 fact sheets

Table 1: The 30 fact sheets³

PA number	Title and link	Theme	Issuing organisation	Author(s)	Published on
PA001	Rotating pasture for pregnant sows https://orgprints.org/35449/	Pigs; Feeding and ration planning	Institut de l’Agriculture et de l’Alimentation Biologiques ITAB	Roinsard, Antoine	09 September 2019
PA003	Foraging of pigs in outdoor areas https://orgprints.org/37100/	Pigs; Feeding and ration planning	Aarhus University	Kongsted, Anne Grete	22 January 2020
PA004	Silage feeding for laying hens https://orgprints.org/35470/	Layers; Feeding and ration planning	Aarhus University	Steenfeldt, Sanna	12 November 2019
PA005	Guide for assessing the protein quality in soya feed products https://orgprints.org/35520/	Processing and handling of harvested feed	Donau Soja	Rittler, Leopold	25 September 2020
PA006	Foraging of broilers in outdoor areas https://orgprints.org/35469/	Broilers; Feeding and ration planning	Aarhus University	Steenfeldt, Sanna	16 December 2019

³ This list only displays the 30 fact sheets that are part of the deliverable. The count is higher (PA038), as seven more fact sheets are estimated to be produced.

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PA number	Title and link	Theme	Issuing organisation	Author(s)	Published on
PA008	Maize germ cake https://or-gprints.org/37794/	Processing and handling of harvested feed	Soil Association	Alford, Jerry	08 April 2020
PA009	Dry Forages: Process and techniques https://or-gprints.org/37881/	Processing and handling of harvested feed	Associazione Italiana per l'Agricoltura Biologica AIAB	Papi, Eugenio	22 April 2020
PA011	Feeding strategies for broiler chicken https://or-gprints.org/37940/	Broilers; Feeding and ration planning	Soil Association	Alford, Jerry	30 April 2020
PA013	Green protein from locally grown crops https://or-gprints.org/37034/	Layers; Feeding and ration planning; Processing and handling of harvested feed	Aarhus University	Steenfeldt, Sanna; Ambye-Jensen, Morten; Lübeck, Mette	13 January 2020
PA015	Phase feeding for growing and finishing pigs https://or-gprints.org/35451/	Pigs; Feeding and ration planning	Swedish University of Agricultural Sciences (SLU);	Presto Akerfeldt, Magdalena	29 May 2020
PA016	Starfish as feedstuff https://or-gprints.org/37559/	Processing and handling of harvested feed	Aarhus University	van der Heide, Marleen Elise; Værum Nørgaard, Jan	17 March 2020
PA018	Protein requirements for piglets https://or-gprints.org/38395/	Pigs; Feeding and ration planning	Swedish University of Agricultural Sciences (SLU); Research Institute of Organic Agriculture (FiBL); Institut de l'Agriculture et de l'Alimentation Biologiques ITAB	Akerfeldt, Magdalena; Früh Barbara, Roinsard, Antoine	25 September 2020
PA021	Relevance of roughage feeding to pigs https://or-gprints.org/36930/	Pigs; Feeding and ration planning	Research Institute of Organic Agriculture (FiBL)	Früh, Barbara	16 December 2019
PA022	Blue mussels as feedstuff https://orgprints.org/37800	Processing and handling of harvested feed	Aarhus University	van der Heide, Marleen Elise; Værum Nørgaard, Jan	26 March 2020

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PA number	Title and link	Theme	Issuing organisation	Author(s)	Published on
PA023	Seaweed as feed supplement https://or-gprints.org/37244/	Processing and handling of harvested feed	Aarhus University	van der Heide, Marleen Elise; Værum Nørgaard, Jan	13 February 2020
PA024	Single-phase feeding and compensatory growth in growing and finishing pigs https://or-gprints.org/37512/	Pigs; Feeding and ration planning	Swedish University of Agricultural Sciences (SLU)	Akerfeldt, Magdalena	09 March 2020
PA025	Using raw soya beans with reduced content of trypsin inhibitors in organic pig fattening https://or-gprints.org/38419/	Processing and handling of harvested feed	Donau Soja	Rittler, Leo	25 September 2020
PA026	Recommendations for using soy-based feedstuffs for poultry production https://or-gprints.org/37896/	Layers; Broilers; Processing and handling of harvested feed	Bioland Beratung GmbH	Lindner, Christopher; Schmelzer, Elias	29 May 2020
PA027	Recommendations for using soya-based feedstuffs in pig husbandry https://or-gprints.org/37897/	Pigs; Feeding and ration planning	Donau Soja	Rittler, Leo	30 April 2020
PA028	Sunflower oil cake https://or-gprints.org/37801/	Processing and handling of harvested feed	Associazione Italiana per l'Agricoltura Biologica AIAB	Proietti, Lavinia	13 May 2020
PA029	Guide for farms to plan small scale soya bean processing equipment https://or-gprints.org/38314/	Processing and handling of harvested feed	Donau Soja	Rittler, Leopold	02 September 2020
PA030	Okara: Including a soya by-product into the poultry diet https://or-gprints.org/37898/	Processing and handling of harvested feed	Associazione Italiana per l'Agricoltura Biologica AIAB	Eugenio Papi	13 May 2020
PA031	Feeding grass silage to fattening pigs https://or-gprints.org/36454/	Pigs	Research Institute of Organic Agriculture (FiBL)	Holinger, Mirjam; Scheibler, Samuel; Früh, Barbara	16 September 2019

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PA number	Title and link	Theme	Issuing organisation	Author(s)	Published on
PA032	Utilisation of waste heat from biogas plants for drying fine-grained legumes https://or-gprints.org/37511/	Processing and handling of harvested feed	Bioland Beratung GmbH	Lindner, Christopher; Schmelzer, Elias; Vogt-Kaute, Werner	09 March 2020
PA033	Acorns for fattening free-range pigs https://or-gprints.org/37476/	Pigs; Feeding and ration planning	Ecovalia - Asociación Valor Ecológico, Universidad de Córdoba	Rodríguez-Estévez, Vicente; Díaz-Gaona, Cipriano; Sanz-Fernández, Santos; Reyes-Palomo, Carolina; Sánchez-Rodríguez, Manuel	05 March 2020
PA034	Brewer's yeast for organic pigs https://or-gprints.org/38116/	Pigs	Ecovalia - Asociación Valor Ecológico, Universidad de Córdoba	Rodríguez-Estévez, Vicente	05 June 2020
PA035	Whey for fattening organic pigs https://or-gprints.org/38117/	Pigs	Ecovalia - Asociación Valor Ecológico, Universidad de Córdoba	Reyes-Palomo, Carolina; Sanz-Fernández, Santos; Díaz-Gaona, Cipriano; Sánchez-Rodríguez, Manuel; Rodríguez-Estévez, Vicente	05 June 2020
PA036	Focus on the amino acid content of energy feedstuff components https://or-gprints.org/38082/	Layers; Broilers; Feeding and ration planning	Öko-Beratungsgesellschaft mbH, Bioland Beratung GmbH	Vogt-Kaute, Werner und Schmelzer, Elias	29 May 2020
PA037	Feeding insects for organic layers – video abstract https://or-gprints.org/38429/	Layers; Feeding and ration planning	Research Institute of Organic Agriculture (FiBL)	Früh, Barbara	25 September 2020
PA038	Free choice feeding - an alternative feeding method for laying hens	Layers; Feeding and ration planning	Naturland – Verband für ökologischen Landbau e. V.	Olivia Müsseler, Werner Vogt-Kaute	28 September 2020

D.4.4 –Fact sheets

PA number	Title and link	Theme	Issuing organisation	Author(s)	Published on
	https://or-gprints.org/38443/				