

Nettles for feeding

Problem

Feeding poultry with regional and fully organic components, in line with animal needs, is still very difficult to achieve in many parts of Europe. The supply of sulphur-containing amino acids (e.g., methionine) is especially challenging.

Solution

Nettles have traditionally been used as a poultry feed, and have a high protein content. The use of nettles for laying hens was tested in two feeding trials.

Dried nettles were used in proportions of 10% (trial 1) and 5% (trial 2) in the respective rations of the farms, replacing 5% of existing protein source. In trial 1, the milled grass was additionally reduced by 5 % (ration of trial 1, see table 1). The fodder was prepared on the farms with mobile grinding and mixing equipment. The feed (see figure 1) was fed ad libitum to almost 300 laying hens by automatic feeders. The bird genetics used were Sandy (trial 1) and Lohmann Brown (trial 2). The feeding duration was 10 days in trial 1 and 26 days in trial 2. Trial 1 took place in the mobile house (see figure 2), trial 2 in the permanent house.

Applicability box

Theme

Pigs, Broilers, Layers, Feeding and ration planning, Processing and handling of harvested feed.

Context

Feeding nettles as a native protein source for laying hens.

Application time

Tested at the end of the laying period

Required time

Low for self mixed

Period of impact

Potential for use in all phases of life

Equipment

Grinding and mixing unit (mobile/ stationary) for use on farm or prepared at the local feed mill with own components (minimum feed weight 3 t).

Best in

Laying hen rations providing health-promoting properties and good methionine values.

Benefits

The aim was to reduce the amount of purchased protein concentrates. Concentrates usually contain oilcakes from all over the world (e.g. soya, sunflower, rapeseed and sesame). The use of nettles also promises a health-promoting effect.

Practical recommendation

- Subjective evaluation of the feed by farmers and consultants was very positive. The hens also accepted the changed rations very well. The feed intake did not change (120-130 g per hen and day).
- The faeces were very solid and tended to be positively influenced.
- The laying performance of the animals was constant (at almost 80 % of flock in trial 1 and 88 % in trial 2).
- The quality characteristics (egg shell, yolk colour, protein quality) did not change in the tests.
- The nettles were purchased for the trials. The stalk content was very high, so the feed values were worse than expected. In our own cultivation trials, significantly higher methionine levels were found with pure leaf mass. Further trials with higher percentages in the ration would be interesting here.
- The purchase of nettles as medicinal and spice plant (organic) is very costly (approx. 5 €/ kg). Other sources are not available. Nettles are not included in the list of authorised feedstuffs. Therefore, feeding on a larger scale is legally not possible in the long term. The experiment was only a first estimation of the potential.

Table 1: Ration trial 1

Components	Share	Ingredients											Blend
	%	ME	Protein	Fat	Fibre	Lys	Met	Trp	Ca	P	Na	Price	400
		MJ	%	%	%	%	%	%	%	%	%	€/dt	kg
Corn	15.00	2.16	1.29	0.54	0.48	0.03	0.024	0.00	0.00	0.05	0.00	2.40	60
Wheat	16.25	1.51	1.76	0.42	0.50	0.05	0.029	0.02	0.01	0.05	0.00	2.44	65
Triticale	9.00	0.93	0.95	0.21	0.31	0.03	0.017	0.01	0.01	0.03	0.00	1.22	36
Oat	5.00	0.40	0.53	0.25	0.53	0.02	0.009	0.01	0.01	0.01	0.00	0.65	20
Milled alfalfa	2.50	0.15	0.49	0.08	0.50	0.02	0.005	0.01	0.04	0.01	0.00	0.56	10
Peas	6.00	0.76	1.26	0.16	0.41	0.09	0.011	0.01	0.01	0.03	0.00	1.14	24
Beans	2.50	0.27	0.66	0.04	0.20	0.04	0.005	0.01	0.00	0.01	0.00	0.43	10
Bread liquid	2.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	1.40	8
Oyster shells	1.75	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.67	0.00	0.00	0.00	7
Protein concentrate	30.00	2.40	7.95	1.95	4.05	0.35	0.180	0.00	4.50	0.35	0.15	21.00	120
Nettles	10.00	0.56	1.85	0.44	1.29	0.11	0.035	0.03	0.16	0.03	0.01	5.00	40
Content in compound feed	100.00	9.13	16.73	4.08	8.26	0.74	0.315	0.10	5.39	0.56	0.16	36.23	400

Target values	10.50	17.00	4.00	5-7	0.78	0.32	0.16	3.70	0.53	0.18
----------------------	-------	-------	------	-----	------	------	------	------	------	------

Protein from cereals: 18%

Abbreviations: ME = Metabolizable Energy; MJ = Megajoule; Lys = Lysine; Met = Methionine; Trp = Tryptophan; Ca = Calcium; P = Phosphorus; Na = Natrium (Sodium)
Protein, Fat, Fibre = indicated in crude



Figure 1: Feed. Photo: Thomas Neumaier



Figure 2: Feeding in mobile stables.
Photo: Christopher Lindner

Further information

Video

- Check the Video about experiments on the cultivation and feeding of nettles ([German with English subtitles](#)).

Weblinks

- A Practice Abstract on the cultivation of nettles can be found here ([German and English](#)).
- Check the [Organic Farm Knowledge platform](#) for more practical recommendations.

About this practice abstract and OK-Net EcoFeed

Publishers:

Bioland Beratung GmbH
Kaiserstraße 18, D-55116 Mainz
Phone +49 6131 23976-28, www.bioland.de

Research Institute of Organic Agriculture FiBL
Ackerstrasse 113, Postfach 219, CH-5070 Frick
Phone +41 62 865 72 72, info.suisse@fibl.org, www.fibl.org

IFOAM Organics Europe, Rue du Commerce 124, BE-1000 Brussels
Phone +32 2 280 12 23, info@organicseurope.bio,
www.organicseurope.bio

Author: Elias Schmelzer, Christopher Lindner, Thomas Neumaier

Contact: elias.schmelzer@bioland.de

Review: Lindsay Whistance, Organic Research Centre

Permalink: [Organic-farmknowledge.org/tool/39138](https://organic-farmknowledge.org/tool/39138)



OK-Net EcoFeed: This practice abstract was elaborated in the Organic Knowledge Network on Monogastric Animal Feed project. The project is running from January 2018 to December 2020. 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.

Project website: ok-net-ecofeed.eu

Project partners: IFOAM EU Group (project coordinator), BE; Aarhus University (ICROFS), DK; Organic Research Centre (ORC), UK; Institut Technique de l'Agriculture Biologique (ITAB), FR; Research Institute of Organic Agriculture (FiBL), CH; Bioland, DE; Associazione Italiana per l'Agricoltura Biologica (AIAB), IT; Donau Soja DS, AT; Swedish University of Agricultural Sciences, SE; ECOVALIA, ES; Soil Association, UK.

© 2021

