

Varieties of clover in poultry ranges: feed value and feeding preference

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

In the search for protein-rich components, the poultry range should be considered.

Seeds of the following varieties were selected for sowing on the trial plots (see figure 1):

- White clover „Hebe“
- Red clover diploid: „Lucrum“, tetraploid: „Titus“
- Lucerne „Daphne“

Observations of the hens' feed preference was done by the farmer and supported by images from wild cameras.

Nutritional analysis of the clover varieties and lucerne provided information on their feed value.

Applicability box

Theme

Layers, Feeding and ration planning, also suitable for Pigs and Broilers.

Context

Use of the range for protein supply to laying hens by sowing legumes.

Application time

During the laying period.

Required time

Sowing in autumn, good growth after cutting in the following year.

Period of impact

During outdoor use

Best in

Layer systems seeking to optimise forage intake from the range

Benefits

- Clover varieties and lucerne in the outdoor area provide an additional source of feed intake as well as offering attractive environmental enrichment.
- Tasty clover varieties improve forage intake in green ranges.
- The fresh green forage has a positive effect on the yolk colour.

Practical recommendation

- A clear preference for individual clover varieties could not be established. There was a tendency for white clover to be preferred, which is attributed to its higher sugar content.
- White clover has the highest methionine levels (see table 1), but the slowest growth. In the literature the yield is given as 85 dt/ha compared to 160 dt/ha for red clover and lucerne.
- Lucerne also grows very well in dry conditions.
- A high proportion of legumes in the free range represents an additional supplement of protein but it is not easy to consider its contribution in terms of ration planning. Dilution effects on nutrient intake, due to the animals uptake of green material in the open air, are reduced.
- Fencing off is necessary to establish the plants, and it is essential to ensure a minimum range size.
- A mixture of lucerne and white clover can be recommended for poultry ranges, offering robust stocks and good growth even with intensive use. To avoid death of vegetation and optimise use of range, do not sow clover areas next to the henhouse, use more robust grasses there.



Figure 1: clover and legume varieties (Photos: Corinna Nieland)

Table 1: Feed analysis, second cut 2020.06.08

	Lucerne Daphne	White clover Hebe	Red clover Lucrum	Red clover Titus
Nutrients [g/kg]				
Dry matter	880	880	880	880
Crude ash	96	106	106	112
Crude protein	238	245	250	241
Crude fibre	173	136	144	149
Crude fat	15	18	18	20
Sugar	62	92	77	74
Metabolizable energy (ME) [MJ]	5.01	5.61	5.5	5.37
Amino acids [g/kg DM]				
Lysine	12.7	12.31	13.06	11.79
Methionine	3.65	4.07	3.49	3.05
Threonine	10.33	10.03	10.42	9.94
Tryptophan	3.71	4.27	4.44	4.47
Lysine/Methionine	0.29	0.33	0.27	0.26

Further information

Video

- Check out the video about the tool test ([German](#) and [English](#)).

Weblinks

- 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, Corinna Nieland

Contact: elias.schmelzer@bioland.de

Review: Lindsay Whistance, Organic Research Centre

Permalink: [Organic-farmknowledge.org/tool/39505](https://organic-farmknowledge.org/tool/39505)

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

