

Nettle cultivation for feeding poultry

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 feed components, the cultivation of nettles was investigated. Stinging nettles were traditionally fed to pigs and poultry, partly because of its high protein content.

The cultivation of stinging nettles was tested in an experiment on two trial plots. The sowing was done by purchased seeds (no-till) and by vegetative propagation (stolons). During growing, different fertiliser applications were tested. Consisting of chicken manure and sulphur (Kieserite 25 % MgO, 50 % SO₃) in autumn and spring to provide information on the influence of sulphur applications on methionine concentration.

Applicability box

Theme

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

Context

Cultivation methods and fertilisation options for nettle as a native protein feed.

Application time

Perennial cultivation

Required time

Crop requires a lot of time for establishment, irrigation and feeding before harvesting and processing

Period of impact

Use over several years

Equipment

Irrigation, harvesting, chopping and, drying machinery required

Best in

Health-promoting and protein-rich domestic feed.

Benefits

The on-farm cultivation of nettles for feeding purposes could be an element in feeding monogastric animals. The health-promoting effect of nettles should not be underestimated.

Practical recommendation

- Purchased seeds had a poor germination. Propagation from cuttings (stolons) is more effective.
- Cultivate with 50 cm between and 30 cm between plants (see figure 1).
- The stinging nettle has a high nitrogen demand so application of fertiliser is recommended before planting and after the first cut.
- The crop should not be harvested too late, in order to achieve the highest leaf proportion (see figure 2).
- Any influence of fertiliser application could not be determined. Clearly visible is the influence of the soil temperature. Later cuts provided significantly better methionine yields.
- Analysis of the pure leaf mass yielded good methionine values up to 4.52 g/kg DM₈₈ (see table 1). However, the ratio of methionine to lysine, at 0.32
- Compared to small-grained legumes, nettle cultivation is very costly and the additional methionine yields are too low when considering the extra cost.

Table 1: analysis nettle leaves

Date Analysis	19.07.08
Nutrients [g/kg]	
Dry matter (DM)	880
Crude ash	161
Crude protein	289
Crude fibre	83
Crude fat	19
Sugar	38
Energy values [MJ]	
Metabolizable energy (ME)	5.61
Amino acids [g/kg DM]	
Lysine	14.34
Methionine	4.52
Threonine	11.41
Tryptophan	2.85



Figure 1: Seedlings. Photo: Elias Schmelzer



Figure 2: Plants before harvest. Photo: Elias Schmelzer

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 feeding of nettles can be found here ([German/English](#)).
- Check the [Organic Farm Knowledge](#) platform for more practical recommendations.

About this practice abstract and OK-Net EcoFeed

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Project website: ok-net-ecofeed.eu

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