Blue mussels as feedstuff

Problem

Organic production should use 100 % organic protein in 2025, but the availability of organic protein is limited.

Solution

Mussel meal can replace other less sustainable protein-rich ingredients, in particular fishmeal, in the diets of organic pigs and layers. Furthermore, mussels can lessen water eutrophication by uptake of nitrogen and phosphorus.

Benefits

Feed intake, weight gain and egg-laying are sustained at normal levels when feeding mussel meal to grower-finisher pigs or layers. Egg quality remains good with a more orange yolk colour compared to feeding fishmeal (Figure 1).

Applicability box

Theme
Processing and handling of harvested feed

Context
Coastal regions

Application time
All year after harvest of blue mussel

Required time
Time of feeding

Period of impact
Immediate impact

Equipment
No special machinery needed for feeding

Best in
Piglets, layers

Practical recommendation

- Mussels are harvested from nutrient-rich water before maturation.
- Mussels are deshelled by boiling, dried and processed into meal with approximately 60 % crude protein.
- Mussel meal is included in the diet at a maximum 8% in layer hen diets to avoid off flavour in eggs (Figure 2).
- No maximum inclusion rate has been established in piglets.
- Diets can be optimised for essential amino acid requirements and will often include less crude protein.

Figure 1: Differences in egg yolk colour. Photo: Marleen van der Heide

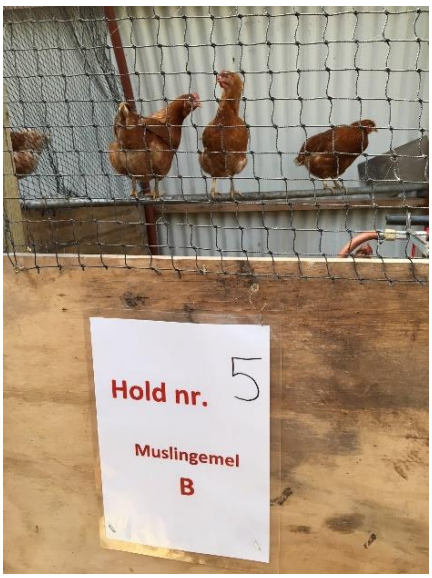

Figure 2: Feeding diets with mussel meal to layer hens. Photo: Marianne Hammershøj

Further information

Further reading

Afrose, S., M. Hammershøj, J. V. Nørgaard, R. M. Engberg, and S. Steenfeldt. 2016. Influence of blue mussel (Mytilus edulis) and starfish (Asterias rubens) meals on production performance, egg quality and apparent total tract digestibility of nutrients of laying hens. Animal Feed Science and Technology 213:108-117. (Article) doi: 10.1016/j.anifeedsci.2016.01.008

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Weblinks

- Check the Organic Farm Knowledge platform for more practical recommendations.

About this practice abstract and OK-Net EcoFeed

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