

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

Pigs - Crop production - Animal husbandry - Feed and nutrition - Feed processing and handling - Arable crops - Forage - Production systems - Poultry - Nutritive values and needs - Ration planning

Geographical coverage

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 Recommendations

- 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: Mari-anne Hammershøj

Further information

Reading

- Afrose, S., M. Hammershøj, J. V. Nørgaard, R. M. Engberg, and S. Steinfeldt. 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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- Wallenbeck, A., M. Neil, N. Lundeheim, and K. Andersson. 2014. Mussel meal diets to growing/finishing pigs: influence on performance and carcass quality. In: Book of Abstracts of the 65th Annual Meeting of the European Federation of Animal Science, p 249.

Weblinks

- Check the [Organic Farm Knowledge platform](#) for more practical recommendations.

About this practice abstract and OK-Net EcoFeed

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OK-Net EcoFeed:

<https://orgprints.org/view/projects/OKNetEcoFeed.html>

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Project website: <https://ok-net-ecofeed.eu/>

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