

# Seaweed as feed supplement

## Problem

The growth and health of piglets is reduced directly after weaning because of high incidence of diarrhoea.

## Solution

Feeding low doses of seaweed to piglets may positively affect gut health and reduce diarrhoea. It will also supply several minerals.

## Benefits

Polysaccharides in seaweeds can have antimicrobial, prebiotic or immunomodulatory effects, alleviating negative effects linked to weaning.

## Practical recommendation

- Effectivity might differ depending on the seaweed type, harvest season and processing method. Brown and red seaweed species may be better than green (Figure 1).
- Several commercial seaweed products can be used, and it is important to ask for documentation of effect before relying on e.g. effect on diarrhoea.
- High levels of macro and micro minerals have to be taken into account when composing diets with seaweed.
- Many seaweed extracts are available, which may not be suitable for organic production.

## Applicability box

### Theme

Pigs, cattle

### Context

Coastal regions

### Application time

All year

### Required time

Time of feeding

### Period of impact

Immediate

### Equipment

No extra equipment needed for feeding

### Best in

Brown seaweeds



Figure 1: Brown seaweed, sugar kelp. Photo: Annette Bruhn



Figure 2: Organic piglets may benefit from seaweed. Photo: Jan Værum Nørgaard

## Further information

### Further reading

- Dierick, N., A. Owyn, and S. De Smet. 2009. Effect of feeding intact brown seaweed *Ascophyllum nodosum* on some digestive parameters and on iodine content in edible tissues in pigs. *Journal of the Science of Food and Agriculture* 89(4):584-594. (Article) doi: 10.1002/jsfa.3480
- Gupta, S., and N. Abu-Ghannam. 2011. Bioactive potential and possible health effects of edible brown seaweeds. *Trends in Food Science & Technology* 22(6):315-326.
- Holdt, S. L., and S. Kraan. 2011. Bioactive compounds in seaweed: functional food applications and legislation. *Journal of applied phycology* 23(3):543-597.
- Makkar, H.P.S., Tran, G., Heuzé, V., Giger-Reverdin, S., Lessire, M., Lebas, F., Ankers, P., 2016. Seaweeds for live-stock diets: A review. *Anim. Feed Sci. Technol.* 212, 1–17.
- Michiels, J., E. Skrivanova, J. Missotten, A. Owyn, J. Mrazek, S. De Smet, and N. Dierick. 2012. Intact brown seaweed (*Ascophyllum nodosum*) in diets of weaned piglets: effects on performance, gut bacteria and morphology and plasma oxidative status. *Journal of animal physiology and animal nutrition* 96(6):1101-1111.

### Weblinks

- 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](http://ok-net-ecofeed.eu)

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