

# Feeding insects for organic layers

## Problem

A key challenge remains to achieve organic and sustainable monogastric feeding strategies: meeting their protein and essential amino acid needs with locally sourced feedstuffs.

## Solution

Feeding of insects offers new possibilities to overcome the protein gap in organic farming. Insect feeds offer a sustainable and local alternative to commonly used protein feed sources.

## Benefits

Live insects and larval meal can replace soy in feed rations. The amino acid profile of insects corresponds to the dietary needs of fish, poultry or swine animals, especially relating to amino acids like lysine, threonine, methionine, and tryptophan.

## Applicability box

### Theme

Animal husbandry - Feed and nutrition - Production systems - Poultry - Ration planning

### Geographical coverage

Organic laying hen operations

### Application time

All-year-round in animal feeding

### Period of impact

Permanent

### Equipment

No special equipment required for feeding purchased insects or larval meal. Specialised equipment required for on-farm insect production

### Best in

Monogastric animals, trial application done with laying hens

### Restrictions

Larval meal (Fig. 1) is not permitted – only live in-sects (Fig. 2)

## Practical Recommendations

- Processed insect protein legally belongs to the group of 'animal proteins' and is currently not permitted in livestock feed; however, this legislation does not apply to the feeding of live insects, as this is not a processed feed.
- Due the high fat content of the live larvae or worms there is an upper limit, which cannot be determined at present with the available results from the feeding trail.
- Feeding live mealworms (*Tenebrio*) (Fig. 2) to laying hens does not reduce aggressive behaviour (based on results of a FiBL trial, where hens received 10 g of live mealworms per day).



Figure 1. Insect larval meal mixed with concentrate feed. Photo: OK-Net Ecofeed video 'Feeding insect for organic layers' videoproduced by FiBLFilm, image by Kaja Früh.



Figure 2. Mealworms. Photo: OK-Net Ecofeed video 'Feeding insect for organic layers (OK-Net EcoFeed)' produced by FiBLFilm.

### Further information

#### Video

- Check the following video, [Feeding insects for organic layers \(OK-Net EcoFeed\)](#), for further instructions (Video in English with German and French subtitles). It served as a basis for this practice abstract.

#### Weblinks

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

**About this practice abstract and OK-Net EcoFeed****Publishers:**

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**OK-Net EcoFeed:**

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

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 OKNet 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:** <https://ok-net-ecofeed.eu/>

**Project partners:**

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