

# Feeding pea to poultry

Ulrich Quendt and Werner Vogt-Kaute



Pea is rich in protein and energy. It complements cereals perfectly for feeding poultry due to the high lysine content. White-flowering, light-hulled pea can be included up to 30% in poultry feed. Growers of field pea can sell their crops to compound feed producers. However, trading pea is not always straightforward and on-farm or local use generally increases the profitability of growing pea. For this on-farm use to be successful, the feed value must be determined for each farm-grown batch so that the feed mix can be optimised. Home-grown grain legumes are an important component of GMO-free feed rations and so benefit from premia for non-GM products.

This note provides an insight into successful farm practices and feed rations with field peas in organic farming.



Laying hen. Photograph: Werner Vogt-Kaute

## Experience at the Vogt organic farm: peas for laying hens

This farm in Lower Franconia in Germany converted to organic in 1987. Starting with 60 laying hens, the flock have been kept in a repurposed cowshed with an adjoining orchard meadow since 1991. The flock is now 500 hens. The entire home-grown pea crop is fed to

### Applicability

**Theme:** Feeding peas to layers and broilers

**For:** Farmers and compound feed producers

**Where:** At farm level or feed industry

**Equipment:** Storage, crushing and mixing equipment

**Impact:** Increasing market-value and self-sufficiency, GMO-free feeding

the laying hens. Every eight weeks, a mobile milling and mixing plant comes to process and blend the components with a protein supplement called Concentrate Bio-L-Konz 40 from the Kaisermühle. This protein supplement consists mainly of soya cake, sunflower cake, corn gluten and minerals. By using the higher quality components such as husked spelt, naked oats and peas, the proportion of this high-protein supplement can be reduced from the recommended 40% to 30%.

Depending on the age of the hens, some lime and salt must then be added. While wheat and naked oats can be crushed, spelt and peas must be milled finely. „Coarse fragments of pea hull or husks are sorted out by the laying hens,” explains Kornelia Vogt. The goal is a feed with 0.3% methionine and an energy content of around 10 MJ/kg. No oil is added to the feed so that the energy content remains low and the laying hens are encouraged to eat more. With this ration, the laying performance reaches just over 90% in the young hen (about 25 eggs/month), but then remains constant between 80 and 90% for several months. The laying hens remain on the farm for 16 to 18 months.

The stability of the egg affects egg handling, storage and use. While the proportion of pea used here is relatively low, experience at Vogt shows that even this low inclusion boosts

performance while replacing cereals. „Including pea reduces the cereal grain content and the associated non-starch polysaccharides which are anti-nutritional factors for poultry“ the plant manager explains. Up to 20% peas are fed in the ration, which can also be tannin-containing, violet-flowered varieties „We have never observed a decrease in laying performance when using tannin-containing cultivars at these inclusion rates. But we limit the inclusion of faba bean with pea to 10%.“

The Vogt feed components (%)

Wheat	10
Triticale	10
Spelt	15
Naked oats	20
Pea	15
Bio-L-Conz 40 concentrate	30

### Experience at the Ritter farm: peas for growing turkeys

Martin and Inge Ritter from Ostheim vor der Rhön in Lower Franconia converted their business to organic farming in 2000. At conversion, the farm business was based on a dairy herd and a livery service for local horse owners. The livery service was retained but the dairy herd was sold off. New enterprises were established and son Tim joined the company as a trained poultry farmer.

Two turkey sheds were built. The turkey chicks are first reared by a specialised organic rearing company until they are about 40 days old. From then on, 2000 animals are kept in the open shed with free run of the adjoining woodland. Family Ritter also likes to bring male turkeys together with female, because the flock is calmer as a result. The breed used is chosen to meet market demand. Some of the turkeys are marketed from the farm, as are a few broilers and geese.

### Feeding turkeys is demanding

The turkeys receive a complete feed in the first stages of life to give them the best start. Turkey chicks are the most demanding of all poultry species in terms of feeding. In the later growing



Turkeys on open pasture. Photograph: Werner Vogt-Kaute

and finishing phase, Martin Ritter uses his own feed mix produced by a mobile grinding and mixing plant. The home-grown ingredients are rolled to give a coarse-textured feed. At the beginning of the finishing period, the proportion of the home-grown component is 10%, at the end 50%. Peas are always included. „Tannin-containing pea is used without any problems,“ explains the plant manager. „Feed conversion efficiency declines towards the end of the fattening period when the animals eat endlessly. It is therefore important to reduce the cost of the ration. Weight at slaughter will not be affected by reducing the ration quality if the daily gains in the initial phase are adequate.“

The Ritter feed components (%)

Wheat	13
Triticale	10
Maize	15
Naked oats	15
Pea	20
Lime and mineral	2
Complete supplement	25

### Further information

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