

How can we achieve 100% organic diets for pigs and poultry?

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Introduction

The question of non-organic inputs is of high importance for the integrity of organic production systems. Under the current EU regulation organic farm animals must be fed on organically produced feedstuffs that are primarily of home-grown. Only if organic feed is not available in sufficient quantity and/or quality, can a stepwise declining percentage of non-organic components be used. The use of conventional feedstuff carries the risk of residues and GM contamination, and could lead to an unwanted intensification of organic animal production with damaging effects on consumer confidence. Under the conditions of 100% organic diets it is a challenge to formulate rations meeting the requirements under the condition of limited availability of feed materials, especially high quality protein sources for the diets of poultry and pigs. The Organic Revision has looked at the question of how 100% organic feed rations for pigs and poultry can be achieved.

Examples of organic rations

Organic animal systems aim to utilise organic home grown protein sources, such as pulse, but digestibility and amino acid availability, content of metabolisable energy, fibre, fat, and type and quantity of anti-nutritive factors (ANFs) influence the maximum inclusion rate. Other organically produced feedstuffs are various expeller cakes and milk products. A research review found sound evidence that both poultry and pigs can compensate for nutritional imbalances without the onset of specific health and welfare problems, apart from the first weeks of life. Many examples show that it is possible to formulate 100% organic diets (Tab 1). However, strains with a high genetic yield capacity seem to be more sensitive to suboptimal feed rations than slow growing strains or robust breeds.

Table 1: Examples of 100% organic feed ration for broiler (fattening period)

Ration / Ingredient	Wheat	Wheat bran	Barley	Oat	Maize	Peas	Soya bean	Soya cake	Maize gluten	Linseed cake	Sunflower cake	Minerals	Oil	Energy MJME	Lysine	Methionine
I	21	11	19	14	15		2	5	7	3.8	2	12.4	7.2	3		
II	23	15	21	14	12			4	5	3.8	2	12.4	6.5	2		
III	21	14	9	19	12		12	4	5	3.7		11.2	7.2	3		
IV	20	20	10	18	12		10	3	3	3.7		11.2	6.5	2		
IV	33	3		10	15	29				5	3.9	2	12.3	11	4	

References

- Padel, S. (2005) Overview of supply and demand for concentrated organic feed in the EU in 2002 and 2003 with a particular focus on protein sources for mono-gastric animals. Aberystwyth, Institute of Rural Sciences, University of Wales, Aberystwyth.
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Balance of supply and demand

Supply and demand balances for organic concentrate feed in the EU 25 and in the UK were calculated (Figure 1). In the EU 25, more than half of the demand arises from ruminant stock, a quarter from organic poultry, and the remainder from organic pigs. In the UK the highest demand comes from poultry. Between 2002 and 2004, in the EU-25 the production of cereals and pulses would have been sufficient to feed all stock with 100% organic diets, but there was insufficient high quality protein. The UK has deficits in all feed categories.

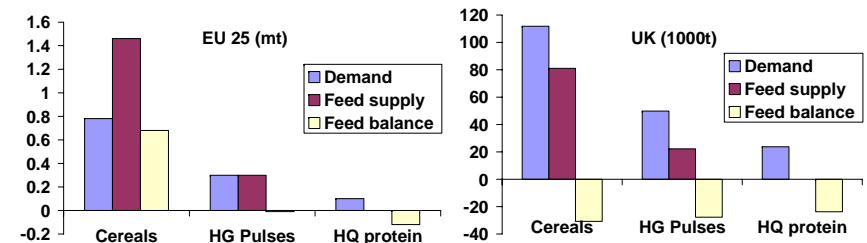


Figure 1: Supply and Demand for organic feed materials in Europe and the UK

A farm specific strategy

Organic production aims for a balanced relationship between crops and animals through the use of farm derived and renewable natural resources. In contrast to performance-oriented conventional livestock production diet formulation for organic farm animals has to balance the goals high quality animal products and financial viability with the needs of animals and the environment. Organic farms vary in relation to availability and quality of home-grown feedstuffs, the performance and feed intake of animal genotypes, and in farm specific housing and feeding conditions. Feeding strategies that aim to achieve 100% organic feed therefore need to be farm specific. Regular monitoring of the supply and demand for feed at the farm gate helps to assess the necessity for supplementation with external feed materials.

Organic farmers working towards 100% organic diets should analyse home-grown feedstuffs, and calculate feed rations according to the requirements in the different stages of growth and for the different sexes. The use of slow growing strains reduces nutritional requirements. The feed intake can be increased through reducing the energy content of the diet and optimising feeding and housing conditions. This allows to reduced the concentration of essential amino acids in the feed ration which reduces the demand for high quality protein feed. Organic protein sources such as like rape cake, soybean cake, or skim milk powder can replace some of the non-organic feedstuffs.



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