Overview of supply and demand for concentrated organic feed in the EU in 2002 and 2003

Summary of a preliminary project report in the Organic Revision Project

Susanne Padel

Organic Research Group, University of Wales, Aberystwyth
E-mail: Susanne.padel@aber.ac.uk

Introduction

Annex IB of the EU Regulation on organic farming (2092/91) sets out that animals on organic farms should be fed with feed stuffs from organic farming systems. Only if organic feed is not available in sufficient quantity and quality, can a set percentage of those non-organic components be used that are listed in Annex II. The derogations for using conventional feed are due to expire in August 2005 and currently negotiations in Brussels are concerned with what rules will apply after August. Several Organisation of the organic sector have already taken significant steps to reduce the reliance on conventional feed for ruminants. In Denmark, all organic cattle have to be fed 100% organic diets, and BIOLAND and DEMETER in Germany have also included this in their standards. Other producer organisations (for example BIO SUISSE and NATURLAND) have reduced the number conventional components that are still permitted. In France, the percentage of permitted conventional has been reduced to 10% for all categories of animals, including pigs and poultry. However, concerns have been expressed that this might lead to a high reliance of imported feed stuff (mainly Soya) in organic rations.

Box 1

Organic Revision is a 3 year project funded by the EU with the aim to develop recommendations assisting the commission with further development of the EU regulation 2092/91 on organic farming. As part of the project work is undertaken in the following areas: Principals and values of organic production (in collaboration with the IFOAM task force), further need for harmonisation of the standards, and reducing the dependency of inputs from conventional in the area of organic feed and seed. The project also is creating a database comparing national and international standards on organic production with the EU regulation. The project is co-ordinated by the Danish Research Centre for Organic Farming (DARCOF), has partners in 8 EU countries and collaborates closely with the IFOAM EU group. Further details see www.organic-revision.org).

Feed back and comments on the two draft reports in relation to 100% organic feed should be send before the 30th of June to the discussion platform on the website of the project. The final reports will be available in September 2005.

As part of the discussion on which regime should apply after August 2005 it appears important to address the question of whether the organic sector in Europe produces enough feed for its stock. This was the aim of the model calculation presented in this paper, with special attention to the availability of protein sources for pigs and poultry. The model calculation was carried out using statistical data for land use and stock numbers. A second preliminary report of the project by Albert Sundrum and colleagues (2005) carried out a Meta-analysis of available literature on possibilities and limitations of protein supply in organic pig and poultry production, as summary of which is included on page xx. In support of the current discussion on 100% organic feed preliminary versions of both reports were made available to the commission and can be accessed on the web-page of the project (see Box 1) www.organic-revision.org inviting comments and feedback on the drafts.

Data sources and approach

It remains difficult to obtain reliable statistical data on land use and stock number on organic farms in the EU. As part of the EU project on organic policy development (EU-CEE-OFP) land used data were compiled for all EU member and a number of other European countries for 2002 and for the EU 15 for 2003 (Olmos and Lampkin, 2005, Praznan et al., 2004). The same sources also contain data on livestock numbers in the broad categories of bovine, sheep, pigs and chickens for most EU members for the same years, with the exception of Spain, Great Britain, Poland, Malta and Cyprus. For Spain, livestock data were provided by Garcia (2004), UK data were taken from the Organic Food and Farming Report (SA, 2003 and 2004) and DEFRA (2004) and were cross checked with industry experts, Poland, Malta and Cyprus were not considered. Expert opinions was also used to provide estimates for a further breakdown of stock numbers and to estimate average intake of concentrated organic feed and average percentages for the inclusion of cereals, home-grown pulses (those that could be grown throughout the EU) and high quality protein components (see Table 1).

Table 1: Standards assumption for the annual concentrated feed intake and percentages of cereals, EU pulses and other protein sources

Animal category	Total concentrate requirements per head and year	% Cereal	% Pulses (EU grown)	% high quality protein sources
Ruminants	*t/hd/a*			
Dairy	1.00	65%	35%	0%
Suckler	0.20	85%	15%	0%
Other	0.15	85%	15%	0%
Sheep	*t/hd/a*			
Ewes with lambs	0.02	85%	15%	0%
Pigs	*t/hd/a*			
Sows	1.5	71%	22%	7%
Fattening pigs	0.30	65%	15%	20%
Chicken	*t/1000 head/a*			
Layers	45.00	50%	25%	25%
Table birds	6.0	55%	25%	20%

Source: Lampkin et al., 2004 and expert survey

The calculation of the production of organic feedstuff was based on an assumed average yields across the whole EU of 3 tonnes per ha for both cereals and pulses. The proportion of cereals used for feed was set at 55%, derived from data on the organic market in 2001 (Hamm and Gronefeld, 2004). For pulses the proportion used for feed was estimated to be 90%. Feed imports into the EU and non-plant derived protein sources were not considered.

Results

Table 2 shows the total area and production of cereals and pulses and the number of animals in the broad livestock categories. The area of organic cereals increased in the EU between 2002 and 2003, whereas the land area for pulses declined, mainly caused by reduced area in Italy (see Table 2). The number of animals in the EU increased between 2002 and 2003 mainly in the new member states, but because these countries at currently not among the major organic livestock producing countries, this has little impact on the overall numbers. Among the EU 15 members, ruminant stock numbers increased mainly in Greece and in Portugal, whereas in Denmark there appears to be a declining trend in stock numbers. The numbers of pigs declined in most of the main production countries, whereas the number of poultry increased in most countries.

Table 2: Production of organic cereals, pulses and livestock numbers in the EU 25 in 2002 and 2003

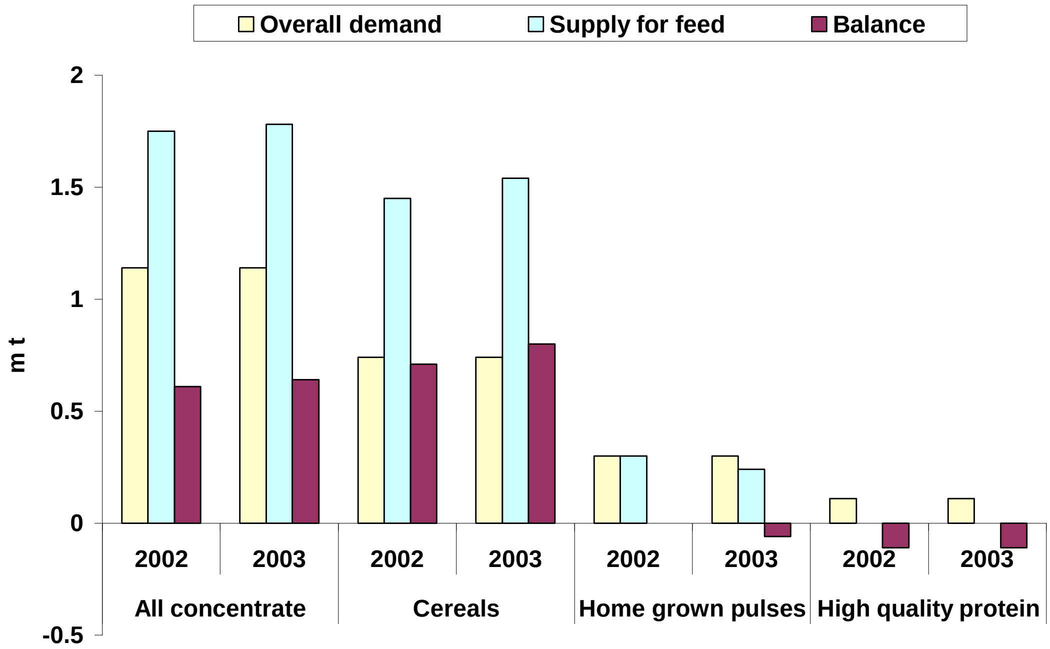
	2002	**2003**	**Major producing countries**
Land use			
Cereals (ha)	882 000	932 000	IT, D, ES, F
Cereals (t)	2.65 million	2.8 million	
Pulses (ha)	109 000	88 000	IT, D, F, AT
Pulses (t)	328 000	265 000	
Livestock production			
Bovine (Hd)	1.4million	1.5million	AT, D, IT, DK
Sheep (Hd)	1.71 million	1.63 million	IT, GB, D, FR
Pigs (Hd)	553,000	472,000	DE, DK, F, GB.
Chicken (Hd)	16.1 million	17.3 million	F, GB, D, DK.

Sources: Own data based on Olmos and Lampkin (2005), Praznan et al. (2004), Garcia (2005) and estimates.

The model calculations show a demand for concentrated feed for organic livestock in the EU of approximately 1.1 million tonnes of concentrate feeds (Figure 1). 65% of this demand would have been cereals, 26 % pulses that could be grown in most regions of the EU and 9% high quality protein sources. Approximately 55 to 60% of the total demand for concentrate feed would be required to feed the ruminant stock, over 25% to feed poultry and 15 to 18 % for organic pigs.

Comparing supply and demand it becomes clear that in 2002 and 2003 more feed was produced in the EU 25 than would have been needed to feed all stock with 100% organic diets. There was higher supply than demand for cereals in both years. For pulses, the situation would have been balanced in 2002, but in 2003 slight shortages would have occurred. Undersupply is assumed to have occurred in both years for high quality protein sources.

As outlined in the preliminary report by Sundrum et al (2005), reducing the energy content of the diet of layers, higher use of forage and strict phase feeding of pigs could help to improve the intake of limiting amino acids when feeding organic diets. In further calculations the impact of such changes to on the overall balance was assess. Changing the diets for pigs and poultry would reduce the demand for high protein sources by about 50% (to nearly 50,000 t), but this would lead to small increases in the demand for pulses and cereals. Also, changes in the diet of ruminants could have an impact on the overall demand and availability of organic protein sources in Europe.



Source: Own data

Figure 1: Calculated balance of demand and supply of organic concentrate feed in the EU 25 for 2002 and 2003 (million tonnes)

Conclusions

The results show that in 2002 and 2003 the EU would have produced enough cereal crops to feed all stock with 100% organic diets. The supply of home-grown pulses also appears to have been sufficient, even so small shortage would have occurred in 2003. It is likely that a higher demand for organic protein would lead to increases in the area of protein crops in the future. Deficits occur mainly in the area of high quality protein sources. It appears therefore necessary to place more emphasis into identifying supplies of organic high quality protein sources that can be grown and utilised in Europe, including the supply of acceptable sources of animal protein. Because of the calculated high supply of cereals, one possible solution could be in the replacement of some cereals in crop rotation with crops that provide protein feed such as higher quality pulses and oil crops. For example oil seed rape would be a suitable protein source that could be grown in Europe and used in rations particularly for mono-gastric animals, where processing capacity to extract oil can be identified.

References

DEFRA (2005). Organic Statistics United Kingdom (Revision 1). 5 July 2004.

HAMM, U. and F. GRONEFELD (2004). Analysis of the European market for organic food: An updated analysis. Organic Marketing and Rural Development Vol 5. School of Management and Business, Aberystwyth.

GARCÍA, R. T. (2004). Ganadería ecológica en españa: Primera información sobre la cantidad de animales certificados como ecológico. Granada, Centro de Investigación y Capacitación en Agricultura Ecológica y Desarrollo Rural de Granada (CIFAED).

LAMPKIN, N., MEASURES, M. & PADEL, S. (2004) *2004 Organic Farm Management Handbook*, Aberystwyth/Newbury, University of Wales Aberystwyth/Organic Advisory Service.

OLMOS, S. and N. LAMPKIN (2005). Statistical report on the development of OF in EU member states and Switzerland for the period 1997-2002 with update for 2003. Draft version of D5 of EU-CEE-OFP Organic Farming Policy. Aberystwyth, University of Wales, Aberystwyth.

SUNDRUM, A., SCHNEIDER, K. & RICHTER, U. (2005). Possibilities and limitations of protein supply in organic poultry and pig production. *Organic Revision (SSPE-CT-2004-502397).* Witzenhausen, Department of Animal Nutrition and Animal Health, University of Kassel.

SA (2003, 2004) The Organic Food and Farming Report 2003 and 2004. Bristol, Soil Association.

PRAZAN, J., K. KOUTNA, et al. (2004). D6: Development of Organic Farming and the Policy Environment in Central and Eastern European Accession States 1997-2002. D6: EU-CEE-OFP Organic Farming Policy, Project deliverable to the Commission. Aberystwyth, University of Wales, Aberystwyth.