

## Feed supply and milk production at 100% home grown organic feed for dairy cow

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### Background

The Danish rules in 1999 stipulate that at least 85% of the energy feed per cow per day should be organic. However, the basic idea of The Danish Organic Farming Organisation is to aim at a level of 100% organic feed in the ration. Furthermore, the basic idea of organic farming is to supply the livestock on a farm with feed from locally grown crops. However, with a 100% organic ration, based on typical, home grown products (clover grass pasture and silage, whole crop silage and barley), it will be difficult to meet the requirements for the nutrients: especially bulk content, starch, AAT and fatty acids.

### Objective

The objective of the project is to examine the consequences for the whole farm of a milk production based on 100% home grown organic feed and clarify the importance to feed supply and milk production of the cow.

On the background of data from 7 case study farms and experiments on private organic dairy farms, the project focuses on

- to identify what is the most critical to be self-sufficient with feed on the farm
- production experiments with different 100% organic diets, including different types of supplements, to examine the effect on milk production
- analyse the consequences for the whole farm of a milk production based on 100% home grown organic feed - on the basis of a model scenario, using case study data as input

### Progress 2003:

- Case studies on the 7 case study farms
- Publicising the results from the experiments
- A questionnaire survey involving advisers in organic dairy production in Denmark regarding practising 100% organic feeding
- Model scenario for analysing the consequences for the whole farm of a milk production based on 100% home grown organic feed - using results from the experiments and case study data as input

## Plans – 2004:

- Finishing the model scenarios
- Writing the thesis including 3 articles (experiments), 1 chapter from a DARCOF report (organic farmers are interviewed about their attitudes to 100% organic feeding), and 1 manuscript (model scenario)

## Publication:

(\* = included in the thesis)

### Articles and reports:

\* Mogensen, L., Kristensen, T. 2002. *Effect of barley or rape seed cake as supplement to silage for high-yielding organic dairy cows.* Acta Agr. Scand. 52:4, 243-252.

\* Mogensen, L., Kristensen, T. 2003. *Concentrate mixture, Grass pellets, Fodder beets, or Barley as supplements to silage ad libitum for high-yielding dairy cows on organic farms.* (accepted Acta Agr. Scand. 2003)

\* Mogensen, L., Ingvarsen, K. L., Kristensen, T., Seested, S., Thamsborg, S. M. 2003. *Organic dairy production based on 100% organic feed grown at an equal area per cow – Rape seed, rape seed cake or cereals as supplement to silage ad libitum.* (submitted Acta Agric. Scand.).

\* Mogensen, L. 2002. *Mælkeproduktion baseret på 100% økologisk fodring. Hvad siger de økologiske landmand? Resultater fra interviewundersøgelse.* I: (Sehested, J., Kristensen, T.) Økologisk mælkeproduktion – Strategier og foderforsyning ved 100% økologisk fodring. FØJO-rapport nr. 17. Forskningscenter for Økologisk Jordbrug. p. 15-26.

Mogensen, L., Kristensen, T., Sehested, J. 2002. *Tilskudsfoder til vinterfodring af økologiske malkekøer.* I: (Sehested, J., Kristensen, T.) Økologisk mælkeproduktion – Strategier og foderforsyning ved 100 procent økologisk fodring. FØJO-rapport nr. 17. Forskningscenter for Økologisk Jordbrug. p. 27-42.

Mogensen, L. 2003. *Hvordan søger de økologiske mælkeproducenter at sammensætte en 100% økologisk fodring – resultater fra en spørgeskemaundersøgelse blandt konsulenter.* (<http://www.lr.dk/kvaeg/informationsserier/lk-meddelse/1190.htm>)

### Congresses and national meetings:

Mogensen, L. & Kristensen, T., 2001. *Økologisk mælkeproduktion: Resultater fra forsøg med selvforsyning med økologisk foder.* I: Økologisk Kvægproduktion. Bilag til temadag 3. oktober. Danmarks JordbrugsForskning og Forskningscentret for Økologisk Jordbrug, pp. 9-12. (Bilag, Indlæg)

Mogensen, L. Kristensen, T. 1999. *Private farms for research in organic milk production in Denmark.* 5<sup>th</sup> International Livestock Farming Systems Symposium. Posieux. Schweiz, 19-20 August.

Mogensen, L. Kristensen, T. 1999. *Self-supply of organic feed on private dairy farms in Denmark.* NJF-seminar no. 303. Horsens, Denmark, 16-17. September. p. 25.

Kristensen, T., Mogensen, L. 1999. *Organic dairy cattle production systems – feeding and feed efficiency.* NJF-seminar no. 303. Horsens, Denmark, 16-17. September. p.25.