



Strategies to increase sustainability for the supply chain & consumers

Introduction

In order to enhance the competitiveness and sustainability of the organic and low-input dairy sector, the views of stakeholders and consumers were studied. Improving the dairy supply chain's competitiveness and sustainability is linked to the identification of innovative practices that could be adopted by the whole supply chain. Different actors in the supply chain and consumers may have differing views depending on how a new strategy is perceived to affect their business or themselves. Other innovations within the supply chain may require investment and firms may be reluctant to incorporate new practices until the risks can be alleviated and clear benefits identified.

This note presents results of several surveys evaluating the acceptability of a range of innovations to various members of the supply chain from the farmers to the consumers. At first a broad set of statements was presented to groups of farmers, consumers and other supply chain actors, who were asked to rank the statements according to acceptability. At the next stage three specific innovative production strategies were evaluated in more detail in two separate surveys with supply chain actors including farmers and consumers.

Acceptability of different innovations

All stakeholders within dairy supply chains (farmers, retailers, processors and consumers) in the UK, Italy, Finland and Belgium were asked to evaluate 34 innovative production strategies using a qualitative approach called Q method (Eden et al. 2008). The statements fell into three main categories of innovation: items relating to breeds (9), feeds (11) and management (14), as well as practices relevant to organic, low-input and conventional farming. Participants were asked to identify those innovations which were deemed acceptable for the whole supply chain.

There was consensus across all countries as to which innovations were deemed to be unacceptable in organic and low-input dairy systems.

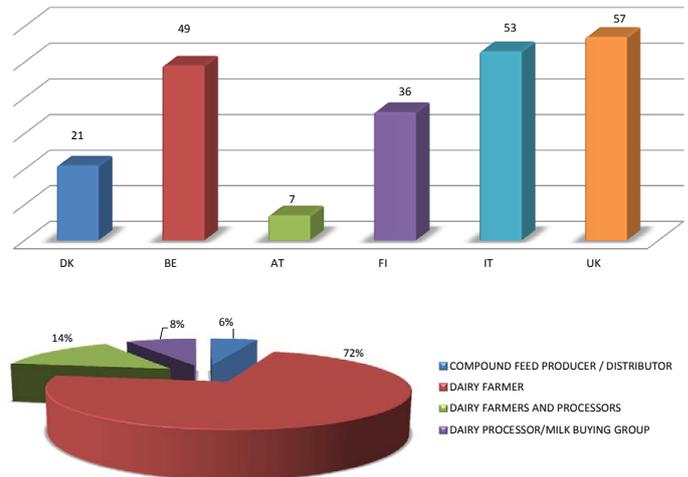


Figure 1: Respondents' profile per country and per sector for the supply chain questionnaire

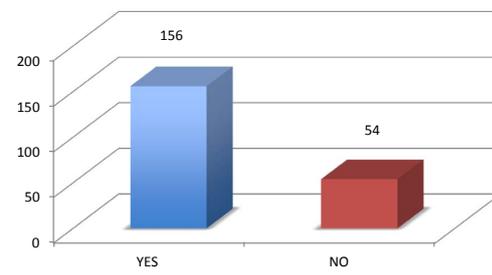


Figure 2: Proportion of respondents from certified organic supply chains

These included innovations involving GM plant breeding techniques, using transgenic animals or genetic transformation of products, genetic selection, and using 100% housed dairy systems to improve animal welfare. This preliminary study highlighted the importance for the entire supply chain of a 'more natural' feeding process for better quality products and, of course, improved human health.

Three novel production strategies were chosen for further investigation:

- **Agroforestry:** integration of animals (cows, sheep) and trees on the same plot of land.
- **Alternative Protein Source:** Use of home-grown protein crops, such as lupins, beans and peas, as animal feed.
- **Prolonged Maternal Feeding:** The calves and lambs can suckle directly from their mothers (or a foster mother) for the first 3-5 months after they are born.



Survey of supply chain partners

Results of a supply-chain analysis indicated that the most widely favoured strategy, across all countries, was that of soy substitution by using 'alternative protein sources'. Many farmers interviewed confirmed that they have already adopted this strategy, whereas others felt more confident in being followers of a tried and tested technique. In other words many individual farmers consider it more useful and are more likely to adopt those innovations that receive broader consensus among their peers, their advisers and society in general.

Lack of home-grown or locally available protein is one of the greatest barriers to the truly sustainable development of organic and low-input dairy systems. Given that many alternative protein sources have implications for farm productivity and profitability as well as for milk quality, the success of this strategy hinges upon increased collaboration among the various supply chain actors.

The least popular innovation among those who took part in the survey was 'prolonged maternal feeding'. To be applied successfully an increased level of information from farm to fork is necessary to ensure consumer recognition of associated higher welfare standards. Without this the strategy is likely to lead to higher costs on farms with no additional rewards.

Consumer survey

A consumer survey was conducted in 6 countries with nearly 5500 consumers (around 900 each in Austria, Denmark, Italy and the UK) to assess the acceptability of the three novel production strategies. The consumers were asked to rank them according to importance.

'Prolonged maternal feeding' was ranked first by 42% of respondents. 'Agroforestry' was slightly less favoured (33%), but some variations between countries existed. 'Alternative protein source' was generally the strategy preferred least by consumers (only 25% ranked it first). These results differ from those reported for dairy supply chain members, who preferred the 'alternative protein sources' innovation strategy.

The 'alternative protein sources' strategy appears not to be fully understood or appreciated by consumers. Regarding the reduction of risk of GM contamination in feed – it may be that consumers feel sufficiently protected by current regulations (especially for organic dairy products), are not aware of the risks or believe that contamination is already happening and unlikely to be stopped by feed substitution in the dairy chain.

Results indicated that consumers preferred those solutions linked to the reduction of the risk of GM contamination in feed. The 'prolonged maternal feeding' innovation was the most accepted strategy by consumers, but it clearly increases the production cost for dairy farmers by limiting milk yield and the responses in the supply chain indicate that farmers do not see the benefit of adopting this. However, it may be a viable solution if farmers were to be adequately compensated for potential losses.

In terms of paying more for 'prolonged maternal feeding' our results were not encouraging: the average willingness to pay a premium never exceeded 60% of the current milk price in Austria, Belgium, Italy and the UK (not enough to cover the increased cost of production), and Danish and Finnish consumers were not willing to pay a cent more. There are likely to be some consumers willing to pay more for such milk, but the number will be small.



Ranking of 34 innovation statements

Conclusions and recommendations

Our Q-study on the acceptability of innovations in low-input and organic dairy farm management and supply chain practices revealed that substantial similarity of viewpoints exists across countries.

Consumers tended to agree more with statements that referred to high animal welfare. Animal welfare is an issue of considerable significance for European consumers. At the same time, the retailers and producers are increasingly recognising that efforts to meet consumer concerns in animal welfare actually represent a business opportunity.

Producers and retailers/processors are more interested in innovation related to feed efficiency and feed quality, and efficiency of production, but improving animal welfare was also important to this group.

References

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Author: Phillipa Nicholas-Davies, ABER, Raffaele Zanoli, Simona Naspetti & Serena Mandolesi (UNIVPM)

Editing and design: Phil Sumption (ORC)

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