

A Study of Food Safety on Dairy Farms in Co. Sligo

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Topics of Today's Presentation

- Introduction
- Aim & Objectives
- Methodology
- Results
- Discussion
- Conclusion & Recommendations

Aim & Objectives

Aim:

- To obtain information that could assist further studies in the improvement the food safety management procedures on dairy farms

Objectives:

- To determine the level of agricultural training within the population surveyed.

Objectives continued..

- To ascertain the level of cleaning on the farm before and after milking.
- To determine the quality and safety of the milk being produced by these farmers.
- To develop from the findings of this study, appropriate strategies to improve the standard of food safety on Irish farms.

Methodology

- Confined to farmers who own and manage their own farms
- Hypothesis “Improved hygiene and milking practices on the farm will result in a higher quality raw liquid milk end product”
- Farm Food Safety questionnaire and follow up interviews were the methods used for collecting data.
- Farm Food Safety questionnaire was broadly based in the Teagasc “Guidelines for Food Safety Management on Farms” Document (2004)

Methodology contd..

- 28 questions split into five main components: General Details, Education, Cleaning/Milking Routine, Environmental and Animal Health
- Pilot Study
- Letters of Endorsement
- Discussion Group
- Interview – 15 farms visited in person to fill in the questionnaire and conduct the interview

Results

- 35 farmers were targeted
- 22 participants made up the total population studied representing 63% of the farmers targeted.
- Excel and SPSS software to analyse data gathered

Quick definition of SCC & TBC:

- Total Bacterial Count (TBC) indicator of on-farm general hygiene conditions, \downarrow TBC = \uparrow milk shelf-life
- Somatic Cell Count (SCC) Somatic cells try to destroy the bacteria before damage is done. Increased SCC is the first indication of a mastitis infection

Results contd..

Formal Agricultural Training

- 50% had obtained the 1 year full time certificate in farming with the addition of extra training
- Remaining 50% had less than 1 year's full time certificate in farming e.g. they had completed the certificate in agriculture and farm management (180 hour course) or they had no formal training.
- Relationship between the age of the farmers and the levels of formal agricultural training they had acquired was analysed

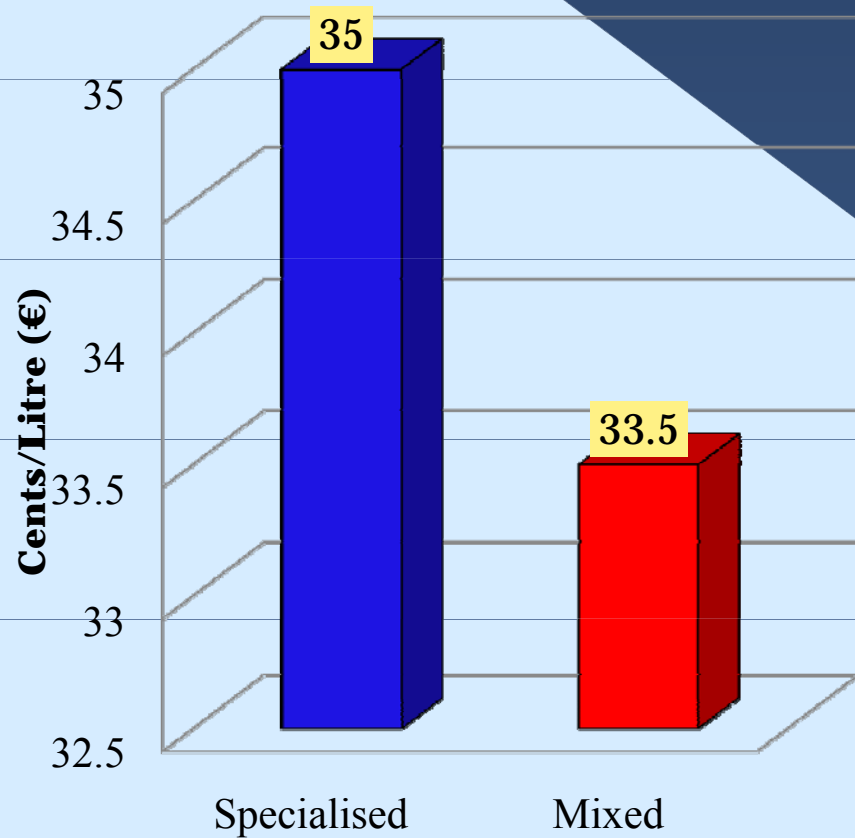
Results contd..

Cleaning/Milking Routines

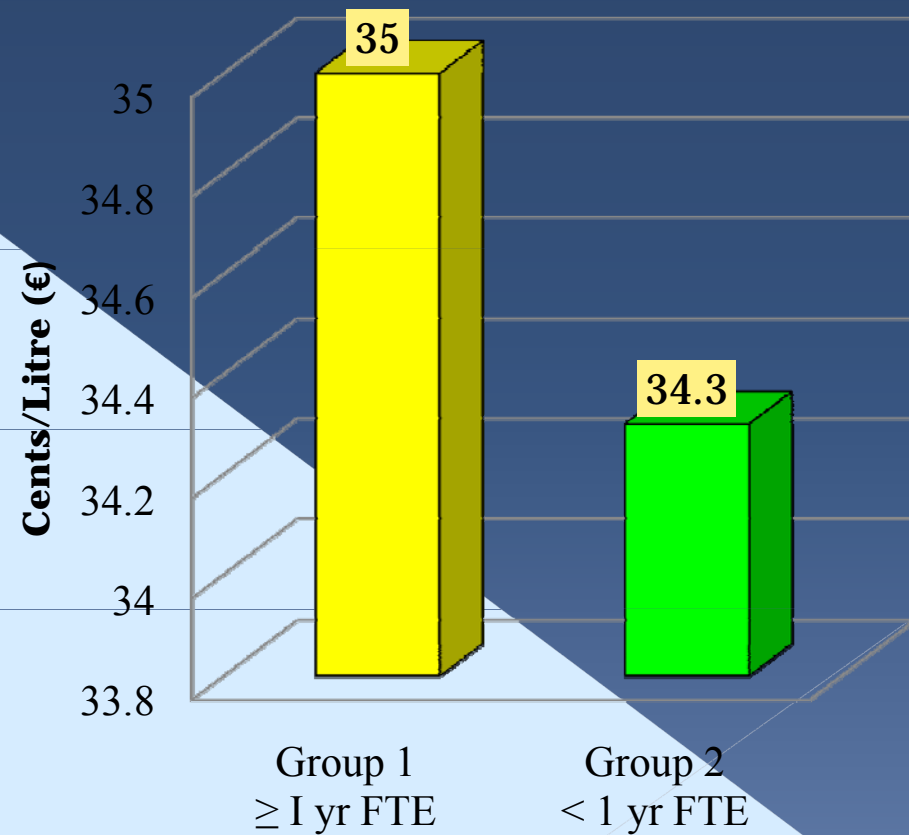
- Pre-milking (drawing fore milk) and/or post-dipping procedures as part of their milking routine
- Farmers that draw the fore milk and use a post dip solution on the cow's teats have a lower SCC, statistically significant result
- Relationship between hot-washing the milking equipment and SCC

Results cond..Quality of Milk Produced

Average Cents/Litre the farmer received at Co-Op, 2008



Average Cents/Litre the farmer received at Co-op, 2008



Discussion

1. Cleaning Practices Relative to Milk Production on the Farm
2. Relationship between Fore-stripping, Post-dipping and Somatic Cell Count
3. The Hypothesis

Recommendations

- Assurance scheme based on the seven core principles of HACCP might be in the pipeline for Irish dairy farmers
- Improving the quality of our raw materials such as milk could allow us to become more competitive on an international scale

Recommendations contd..

- Multi-faceted approach combining education, audits, record-keeping, regulations and most importantly community involvement in design, dissemination and evaluation:
- Safe Quality Food program (1996) W. Australia
Originally designed to provide HACCP and food quality certification for processors
- ‘Qarant’ – Dutch QA programme starting at dairy farm level. Food safety, animal health & welfare issues also considering consumers/retailers

Conclusion

- Agricultural training and education could play a positive role in food safety and quality milk production at farm level
- Increasing the frequency of hot washing the milking equipment, improving hygiene practices and adopting milking techniques fore-stripping and post-dipping have all been proven to reduce cell counts in milk. A low SCC increases milk yield and thus the health of the herd.

Conclusion contd..

- Omit milking practices
- Dairy farming is both an occupation and a way of life. Any intervention aimed at improving food safety on dairy farms must make use of this special culture surrounding agriculture not as an excuse for preventing change but as a catalyst to ignite change.



Thank You