

## Implementation of HACCP in Very Small Businesses

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## Background - HACCP principles

1. Conduct a Hazard Analysis
2. Determine the Critical Control Points (CCPs)
3. Establish Critical Limits
4. Establish a system to monitor control of the CCP
5. Establish the corrective action to be taken when monitoring indicates that a particular CCP is not under control
6. Establish Verification Procedures
7. Establish documentation concerning all procedures and records relevant to the HACCP principles and their application.

## Background – Law requirements

- European Council Directive 43/93/EEC
- Decree-law 67/98 (Portugal)
- All food businesses
  - Analysis of the potential food hazards in the food business operation;
  - Identification of the operational steps where hazards may occur;
  - Determination of points critical to food safety;
  - Definition and implementation of effective control and monitoring procedures at those critical points, and
  - Periodical review, and whenever the food business operations change, of the analysis of food hazards, critical control points and the control and monitoring procedures.

## Problems in small businesses

- lack of technical expertise
- lack of government commitment
- lack of customer and business demand
- financial constraints
- human resource constraints
- lack of expertise and/or technical support
- inadequate infrastructure and facilities
- lack of technical information in Portuguese.

## Agro 44 – Implementation of HACCP in the Dairy sector. From Milk to Cheese.

- Started in March 2002
- Due to finish in March 2005



## Aim of the Project

- To create a common understanding between those responsible for the implementation of HACCP (Hazard Analysis and Critical Control Points) systems in the companies and the professionals working in the Portuguese Governmental Agencies responsible for approving, licensing and inspecting these systems.
- The goal being to facilitate the implementation of this system in traditional (very small) cheese-dairies.



## Partnership

- Escola Superior Agrária de Coimbra
- Direcção Regional da Agricultura da Beira Litoral
- Associação Nacional de Criadores de Ovinos da Serra da Estrela
- Terras de Sico - Associação de Desenvolvimento



## Main Tasks

- Development and dissemination of a Good Production Practices manual for dairy farms
- Development and dissemination of a Good Manufacturing Practices manual for cheese dairies
- Implementation of HACCP systems in Traditional Cheese Dairies – demonstration units
- Development and dissemination of general HACCP plans for the manufacture of Traditional Cheese and Curd Cheese
- Creation of an internet site about hygiene, good manufacturing practices and HACCP in the production of cheese and curd cheese.
  - [www.esac.pt/agro44](http://www.esac.pt/agro44)



## Manuals production

- Step 1 – Collection of applicable legislation and relevant literature
- Step 2 – Production of the manual and other information material (information leaflets)
- Step 3 – Testing the developed materials by final users (milk producers and cheese dairies) and adapting the manuals according to suggestions.
- Step 4 – Graphic design and printing
- Step 5 – Dissemination of the material



## HACCP implementation

- **Step 1** – Development of educational material for training teams in HACCP/GMPs.
- **Step 2** – Training teams in HACCP/GMPs.
- **Step 3** – Selection of cheese-dairies to implement the HACCP system (demonstration units)
- **Step 4** – Implementation of the HACCP system in the chosen cheese-dairies according to the principles of HACCP
- **Step 5** – Auditing HACCP systems in order to detect any flaws and correct them.



## Small bussiness...



## Very small bussiness...



### Very small bussiness...



### HACCP training...



### Cheese production



### Cheese production



### Cheese production



### Cheese production



## GMP (?)



## GMP (?)



## Cleaning



## Testing the effectiveness of disinfection



## Results dissemination...



## HACCP in small dairies

- Keep it simple!
- CCPs and Written records
  - the less the better
  - Keep it to the strictly necessary
- Rely on GMP and good will...

## HACCP – Fresh Cheese (Pasteurised)

- CCP
  - Filtration – Physical Hazards
  - Pasteurization – Biological Hazards
  - Temperature Control – Biological Hazards
- Records needed
  - Filtration (no records!)
  - Pasteurization
    - temperature (batch pasteurization)
    - Time and temperature (continuous pasteurization)
  - Temperature
    - Refrigeration chambers (2/3 times a day)
    - Transport (on arrival)

## HACCP – Cured Cheese

- CCP
  - Filtration – Physical Hazards
  - Maturation Time– Biological Hazards
- Records
  - Filtration (no records!)
  - Maturation time
    - lot identification
    - Release of lot

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Thank you

Muchas Gracias

Muito Obrigado