

Traditional cheese-making in Italian alpine farms

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Introduction

The enforcement of EU Directive 92/46/EC (1992), relevant to hygiene standards for producing and marketing milk and dairy products, and the structural requirements of dairies, are causing some difficulties to producers of typical cheeses and to the competent authorities. With respect to the structural features, some restrictions derive from the application of the Directive in relation to the concession for temporary dispensations for the sanitary aspects of the dairies.

Material and methods

The aim of this study was to assess the hygienic-structural conditions on small farms of Piedmont (NW Italy), located in disadvantaged mountain areas (Bianchi *et al.*, 1997). To have a clear objective the study attempted to assess the minimum hygienic standards required by the Directive. The tool of the investigation, a standard form, allowed information to be collected on the following parameters: location of the farm, altitude, breeds, consistency, milk yield, manure management and hygienic-structural conditions of the farms (i.e. cleaning of milking machines and cheese-making room and equipment, maturation room, and cleaning facilities). Within each parameter assessments were focused to describe and evaluate in a more accurate way hygienic-sanitary, structural and management conditions, according to a scale of 4 levels: inadequate (0), satisfactory (1), good (2), best practice (3), by adopting the operational scheme of the standard form (Table 1). The research included 24 farms particularly representative of such management conditions.

Results

Results showed that the average level for most of the examined issues fell between a range of 0.5 to 1.5; the outcomes

relevant to the "hygienic facilities" and cheese-making room are particularly critical (Table 2). This research has also pointed out different structural characteristics of these farms: in such a situation, it is not possible to define the formalities of acceptance of such laws even if the evaluation has given good results about its objectivity. It does not appear always possible to effect transformations requested by the most rigorous interpretation of the law because the structures are often situated in strongly disadvantaged areas and very few dairies possess the requisites prescribed.

Conclusions

This research has tried to document the complexity of these problems in objective terms. Most of the farms currently producing cheese in a mountainous environment are risking to be made illegal. Therefore, it will be necessary to press for an intervention of the public administration that will aid the rapid adjustment of alpine farms to the EU regulations, taking into account the importance of safeguarding typical and appreciated cheese production techniques.

References

- Bianchi, M., Battaglini, L.M., Fortina, R., Mimosi A., Arru R. and Comba G. (1997). Analysis of factors that discipline milk and cheese-making production in mountain farms of Piemonte. Proceedings 32nd International Symposium. Animal Production: advances in technology, accuracy and management. Società Italiana per il Progresso della Zootecnia, Milano (Italy), 29 Sept. - 1 Oct. 1997, Elsevier (in press).
- European Community (1992). Directive 92/46/EC G.U.C.E. no. 268/1 and 268/33.

Table 1. Questionnaire.

<i>Score</i>	<i>0 : Inadequate</i>	<i>1 : Satisfactory</i>	<i>2 : Good</i>	<i>3 : Best practice</i>
Milking and cheese-making cleaning plants				
<i>Adopted systems</i>	Summary : just water	Detergent	Detergent + rinsing	Detergent + rinsing + disinfectant
<i>Cleaning equipment</i>	None present	Clothes	Clothes (daily replacement)	Disposable serviettes
Milking machine				
<i>Milking technique</i>		Manual	Bucket milking plant	Releaser milking plant
<i>Milk transport</i>		From stable to cheese - making room by means of open pails	Externally and collected in cans	Through pipes directly to the tank
Cheese-making room				
<i>Walls up to a 2m height</i>	Non-washable walls	Smooth cement enamel painted or with other repellent material	Tiles	Widely separated tiles
<i>Washable floor</i>	Earth or wood	Smooth cement with epoxy paints	Tiles	Tiles with siphon manhole cover
<i>Joints between walls and floor</i>	Joint not connected	Connection 90°	Walls-floor rounded connection	Wall-floor and wall-wall rounded connections
<i>Wash-basin</i>	Not present	Manual control	Pedal control	By photocell
<i>Drinkable water</i>	Spring water without regular testing	Regular testing	Drinkable certification	Warm and cold drinkable water
<i>Openings and windows dimension</i>	No windows	Lower than 1/10 of the floor	Between 1/10 and 1/8 of the floor	Higher than 1/8 of the floor
<i>Devices preventing introduction of insects, rodents and other animals</i>	None	Small-meshed wire net at the windows		
<i>Ventilation devices</i>	None	Ventilation natural chimney	Cowl	Suction cowl
<i>Height</i>	< 2 m	2 - 2.5 m	2.5 - 3 m	> 3 m
<i>Cooling water drain</i>	Without drain authorisation	Yes. Wheel not water tight or irrigation	Yes. Into sewage pool	Drain into sewerage
Cheese-making equipment				
<i>Curd container</i>	Not tin-plated or irregularly tin-plated	Uncovered tin-plated copper	Covered tin-plated copper	Always covered and stainless-steel container with thermic bottom
<i>Curd heating type</i>		Wood	Gas-oil	Methane
<i>Storage of rennet, spices, salt</i>		Shelves at sight	Closed metallic cupboard	Methane
Seasoning room (minimum 60 days and 85% humidity)				
<i>Walls</i>	Dry not squared stones	Bricks, tuff or dry squared stones	Raw plaster or plastered stone	Smooth plaster
<i>Floor</i>	Uneven ground, beaten earth flooring	Levelled hearth or tuff, gravel, "loose"	Earth or tuff with moveable raised planking	Cement tiles
<i>Shelves</i>		Smooth surface wood	Wood with proper grooves	Washable plastic-coated or "formica"
<i>Ceiling</i>	Wooden beams	Wooden beams and bricks	Bricks at sight	Smooth plaster
<i>Presence of foreign material</i>	Fruits and vegetables	Cold cuts and sausages	Materials closed into glass containers	Absence
Sanitary facilities				
<i>Toilets</i>	Not present (neither at home)	Yes, (at home, if there are no employees)	Outside, near home	Annexed to the cheese - making room, divided by an ante-bathroom
<i>Changing-room</i>	Not present	Yes, (at home, with cupboard)	It coincides with the ante-bathroom	Independent

Table 2. Average score for each issue on the 24 farms.

	Score range	Means	SD
Milking and cheese-making facilities			
Systems	0 ⇨ 3	1.39	1.31
Cleaning equipment	0 ⇨ 3	1.29	0.76
Milking machine			
Technique	1 ⇨ 3	1.79	0.79
Milk transport	1 ⇨ 3	1.54	0.58
Cheese-making room			
Washable walls	0 ⇨ 3	0.96	0.96
Washable floors	0 ⇨ 3	1.29	1.12
Joints walls-floors	0 ⇨ 3	0.96	0.69
Wash-basin	0 ⇨ 2	0.64	0.56
Drinkable water	0 ⇨ 3	1.25	1.17
Opening and window dimensions	0 ⇨ 3	1.36	0.91
Devices against rodents, insects....	0 ⇨ 1	0.39	0.50
Ventilation devices	0 ⇨ 3	1.07	1.05
Height	0 ⇨ 3	1.46	0.84
Cooling water drain	0 ⇨ 3	1.36	1.10
Cheese making equipment			
Curd container	0 ⇨ 3	1.25	1.08
Curd heating type	1 ⇨ 3	1.89	0.99
Ingredients storage	1 ⇨ 2	1.18	0.39
Maturation room			
Walls	0 ⇨ 3	1.32	1.06
Floor	0 ⇨ 3	0.64	1.16
Shelves	1 ⇨ 2	1.07	0.26
Ceiling	0 ⇨ 3	1.93	1.27
Presence of foreign materials	0 ⇨ 3	2.43	1.03
Hygienic-sanitary facilities	0 ⇨ 3	2.43	1.03
Toilets	0 ⇨ 3	0.93	0.94
Changing-room	0 ⇨ 3	0.62	0.90