SAFOSO

Animal Health Matters.
For Safe Food Solutions.

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Economic Affairs SECO

International perspectives of raw milk (quality and safety) monitoring and state control in European settings: Italy case

Marco De Nardi

- What are the main components to ensure milk quality and safety?

Introduction

- **Everyone** within the dairy value chain is **responsible** for the safety and quality of the milk / dairy product

  - the milk producer
  - the milk collector / transporter
  - the dairy processor
  - the retailer
  - the consumers

- The **governmental authorities**

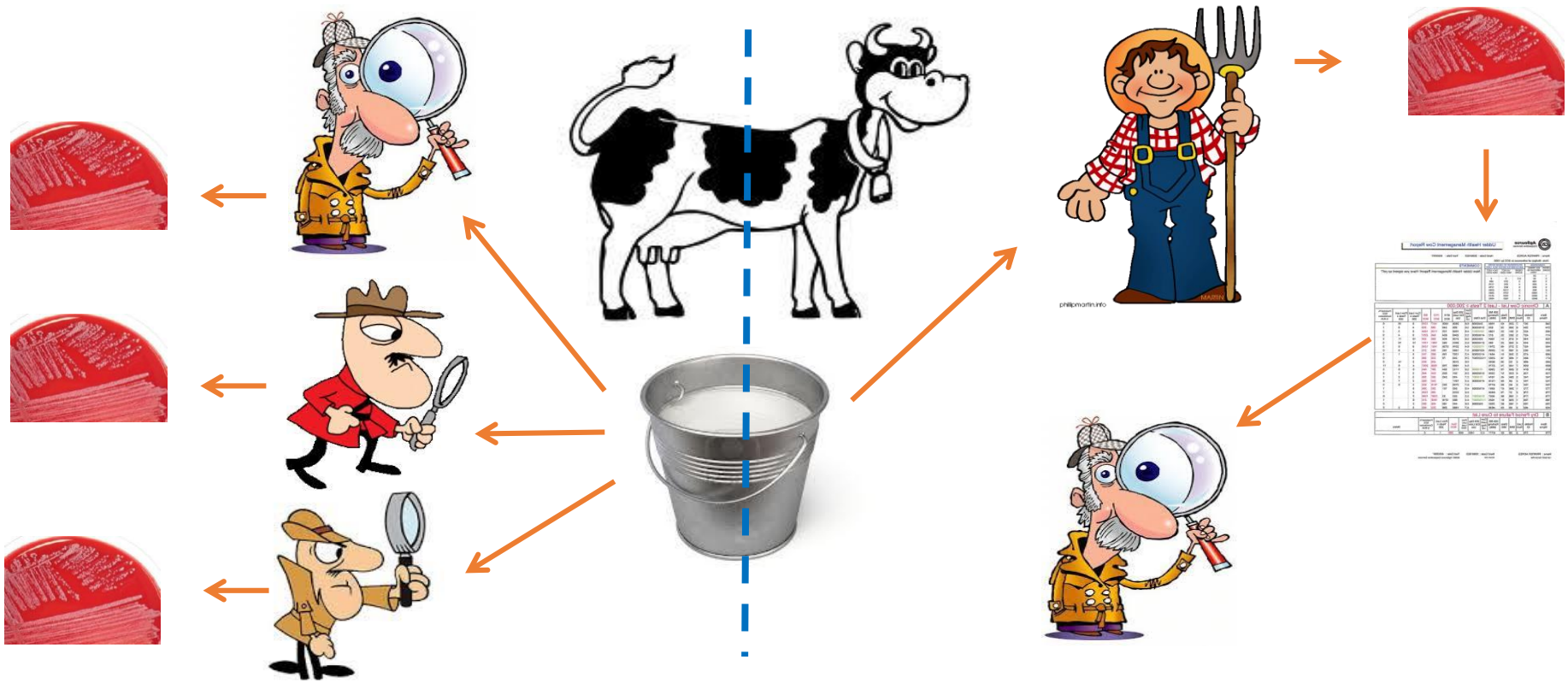
1) control if the responsibility is taken over by the stakeholders and

2) focus controls on hazards/points of the dairy value chain that pose highest risk (risk factors)

Тотальний державний контроль проти самоконтролю

Відповідальність за державою

Відповідальність за виробником



- **Основна відповідальність за безпеку харчових продуктів лежить на оператору ринку**
- **Влада наглядає, щоб оператори ринку дотримувалися і реалізовували адекватну системи управління ризиками**

- Milk quality and safety

Milk Quality and Safety

- The principal constituents of milk are **water**, **fat**, **proteins**, **lactose** (milk sugar) and **minerals** (salts).

- Milk also contains trace amounts of **other substances** such as pigments, enzymes, vitamins, phospholipids (substances with fatlike properties), and gases.




Milk Quality and Safety

- The quantities of the various main constituents of milk can vary considerably between cows of different breeds and between individual cows of the same breed. Therefore only limit values can be stated for the variations.

Table 2.3

Quantitative composition of milk

Main constituent	Limits of variation			Mean value
Water	85.5	–	89.5	87.5
Total solids	10.5	–	14.5	13.0
Fat	2.5	–	6.0	3.9
Proteins	2.9	–	5.0	3.4
Lactose	3.6	–	5.5	4.8
Minerals	0.6	–	0.9	0.8

Milk Quality and Safety

- Changes in dairy sector (*product distribution patterns, product formulations, the export market, and consumer expectations*) have all resulted in a **greater demand for dairy products that meet high quality standards** both initially and over a longer shelf-life.

- To consistently manufacture high-quality dairy products, processors are demanding **higher-quality raw milk**

Influence of raw milk quality on processed dairy products: How do raw milk quality test results relate to product quality and yield?
Steven C. Murphy, Nicole H. Martin, David M. Barbano, and Martin Wiedmann
Milk Quality Improvement Program, Department of Food Science, Cornell University, Ithaca, NY 14853

Milk Quality and Safety

- **Higher-quality raw milk** can be defined as:

  - compositionally complete (e.g., protein and fat levels within the norm);
  - free from off-flavors and odors;
  - free from detectable **drug residues**, added **water**, or other adulterants;
  - having low **total bacteria counts (TBC)**;
  - having low **somatic cells count (SCC).**

Influence of raw milk quality on processed dairy products: How do raw milk quality test results relate to product quality and yield?
Steven C. Murphy, Nicole H. Martin, David M. Barbano, and Martin Wiedmann
Milk Quality Improvement Program, Department of Food Science, Cornell University, Ithaca, NY 14853

- Parameters for milk quality and safety

Основні вимоги щодо безпечності молока

	Загальне бактеріальне обсіменіння, тис. КУО на 1см3	Кількість соматичних клітин, тис. на 1см3	Наявність залишків ветпрепаратів та інших інгібіторів
Швейцарія	80	350	Не допускається
ЄС	100	400	Не допускається
Україна:			
екстра	100	400	Не допускається
вищий	300	400	Є допустимі рівні
перший	500	600	-/-
другий	3000	800	-/-

- MSP-Milk Hygiene Order

- Order developed by the project
- Current status:
  - Law Department of MAPF is working on it
  - Then the order will be uploaded on the MAPF's website for the public discussion.

MSP-Milk Hygiene Order

8. Criteria for **raw milk** and **colostrum**, state control

8.1. Compliance with the requirements laid down in points 8.2 and 8.3 must be checked by means of **representative number of samples of raw milk** or colostrum taken by random sampling at milk production farms.

The checks may be carried out by, or on behalf of:

- 8.1.1. the **market operator** at the primary stage of milk production;
- 8.1.2. the **market operator** collecting or processing the milk.
- 8.1.3. **groups** of market operators
- 8.1.4. In the context of a **national or regional control scheme**, including state control.

MSP-Milk Hygiene Order

- **8.3.** Market operators must initiate procedures to ensure that raw milk meets the current legislation and the following criteria

  8.3.1. for **raw cows' milk**:

- **plate count** at 30 °C (per ml) ≤ 100 000 (Rolling geometric average over a two-month period, with at least two samples per month);
- **somatic cell count** (per ml) ≤ 400 000 (Rolling geometric average over a three-month period, with at least one sample per month, unless the competent authority specifies another methodology to take account of seasonal variations in production levels);
- cows' milk must have a **freezing point** not higher than -0,52°C and a weight of not less than 1 028 grammes per litre (in whole milk at 20°C), or the equivalent (in totally fat-free milk at 20°C).

MSP-Milk Hygiene Order

- **8.4. Market operators** must initiate procedures to ensure that raw milk or colostrum is **not placed** on the market if:

  - it contains **antibiotic residues** and/or **other substances** regarding content and/or concentration of which, there are legal limitations, in a quantity that exceeds the levels permitted by the legislation of Ukraine;
  - the combined total of **residues of all antibiotic substances exceeds** any maximum permitted value.

State Control: traditional vs risk based approach: what is different?

REGULATION (EC) No 882/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 29 April 2004

on official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules

Article 3.
General obligations with regard to the organization of official controls

Member States shall ensure that official controls are carried out **regularly**, on **a risk basis** and with **appropriate frequency**, so as to achieve the objectives of this Regulation taking account of:

(a) identified risks associated with animals, feed/food, feed/food businesses….

(b) operators' **past record as regards compliance** with feed or food law or with animal health and animal welfare rules;

(c) the **reliability** of any own checks that have already been carried out; and

(d) any information that might indicate **non-compliance**.

REGULATION (EC) No 882/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 29 April 2004

on official controls performed to ensure
the verification of compliance with feed and food law,
animal health and animal welfare rules

Ad hoc controls should be carried out:

- in case of **suspicion of non-compliance**
- (additionally) **at any time**, even where there is no suspicion of non-compliance.

Change of phylosophy

- The approach requires a **change of philosophy** regarding the inspector's traditional regulatory role, which is generally limited to verifying that regulations are complied with, …

- ….to a vision of the inspector as a food safety professional **actively contributing to improving the system** through **changes** that aims at enhancing the safety of food products.

- **Frequency of inspection** based on risk

FAO, 2008

Concepts: risk

Risk *(Codex Alimentarious Commission –CAC)*:

A function of the **probability** of an adverse (health) effect

and the severity (**impact)** of that effect, consequential to

a **hazard(s)** in food.

RISK = PROBABILITY + IMPACT

Key features of risk-based food inspection

- Focuses on:
- **Hazards** identification and characterization
- **Risk factors** along the food chain or processes that pose highest risk

- **Minimises costs** to food operators by reducing unnecessary inspection and testing costs

- Promotes **preventive** rather than reactive approach to food control

What will change in dairy sector?

- **Everyone** within the dairy value chain is **responsible** for the safety and quality of the milk / dairy product

  - the milk producer
  - the milk collector / transporter
  - the dairy processor
  - the retailer
  - the consumers

- The **governmental authorities**

1) control if the responsibility is taken over by the stakeholders

   and

2) focus controls on hazards/points of the dairy value chain that pose highest risk (risk factors)

Thanks