

## Affordable way of calibrating milk-meters

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## Introduction

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Periodic check of milking machines is the basis for reliable milk recording

A.I.A. coordinates SCM (milk machine control service) in order to test all milking devices of recorded farms

Local SCM technicians perform tests in recorded farms

## SCM organization

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**A.P.A.**  
Local SCM

**A.I.A.**  
Central SCM

## A.I.A. central management

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- Training and qualification of local technicians
- Definition and standardization of identification and recording devices test operating methods
- Relation with Government, Universities, Research Institutes, manufactures

**A.I.A.**  
Central SCM

- Technical support to local Breeders Associations
- Auditing on correct execution of SCM tests performed by local technicians
- Activities connected to routine tasks of Metrological Conforming Centre (CPCM) located in A.I.A.'s Milk Standard Laboratory (LSL)

## A.P.A. local activity

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- Identification, setting up and periodic test of yield recording devices according to ICAR rules

- Static control of milking devices (according to ISO:5707)
- Scheduling for test activities in order to maintain the desired periodicity of controls
- Recording of test results on dedicated software

**A.P.A.**  
Local SCM

## Identification, setting up and test

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- Each milk meter has to be identified ...

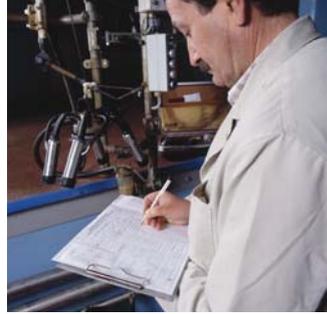
**Identification, setting up and test**  
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- ...tried out ...



**Identification, setting up and test**  
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- ... periodically checked



**SCM technicians tools**  
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electronic scale, buckets, testing kit with calibrated flowmeters, identification tags. These instruments are periodically tested at CPCM of AIA



Each technician is provided of a testing-kit and an operating manual

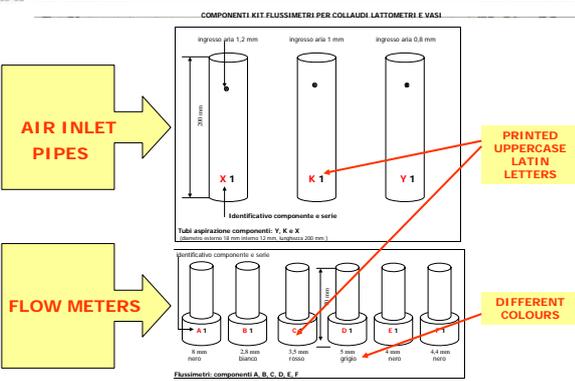
**Milk Meters Testing Kit**  
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Is composed by

- A complete set of flowmeters (hole diameter from 2.8 to 8 mm) and air inlet pipes (hole diameter from 0.8 to 1.2 mm)

**Milk Meters Testing Kit**  
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COMPONENTI KIT FLUSSIMETRI PER COLLAUDI LATTOMETRI E VASI



AIR INLET PIPES

PRINTED UPPERCASE LATIN LETTERS

FLOW METERS

DIFFERENT COLOURS

**Milk Meters Testing Kit**  
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A specific scheme drives the technician on how to correctly assemble the kit components in order to avoid mistakes in matching device to be tested (brand and type) with the couple flowmeter/ air inlet pipe.

## Milk Meters Testing Kit

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File:tabella collaudo PRESENTAZIONE

**VADEMECUM COLLAUDO LATTOMETRI/VASI:**

LATTOMETRO	DITTA COSTRUTTRICE	PERIODICITA' COLLAUDO	MATERIALE OCCORRENTE		
			DIAMETRO FLUSSIMETRO:	DIAMETRO FORO INGRESSO ARIA	SOLUZIONE DI PROVA
<b>Lattometri volumetrici</b>					
Vasi	Diverse	2 anni	8 mm (A)	NO	acqua
<b>Lattometri meccanici</b>					
Mikroskop mk2	De Laval	1 anno	8 mm (A)	NO	acqua
Fru-Test	Fru-Test	1 anno	8 mm (A)	NO	acqua
Waikato MKS	Inter Ag, New Zealand	1 anno	8 mm (A)	NO	acqua
<b>Lattometri elettronici</b>					
Lavel Mikrometer	Nedap Posez	12 mesi	Non specificato	Non specificato	acqua
Metatron 508 G	Westfalia-Surge	12 mesi	2,8 mm (B)	1,2 mm (X)	acqua + acido
Lait Altimk	SAE Altkum	12 mesi	3,5 mm (C)	1 mm (K)	acqua + sale
Meister (Memolac 2)	Nedap	12 mesi	3,5 mm (C)	1 mm (K)	acqua
Manuflow 2 e 21	Manus	8 mesi	3,5 mm (C)	0,8 mm (Y)	acqua
Flomaster 2000	De Laval	12 mesi	5 mm (D)	0,8 mm (Y)	acqua
Gasconne MR2000	Gasconne Melotte	12 mesi	4 mm (E)	1 mm (K)	acqua + sale
Boumatic M3000	Boumatic	12 mesi	4,4 mm (F)	1,2 mm (X)	acqua
Dairy Manager	Surge, Babson Bros Co.	12 mesi	5 mm (D)	1 mm (K)	acqua

## Milk Meters Testing Kit

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## Milk Meters Testing Kit

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- Depending on device to be tested and following the scheme instructions, the technician **is driven to assemble the right elements of the kit in the correct way** without mistakes, in order to guarantee **correct results**

## Device identification

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- At the end of a trying out with positive result, the technician will apply a **sticky label** on the tested device to assure the correct identification of it

## Device identification

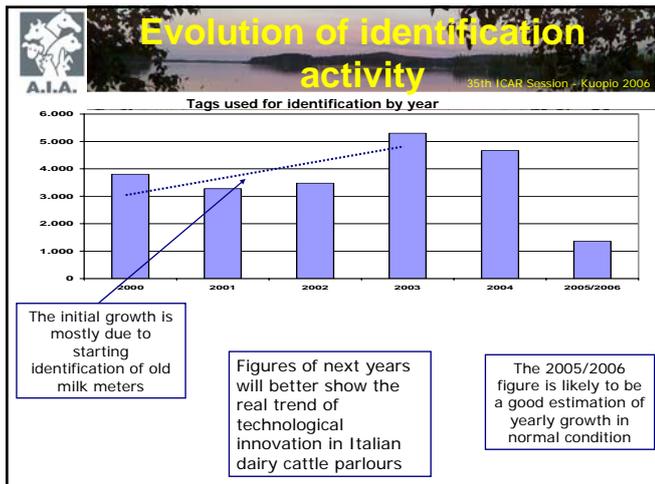
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- AIA now supplies directly sticky labels with a printed progressive identification number. Identification number duplication is avoided.
- The tag is made of aluminium and is composed by two parts:

## Device identification

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- the first one has to be stuck on the tested device
- the other one on the official paper form used by technicians to record data during testing operations.



### Evolution of Identification activity

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At the moment, about **1.800** recorded farms use more than **21.800** tested milk meters

- ### Conclusions
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- Experience gained through years led A.I.A. to build practical steps of SCM operating methods upon two points:
    - 1 – milk meter univocal identification by printed tags that AIA releases to all technicians
    - 2 – a special testing kit that avoids mistakes in assembling incorrect tools and guarantees the correct application of ICAR rules.
  - **This activity assures correctness for official milk recording and highly specialized technical support in dairy activity**

