SiallSCM: a nation-wide tool for milking monitoring to enhance efficiency and welfare

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The importance of milking

Monitoring milking machine operating parameters and milking procedures is a crucial factor in ensuring optimal milk yield and quality, labor efficiency, and udder health in dairy animals

(Schroeder, 2000; Thomas et al., 2005; Besier et al., 2016; Odorčić et al., 2019)
Milking Control Service (SCM)

SCM is part of the institutional activities carried out by AIA

Reliability of acquired data and samples

Approval and periodic checking of milk recording devices
ICAR recommendations

Checking the efficiency of milking machine and equipment
(Dry test)
Milking Control Service (SCM)

137 technicians qualified

15,581 farms checked in 2023
The many activities of the SCM contribute directly to ensuring animal welfare, milk quality and farm economic sustainability.

- **Wet test**
  Integrated evaluation of milking efficiency

- **Milking routine assistance**
  Identifies critical points and proposes the ideal routine for farm

- **Checking refrigeration (coolant) tanks**
  Checks tank functionality providing indications as to the cooling efficiency of the milk

- **Checking the efficiency of washing plants**
  Efficiency of the washing system to prevent microbiological proliferation
The tool SiallSCM: why?

• Different type of tests to evaluate milking
• Many different software and/or paper sheets
• Need to provide uniform assessments and support to farmers and stakeholders

Develop a versatile tool for comprehensive monitoring of milking processes through multiple data collection and assessments
The tool SiallSCM: peculiarities

- Structured with a *per* farm approach to **collect all tests** and info at farm level

- Milking plant and equipment **complete configuration** as start point
The tool SiallSCM: peculiarities

- Synchronized in real-time with central AIA’ DB and merged with the DHI data

- Structured to gather data and info from the main milking sensors and devices
The tool SialSCM: peculiarities

✓ Two tiers of normalization:

1. ISO and ICAR standards, instruments and devices officially calibrated

2. Identification and flag of aberrant or outlier data entries
The tool SiallSCM: numbers

More than **500,000** milking machines configuration and setting parameters acquired

*Inaugural campaign of SiallSCM*

Milk and vacuum systems and pipelines, pulsations, recording devices, vac. pump, milking regulation, clusters and rubbers, air flow rates, EVR, vacuums, cleaning, etc.
The tool SiallSCM: numbers

Current dataset (2024/29/04) comprises **4.348 milking tests** and **160.000 cows**

Information included 18 behaviour milking parameters

AIA’s Powerbi pages for Siall-SCM data enter monitoring
The tool SiallSCM: report

**Challenge**

Provide meaningful reports for technicians and farmers.
Conclusions

✓ Data exploiting: study and research the impact of milking

✓ Holistic assessment of milking efficiency using a combined machine-milker-animal approach.

✓ Identify crucial points and recommend the optimal strategy for the farm.
Thanks for your attention