



The 75th EAAP Annual Meeting

1/5 September 2024 - Florence, Italy



Influence of an Automatic milking system on milk yield and quality in Italian Mediterranean buffaloes

*R. Matera**, A. Calanni Macchio, F. D'Acierno, M. T. Verde, F. Bonavolontà,
S. Lauriola, G. Neglia

*E-mail: roberta.matera@unina.it



EAAP
European Federation
of Animal Science



UNIVERSITÀ
DEGLI STUDI DI NAPOLI
FEDERICO II



Dipartimento
Medicina Veterinaria
Produzioni Animali



Introduction

Livestock farming is constantly evolving, and manual activities are gradually giving way to automation



Precision Livestock Farming technologies



Automated milking system



Potential of Automatic Milking System



ADVANTAGES

- Reduction of labor for workers
- Increased production
- Increased animal welfare
- Increased efficiency of ration utilization
- Improved udder health
- Improved reproduction efficiency.

DISADVANTAGES

- High initial investment
- Need for specialized labor
- Less flexibility in managing an increase in the number of animals in the herd.

Buffalo Farming



ITALIAN JOURNAL OF ANIMAL SCIENCE
2023, VOL. 22, NO. 1, 1110–1119
<https://doi.org/10.1080/1828051X.2023.2271951>



RESEARCH ARTICLE

OPEN ACCESS

Milk characteristics and milking efficiency in Italian Mediterranean buffalo

Roberta Matera^{a,*} , Lorenzo Pascarella^{b,c,*} , Alessio Cotticelli^a , Giuseppe Conte^d , Alessia Tondo^b ,
Giuseppe Campanile^a and Gianluca Neglia^a

The AMS in the
introduced in 20

Initial doubts:

- High investment
- Repercussions on milk quality
- Lack of adaptation to the milking robot



- Smaller cistern (5 vs. 30%, compared to cattle)
- Longer teats and stronger teat sphincter than cattle
- Need for different milking parameters



ACTA IMEKO

ISSN: 2221-870X

December 2023, Volume 12, Number 4, 1 - 6



Comparative performance analysis between two different generations of an automatic milking system

Maria Teresa Verde¹, Roberta Matera², Francesco Bonavolonta¹, Francesco Lamonaca³, Leopoldo Angrisani¹, Concettina Fezza⁴, Luca Borzacchiello², Alessio Cotticelli², Gianluca Neglia²

New generation model (VMS300®) of milking robot

New generation model (VMS300®) of milking robot		Classic		New generation	
	Part		Classic		eneration
Milkings/d	2.33	2.33	2.33	2.33	35
Milking du	8.8 min	8.8 min	8.8 min	8.8 min	min
Milk yield	2.8 kg	2.8 kg	2.8 kg	2.8 kg	kg
Total milk/	8.91 kg	8.91 kg	8.91 kg	8.91 kg	0 kg

Aims

The purpose of the present study was to investigate and compare the conventional and automated milking in Italian mediterranean buffaloes

- Production (MY)
- Quality (Fat and protein)
- SCC



Materials and methods



*Lenza Lunga Farm
Cancello ed Arnone (CE)*



From February 2022



*100 Italian
Mediterranean
Buffaloes*

Two homogeneous groups:

- Live weight
- Udder conformation
- Days in milk (DIM)



50
CMS GROUP



50
AMS GROUP



Farm and Animals



Robot

Resting area

Feeding area



Materials and
methods



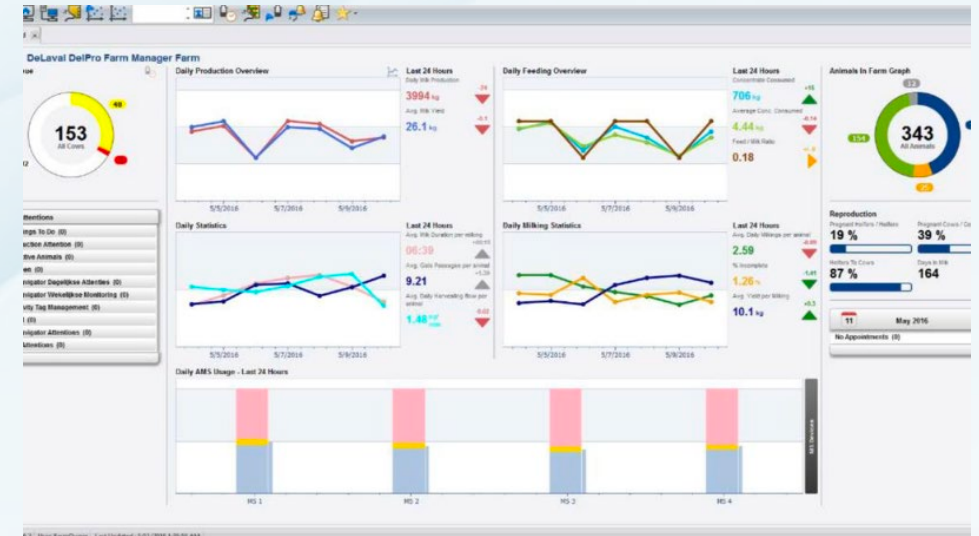
Results and
Discussion



Conclusions

Data collection

- *Daily* production data recorded by the milking software installed in the two milking systems
- Protein percentage (PP) and fat percentage (FP) recorded *monthly*
- Somatic cell count (SCC) recorded *monthly*



MilkoScan™
Fossomatic FC®

Statistical analysis

- Statistical analysis was conducted using SPSS software (28.0) for Windows 10



**Materials and
methods**

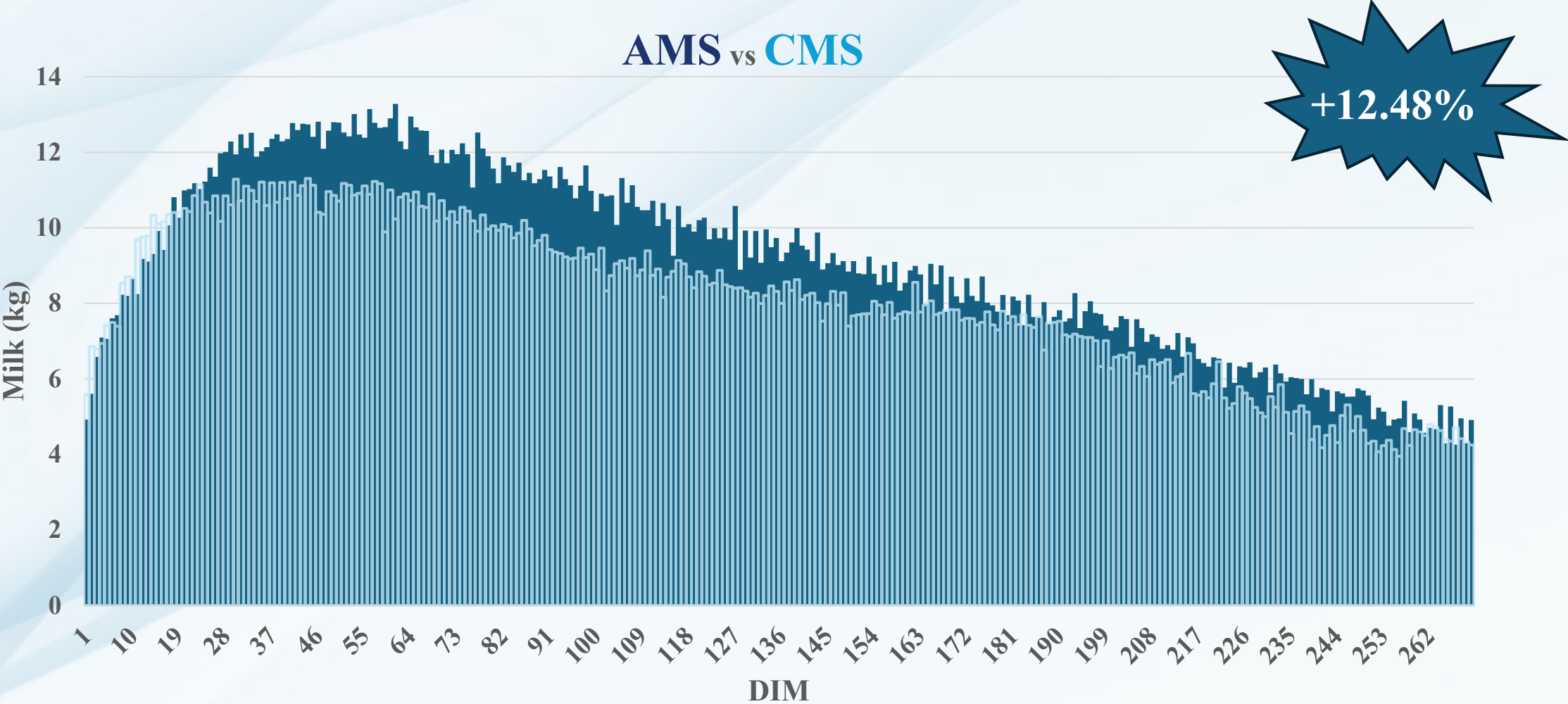


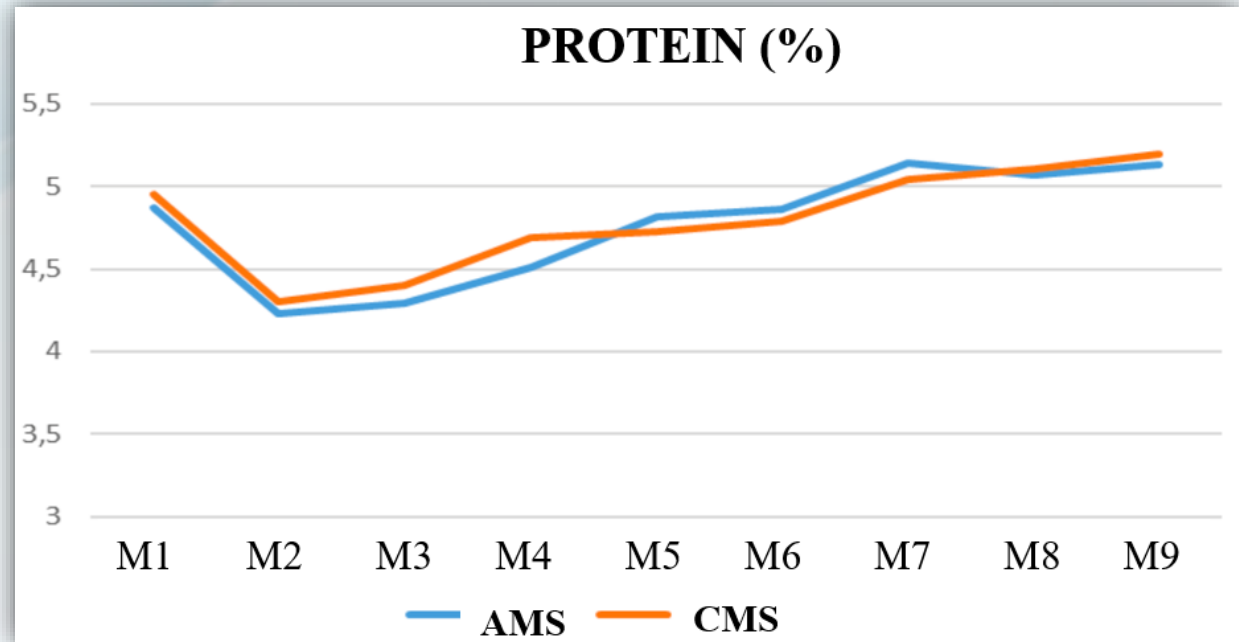
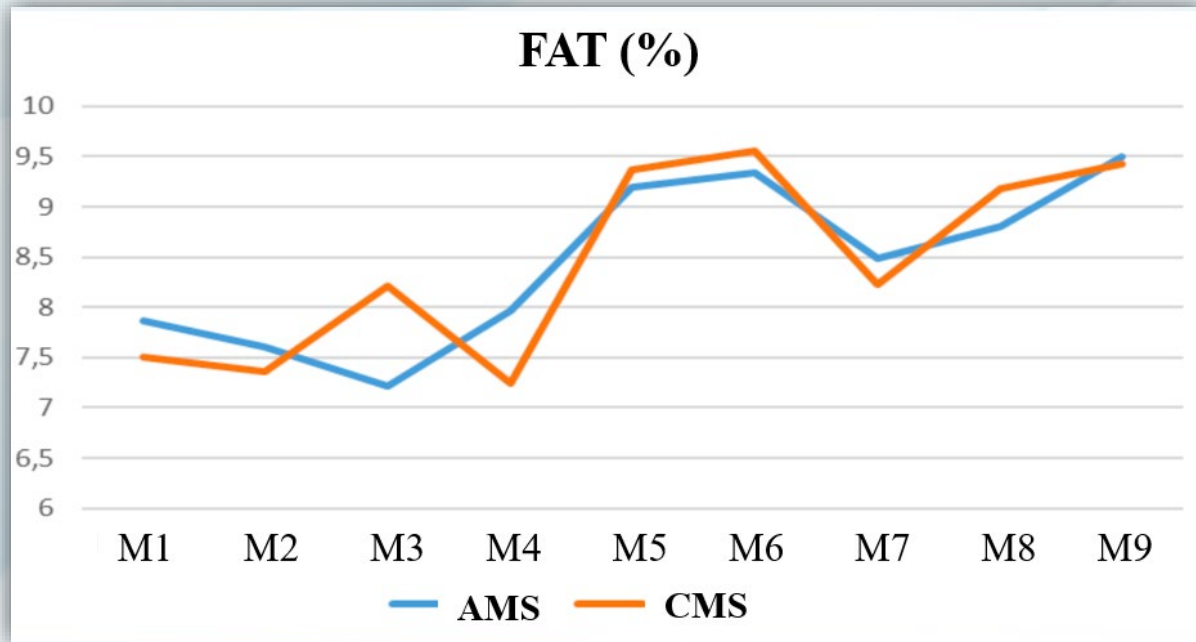
**Results and
Discussion**



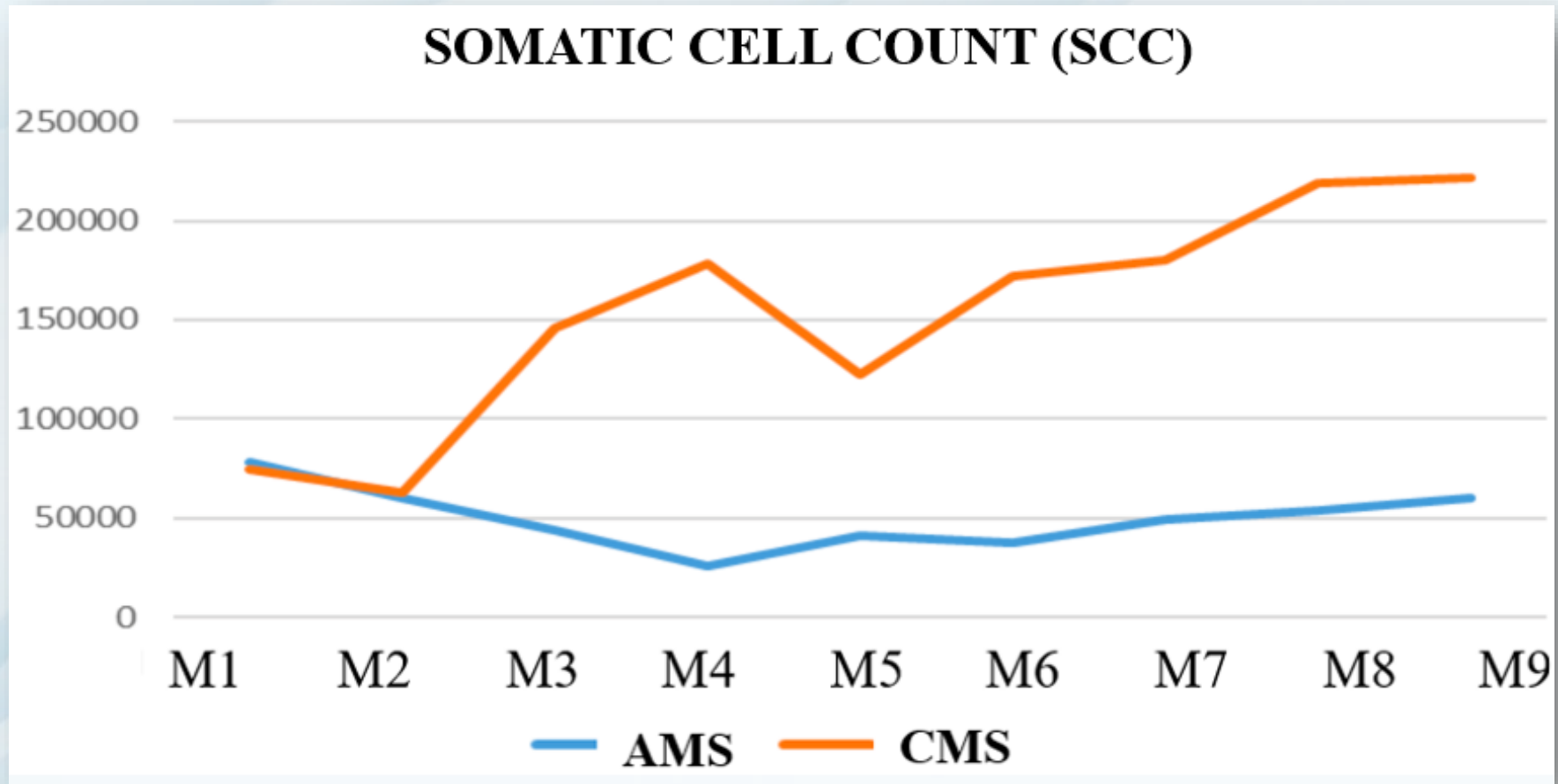
Conclusions

Results and Discussion





Number of treatments: 4 AMS vs 16 CMS



Conclusions



Milk production



Udder health

**AMS is an excellent solution for milking
Italian Mediterranean buffaloes**



Materials and
methods



Results and
Discussion



Conclusions

THANK YOU FOR YOUR ATTENTION



UNIVERSITÀ
DEGLI STUDI DI NAPOLI
FEDERICO II



ACKNOWLEDGEMENTS:

- This study was carried out within the Project 'TRANSFER: (Tecnologie innovative per la realizzazione di una smart farming nel settore bufalino)'. Call Topic: PONMiSE Imprese e Competitività 2014/2020. Project n. F/ 200090/01-02-03/X45. CUP: B61B20000570005.
- This study was carried out within the Agritech National Research Center and received funding from the European Union Next-GenerationEU (PIANO NAZIONALE DI RIPRESA E RESILIENZA (PNRR) – MISSIONE 4 COMPONENTE 2, INVESTIMENTO 1.4 – D.D. 1032 17/06/2022, CN00000022). This manuscript reflects only the authors' views and opinions, neither the European Union nor the European Commission can be considered responsible for them.