



ASPA 24th Congress Book of Abstract

Roberto Mantovani & Alessio Cecchinato

To cite this article: Roberto Mantovani & Alessio Cecchinato (2021) ASPA 24th Congress Book of Abstract, Italian Journal of Animal Science, 20:sup1, 1-236, DOI: [10.1080/1828051X.2021.1968170](https://doi.org/10.1080/1828051X.2021.1968170)

To link to this article: <https://doi.org/10.1080/1828051X.2021.1968170>



© 2021 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.



Published online: 21 Sep 2021.



Submit your article to this journal [↗](#)



Article views: 1870



View related articles [↗](#)



View Crossmark data [↗](#)



Citing articles: 2 View citing articles [↗](#)

Italian Journal of Animal Science

volume 20, supplement 1, 2021

ASPA 24th Congress

Padova, September 21-24, 2021

Guest Editors

Roberto Mantovani (Coordinator), Alessio Cecchinato, Giovanni Bittante, Maurizio Ramanzin, Lucia Bailoni, Mauro Penasa, Flaviana Gottardo, Sara Pegolo, Giorgio Marchesini, Rebecca Ricci, Cristina Sartori, Marco Cullere, Marco Birolo, Severino Segato, Valentina Bonfatti, Marta Brscic, Luigi Gallo, Stefano Schiavon, Franco Tagliapietra

Table of Contents

<hr/> MAIN LECTURES		<hr/> POSTERS	103
Management strategies to improve animal health, welfare and resilience	1	<hr/> INDEX OF AUTHORS	196
Nutritional profile of food	1		
<hr/> ORAL COMMUNICATIONS			
Alternative feeds and waste recycling	16		
Nutritional profile of food	18		

ASPA 24th Congress

Padova, September 21-24, 2021

ORGANIZING COMMITTEE

Lucia Bailoni (President)
Luigi Gallo (Secretary)
Roberto Mantovani (Secretary)
Igino Andrighetto
Paolo Berzaghi
Paolo Carnier
Martino Cassandro
Giulio Cozzi
Antonella Dalle Zotte
Massimo De Marchi
Chiara Rizzi
Angela Trocino
Rina Verdiglione
Gerolamo Xiccato

SCIENTIFIC COMMITTEE

Giovanni Bittante (President)
Marco Cullere (Secretary)
Marco Birolo
Valentina Bonfatti
Marta Brscic
Cecchinato Alessio
Flaviana Gottardo
Giorgio Marchesini
Sara Pegolo
Mauro Penasa
Maurizio Ramanzin
Rebecca Ricci
Cristina Sartori
Severino Segato
Stefano Schiavon
Enrico Sturaro
Franco Tagliapietra

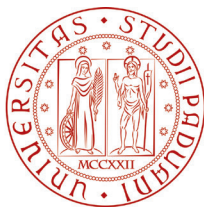


ASPA 24th Congress

Padova, September 21-24, 2021

Sponsors & Partners

1222 • 2022
800
ANNI

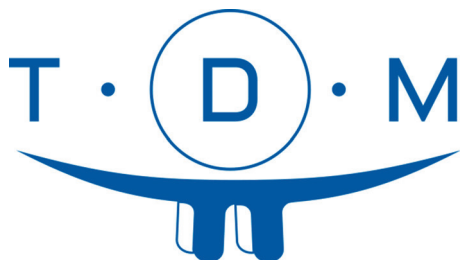


UNIVERSITÀ
DEGLI STUDI
DI PADOVA

DAFNAE

ASPA 2019
SORRENTO

23° CONGRESS OF THE
ANIMAL SCIENCE AND
PRODUCTION ASSOCIATION

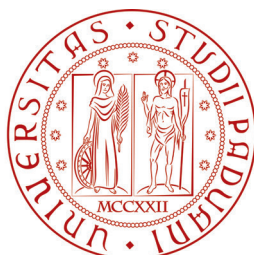


Total
Dairy
Management

ASPA 24th Congress

Padova, September 21-24, 2021

Under the Patronage of



UNIVERSITÀ
DEGLI STUDI
DI PADOVA



PATROCINIO
REGIONE DEL VENETO



Ministero delle
politiche agricole
alimentari e forestali





ASPA 24th Congress

Padova, September 21-24, 2021

#ASPA2021

24th

Congress of the Animal Science and production Association

24° Congresso dell' Associazione per la Scienza e le Produzioni Animali

**Padova,
September 21-24, 2021**

Venue

“Fiore di Botta”

University of Padova

Via del Pescarotto, 8-Padova

P136**Effect of *Aloe arborescens* supplementation in dry cows on rumen and hindgut microbiomes**

Paola Cremonesi^a, Filippo Biscarini^b, Fiorenzo Piccioli-Cappelli^c, Erminio Trevisi^c, Giorgia Lovotti^c, Stefano Morandi^d, Bianca Castiglioni^a, Simona Tringali^d, Giovanna Battelli^d, Milena Brasca^d

^a*Istituto di Biologia e Biotecnologia Agraria (IBBA), National Research Council of Italy, Lodi, Italy*

^b*Istituto di Biologia e Biotecnologia Agraria (IBBA), National Research Council of Italy, Milano, Italy*

^c*Dipartimento di Scienze Animali, della Nutrizione e degli Alimenti (DiANA), Università Cattolica del Sacro Cuore, Piacenza, Italy*

^d*Istituto di Scienze delle Produzioni Alimentari (ISPA), National Research Council of Italy, Milano, Italy*

Contact paola.cremonesi@ibba.cnr.it

The transition period in dairy cows is characterized by reduced immunocompetence, inflammations, oxidative stress with a higher risk of metabolic and infectious diseases. *Aloe arborescens* contains polysaccharides and exhibits anti-inflammatory, immunostimulant, antibacterial, and antioxidant properties. The aim of this study was to investigate the effect of this nutraceutical approach on the rumen and hindgut microbiomes. The experiment involved 30 multiparous dairy cows at the dry off, divided into three different groups: (1) control group (CTR) – dry cows following the typical antibiotic treatment and the application of teat sealant; (2) sealant group (SIG) – dry cows without antibiotic's treatment and with only teat sealant; (3) *A. arborescens* supplementation and sealant group (ASIG) – dry cow with teat

sealant and oral administration of 200 mL of homogenate *A. arborescens*. *Aloe arborescens* was administered in the morning during the distribution of the total mixed ration for 14 days (7 days before up to 7 days after drying). For 16S rRNA-gene sequencing and volatilome analyses, rumen liquor and fecal matter were collected fourteen days before (T0) dry-off, at drying-off (T1) and seven days after dry-off (T2, only fecal samples). The V3-V4 hypervariable regions of the bacterial 16S gene was sequenced in two MiSeq (Illumina) runs with 2 × 250-base paired-end reads. No significant differences were observed for alpha- and beta-diversity between treatments along the three timepoints in the rumen microbiome. Conversely, according to all indices except evenness (equitability, simpson_e) the alpha diversity of the hindgut microbiome increased significantly (p-values in the range 0.002 – 0.011) in the ASIG group at T2. Regarding beta-diversity, the hindgut microbiome showed a statistically significant (p-value = 0.0479) separation between treatments. Independently from sampling time and treatments, the bacterial community of the hindgut was dominated by Bacteroidetes (~40%) and Firmicutes (~48%); rumen showed prevalence of Bacteroidetes (~45%), Firmicutes (~25%) and Proteobacteria (~12%). In rumen, due to the high variability for all the metabolites no significant differences were observed between T0 and T1. In conclusion, the dietary supplementation with *Aloe arborescens* seems to have a sizable effect on the composition of the dairy cow gut microbiome, but not at the rumen level.

Acknowledgements

RABoLa, co-funded by the Region Lombardia D.d.s.21.12.2018 n. 19442.