Abstracts of the 2019 American Dairy Science Association® Annual Meeting

June 23–26, 2019
Cincinnati, Ohio

Journal of Dairy Science®
Volume 102, Supplement 1

JOURNAL OF DAIRY SCIENCE® SINCE 1917

1800 S. Oak St., Ste 100, Champaign, IL 61820 Phone 217/356-5146 | Fax 217/378-4083 | http://www.journalofdairyscience.org

Journal of Dairy Science (ISSN 1525-3198) is published online (http://www.journalofdairyscience.org) monthly on behalf of the American Dairy Science Association® by FASS Inc., Champaign, IL 61820, and Elsevier Inc., 360 Park Avenue South, New York, NY 10010-1710. Business and Editorial Office: 1600 John F. Kennedy Blvd., Ste. 1800, Philadelphia, PA 19103-2899. Customer Services Office: 3251 Riverport Lane, Maryland Heights, MO 63043.

ADSA 2019 Program Committees

Overall Program Committee
Mike VandeHaar
Zey Ustunol
Mike Brouk
Michael Miller
Paul Kindstedt
Emma Wall

Animal Behavior and Well-Being
Peter Krawczel
Emily Miller-Cushon
Amber Adams-Progar

Animal Health
Barry Bradford
Andres Contreras
Eduardo de Souza Ribeiro

Breeding and Genetics
Filippo Miglior
Christine Baes
Daniela Lourenco
Francisco Penagaricano
Brad Hein

Dairy Foods
Mike Miller
Dave Everett
Rani Govindasamy-Lucey
Sam Alcaine
Sanjeev Anand
Rohit Kapoor

Extension Education
Mike Schutz
Lindsay Ferlito
Noa Roman-Muniz

Forages and Pastures
Andre Brito
Daryl Kleinschmit
Matt Akins

Growth and Development
Kristy Daniels
Gustavo Cruz
Peter Erickson

Lactation Biology
Theresa Casey
Jimena LaPorta
FenQi Zhao
Sha Tao

Milk Protein and Enzymes
Dave Everett
Don McMahon
Lloyd Metzger
Yves Pouliot
Rodrigo Roesch
Hasmukh Patel
Phoebe Qi
Christina Levendoski
Milena Corredig
Rafael Jimenez-Flores

Physiology and Endocrinology
Rob Rhoads
Ronaldo Cerri
Massimo Bionaz

Production, Management, and the Environment
Victor Cabrera
Todd Callaway
Jennifer Heguy

Reproduction
Stephen Butler
Alan Ealy
Stephen LeBlanc

Ruminant Nutrition
Stephanie Ward
Hugo Ramirez Ramirez
Jill Anderson

Small Ruminant
Ahmed Salama
Guido Invernizzi
Noemi Castro

Teaching/Undergraduate and Graduate Education
Cathleen Williams
Elizabeth Karcher
Abigail Carpenter

ADSA Multidisciplinary and International Keynote (MILK) Symposium
Rafael Jimenez-Flores

ADSA Southern Section Symposium
Jillian Fain Bohlen

ADSA Graduate Student Symposium
Marie Lawton
Holly Miller

ADSA-Interbull Sessions
Filippo Miglior
Christine Baes
Daniela Lourenco
Francisco Penagaricano
Brad Hein

Continued

Graduate Student Competition: ADSA Dairy Foods Oral
Laura Colby
Don Otter
Beth Briczinski

Graduate Student Competition: ADSA Dairy Foods Poster
Sam Alcaine
Liz Ng
Ashraf Hassan

Graduate Student Competition: ADSA Production Oral (MS/PhD)
Maris McCarthy
Peter Krawczel
Dan Cooke
Luis Moraes
Lorraine Sordillo-Gandy

Graduate Student Competition: ADSA Production Poster (MS/PhD)
Keena Mullen
Agustin Rius
Benjamin Wenner
Kees Plaizier
Kamal Mjoun
Jeff Weyers

ADSA SAD Undergraduate Oral and Poster Competitions
Stephanie Ward
Molly Kelley

Workshops:

Teaching: Planning, Implementing, and Evaluating Classroom Discussion
Michel Wattiaux

Dairy Records Analysis
Kas Ingawa

NANP Nutrition Models
Tim Hackmann

Mixed Models
Nora Bello

Ad hoc Reviewers

Lance Baumgard
Leanne Berning
Luiz Brito
Adrien Butty
Phil Cardoso
Tati Chud
Stephanie Clark
Rebecca Cockrum
Robert Collier
Ben Corl
Luciana Da Costa
Geoff Dahl
Trish Dawson
Duarte Diaz
Samer El-Kadi
Luiz Ferraretto
Gonzalo Ferreira
Arthur Goetsch
Rani Govindasamy Lucey
Mark Hanigan
Laura Hernandez
Gonzalo Hervaz
Barbara Jones
Juan Loor
Menchu Manuelian
Josh McCann
Joe McFadden
Thomas McFadden
Kasey Moyes
Gerson Oliveira
Johan Osorio
Henry Paz
Michelle Rhoads
Maristela Rovai
Guillermo Schroeder
Turner Swartz
Pablo Toral
Giovana Vargas
Robin White

ABSTRACTS

American Dairy Science Association®

Sunday, June 23, 2019

SYMPOSIA AND ORAL SESSIONS

Monday, June 24, 2019

POSTER PRESENTATIONS

SYMPOSIA AND ORAL SESSIONS

Tuesday, June 25, 2019

POSTER PRESENTATIONS

SYMPOSIA AND ORAL SESSIONS

alkaline detergent was used for washing. The effect of 3 times (10, 20 and 30 s) and 5 water temperatures (20, 30, 40, 50 and 60°C) on removal of peanut allergen from stainless steel pipe was investigated. Samples were obtained by swabbing, and tested for concentration of peanut allergen protein Ara h 1. All experiments were replicated 3 times. When equipment was only rinsed, concentrations of peanut allergen residue left on the pipe ranged from 207 ppm to 63 ppm. The overall trend suggested that higher water temperature and longer rinsing time resulted in lower peanut allergen concentration on the equipment ($P < 0.05$). When equipment was rinsed then washed, concentrations of peanut allergen residue ranged from 1.43 ppm to 0.015 ppm. The overall trend suggested that water temperature played an important role in removing peanut allergen ($P < 0.05$) while time showed a less important effect than temperature on allergen removal in this study. Only rinsing was not effective in removal of all peanut allergen. Rinsing and washing at temperatures 50°C or above, and 20 s or longer are needed to remove all peanut allergen from stainless steeel equipment. Effective cleaning can reduce the chance of cross contamination as well as save time and money for the food industries. Understanding the principle of rinsing and washing is essential for effective allergen removal.

Key Words: peanut allergen, cleaning, processing equipment

M107 A conjugated whey protein hydrolysate demonstrates enhanced bioactive attributes. S. Minj*[1,2] and S. Anand[1,2], [1]*Midwest Dairy Foods Research Center, Brookings, SD,* [2]*Dairy and Food Science Department, South Dakota State University, Brookings, SD.*

Whey protein hydrolysates with enhanced bioactivities may confer improved health benefits to the consumers. While some studies have shown the protein ingredients produced through conjugation with maltodextrin to have greater functionality, the effect of conjugation on the bioactivities is not clearly established. In this study, whey protein concentrate WPC80, isolate WPI90, and hydrolysates WPH10, WPH15 and WPH20 were screened for bioactivities (antimicrobial activity by agar well assay, antioxidant activity by $ABTS^+$ radical assay and antihypertensive activity by ACE inhibition assay). Hydrolysate WPH10, exhibiting the highest bioactivities was conjugated with maltodextrin to obtain a thermally stable conjugated solution. A batch of 2L conjugated solution was spray dried in a Niro drier with an inlet and outlet temperature of 200°C and 90 ± 5°C, and alternatively, freeze-dried at −80°C under 50 mTorr vacuum. The bioactivities of the conjugated samples were then assessed according to the above-mentioned assays. All experiments were conducted in triplicates and one-way ANOVA was applied to differentiate the mean values. The hydrolysates showed significantly ($P < 0.05$) higher bioactivities (10.6 ± 0.33mm, 766.72 ± 13.3 TEAC µmol/L and 67.52 ± 0.2% for antimicrobial, antioxidant and antihypertensive activity), as compared with concentrate (8.6 ± 0.33mm, 373.3 ± 21.5 TEAC µmol/L and 60.8 ± 0.1%) and isolate (9.3 ± 0.33mm, 426.9 ± 42.0 TEAC µmol/L and 62.9 ± 0.07%). Based on the highest bioactivity, hydrolysate WPH10 was selected for conjugation with maltodextrin. The conjugated WPH10 solution demonstrated higher antimicrobial (17.16 ± 0.33mm) and antioxidant activity (1044.37 ± 39.1 TEAC µmol/L) ($P < 0.05$), whereas a slight decrease in the antihypertensive activity (65.4 ± 0.2%) was observed, as compared with WPH10 alone. Subsequent spray and freeze drying of the conjugate solution exhibited even higher antimicrobial (18.5 ± 0.57mm) and antioxidant activity (1268.89 ± 41.9 TEAC µmol/L) ($P < 0.05$), while retaining the antihypertensive activity (65.6 ± 0.3%) i.e., ($P > 0.05$). Further studies are in progress to develop health formulations utilizing WPH-conjugates with enhanced bioactivity and functionality.

Key Words: bioactivities, conjugates

M108 Variation of cow milk quality traits in the dairy industry of northeast Italy in the last decades. C. L. Manuelian* and M. De Marchi, *Department of Agronomy, Food, Natural resources, Animals and Environment (DAFNAE), University of Padova, Legnaro, Italy.*

Evolution of cow bulk milk quality in northeast Italy during the last 12 years has been evaluated with in-field data from the Italian dairy industry. According to milk payment system, monthly bulk milk composition records (average of 2 samples) from 2007 to 2018 were retrieved from one of the most important dairy factories in the Veneto region (Latteria di Soligo SAC, Farra di Soligo, Italy). This dairy factory mainly transforms milk into fresh cheese (e.g., Casatella di Treviso PDO and Mozzarella cheeses). Only farms with at least 2 years of records and years with 12-mo records were retained. A total of 28,608 records from 331 farms were available for the statistical analysis. Somatic cell count (SCC) and TBC (total bacterial count) were $\log_{10}$ transformed to ensure the normality of the data. The model included year, month and their interaction as fixed effects, and multiple comparisons of the main effects were done using Bonferroni's test. All fixed effects included in the model were significant explaining the variance observed. The number of farms steadily decreased from 245 in 2007 to 135 in 2018, with an increase in the average annual milk yield/farm from 4.93×10^5 to 5.75×10^5 L during the same period. Despite the increase in production, fat (in 2007, 3.86 ± 0.004%; in 2018, 3.98 ± 0.006%; $P < 0.001$) and protein (in 2007, 3.32 ± 0.003%; in 2018, 3.36 ± 0.004%; $P < 0.001$) concentration remained quite stable across years, and SCC (−22.83%) and TBC (−7.66%) were importantly reduced between 2007 and 2018. On the other hand, month variation has a greater impact than year on fat and protein concentration, with lower values during the hot months (May–August) and an increase in TBC. The SCC were also greater from June to October respect to the other months of the year. Our results indicated that, during the last 12 years, farms have increased their farm productivity with a slight increase in fat and protein content and a significant reduction in SCC and TBC, indicating a better milk quality. The authors thank Latteria di Soligo SAC for providing the data. This project has received funding from Bando AGER 2017 – sezione Prodotti lattiero-caseari.

Key Words: dairy industry, milk quality

M109 Physical-chemical analysis of donkey milk yogurt mixed with milk added from other species. R. D. S. Gomes[1], M. F. Bezerra[1], E. G. S. O. Silva[1], I. L. S. Oliveira[1], B. K. C. Melo[1], A. F. S. Gomes[1], E. P. E. Silva[1], D. C. Sales[3], L. H. F. Borba[1], A. H. N. Rangel[1], and J. G. B. Galvão Jr.*[2], [1]*Universidade Federal do Rio Grande do Norte, Macaíba, RN, Brazil,* [2]*Instituto Federal de Educação do Rio Grande do Norte, Ipanguaçu, RN, Brazil,* [3]*Universidade do Estado de São Paulo, Jaboticabal, SP, Brazil.*

The objective of this study was to evaluate the physico-chemical composition of yogurts of donkey milk in a mixture with bovine, buffalo and goat milk. To do so, 3 yogurt formulations were prepared: DBV (50% donkey milk + 50% bovine milk), DBF (50% donkey milk + 50% buffalo milk) and DGO (50% donkey milk + 50% goat milk). All formulations had sugar added (8%) and were flavored with concentrated mango pulp (15%). The physico-chemical evaluation was performed on the 3first day of storage by analysis of fat, protein, casein, lactose, total solids (TS) and defatted dry extract (DDE) by DairySpec FT equipment (Bentley Instruments Inc., Chaska, MN), plus pH evaluation. The samples were diluted 1:1 with distilled water before being submitted to analysis in the equipment. The final result was obtained by multiplying the reading obtained in the equipment by 2. The data were submitted to ANOVA, complemented by Tukey's test at 5% significance using the SAS program

butyrate and 3.06 ± 0.36 of acetate:proprionate ratio. Calcium nitrate can be used up to 2% on DM basis without affecting milk production, milk composition, or ruminal fermentation parameters.

Key Words: milk component, small ruminants, volatile fatty acid

255 Changes in key blood metabolites and insulin in late-pregnant prolific Afec-Assaf ewes drenched with several doses and mixtures of propylene glycol and glycerol. U. Moallem*[1], T. Alon[1,2], A. Rozov[1], L. Lifshitz[1], H. Dvir[1], and E. Gootwine[1], [1]*Department of Ruminant Science, ARO, Volcani Center, Rishon LeZion, Israel* [2]*Department of Animal Science, University of Jerusalem, Rehovot, Israel.*

In a previous study, we found that the effect of drenching late-pregnant prolific ewes with propylene glycol (PG; 106 mL) or glycerol (GL; 108 mL) was different; while PG was anti-ketogenic, the effect of GL was mainly glucogenic. In the present study, the effect of different doses of PG and GL was examined in late-pregnant ewes (~132 d pregnant) bearing 2–4 fetuses. Thirty ewes were divided according to BHBA blood levels, expected litter size, BW and BCS into 5 groups (6 ewes each) and were drenched with: 1) Control - 55 mL water; 2) PG100 - 106 mL PG; 3) GL100 - 108 mL GL (80%); 4) PG50 - 53 mL PG; 5) GL50 - 54 mL GL (80%). Blood samples were taken 60 and 30 min before, and every hour post-drenching (PD) for 13 h. Concentrations of glucose, BHBA, NEFA, lactate, glycerol and insulin were determined. Data were analyzed using the PROC MIXED procedure of SAS. According to the response pattern, data were analyzed in 2 time-periods PD: 1) 1- 6 h; 2) 7 - 13 h. During period 1, glucose and insulin concentrations were higher in GL100 than in other groups ($P < 0.05$); PG50 was more effective in reducing the BHBA concentrations than PG100 with no differences in NEFA concentrations. Lactate concentrations were similar between PG100 and PG50, but higher than other groups ($P < 0.02$). Further, we tested the effects of mixtures of both substances in a similar design and analysis. Eighteen ewes were divided into 3 groups, and were drenched with: 1) Control - 55 mL of water; 2) MIX100 - 53 mL PG + 54 mL GL (80%); 3) MIX50 - 26.5 mL PG + 27 mL GL (80%). No differences were observed in glucose, BHBA, NEFA, glycerol and insulin concentrations between groups in both periods; however, lactate concentrations were higher in the MIX100 group at period 1 ($P < 0.05$). In conclusion, in a few parameters, lower doses of both substances seemed to be more effective than higher doses. In addition, mixtures of PG and GL were not effective in achieving the anti-ketogenic and glucogenic effects simultaneously. The results of this study showed that further research is required to establish proper doses and composition of these substances.

Key Words: sheep, propylene glycol, glycerol

256 Characterization of plasmatic oxidative and metabolic profile in Italian goat breeds. C. L. Manuelian*[1], A. Maggiolino[2], G. Neglia[3], M. De Marchi[1], and P. De Palo[2], [1]*Department of Agronomy, Food, Natural resources, Animals and Environment (DAFNAE), University of Padova, Legnaro, Italy,* [2]*Department of Veterinary Medicine, University of Bari Aldo Moro, Valenzano, Italy,* [3]*Department of Veterinary Medicine and Animal Production (DMVPA), University of Naples Federico II, Napoli, Italy.*

Characterization of local breeds in terms of physiology and production is crucial to propose strategies for their preservation. Blood from Italian local breeds Garganica (GA), Girgentanta (GI), Jonica (JO), Rossa Mediterranea (RM), Maltese (MA) and Saanen (SA) was sampled throughout a complete lactation (28 wk) to characterize their metabolic and oxidative plasmatic profile when reared under the same experimental conditions. A total of 57 goats (9–10 does/breed) were enrolled in the study, and individual blood samples (n = 784) were collected every 2–3 wk. A mixed model with repeated measures was used to analyze the data considering breed, week of lactation and their interaction as fixed effects, and the animal and the residual as random. Metabolic plasmatic profile revealed that ($P < 0.05$): the greatest NEFA (mmol/L) value was observed in SA (0.63 ± 0.01); triglycerides (mmol/L) were greater in MA, GA and GI (35.1 ± 0.65) than in RM (31.8 ± 0.65); glucose (mmol/L) was greater in GA and JO (65.2 ± 0.65) than in GI, MA and SA (61.9 ± 0.62); total protein (g/L) was greater in GI and JO (7.18 ± 0.03) than in GA (7.04 ± 0.03); creatinine (mg/dL) was greater in RM (0.86 ± 0.01) than in MA (0.78 ± 0.01); the lowest uric acid (mg/dL) value was observed in JO (0.38 ± 0.01); ALT (U/L) was greater in GI (11.7 ± 0.21) than in MA (10.0 ± 0.20); AST (U/L) was greater in GI and RM (261 ± 4.8) than in GA and JO (196 ± 4.6); and ALP (U/L) was greater in MA (239 ± 1.1) than in GA, JO and SA (124 ± 1.1). The oxidative plasmatic profile showed that ($P < 0.05$): the greatest TBARS (nmol/L) and FRAP (mg AAeq/mL) value was in JO (0.97 ± 0.02) and GI (73.4 ± 1.67), respectively, while the other breeds showed no differences among them; IDROP (μmol/mL) was greater in MA (6.56 ± 0.08) than in RM (6.19 ± 0.09); carbonylated proteins (μmol/mL) were greater in GA, MA, SA and RM (111 ± 1.0) than in JO (105 ± 1.0); and SOD (U/mL) was greater in GA (114 ± 0.9) than in GI, JO, MA and RM (109 ± 1.0). This is the first characterization of the metabolic and oxidative profile of GA, GI, JO, RM and MA goat breeds. Our results revealed considerable differences between the breeds. The authors thank the Centro di Zootecnia e Acquacoltura (Italy) and the Associazione Italiana Allevatori (Italy).

Key Words: autochthonous, goat, lactation

257 Effects of sodium bicarbonate and chromium propionate supplementation on growth performance, blood and rumen indices of Beetal bucks under heat stress conditions. M. A. Rashid*[1], A. Jamal[1], M. I. Malik[1], A. B. Nisar[1], Z. A. Qamar[1], H. Rehman[2], and M. S. Yousaf[2], [1]*Department of Animal Nutrition, University of Veterinary and Animal Sciences, Lahore, Pakistan,* [2]*Department of Physiology, University of Veterinary and Animal Sciences, Lahore, Pakistan.*

Objectives of current experiment were to determine the effects of sodium bicarbonate (SBC) and chromium propionate (Cr) supplementation on intake, growth performance, feed sorting, rumen pH, and blood indices under hot and humid conditions. Twenty-eight Beetal bucks were randomly assigned to 4 treatments (n = 7 bucks/treatment): Control (C) without supplementation, sodium bicarbonate (SBC); at 1.5% of DM, chromium propionate (Cr); at 1.5 mg chromium/animal/d), and (SBC+Cr) diet containing SBC at 1.5% of DM + Cr at 1.5 mg chromium/animal/d. Total duration of experiment was 8 wk. Animals were housed individually, fed on iso-nitrogenous TMR (30% oat silage and 70% concentrate) to ensure 10% daily refusal, and given free access to water. Temperature and humidity values were recorded thrice daily at 0800, 1400 and 2000 h. Feed sorting, body weights and body measurements were conducted weekly. Rumen samples (n = 4 bucks/treatment) were collected on fortnightly basis using oral tube to determine rumen pH. Weekly measures including ADG, DMI, feed sorting, rumen pH and blood metabolites were analyzed using Mixed Model of SAS. Data of live BW, structural measurements, and FE were analyzed using one way ANOVA and declared significant at $P < 0.05$. During entire experiment, mean daily THI (85.3 ± 1.94) remained above the threshold level of THI (72–75) for ruminants. Mean daily DMI was higher ($P < 0.05$) in the SBC and SBC+Cr (1227, 1258 g/d) compared with the C and Cr

for farm workers, particularly for the milker subgroup. Study supported by HICAHS (Colorado State University).

Key Words: dairy farm, milker, vision problems

T67 Assessing dairy employees' health status in South Dakota: Eating habits and general health care. L. Guifarro*[1], P. da Rosa[2], and M. Rovai[1], [1]*Dairy and Food Science Department, South Dakota State University, Brookings, SD,* [2]*College of Nursing, South Dakota State University, Brookings, SD.*

Dairy farm workers' eating habits may be compromised by their daily 12-h working shift. The intensive schedule demands high physical exertion with limited time for healthy choices, which include eating and general health care. The aim of this study was to assess South Dakota dairy farm employees' general health status including nutrition and health care (number of visits to the physician). A survey written in Spanish was conducted in person (n = 70 workers on 3 farms) assessing various topics and details related to employees' daily routine tasks, eating habits and general health status. Descriptive analysis was carried out using SPSS 25.0. The mean age was 28 ± 1.7 and 34 ± 1.6 for female and male, respectively. Most were Hispanics (96%) and males (76%). The large majority were Mexican (46%) and Guatemalan (44%) workers. Over half (53%) of workers were overweight or obese (mean BMI = 25.6 ± 4.2). Workers living in the United States 4 years or less had BMI = 25 whereas BMI was higher (>28) as years in the United States increased. One-third reported sleeping between 4 to 6 h/d and 46% reported eating in restaurants at least twice a week. The majority (80%) do not have health insurance, 53% have not seen a physician in the last 3 years, and 65% have not seen a dentist in the last 6 mo. Reasons for not receiving medical care included medical cost, lack of information, and language barriers. The only physical activity the workers practice is their job duties. They usually opt for healthier choices when arriving in the United States; however, as years increase, their habits change for either convenient fast food or pre-packaged food. Due to survey results, an educational workshop provided recommendations on improving general health care. The topics included healthier nutrition, awareness of cardiovascular diseases and oral health risk factors relating to eating habits. Personal health care might be influenced by individual values, culture, motivation, and economic opportunities. Strategic workshops designed to promote health education and healthy eating habits for farm workers are needed in their native language. Study supported by HICAHS (Colorado State University).

Key Words: dairy farm, farm workers, eating habits

T68 Survey about the use of allopathic treatments and sources of information for organic livestock farms in France. M. De Marchi[1], H. Bugaut[2], C. L. Manuelian*[1], J. Renard[2], F. Righi[3], and S. Valleix[2], [1]*Department of Agronomy, Food, Natural resources, Animals and Environment (DAFNAE), University of Padova, Legnaro, Italy,* [2]*VetAgro Sup, ABioDoc department, Lempdes, France,* [3]*Department of Veterinary Science, University of Parma, Parma, Italy.*

European Union law on organic production is the Regulation (EU)2018/848 of May 30th 2018. There are no official reports published about the use of allopathic treatments and conventional bedding materials in organic livestock in Europe. Thus, an online survey (36 questions, 6 sections) across European countries has been conducted from October 2018 to February 2019. The questionnaire was translated into several languages following Brislin's model. In France, 1,065 potential organic farmers were contacted by e-mail up to 3 times; 3 farmers' associations also disseminated the link among their members. Of the 155 responses received, 135 from certified organic producers were available for the analysis. Sex proportion (men:women) was 60:40, mostly between 31 and 50 years old (83/135). In general, the questionnaire was completed by the farm manager (80.2%) and farms were small (≤3 workers; 90.2%). Respondents mainly reared 1 (63.7%) or 2 (22.2%) animal species. Beef (38.5%), dairy cattle (27.4%) and sheep (18.5%) were most frequent. Last year, 82/130 farmers applied 1 (80.5%) or more treatments per animal. The selection between allopathic and alternative treatments depended on the health problem. Between 15.4% (skin problems) and 34.6% (lameness) of the farmers still relied on conventional treatments instead of phytotherapy, homeopathy or probiotics; and between 6.5% (reproductive issues) and 35.3% (mastitis) used those alternatives as well as conventional treatments. Other farmers (66.4%) and veterinarians (46.3%) were the main information sources for the use of those alternatives. Straw is still the most used bedding material (91.1%). This preliminary analysis suggested the need for further research on alternatives to the use of allopathic treatments and straw for bedding in organic livestock, and that farmers are the key factor for the dissemination/implementation of the results. This project received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No [774340-Organic-PLUS].

Key Words: survey, animal health, production and management