



**WORLD ASSOCIATION FOR BUIATRICS
WELT-GESELLSCHAFT FÜR BUIATRIK
SOCIÉTÉ MONDIALE DE BUIATRIE
ASOCIACIÓN MUNDIAL DE BUIATRIA**

www.buiatrics.com

Newsletter 4 – 2015



Dear Colleague,

On behalf of the World Association for Buiatrics we would like to wish you a merry Christmas and all the best for the coming year.

BONNES FETES ET BONNE ANNÉE.

FRÖHLICHE WEIHNACHTEN UND EIN GLÜCKLICHES NEUES JAHR

FELIZ NAVIDAD Y PRÔSPERO AÑO NUEVO.

Due to our last Seasonal greetings as president and secretary general we would like to thank you all of your great contributions and supports for developing our association.

Yours sincerely,

**Walter Baumgartner
president**

**Ottó Szenci
secretary general**

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Application form for WAB PhD scholarship

Please send your application by e-mail to Dr. Ottó Szenci (szenci.otto@aotk.szie.hu) until March 1, 2016

Name		
Institute		
Address		
Country		
Name of the PhD supervisor		
Signature of the PhD supervisor		
Abstract has been accepted as	Oral presentation	Poster presentation
<i>Please insert your abstract here</i>		

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News from the Serbian Buiatrics' Association

Bearing in mind the fact that there are several veterinary conventions (seminars) in Serbia, that are mainly focused to theoretical lectures related to health protection of domestic ruminants, Serbian Buiatrics' Association has made a decision, in accordance with their capabilities, to organize one-day educational conferences for the veterinarian practitioners with theoretical and practical work (workshop). Our intention is that those educations are obtained by local experts, but also experts (professors) from universities in our region, especially Austria, Hungary, Slovenia and Croatia.

Nevertheless, according to the plan of activities of the Serbian Buiatrics' Association, we are planning to organize a larger gathering that will consider current problems in the health care of ruminants, every three years,

With respect

Dr Ivan Vujanac ass. professor

President

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International Congresses

XVI. Middle European Buiatrics Congress

organised by the Czech Association for Buiatrics

Hradec Králové, Czech Republic, April 7-9, 2016

To get more information please write to Dr. Josef Illek <josef.illek@gmail.com>

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XXI ANEMBE INTERNATIONAL CONGRESS

Santiago De Compostela, Spain, May 2016

As you know, our association's next congress will take place in Santiago de Compostela the next 11th, 12th and 13th of May, 2016. After the positive response obtained by the free communications sessions in the last congress in Burgos, the Board and the Scientific Committee of the XXI ANEMBE International Congress of Bovine Medicine would like to further enhance the presentation of clinical works and/or applied research from both the partners and the different organizations (Universities, Public Research Organizations, etc.) working in the field of buiatrics. We encourage you to submit your contributions in this forum.

RULES FOR FREE COMMUNICATIONS

- Works related to all fields of buiatrics may be submitted, having priority those relevant for their practical interest.

Authors must submit the abstract of the full paper **before JANUARY 10th, 2016**. Abstracts can be written in Spanish or English and may contain a maximum of 800 words. Works shall include the title in both Spanish and English and the authors' names and affiliations. Authors may indicate their preference in the format of presentation: oral or poster presentation.

- Papers submitted will be reviewed by the Scientific Committee, which will decide on its acceptance and publication in the Congress Proceedings Book and ANEMBE's Bulletin after notifying the authors. Authors will be informed about the acceptance of their work before FEBRUARY 15th, 2016.
- Accepted papers will be presented by oral exposition (in English or Spanish) or poster presentation as decided by the Scientific Committee; and to do so, they will be grouped into sessions according to their subject. Each session will have a moderator who will be responsible for the coordination and will guide the authors on all the doubts or questions that may arise. In oral presentations, the duration of the exposition will be 10 minutes, having 5 more minutes for questions. Authors of poster presentations must be present for the defence in the reserved area and at the time scheduled by the Congress Organization.
- The registration at the Congress, prior to March 15th, of at least one of the authors will be mandatory for the publication of the papers. One of the authors will have a reduced price on the Congress registration.
- All presented papers will be considered for the awards to the best scientific communications. Basis and characteristics of such award are explained below.

The submission of communications must be made before January 10th, 2016, via the application found on the following webpage:

www.congresoanembe.com

Provisional Agenda. ANEMBE Congress 2016

Santiago de Compostela, May 11-12-13

Keynote addresses

- **Juan Miguel Rodríguez** (UCM)
 - *Microbiota as a therapeutic tool.*
- **Fernando López Gatius.**
 - *Interactions between the cow and its environment.*

Nutrition and management

- **L.E.Chase.** Cornell University.
 - *The CNCPS model and its practical application in nutrition.*
 - *Low protein diets formulation.*
- **Francisco Soberon.** Nutreco Canada Inc, Guelph, Ontario, Canada
 - *The effect of milk or milk replacers' nutrients intake in heifers before weaning on their milk production as adult animals.*
 - *The effect of increasing the frequency of milking during the beginning of lactation on the mammary performance, metabolism and development.*
- **Gordie Jones.** CENTRAL SANDS DAIRY LLC. Wisconsin.
 - *Expanding farms.*
- **Ralph Ward.** Cumberland Valley Analytical Services
 - *Forage and food analysis: valid information for the correct decision-making.*

Reproduction

- **Julio Gordano.** Department of Animal Science, Cornell University, Ithaca, NY, United States
 - *Economic impact of different reproductive management strategies in dairy farms: calculation and interpretations.*
 - *Artificial insemination at detected heat vs. systematic synchronization protocols: Are they incompatible programs?*
- **Reproductive biotechnologies: Opportunities and strategies for use:**
 - **IVF: Current development and programs in use.** Rubén Fco Vázquez - Xenética Fontao
 - **Practical application: Reproductive use and genetic programs in genomics era.** Daniel Martínez Bello - Embriovet

Antibiotic therapy

- **Christian Scherpenzeel.** GD ANIMAL HEALTH
 - *Rational use of antibiotics in the dry period.*
- **Speakers to be confirmed.**
 - *Rational use of antibiotics in bovine medicine.*
 - *Breeding suckling calves without antibiotics.*

Round Table: The future of antibiotic prescription

- **Consuelo Rubio** (Head of the Department of Veterinary Medicines)
The place we are heading in the use of antibiotics in Europe and Spain
- **José Andrés Gil** (National Veterinary Corps)
Responsibilities of the prescribing veterinarian
- **Juan José Badiola** (President of the General Council of Veterinary Colleges)
Presentation of the Council's electronic prescription program, PRECRIVET

Economic management of dairy farms

- **José Maria Romero Font** (Atlantic Farm Solutions)

Discussion table: Managing veterinary groups

- **José Hilario Martín Santos** (Martín Santos)
 - José Agüera . Tineo Veterinary Centre. Asturias; Fermín Rico. Galicia; Manuel V. Morales. Oceva. Zamora; Diego Ruiz. Covap. Córdoba.

Milk quality

- **Thomas Fuhrmann**. Dairy Works.
 - *Work organization in the milking room.*
 - *Work organization in the farm, the consultant's role, motivation, etc.*
- **Gordie Jones**. CENTRAL SANDS DAIRY LLC. Wisconsin.
 - *"Cow comfort"*

Medicine and Surgery

- **Thomas Wittek**. University of Vienna.
 - *Physiopathology of abomasum.*
 - *Diagnosis of the diseases of the abomasum.*
- **S. Fubini** . Cornell University.
 - *Abomasal ulcer.*
- *Interactive contest on medical and surgical problems in daily practice, with audience participation via Edu-click.*

Management and health of the newborn calf

- **Ingrid Lorenz** Associate Dean for Admissions and Student Affairs. President of the European College of Bovine Health Management. UCD School of Veterinary Medicine. Belfield. Dublin
 - *Management of the newborn calf.*
- **John F. Mee**, Animal & Bioscience Research Department, Animal & Grassland Research and Innovation Centre, Moorepark, Fermoy, Co. Cork. IRELAND.
 - *Management of labour: veterinary advice.*
 - *Stillbirths and perinatal mortality: Veterinary research.*

Respiratory diseases in calves

- **Edouard Timsit** DVM, PhD, ECBHM, University of Calgary, Faculty of Veterinary Medicine, Canada

- *New electronic technologies for BRD detection and diagnosis.*
- **Speakers to be confirmed.**
- *Management of respiratory disease in feedlots.*

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Scientific abstracts

Reproduction in Domestic Animals 2015.50.893–900.

Comparison of two different programmes of ovulation synchronization in the treatment of ovarian cysts in dairy cows

N. Gundling, S. Drews, M. Hoedemaker

It was the aim of this field study to evaluate two different protocols of ovulation synchronization for the treatment of ovarian cysts and their effect on reproductive performance in dairy cows. In addition, factors with a possible influence on treatment success and pregnancy outcome as well as costs per pregnancy were analysed. The study was performed with 130 German Holsteins with ovarian cysts diagnosed on days 55 to 60 postpartum. Cows belonging to group 1 (n = 65) received a modified ovsynch protocol [day 0: 0.15 mg cloprostenol (PGF) + 0.02 mg buserelin acetate (GnRH); day 14: PGF; day 16: GnRH]. Group 2 (n = 65) was treated with the conventional ovsynch protocol (day 0: GnRH; day 7: PGF; day 9: GnRH). Timed artificial insemination was performed 20 to 24 h later. Cows without ovarian cysts served as controls. Treatment success (disappearance of the ovarian cyst) after the first ovsynch cycle was higher in group 1 (66.2%) than in group 2 (23.1%, $p < 0.05$). Reproductive measures in group 1 were comparable with those of the control group and, compared with group 2, were conspicuously better (66.2%, 76.9%, 83.1%, 59.5% vs. 40.0%, 50.7%, 60.0%, 27.5% for cumulative pregnancy rate after treatment cycle 1 to 3 and second service conception rate, respectively, $p < 0.05$). Overconditioned cows and cows with larger ovarian cysts showed a diminished treatment and pregnancy success. In group 1, costs per pregnancy were only slightly higher than in the control group (group 1: €352.44, group 2: €484.59, control group: €333.77). In conclusion, our results suggest that ovsynch protocols can be used in the treatment of ovarian cysts. The modified ovsynch protocol led to a better cure rate as well as a better reproductive performance, and was economically beneficial compared with a conventional ovsynch protocol.

J Dairy Sci 2015. 98.7810-7822

Synchronized ovulation for first insemination improves reproductive performance and reduces cost per pregnancy in dairy heifers

T. Silva, F. Lima, W. Thatcher, J. Santos

The objectives were to evaluate the effects of synchronizing estrus and ovulation to implement a timed artificial insemination (AI) at first insemination on reproductive performance and cost per pregnancy in dairy heifers. Six hundred eleven Holsteins heifers at approximately 400 d of age from 3 farms were

enrolled in the study. Six days before moving to the breeding pens, heifers were allocated randomly to AI after detected estrus from study d 0 to 84 (CON, n = 306), or to timed AI for first AI followed by detected estrus for the remainder of the 84-d study (TAI, n = 305). Heifers receiving TAI were enrolled in the 5-d timed AI protocol on study d -6 (d -6, GnRH and a progesterone insert; d -1, PGF2 α and insert removal; d 0, PGF2 α ; d 2, GnRH + AI), and they were allowed to be bred the day before scheduled timed AI if detected in estrus. Starting on study d 0, estrus was detected daily. Heifers in estrus were inseminated on the same morning as detected estrus. Control heifers not inseminated by study d 7 received PGF2 α and this treatment was repeated every 2 wk until AI. The study lasted 84 d to allow a period of breeding equivalent to four 21-d estrous cycles. A herd budget accounting for inputs for both treatments was created to determine the cost per pregnancy. Sensitivity analysis compared economic differences between the 2 treatments under different input scenarios when detection of estrus after the first AI varied from 50 to 80%. Interval to first AI was 8 d shorter for TAI than for CON. Pregnancy at first AI did not differ between treatments (CON = 58.3 vs. TAI = 62.8%). In contrast, TAI increased pregnancy per AI (P/AI) compared with CON in heifers inseminated with sex-sorted semen (CON = 31.6 vs. TAI = 54.8%). The 21-d cycle insemination rate was greater for TAI (91.4%) than for CON (82.4%), even when evaluated after the first 21 d in the study (CON = 68.2 vs. TAI = 77.1%). The increased insemination rate improved the 21-d cycle pregnancy rate from 47.9% in CON to 57.2% in TAI heifers. In fact, the hazard of pregnancy was 60% greater for TAI than CON. The increased pregnancy rate in TAI reduced the median days to pregnancy by 12 d (CON = 2.0 vs. TAI = 14.0) and increased the proportion of pregnant heifers by 6.3 percentage points by study d 84 (CON = 85.2 vs. TAI = 91.5%). The cost per pregnancy was \$17.00 less for TAI than CON. The sensitivity analysis indicated that TAI was economically more advantageous to produce a pregnancy compared with CON. Only when insemination rate after the first 21 d of breeding was very high and P/AI was relatively low did the cost per pregnancy become similar for the 2 treatments. Collectively, inseminating all heifers within 2 d of breeding with the 5-d timed AI protocol maintains P/AI, improves pregnancy rate, and reduces cost per pregnancy compared with insemination after detected estrus.

J Dairy Sci 2015.98.8753-8763.

Comparison of reproductive performance of primiparous dairy cattle following revaccination with either modified-live or killed multivalent viral vaccines in early lactation

P. Walz, T. Montgomery, T. Passler, K. Riddell, T. Braden, Y. Zhang, P. Galik, S. Zuidhof

The objective of this randomized clinical trial was to compare the effect of revaccination in primiparous dairy cows with modified live viral (MLV) or killed viral (KV) vaccines containing bovine viral diarrhea virus (BVDV) and bovine herpesvirus-1 (BoHV-1) on (1) pregnancy rate following estrus synchronization-timed artificial insemination (TAI), (2) serum progesterone concentrations, and (3) serum neutralizing antibody titers at revaccination and at TAI. Primiparous dairy cows (n = 692) that had been previously vaccinated with 4 doses of MLV vaccine as calves or heifers were randomized to receive either an MLV or a KV vaccine between 21 and 28 d in milk and 17 d before initiation of a double-Ovsynch-TAI protocol. Serum was collected within the double-Ovsynch protocol for determination of progesterone concentrations, and at vaccination and TAI for serum neutralizing antibody titers. Ultrasound pregnancy determinations were made at 30 and 60 d after TAI. No differences in pregnancy rates were observed between cows receiving MLV vaccine (44%; n = 326) or KV vaccine (43%; n = 336). No differences were observed in serum progesterone concentrations

during a double-Ovsynch-TAI protocol between cows receiving MLV and KV vaccines. No differences were observed in BVDV 1 or BVDV 2 antibody titers at vaccination and TAI between cows receiving MLV or KV vaccine; however, BoHV-1 antibody titers were greater at TAI in cows receiving KV vaccine. Overall response to vaccination—defined as the percent of all individual cows that had any detectable increase in antibody titer from vaccination to TAI—was 39% for BVDV 1, 45% for BVDV 2, and 61% for BoHV-1. In this research, use of an MLV vaccine did not impede reproduction when revaccination was performed between 21 and 28 DIM and just before enrollment in an estrus synchronization-TAI program in primiparous dairy cows; however, response to vaccination as defined by increases in virus-specific antibody titers could be considered less than ideal for this population of cattle.

J Dairy Sci 2015.98.8710-8722.

A comparison of 2 evaporative cooling systems on a commercial dairy farm in Saudi Arabia

X. Ortiz, J. Smith, F. Villar, L. Hall, J. Allen, A. Oddy, A. Al-Haddad, P. Lyle, R. Collier

Efficacy of 2 cooling systems (Korral Kool, KK, Korral Kool Inc., Mesa, AZ; FlipFan dairy system, FF, Schaefer Ventilation Equipment LLC, Sauk Rapids, MN) was estimated utilizing 400 multiparous Holstein dairy cows randomly assigned to 1 of 4 cooled California-style shade pens (2 shade pens per cooling system). Each shaded pen contained 100 cows (days in milk = 58 ± 39 , milk production = 56 ± 18 kg/d, and lactation = 3 ± 1). Production data (milk yield and reproductive performance) were collected during 3 mo (June–August, 2013) and physiological responses (core body temperature, respiration rates, surface temperatures, and resting time) were measured in June and July to estimate responses of cows to the 2 different cooling systems. Water and electricity consumption were recorded for each system. Cows in the KK system displayed slightly lower respiration rates in the month of June and lower surface temperatures in June and July. However, no differences were observed in the core body temperature of cows, resting time, feed intake, milk yield, services/cow, and conception rate between systems. The FF system used less water and electricity during this study. In conclusion, both cooling systems (KK and FF) were effective in mitigating the negative effects of heat stress on cows housed in arid environments, whereas the FF system consumed less water and electricity and did not require use of curtains on the shade structure.

J Dairy Sci 2015.98.8818-8824.

Technical note: Validation of a handheld meter for measuring β -hydroxybutyrate concentrations in plasma and serum from dairy cows

A. Pineda, F. Cardoso

The use of handheld meters for cow-side tests for β -hydroxybutyrate (BHB) concentrations in whole blood has become common. The aim of this study was to compare serum BHB (sBHB) and plasma BHB (pBHB) concentrations analyzed using either a “gold standard” enzymatic laboratory method (LM; Randox Laboratories Ltd., Antrim, UK; cat. no. RB1007) or a handheld meter (PX; Precision Xtra, Abbott Diabetes Care Inc., Alameda, CA). Results from 374 (187 serum and 187 plasma) samples

taken from Holstein cows from 11 d before (52 samples) to 5 d after parturition (137 samples) were used for the analysis. Statistical analysis was performed using the MIXED, REG, and LOGISTIC procedures of SAS (v9.4; SAS Institute Inc., Cary, NC). A linear mixed model with repeated measures was fitted for LM and PX. Regression and correlation analyses were completed to estimate the relationship and agreement between the 2 methods. Lin's concordance correlation coefficient (CCC) and Bland-Altman plots were used to evaluate agreement between LM and PX. Cross-validation by randomly splitting the data in model-building and validation sets was performed to estimate and validate the equation that predicted the LM results using PX. Receiver operating characteristic (ROC) curves were used to estimate the sensitivity (Se) and specificity (Sp) of PX at different threshold levels. The CCC was 0.74 for pBHB and 0.68 for sBHB. The 95% confidence interval of agreement of the Bland-Altman plot encompassed 96% of the difference between LM and PX for pBHB and 95% for sBHB. The mean difference for pBHB was -0.50 ± 0.25 mmol, and that for sBHB was -0.63 ± 0.41 mmol. The highest Se and Sp for PX were achieved when the threshold for ketosis was set to 1.8 mmol/L for pBHB and 2.1 mmol/L for sBHB. The area under the ROC curve was 0.97 for pBHB and 0.96 for sBHB. The negative bias shown by the Bland-Altman plots suggested that PX yielded higher pBHB and sBHB concentrations than the LM. However, the excellent test characteristics and area under the ROC curve close to 1 indicated that PX at the adjusted thresholds was able to accurately classify between samples <1.2 mmol/L and those ≥ 1.2 mmol/L based on the gold standard test.

Can J Vet Res 2015.79.296-302.

Effectiveness of current anthelmintic treatment programs on reducing fecal egg counts in united states cow-calf operations

L. Gasbarre, L. Ballweber, B. Stromberg, D. Dargatz, J. Rodriguez, C. Koprak, D. Zarlenga

During the United States Department of Agriculture (USDA) National Animal Health Monitoring System's (NAHMS) 2007–2008 beef study, producers from 24 states were offered the opportunity to evaluate their animals for internal parasites and for overall responses to treatment with anthelmintics. A lapse of 45 d was required between initial sampling and any previous treatments. Choice of anthelmintic (oral benzimidazoles, and both injectable and pour-on endectocides) was at the discretion of the producer so as not to alter the local control programs. Fresh fecal samples were collected from 20 animals, or from the entire group if less than 20, then randomly assigned to 1 of 3 participating laboratories for examination. Analyses consisted of double centrifugation flotation followed by enumeration of strongyle, *Nematodirus*, and *Trichostrongylus* eggs (the presence of coccidian oocysts and tapeworm eggs was also noted). Where strongyle eggs per gram (epg) exceeded 30, aliquots from 2 to 6 animals were pooled for egg isolation and polymerase chain reaction (PCR) analysis for the presence of *Ostertagia*, *Cooperia*, *Haemonchus*, *Oesophagostomum*, and *Trichostrongylus*. Results from 72 producers (19 States) indicated that fecal egg count reductions were $< 90\%$ in 1/3 of the operations. All operations exhibiting less than a 90% reduction had used pour-on macrocyclic lactones as the anthelmintic treatment. While some of these less than expected reductions could have been the result of improper drug application, PCR analyses of the parasite populations surviving treatment, coupled with follow-up studies at a limited number of sites, indicated that less than expected reductions were most likely due to anthelmintic resistance in *Cooperia* spp. and possibly *Haemonchus* spp.

Cardiac autonomic activity has a circadian rhythm in summer but not in winter in non-lactating pregnant dairy cows

L. Kovács, F.L. Kézér, F. Ruff, O. Szenci

This investigation was conducted to examine circadian and seasonal rhythms of heart rate and heart rate variability (HRV) by means of hour-by-hour recordings over 24 h in a large population of non-lactating Holstein–Friesian pregnant cows [N=56, summer (June–July); N=61, winter (November–December)]. Data were collected during a 5-day period from each animal. Besides parameters of cardiac autonomic function [the high-frequency (HF) component of HRV and the ratio between the low-frequency (LF) and the HF components (LF/HF ratio)], the RR triangular index and Lmax were calculated. A clear circadian profile was observed for every parameter in summer. Heart rate elevated gradually with the course of the day from 7:00 to 17:00 o'clock and then slightly decreased from 18:00 to 6:00. Sympathovagal balance shifted towards sympathetic dominance during the daytime (increased LF/HF ratio), whereas parasympathetic activity was predominant during the night (increased HF). Lmax reflected a chaotic behavior of heart rate fluctuations during the afternoon in summer. Decreased values of RR triangular index indicated a sensitive period for cows between 14:00 and 16:00 o'clock in summer. During winter, except for the RR triangular (RRtri) index reflecting a high overall variability in R–R intervals between 12:00 and 23:00 o'clock, heart rate and HRV showed no periodicity over the 24-h period. The results suggest an impaired cardiac autonomic function during daytime in summer. HF, Lmax and RRtri index showed seasonal differences for both daytime and night time. Heart rate was higher in summer than in winter during the daytime, whereas the LF/HF ratio was higher in winter during the night time. Circadian and seasonal rhythms of cardiovascular function are presumably related to the differing temperature, and animal activity associated with summer and winter. As all of the investigated parameters are commonly used in bovine HRV research, these findings have practical implications for behavioral, physiological and welfare studies on dairy cattle.