Buffalo Newsletter

Number 34 – January 2019

BULLETIN OF THE FAO-ESCORENA INTER-REGIONAL COOPERATIVE RESEARCH NETWORK ON BUFFALO AND OF THE INTERNATIONAL BUFFALO FEDERATION – INCLUDES SHORT COMMUNICATIONS, RESEARCH PAPERS, TECHNICAL NOTES, ONGOING RESEARCHES

Inside this issue

The Editorial board is happy to present the 34th number were a broad space is dedicated to **reports** from Costa Rica, Trinidad and Tobago.

In the section **worldwide buffalo activity** are presented reports from Greece and Nepal.

The **scientific activity** focused on review papers on main buffalo production topics.

The **news section** gives few spots on Pakistan Congress, the welcome letter from upcoming 12th World Buffalo Congress in Istanbul in 2019 and the 4th IBF upcoming training course.

This newsletter ends as usual with the updated list of IBF members.

Wishing you a good time reading, we remind you that your contribution (scientific reports and/or events) will be greatly welcome.

The Editorial Committee

Buffalo Newsletter - Number 34 -January 2019

Editor: **Antonio Borghese**
antonio.borghese@escorena.net

Editorial Committee
Ugo Della Marta, Vittoria L. Barile, Antonella Chiariotti
IZSLT, Animal Prophylaxis Research Institute for Lazio and Toscana "M. Aleandri"
Via Appia Nuova, 1411 – 00178 Roma – Italy

IBF Secretariat
Antonio Borghese, Vittoria L. Barile, Antonella Chiariotti, Giuseppina M. Terzano, Antonio Fagiolo, Giorgio Saralli, Carlo Boselli, Federico Infascelli, Anna Chiacchierini, Francesco D'Ausilio

Network Co-ordination Centre, to which correspondence is to be sent:
internationalbuffalofed@gmail.com
IBF, via Salaria 31, 00015 Monterotondo (Roma) – Italy

REPORTS

JORNADA DE CAPACITACION EN BÙFALOS Y FORRAJES TROPICALES, COSTA RICA

Atenas, 29-31 August 2018

The fifth National Seminary on water buffalo of Costa Rica was held in the Auditorium of UTN (Figure 1), National Technical University, in Atenas.

FIGURE 1

The first lecture on August 30, 2018, was by Prof. Antonio Borghese, General Secretary of the International Buffalo Federation, on Current Status and Economics of Buffalo Production Worldwide. The lecturer showed the planetary impact of buffalo products, from Italy where the best market of cheese, including the famous mozzarella, was created, until the East Asian countries, specially India and Pakistan, where buffalo milk plays a pivotal role in human nutrition, particularly children. He showed the special situation in Central American countries, where the Buffalypso was selected, a population with good performances for meat, but not for milk, and how Mediterranean Italian semen was introduced to increase the milk yield in the progeny, to create a cheese market, similarly to Italy. This argument provoked a lot of discussion on the real economic possibilities in Costa Rica to develop buffalo products.
The second lecture was presented by Manuel Amador Benavides, by UTN, on biological and certificated products, a new sector of food in Costa Rica. The third lecture, by Hector Leon Hidalgo, specialist in animal product economy, analyzed the total production and the cost of milk production in the world and in Costa Rica, including buffalo milk. Finally, Prof. Eduardo Barrantes Guevara, Director of Research and Formation in UTN, summarized the results of the day.

A local dinner was offered with typical Costa Rica plates, as Gallo Pinto (rice with black beans), mozzarella cheese (Figure 2) and buffalo meat with onions. After that, an exhibition with buffaloes carrying colored barrows, trees and so on followed (Figure 3).

FIGURE 2

FIGURE 3

The day after, August 31, 2018, a round table on the future projects was held in Atenas UTN, directed by Eduardo Barrantes. The national plane for buffalo is part of the national program for bovine and it is supported by the National Institute of Rural Development. A National Secretariat for Buffalo in Costa Rica was created to coordinate different activities.

FIGURE 4

FIGURE 5

The day of September 1 was dedicated to the visit of Bolson Farm (Figures 4, 5), where the owner Luis Bolson applied the systematic crossbreeding with Mediterranean Italian on the local Buffalypso and developed milk production and industry. On September 3, Prof. Borghese was invited for giving suggests in the meeting at the Presidential Palace in S. Jose, with the Vice President of Republic of Costa Rica and President of Ministries Council, Roberto Pisa, and other technical and political Authorities, about the project presented by Fundebufalos, the foundation for the research and the social development of buffalo in Costa Rica (Fig 6). Sady Quesada Sanchez, the president of Fundebufalos, explained the project and underlined as it could start with formation and help the progress of poor families, breeding buffaloes, to produce milk for local consumption. The creation of genealogic book and the genetic improvement, the control of pathologies, the crossbreeding with Mediterranean Italian are other focal point of the project. These goals were shown also the day after at the INDER, the Institute of Rural development, who will support the project.

Antonio Borghese
General Secretary of the
International Buffalo Federation

FIGURE 6 PROF. BORGHESE WITH THE PRESIDENT OF THE REPUBLIC OF COSTA RICA CARLOS ALVARADO QUESADA, SADY QUESADA AND HER HUSBAND DON GILBERT SALAS

REVITALIZING THE BUFFALYPSO, OUR NATIONAL TREASURE, CONFERENCE, TRINIDAD AND TOBAGO

June 1-2, 2018

The University of the West Indies (UWI) in Trinidad organized a Conference for revitalizing the Buffalypso, national treasure of the country, on June 1-2, 2018.

The morning of June 1 was used to visit the Mora Valley farm, where the Director, Jewanlal Jankee showed us 900 Buffalypso living in the park in perfect state of welfare (Figures 1,2,3,4). In the afternoon, after the visit of the historical library of the University, the Conference started with the welcome remarks of the Director of the School of Veterinary Medicine, Prof. Bhakthavatsalam M. Manohar, followed by the Dean of the Faculty of Food and Agriculture, Dr Wayne Ganpat, who officially opened the Conference, remarking the goal to maintain the dream of Dr Steve Bennet, who gave birth to the Buffalypso. After that, the Ministry of Agriculture, Land and Fisheries, Senator Clarence Rambharat explained the project to create livestock production more efficient with private sector as partner, developing buffalo too, as chicken and duck, where local production achieved the self-sufficiency.

FIGURE 1

After there was the public lecture by Prof. Antonio Borghese, General Secretary of the International Buffalo Federation, on Current Status and Economics of Buffalo Worldwide and Proposals for Dairy Buffalo development in Trinidad. The lecturer showed the special situation in Central American countries, where the Buffalypso was selected, a population with good performances for meat, but not for milk, and how Mediterranean Italian semen was introduced to increase the milk yield in the progeny, to create a cheese market, similarly to Italy. This crossbreeding is applied particularly in Cuba and in Costa Rica. The same strategy is proposed for Trinidad and Tobago, where it is possible to apply very simple and cheap protocol with the best genetics, coming from famous bulls as Jesce Sole, Circe I, Italo, with mothers and daughters with milk production higher than 4,000 kg milk per lactation of 270 days, foreseeing a milk yield of 2000/2500 kg per lactation in crossbreds F1. This argument provoked a lot of discussion on the real economic possibilities in Trinidad to develop buffalo products.

FIGURE 2

The day after, June 2, the Conference started with the History of the Buffalypso, presented by Prof. Gary Garcia from UWI, who remembered the work made by Dr Steve Bennet, the creator of Buffalypso, (a beef type with carcasses 51/54 dressing percentage), exported also in other Central America and Caribbean countries. Nevertheless in 2017, 2000 Buffalypso only, were present in Trinidad, despite the Buffalypso conservation program, mainly because of scarce milk production a today required trait.

The lecture on Management of endemic disease by Dr Nammalwar Sriranganathan, from the College of Veterinary Medicine in Blacksburg, Virginia, USA, showed the program of eradication of brucellosis from Buffalypso of Trinidad and Tobago for the preservation of the species, using

testing and slaughtering plus calf hood vaccination with surveillance; he proposed also the vaccination of all adults with a lysate of B. abortus RB51, followed by blood culture and slaughter of infected animals. The program is expensive, but it is the only way to resolve the problem.

Prof. Marlon Knights, from the same College of Virginia, illustrated the reproductive management of Buffalypso, underlining the difficulties because of either the brucellosis presence in the Mora Valley or the absence of the Genealogic Book, or the animal recording and progeny test. Experiments with artificial insemination on 2006 resulted in 10-30% pregnancy rate only.

Mrs. Leela Rastogi, in her lecture summarized the status of work done thus far on Buffalypso. During the period 1903/1906 several breeds of Riverine buffaloes, Nili Ravi, Jaffarabadi, Surti, Nagpuri, Murrah, were imported from India upon recommendation of several sugar cane farmers. From the crossbreeding of these breeds, Dr Steve Bennet gave birth to Buffalypso, who spread to many Caribbean countries as Cuba, Costa Rica, Colombia, Venezuela. These countries, even if Buffalypso is a superior beef producer compared to local cattle, expanded into milk production, because of the economic value of milk industry.

During the following discussion, Prof. Borghese suggested both to establish the Genealogic Book of Buffalypso, defining the characteristics of the population and to create a Trinidad dairy breed, with another Genealogic Book, applying crossbreeding between Mediterranean Italian and Buffalypso, for the expansion of a dairy market, with the support of the UWI and of the Ministry of Agriculture. Dr. Rafael Paiva, from IDEXX laboratories of Venezuela spoke about Brucellosis management and Buffalypso farming, declaring that massive vaccination does not solve the problem, as removal and segregation of positive animals is the key for control and eradication.

FIGURE 3 TRINIDAD & TOBAGO GROUP

In the afternoon a documentary film was shown on the Last Stand, Dr. Marc Driscoll form UWI, spoke about the management of the Mora Valley herd, particularly for protection against Brucellosis and Tuberculosis, Mrs Rhonda M. Thomas suggested some solutions for the development of the Buffalypso industry, as cheese and yogurt are requested buffalo products, therefore a change of local genetic is needed to have a Trinidad dairy breed, involving small holders, industry associations, with dedicated marketing planes.

Dr. Karla Georges ended the session speaking on Health management and opened the discussion on closing remarks, on: revitalizing and expansion of buffalo in Trinidad and Tobago; eradication of brucellosis; adhesion to the International Buffalo Federation; involving private sector to create a drive industry; organization of working group to prepare developing projects.

Antonio Borghese
General Secretary of the
International Buffalo Federation

FIGURE 4

FOCUS ON SCIENTIFIC PAPERS

A selection of review abstracts published in 2018 is presented on the main topics of buffalo production to focus on the research activity in various Countries.

Theriogenology 122 (2018) 102–108

Contents lists available at ScienceDirect

Theriogenology

journal homepage: www.theriojournal.com

Evaluation of factors involved in the failure of ovum capture in superovulated buffaloes

Angela Salzano [a], Carolina De Canditiis [a], Floriana Della Ragione [b], Alberto Prandi [c], Gianluigi Zullo [a], Gianluca Neglia [a, *], Giuseppe Campanile [a], Bianca Gasparrini [a]

[a] Department of Veterinary Medicine and Animal Production, Federico II University, Naples, Italy
[b] Institute of Genetics and Biophysics ABT, National Research Council, Naples, Italy
[c] Department of Food Science, University of Udine, Udine, Italy

ARTICLE INFO

Article history:
Received 17 March 2018
Received in revised form
4 September 2018
Accepted 10 September 2018
Available online 11 September 2018

Keywords:
Buffaloes
Superovulation
Steroids
Follicular fluid
Oviduct

ABSTRACT

The aim of this work was to evaluate factors affecting ovum capture in superovulated buffaloes, by comparing the morphological features of pre-ovulatory follicles and oocytes, the intrafollicular and plasmatic steroid profile, as well as the expression of genes involved in cumulus expansion and steroid cascade in granulosa cells (GCs) and that of genes involved in contraction-relaxation of the oviduct between superovulated and synchronized buffaloes. Italian Mediterranean Buffalo cows were either synchronized by Ovsynch ($n = 25$) and superovulated ($n = 10$) with conventional FSH protocol and sacrificed 18 h after last GnRH. Antral follicular count, recovery rate and oocyte quality were recorded, and plasma and follicular fluid were collected for steroid profile determination. In addition, in 10 animals (5/group), GCs were collected to analyse the mRNA expression of gonadotropin receptors (LHR and FSHR) and genes involved in steroid synthesis, as the cytochrome P450 family 19 (CYP19A1) and the steroidogenic acute regulatory protein (STAR). Moreover, oviducts were collected to evaluate the mRNA expression of estrogen receptor 1 (ER1) and the progesterone receptor (PGR), the vascular endothelial growth factor (VEGF) and the VEGF receptors, i.e. the kinase insert domain receptor (FLK1) and the fms related tyrosine kinase 1 (FLT1). No differences were recorded in steroids plasma concentration between synchronized and superovulated animals whereas intrafollicular E_2 and P_4 concentrations decreased in superovulated group (63.2 ± 10.6 vs 30.3 ± 5.9 ng/mL of E_2 and 130.1 ± 19.8 vs 71.6 ± 8.5 ng/mL of P_4, respectively in synchronized and superovulated animals; $P < 0.05$). Interestingly, both the recovery rate (85.7% vs 56.6%, respectively in synchronized and in superovulated animals; $P < 0.05$) and the percentage of oocytes exhibiting proper cumulus expansion (75% vs 28.1%, respectively in synchronized and in superovulated animals; $P < 0.01$) decreased in superovulated animals. In addition, the expression of *FSHR* and *CYP19A1* increased while the expression of *STAR* in GCs decreased ($P < 0.05$). Finally, in superovulated buffaloes a decreased expression of *PGR*, *ER1*, *VEGF* and its receptor *FLK1* in the oviduct was observed. The results suggest that the exogenous FSH treatment impairs steroidogenesis, affecting both the oviduct and the ovarian function, accounting for the failure of ovum capture in superovulated buffaloes.

Preventive Veterinary Medicine 154 (2018) 102–112

Contents lists available at ScienceDirect

Preventive Veterinary Medicine

journal homepage: www.elsevier.com/locate/prevetmed

Domestic water buffaloes: Access to surface water, disease prevalence and associated economic losses

Ehsan Elahi[a,*], Muhammad Abid[b], Huiming Zhang[c], Cui Weijun[a], Shabeh Ul Hasson[d,e]

[a] School of Business, Nanjing University of Information Science and Technology, People's Republic of China
[b] Center for Climate Research and Development (CCRD), COMSATS Institute of Information Technology, Park Road, Chak Shahzad, Islamabad, Pakistan
[c] School of Management Science and Engineering, Nanjing University of Information Science and Technology, People's Republic of China
[d] CEN, Centre for Earth System Research and Sustainability Institute for Geography, University of Hamburg Bundesstraße 5520146 Hamburg, Germany
[e] Department of Space Sciences, Institute of Space Technology, Islamabad, 44000, Pakistan

ARTICLE INFO

Keywords:
Wastewater
Animal diseases
Mastitis
Water buffaloes
Economic losses

ABSTRACT

Given the shortage and non-availability of freshwater in Pakistan, wastewater is being used for bathing water buffaloes; however, this has a negative impact on animal welfare. Although there is a vast literature on indirect linkages between wastewater and animal productivity, studies focusing on the direct impacts of water buffaloes bathing in wastewater on animal productivity and economic losses are rare. Therefore, using 360 domestic water buffalo farms, this study examines the expenditure and production losses associated with bathing (in wastewater and freshwater) and non-bathing water buffaloes by employing partial budgeting and resource adjustment component techniques. Furthermore, it investigates the prevalence of animal diseases and associated economic effects using correlation analysis and propensity score matching techniques, respectively. The findings reveal that compared to their counterparts (freshwater bathing and non-bathing water buffaloes), buffaloes bathing in wastewater are at increased risk of clinical mastitis, foot and mouth disease (FMD) and tick infestation. Moreover, the use of wastewater for bathing buffaloes also leads to higher economic and production losses by affecting milk productivity, causing premature culling, and reducing slaughter value. The findings of the double-log model show that economic losses are higher if buffaloes bathe in wastewater within 30 min after milking, as there are more chances that those buffaloes would be exposed to bacterial penetration in the teat ducts, which may result in intramammary infection. According to the propensity score matching method, the higher economic damages per month are associated with buffaloes bathing in wastewater and freshwater, 155 and 110 USD per farm, respectively. The study findings reference the need for policies to restrict wastewater access by water buffaloes, and a regular check of and access to cool clean water wallows for bathing during hot summer days, to reduce excess heat and economic losses, and thus improve animal welfare.

Functional & Integrative Genomics
https://doi.org/10.1007/s10142-018-0640-x

ORIGINAL ARTICLE

Metagenomic characterisation of ruminal bacterial diversity in buffaloes from birth to adulthood using 16S rRNA gene amplicon sequencing

Prakash G. Koringa[1] · Jalpa R. Thakkar[1] · Ramesh J. Pandit[1] · Ankit T. Hinsu[1] · Mithil J. Parekh[1] · Ravi K. Shah[1] · Subhash J. Jakhesara[1] · Chaitanya G. Joshi[1]

Received: 22 May 2018 / Revised: 25 September 2018 / Accepted: 12 October 2018

Abstract

Microbial colonisation in the forestomach of a ruminant is one of the most crucial factors in determining many of its physiological developments and digestive capabilities. The present study attempts to identify establishment pattern of microbes in relation to food, age and rumen development in the buffalo calves at every fortnight interval from birth to 6 months of age, followed by every month till animals became 1 year of age. Diversity study based on 16S rRNA gene sequencing identified rapidly changing bacterial population during initial 60 days of life, which got assemblage as rumen became physiologically mature with increasing age of animals. A lactate fermenting aerobic to facultative anaerobic genera found during initial 30 days of life were expeditiously replaced by strict anaerobic cellulolytic bacterial population with increasing age. The study confirms that initial colonisation mainly depends on the oral cavity and skin of the mother, followed by the surrounding environment and feed offered, which is reversed in order once animal gets older. Some of the well-described genera based on culture-dependent studies like *Ruminococcus* spp. were found to be in lesser proportion suggesting an additional role of other microbes or niche in cellulose degradation. We report the presence of *Porphyromonas* spp. and *Mannheimia glucosidal* for the first time in bovine infants.

STM JOURNALS

Research and Reviews: Journal of Dairy Science and Technology
ISSN: 2319-3409 (Online), ISSN: 2349-3704 (Print)
Volume 7, Issue 2
www.stmjournals.com

Formulation of Balanced Ration of Buffaloes

RojitaYengkhom*, Kanti Raje, Nirmala Muwel, Shilpa Choudhary, Mokshta Gupta
Division of Animal Nutrition, Indian Veterinary Research Institute, Izatnagar, Bareilly, Uttar Pradesh, India

Abstract

Research work in animal nutrition has resulted in a better understanding of a balance of nutrients for optimum utilization of feeds in animal production. This knowledge if transferred to farm practice will show positive result in both livestock production and conservation of feed supplies. A balanced ration consists of carbohydrates, proteins, minerals and vitamins. Out of these factors, considering only one or two in feed formulation will alter the health condition of animals regardless of its environmental conditions. Balanced ration has to be different for different stages of an animal as its requirement is various according to the demands of the body. Offering balance ration to the ruminants is a must to increase the production, to prevent from many metabolic diseases as well as to fulfil the demands without affecting the animal health.

Journal of Dairy Research, Page 1 of 6. © *Hannah Dairy Research Foundation 2018*
doi:10.1017/S0022029918000444

Associations of teat morphometric parameters and subclinical mastitis in riverine buffaloes

Gagandeep Kaur[1], Baljinder Kumar Bansal[1], Raj Sukhbir Singh[2]*, Neeraj Kashyap[3] and Shukriti Sharma[1]

[1]Department of Veterinary Medicine, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana, India
[2]Department of Teaching Veterinary Clinical Complex, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana, India
[3]Department of Animal Breeding and Genetics, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana, India

Received 27 July 2017; accepted for publication 15 June 2018

The possible association between teat morphometric traits and subclinical mastitis (SCM) in dairy buffaloes was studied. Teat morphometric parameters, i.e. teat shape (bottle, conical, cylindrical, and others), teat-end shape (flat, round, and pointed), teat length (TL), teat diameter (TD), and teat-end to floor distance were measured before milking, but after proper milk let-down, in clinically healthy buffaloes (47 Murrah and 34 Nili-Ravi breeds). Subclinical mastitis was defined on the basis of bacteriology and somatic cell count (SCC) of quarter foremilk samples. A high proportion of cylindrical teats (40%) and pointed teat-ends (64·4%) was observed. Hind teats were longer and thicker than fore teats ($P < 0·05$). A significant breed effect was found with respect to teat shape, length and diameter ($P < 0·05$). Teats were mostly cylindrical (43·3 *vs*. 35·4%) and conical (34·2 *vs*. 30·8%) shaped, smaller (mean 8·2 *vs*. 9·5 cm) and thinner (mean 3·3 *vs*. 3·6 cm) in the Murrah breed compared with the Nili-Ravi breed. Teats that had 'other' shapes and were longer, wider, and placed closer to the floor were more associated with SCM ($P < 0·05$). Mean SCC was significantly higher ($P < 0·05$) in Nili-Ravi buffaloes, teat shapes classified as 'others', and quarters with SCM. Teat morphometric traits seem to be associated with indicators of udder health in buffaloes, thus, their inclusion in breeding programmes for selection against undesirable dairy type traits may be of value in reducing susceptibility to intramammary infections in Indian buffaloes.

Livestock Science 212 (2018) 22–33

Contents lists available at ScienceDirect

Livestock Science

journal homepage: www.elsevier.com/locate/livsci

Review article

The welfare of water buffaloes during the slaughter process: A review

L. de la Cruz[a], T.J. Gibson[b], I. Guerrero-Legarreta[c], F. Napolitano[d], P. Mora-Medina[e], D. Mota-Rojas[f,*]

[a] Lic. Medicina Veterinaria y Zootecnia, University of the Valley of Mexico (UVM-Coyoacán), Ciudad de México 04910, México
[b] Department of Pathobiology and Population Science, Royal Veterinary College, University of London, Hatfield, UK
[c] Department of Biotechnology: Food science, Universidad Autónoma Metropolitana-Iztapalapa, (UAM-I), México, DF 09340, México
[d] Scuola di Scienze Agrarie, Forestali, Alimentari ed Ambientali, Università degli Studi della Basilicata, 85100 Potenza, Italy
[e] Department of Livestock Sciences, National Autonomous University of Mexico (UNAM), FESC-Cuautitlan Izcalli, Mexico
[f] Stress Physiology and Farm Animal Welfare. Department of Animal Production and Agriculture. Universidad Autónoma Metropolitana – Campus Xochimilco (UAM). México City, DF 04960, México

ARTICLE INFO

Keywords:
Water buffalo
Slaughter
Stunning
Stress
Animal welfare
Handling

ABSTRACT

This paper reviews the scientific literature on water buffalo welfare in all stages of the live animal supply chain from the farm gate to slaughter (loading/unloading, markets, transportation, handling, lairage, stunning and slaughter) with the objective of identifying risk factors and potential mitigation strategies. Although in some countries legislation exists to protect the welfare of farm animals during transport and killing, the handling practices used to load and unload buffaloes and move them in livestock markets and abattoirs are often harsh. This is frequently due to inadequate equipment designed principally for cattle, and the fact that water buffaloes are considered more temperamental than cattle. Additionally, more reactive animals have increased stress responses to handling, which can lead to more negative human interventions with increased numbers of skin lesions and bruises to the carcasses. During transport, buffaloes may suffer periods of thermal stress due to overstocking, inadequate ventilation and because in many tropical climates trips are made during the hottest time of the day. The anatomical and physiological characteristics of water buffalo make them particularly susceptible to thermal stress in the absence of water for wallowing. Although water buffaloes belong to the same *Bovidae* family as domestic cattle, certain anatomical features of the head make effective stunning very problematic. Buffaloes have extensive sinuses and frontal bones, meaning that the penetrating captive bolt devices recommended for cattle may prove ineffective in reliably inducing unconsciousness. There is a need for further development of procedures, stunning positions and appropriate devices to improve the efficiency of buffalo stunning. Finally, in many parts of the world where buffalo are routinely slaughtered in basic conditions without prior stunning. Slaughter without stunning can result in pain and stress associated with delays in the time to loss of consciousness, pain from the cutting of the neck and potential distress associated with aspiration of blood into the respiratory tract. Specific legislation, guidelines and handler/stockman/operator training programmes should be developed to improve the welfare of buffaloes during all *ante mortem* stages of loading, unloading, handling, stunning and slaughter.

WORLDWIDE BUFFALO ACTIVITY

BUFFALO DEVELOPMENT SOCIETY, NEPAL

Buffalo has a great food and economic value in Nepal. This is the top livestock species that contributes more than half of the meat supply and two third of the milk supply in the country. Nepalese scientists working on buffalo research and development are proactively gearing up the activities on buffalo development and promotion.

Recently, Buffalo Development Society Nepal (BDSN) has been seeded and its national coordination committee is working on drafting its constitution, registering the society in the government body and organizing national scientific congress in a couple of months focusing on developing the road map of buffalo development in the country.

The BDSN will coordinate among buffalo scientists, breeders and other stakeholders in the country and facilitate the government to move towards sustainable development of buffalo through integrated research and development approach.

As Nepal is organizing **10th Asian Buffalo Congress during early 2021**, the BDSN will certainly be the key towards this endeavor.

National coordination committee of BDSN

Prof. Bhuminand Devkota - Coordinator
Dr Samjhana Kaphle - Joint coordinator
Dr Chandra Dhakal - Secretary
Dr Rudra Prasad Paudel - Member
Dr Lok Nath Paudel - Member
Dr Grisma Raj Neupane - Member
Dr Kiran Pandey - Member
Dr Doj Raj Khanal - Member
Dr Neena Amatya Gorkhali - Member
Dr Saroj Sapkota - Member
Dr Nirajan Bhattarai - Member
Dr Gokarna Gautam - Member

BDSN Advisors

Prof IP Dhakal, Vice Chancellor, Agriculture and Forestry University

Prof Mana Raj Kolakshyapati, Registrar, Agriculture and Forestry University

Dr Bimal Kumar Nirmal, Director General, Department of Livestock Services, Ministry of Agriculture and Livestock Development

Dr Tek Bahadur Gurung, Livestock and Fisheries Research Director, Nepal Agriculture Research Council

Prof Sharada Thapaliya, Animal and Veterinary Science Faculty Dean, - Agriculture and Forestry University

Dr Nanda P Joshi, WorldTAP Food Safety Coordinator, Michigan State University, USA

Prof Naba R Devkota, Director, Research and Extension, Agriculture and Forestry University

Prof. Bhuminand Devkota
Agriculture and Forestry University, Rampur, Chitwan, Nepal
President Asian Buffalo Association

ACTIVITIES OF THE GREEK LIVESTOCK COOPERATIVE OF BUFFALO BREEDERS DURING 2018

For many decades' buffaloes were being reared in Greece for their products (milk and meat) or as working animals. There were around 75.000 animals in the country during the 60s but then developments at the socioeconomic level and the "holsteinization" of the dairy sector in Greece brought a dramatic reduction. As a result, in 1984 there were only 312 animals. Nevertheless, for the last 30 years, buffalo livestock farming has been demonstrating a stable increase and now there are about 5.000 animals. Although the number of animals is still small, the sector has attracted the attention of numerous potential breeders, despite the adverse circumstances of the financial crisis in the country.

The Greek Livestock Cooperative of Buffalo Breeders (GLCBB) in collaboration with the Center for Animal Genetic Resources of Thessaloniki and the Alexander Technological Educational Institute of Thessaloniki have joined their efforts in order to inform stakeholders about the benefits of buffalo farming and the importance of buffalo products.

FIGURE 1. TRAINING VISIT OF THE GREEK BUFFALO BREEDERS IN TURKEY

Two training visits in Turkey and in Bulgaria were organized. The first took place on February 2018 in collaboration with the Turkish Buffalo breeders association "Istanbul Manda"

(http://www.istanbulmanda.org/) with the help of the President of International Buffalo Federation (IBF) Prof. Ihsan Soysal. Greek farmers - members of the LCBB visited the Turkish Buffalo Breeders Association in Çatalca (Instabul area). During this visit Greek farmers had the opportunity to visit buffalo farms, to be informed about developments in the Turkish sector and to see modern buffalo farms (Fig.1). The visit was completed with a tour to a cheese industry and a demonstration of artificial insemination**.**

Last April Dr. Pencho Pencev and Prof. Tzonga Peeva invited the GLCBB, to visit the National Livestock Exhibition held in Sliven (Bulgaria) (Fig. 2,3).

FIGURE 2 TRAINING VISIT OF THE GREEK BUFFALO BREEDERS IN BULGARIA

The Exhibition was organized by the Ministry of Agriculture, Food and Forestry of Bulgaria. During the visit the Greek farmers exchanged experiences, opinions and know-how with their Bulgarian colleagues about management practices in buffalo farms and were informed by Prof. Tzonga Peeva about the breeding program which was implemented for the Bulgarian Murrah Buffalo.

FIGURE 3. PROF. TZONGA PEEVA AND DR. DIMITRIOS ROUSTEMIS -NATIONAL LIVESTOCK EXIBITION IN SLIVEN (BULGARIA)

FIGURE 4.VISIT OF DR. TASSOS HANIOTIS, DIRECTOR OF THE DIRECTORATE FOR "ECONOMIC ANALYSIS, PERSPECTIVES AND EVALUATIONS; COMMUNICATION IN THE DIRECTORATE GENERAL FOR AGRICULTURE OF THE EUROPEAN COMMISSION

Finally, a special Honor and pleasure for the Greek Buffalo Breeders association was the visit of Dr. Tassos Haniotis, Director of the Directorate for "Economic Analysis, Perspectives and Evaluations; Communication" in the Directorate General for Agriculture of the European Commission to Kerkini area in October 2018. The members of the GLCBB had the opportunity to inform him about the role of the Cooperative and to discuss their problems. Also, Dr. Haniotis had the opportunity to visit two buffalo farms and the area of Kerkini Lake where buffaloes graze.

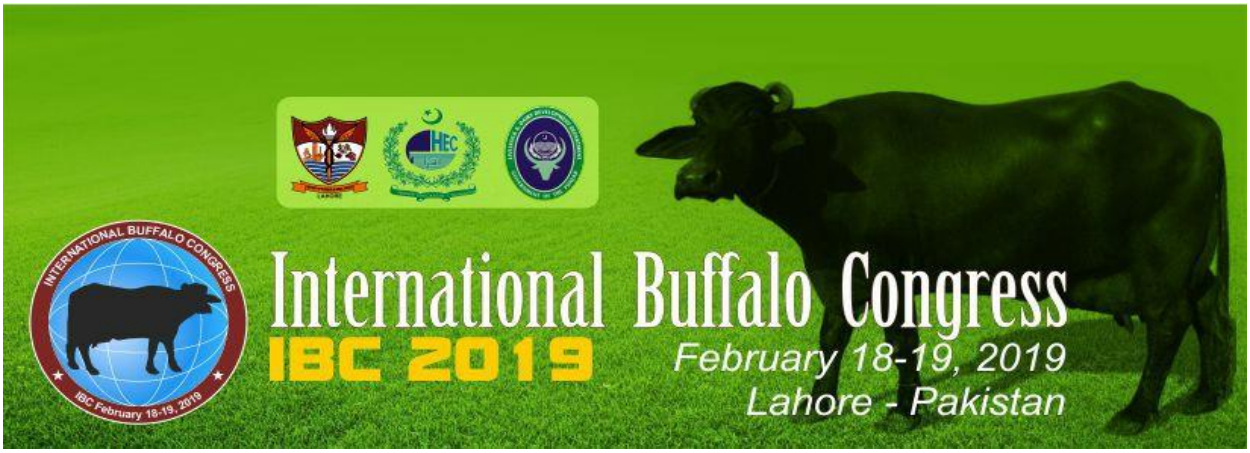
The GLCBB would like to thank Turkish and Bulgarian colleagues and especially Prof. Ihsan Soysal, Prof. Tzonga Peeva and Dr. Pencho Pencev. Special thanks are also expressed to Dr. Tassos Haniotis.Visit of Dr. Tassos Haniotis, Director of the Directorate for "Economic Analysis, Perspectives and Evaluations; Communication in the Directorate General for Agriculture of the European Commission

Dimitrios Roustemis

Animal Scientist
Institute of Animal Genetic Improvement
N. Mesimvria Thessaloniki, Greece

NEWS

INTERNATIONAL BUFFALO CONGRESS IBC 2019, LAHORE, PAKISTAN



In order to showcase the milk and meat potential of buffalo, nationally and internationally, University of Veterinary and Animal Sciences, Lahore, Pakistan (UVAS) is organizing **"International Buffalo Congress (IBC 2019)" on February 18-19, 2019 in Lahore Pakistan.**

The objective of the Congress is to review and update the work in the thematic areas of nutrition, reproduction, genetics, management, health, and socio-economics. The theme is "Subsistence to Commercialization". We envisage information generated in the Congress will help in bringing economic prosperity of buffalo farmers, globally. **Lahore** has great history, cultural hub and provincial metropolis of predominantly agriculture-based Punjab province. This is well connected to the rest of the world. **UVAS,** is a premier flagship veterinary education institution that has history of more than 136 years.

The IBC2019 will have following main attractions: Oral presentations from international and national invited and selected speakers Poster presentations and Pre congress workshops Milk and Beauty Competition & Livestock Show at Buffalo Research Institute (BRI) Exhibition and Post congress farm tour/ UVAS Ravi Campus Gala dinner with cultural show, and visit to historical places of Lahore The Organizing Committee extends its warm invitation to scientists, students, planners, extension workers, veterinarians, farmers, entrepreneurs and buffalo enthusiast from throughout the world and Pakistan for attending the International Buffalo Conference IBC 2019, at UVAS, Lahore Pakistan.

Therefore, please mark your calendars. Kindly show your interest by acknowledging this email on: info.ibc2019@uvas.edu.pk.

More information will be available soon through our website **www.uvas.edu.pk**.

12TH WORLD BUFFALO CONGRESS, ISTANBUL, TURKEY

Dear Colleagues and Friends, On behalf of International Buffalo Federation, I cordially invite you to the **12th World Buffalo Congress**, which will be held in Istanbul, Turkey during 18-20 September 2019.

PROF. DR. M. İHSAN SOYSAL

The congress is expected to provide a bridge between East and West; South and North that addresses key issues relevant to buffalo production, the research and science communities, national and international regulatory bodies, policymakers and consumer organizations.

The theme of WBC2019 is "**Efficient Production for the World**". We believe that global warming, environmental and ecological degradation, depletion of natural resources, natural and manufactured hazards, and economic crises affect our modes of production, and consumption, demanding for new strategies in production systems and organizations and conduct.

The location has been chosen to reflect the role of Istanbul as a meeting point for East &West and South&North as the crossroads of different continents and cultures. You will also have the opportunity to visit many historical sites in Istanbul and Turkey.

In addition to the main congress, there will be the Pre-Congress Workshop on "**Reproductive Biotechnology in Buffalo**" during 16-17 September 2019.

In the spirit of traditional Turkish hospitality, I welcome you all to Istanbul, and wish you a fruitful meeting, and a pleasant stay.

On behalf of the organizing committee,

Best Regards,

Prof. Dr. M. İhsan SOYSAL

Organizing Committee Chair

http://www.wbc2019.org/en/

4th IBF TRAINING COURSE ON BUFFALO MANAGEMENT AND INDUSTRY

Italy
7-17 may 2019

INTERNATIONAL BUFFALO FEDERATION
Monterotondo, Roma, Italy

The course will cost 1000 euro for IBF members, and 1200 euros for non-members and pre-registration (350 euros) is kindly requested (information available on the website). Few places are still available, please register ASAP.

Hoping to meet you in Italy

IBF Secretariat
International Buffalo Federation Secretariat
C/O CREA Via Salaria, 31
00015 Monterotondo (RM) Italy
Phone:+39.06.900.90.214-248
Fax:+39.06.900.90.223
www.Internationalbuffalofed.org
e-mail:internationalbuffalofed@gmail.com

IBF ORGANIZATION

GOVERNING BODY

President: M. Ihsan Soysal (Turkey), misoysal@gmail.com

General Secretary: Antonio Borghese (Italy), antonio.borghese@escorena.net

Executive Officer Asia: Inderjeet Singh (India), inderjeet.dr@gmail.com

Executive Officer America: Joao Ghaspar de Almeida (Brazil), ghaspar@terra.com.br

Executive Officer Europe: Luigi Zicarelli (Italy), zicarell@unina.it

Executive Officer Africa: Ibrahim Soliman (Egypt), ibrahimsoliman@gmail.com

Executive Officer Australia: Barry Lemcke, handblemcke@bigpond.com

SECRETARIAT OFFICE

Vittoria Lucia Barile (Italy) vittorialucia.barile@crea.gov.it

Antonella Chiariotti (Italy) antonella chiariotti@crea.gov.it

Giuseppina Maria Terzano (Italy) marinellaterzano@gmail.com

Federico Infascelli (Italy) federico.infascelli@unina.it

Anna Chiacchierini (italy) centrotori@chiacchierini.it

Francesco D'Ausilio (Italy) info@caseariacasabianca.it

Antonio Fagiolo (Italy) antonio.fagiolo@izslt.it

Giorgio Saralli (Italy) giorgio.saralli@izslt.it

Carlo Boselli (Italy) carlo.boselli@izslt.it

STANDING COMMITTEE

Argentina

Marco Zava, marcozava@gmail.com Gustavo Crudeli, gcrudeli@vet.unne.edu.ar Felix Noguera, aacbufalos@gmail.com Carlos Maria de Llano, carlosmdellano@hotmail.com Horacio Emilio Irusta, heirusta@hotmail.com

Australia Barry Lemcke, handblemcke@bigpond.com Joanna Miller, Joanna.Miller@nt.gov.au

Bolivia Walter Kuljis Fuchtner, walterkuljisf@gmail.com Luiss Korc, korc@gmail.com

Brazil

Joao Ghaspar de Almeida, ghaspar@terra.com.br, joaoghaspar@gmail.com Pietro Baruselli, barusell@usp.br William G. Vale, wm.vale@hotmail.com, wmvale2011@gmail.com Antonio Humberto H. Minervino, ah.minervino@gmail.com Adriana Caroprezo Morini, drimorini@gmail.com Otavio Bernardes, otavio@ingai.com.br Rinaldo Battista Viana, rinaldovianna@hotmail.com Caio Rossato, michele_minoru@hotmail.com

Bangladesh Omar Md. Faruque**,** faruque_mdomar@yahoo.com

Bulgaria Tzonka Peeva, tzonkapeeva@abv.bg

Canada Martin Littkemann, mlittkemann@xplornet.com

China

Yang Bingzhuang, gxbri@gxbri.com Xianwei Liang, liangbri@126.com, xw-liang@hotmail.com Yang Liguo, gxbri@gxbri.com Yangqing Lu, luyangqing@126.com

Colombia

Claudia Patricia Roldan, fortalezacpr@gmail.com Ricardo Botero, ricardoboteroj@gmail.com Juan G. Angel, juangangel@gmail.com Juan Carlos Ballen Franco, juanb@panaca.com.co

Costa Rica

Alvaro Salas Vega, nelorerіocuarto@yahoo.com Luis Rodrigo Rosales Rodriguez, luis.rosales@ucr.ac.cr Sady Quesada Sanchez, squesada63@hotmail.com

Cuba C. José Raùl Lòpez Alvarez, jrlopez@ica.co.cu, jrlavarez@gmail.com

Egypt Mohamed Hofi, prof.dr.hofi@hotmail.com Ibrahim Soliman, ibrahimsoliman@gmail.com

Ecuador Lorens Olsen Pons, loren_olsenp@hotmail.com

Germany

Manfred Thiele, thielemw@aol.com, landgut_chursdorf@t-online.de Julia Brenmoehl, brenmoehl@fbn-dummerstorf.de Andreas Hoeflich, hoeflich@fbn-dummerstorf.de

Greece Dimitrios Roustemis, roustemis@mail.com

Guatemala Oscar Molina, oscaremilio2001@gmail.com

Hungary Hungarian Buffalo Breeding Association, egyesulet@magyarbivaly.hu

India R.K. Sethi, rksethi7@rediffmail.com Inderjeet Singh, inderjeet.dr@gmail.com Ashok Kumar Balhara, balharaak@gmail.com

Indonesia

Ph. D. Suhubdy, suhubdy1960@gmail.com, rtgaps@gmail.com Ade Gita Pramadianta, adegitap@yahoo.com

Iran

Hamid Naderfard, hnaderfard@yahoo.com Naghmeh Ashoori, naghmeh_ashoori@yahoo.com Mohammad Nikookar Dashtmian, m.nikookar10@gmail.com Kourosh Elyasi, kourosh.elyasi@gmail.com

Iraq

Khalid Al-Fartosi**,** khalidalfartosi@yahoo.com Jabbar Alsaedy, kingfisher_ja@yahoo.com; alsaedyjabbarkh@gmail.com Oday Sh.Al-Abbadi, dr.oday76@ymail.com

Italy

Antonio Borghese, antonio.borghese@email.it Raffaele Garofalo, r.garofalo@fattoriegarofalo.it Antonio Fagiolo, antonio.fagiolo@izslt.it, latina@izslt.it Leopoldo Iannuzzi, leopoldo.iannuzzi@ispaam.cnr.it Angelo Coletta, mamabuffalowst@gmail.com Giuseppina M. Terzano, marinellaterzano@gmail.com Vittoria L. Barile, vittorialucia.barile@crea.gov.it Federico Infascelli, federico.infascelli@unina.it Giuseppe Campanile, giucampa@unina.it Anna Chiacchierini, centrotori@chiacchierini.it Carlo Boselli, carlo.boselli@izslt.it Esterina De Carlo, esterina.decarlo@cert.izsmportici.it Luca Neglia, luca.neglia@unina.it Francesco D'Ausilio, info@casearіacasabianca.it Domenico Vecchio, domenico.vecchio@izsmportici.it Bianca Gasparrini, bgasparr@unina.it Giorgio Saralli, giorgio.saralli@izslt.it Nello Giorgi, giorgi.nello@libero.it Antonella Chiariotti, antonella.chiariotti@crea.gov.it M'AMA BUFFALO, mamabuffalowst@gmail.com Giuseppe Tortora, giosi.t@libero.it Antonio Perrone, aperrone@wedap.eu Antonia Noce, noce.antonia.an@gmail.com Luigi Zicarelli zicarell@unina.it (honorary member)

Mexico Ismael Coronel, carnedebufalo@hotmail.com, contacto@bufalosdemexico.com

Nepal Bhumi Nanda Devkota**,** bhuminand@gmail.com, b.devkota@afu.edu.np

Pakistan Talat Naseer Pasha, tnpasha@uvas.edu.pk Saeed Hassan Hotiana, saeed.hotiana@gmail.com Ch. M. Ashiq Gujjar, chashiq377@gmail.com Sami Ullah, miansamiullah84@gmail.com Maqsood Akhtar, crobripattoki@gmail.com

Philippines Libertado C. Cruz, pcc-oed@mozcom.com (honorary member)

Romania

Livia Vidu, vidulivia2014@yahoo.com, Ioana Nicolae, ioana_nicolae2002@yahoo.com Adrian Bota, adrianbota68@yahoo.com

Sri Lanka Oswin Perera, oswinperera@yahoo.co.uk

Thailand

Rangsun Parnpai, rangsun@ccs.sut.ac.th (honorary member) Thuchadaporn Chaikhum-Marcou, thuchadaporn@hotmail.com

Trinidad Anna Maria Phillip Hosein, vet_stpatrick@yahoo.com Leela Rastogi, leela3053@hotmail.com Lisa Benjamin, lisabenjamin_epi@outlook.com

Turkey

M. Ihsan Soysal, misoysal@gmail.com Sezai Ural, istanbulmanda@hotmail.com Huseyin Yilmaz, mmb_huseyin_yilmaz@mynet.com Sedik Ermis, istanbulmanda@hotmail.com Ozel Sekerden, ozelsekerden@hotmail.com

UK GENOMED Ltd, mb@genomed-biotech.com

USA

Thomas Olson, tcwb@valornet.com Shannon Gay, Shannonsfieldservice@yahoo.com Katherine Pepe, katsmom90@hotmail.com Brian Dalziel, bdalziel33@hotmail.com Joshi Nanda, joshin@msu.edu Caroline Sawyer egsawyer2338@gmail.com

Venezuela

Hector Scannone, bufito44@yahoo.es; bufito2@gmail.com Luis Alfredo Pacheco Diaz, Ipcivia@hotmail.com Rafael Emilio, rafaelemilio@hotmail.com Jesus Reggeti, jreggeti@gmail.com (honorary member)

Vietnam Mai Van Sanh, mvsanh2009@gmail.com

INTERNATIONAL BUFFALO FEDERATION

www.internationalbuffalofed.org

info@internationalbuffalofed.org

IBF-International Buffalo Federation

@IBFederation