Buffalo Newsletter

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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

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11th WORLD BUFFALO CONGRESS
Cartagena, Colombia, 23-25 November 2016

The 11th World Buffalo Congress was held in Las Americas Hotel, Cartagena, Colombia, from November 23 to 25, 2016, organized by the International Buffalo Federation (IBF) President, Claudia Roldan.

A lot of lectures were showed in three different rooms: white, jellow and green.

On the morning of November 23 Dr. Marco Zava spoke about 40 years of Buffalo in Argentina: actually in Argentina there are 120,000 buffaloes, 40,000 in Formosa, 35,000 in Corrientes in about 200 farms. They produce meat animals of 250-300 kg, satisfying the good demand for that, and meat animals of 470-520 kg for the export.

The production of meat for hectar is higher than the one coming from bovine.

Limitations are the low population, the limited knowledge, the preference for beef by the consumer. After Dr. Zava, Prof. Antonio Borghese presented his lecture with title: Planetary Impacts of Dairy Buffalo. He showed the buffalo population trend linked to dairy buffaloes in all the continents.

He spoked on the economy from Dairy Buffalo in Italy and in the principal countries of Asia and America, describing the dairy products and the market. Finally he underlined the importance of the udder and teats anatomy and conformation, the adaptation to milking machines and to automatic milking systems, as to select female lines without problems of milk ejection and with short times and more efficiency in milk yield, to increase milk availability, to satisfy the requirements of animal proteins of high biological value, that are a must for the children growth and for the priority economy of many countries.

Gustavo Crudeli from Argentina presented his new book on Buffalo Reproduction, written in collaboration with Konrad J.L., Patino E.M. and other researchers from Argentina, Brazil, Cuba, Venezuela, Italy.

In the afternoon André Mendes Jorge spoked on the Production and Meat quality of water buffaloes, presenting the Brazilian project of UNESP, Botucatu in the first year of activity on the meat production, studying also the carcass composition and meat quality. Carlos Armando Cadoppi from Argentina too spoked about buffalo meat. Prof. Luigi Zicarelli from Italy presented the lecture: Nutrition and environment in buffalo production. He underlined the problems of pollution by CO2 and by methane, that are produced in small quantity by ruminants, in great quantity by combustion of fossil carbon and petrol, contesting some groups who look at the ruminants as the responsible of the world pollution, and remembering the importance of proteins of animal origin and of vitamin B12 in the human nutrition.

At 6 p.m. there was the meeting with the Authorities from Ministry of Agriculture and Rural Development of Colombia, with Ricardo Sanchez, President of the Breeders Association and Claudia Roldan, president of IBF and of the Colombia Buffalo Association (Asobufalos). The Ministry said that the buffalo population in Colombia increased until 450,000 animals, bovine are 23 million, and a program of animal curing for tuberculosis and brucellosis was financed.

In the night a welcome cocktail was offered, with typical meals, music and dance.

The day after, November 24, in the Green room, John Williams presented the lecture on the buffalo genome and the genetic control of a complex phenotype. The genotyping was effected on different breeds, Mediterranean Italian, Nili Ravi, Murrah, Jaffarabadi. In chromosome 11 was discovered gene regulating early lactation and lipid metabolism and in chromosome 19 genes acting on metabolism of steroid hormones. In the same time in the white room there was the reproduction session with interesting lectures on technologies and on embryo production by Dr. Gianluca Neglia (Italy) and by Prof. Pietro Baruselli (Brazil). Dr. Neglia showed also interesting links among nutritional factors and reproduction efficiency. Prof. Baruselli presented a program with Brazilian and Italian University to increase the embryo collecting, via OPU and IVF, utilizing also somatotropin hormone.

In the night there was a dinner party on Cartagena castle with panorama on the port.

The day after, November 25, started at 8.00 with the IBF Assembly, directed by the President Claudia Roldan and by the General Secretary Prof. Antonio Borghese. The first point was the election of the IBF President 2016/2019. The Secretary called each IBF member who voted by secret ballot. Dr. Inderjeet Singh for India received 20 votes. Prof. Ihsan Soysal for Turkey received 25 votes. Therefore the IBF President now is Prof. Soysal, who will organize the next World Buffalo Congress in Turkey on 2019. Dr. Inderjeet Singh, as president of Asian Buffalo Association, will organize the Asian Buffalo Congress on 2018 in India. After the Secretary presented the activities of the IBF Secretariat, composed by 11 people, particularly the third IBF Training Course, that will be held from 9 to 19 of May 2017 in Italy. Finally Claudia asked the vote on the IBF Constitution, preferring the old one edited on 1997, in comparison of the Legal Act registered on 2004 in Monterotondo, Roma, that is the official recognizing by the Government, or the renewed one on 2016. The detailed report on the Assembly is reported in this Buffalo Newsletter in other pages.

In the afternoon the 11th World Buffalo Congress was officially closed by Claudia Roldan, who presented the new President Prof. Ihsan Soysal to the people.

On November 27 started the Buffalo Tour from Cartagena. The first stop was in OLEOFLORES Company in Barranquilla, producing palm oil. The farm extension is 700 ha, 350 utilized by palms, the Company has 15,000 ha in total. The palm oil is used to fry food, to produce margarine, and also as fuel. The palm produce oil for 30 years. The buffalo is used in the farm as draft animal. In the afternoon people arrived in FORTALEZA farm, property of Claudia Roldan, near Monteria, where Murrah buffaloes were shown under a violent equatorial raining. The farm surface is 315 ha with Brachiaria pasture. The average milk production per day is 5 liters, sell at 1600 pesos/liter, about half dollar. Sanitary treatments are vermifuge (Levamisol, Fenbendazol) and vaccines against brucellosis, clostridiosis, foot and mouth disease. After a rich dinner was offered, with music and dance.

The day after, November 28, from the Hotel in Monteria the people arrived to MONTERRICO farm in Monteria, a farm for animal fattening and dairy purpose,

with Pure Brahman and with Murrah buffaloes. The second step was the HACIENDA PRAGA in Pueblo Nuevo, Cordoba, Inversiones COLBUFALOS S.A.S., property of Juan Angel: in the farm of 10,000 ha there are 2400 buffaoes of Mediterranean Italian breed, producing an average of 6 liters milk per day, 3.5% protein and 7% fat, milked in mechanized barns with tandem system, fed only pasture with integration of maize silage during the dry season (December). 2000 doses of semen Mediterranean Italian per year were imported. The calves are fed by females, 4 calves for female, and after by reconstituted milk, with weaning at 3/4 months. In the farm a rich lunch with good meat was offered. In the afternoon people was carried to the Hotel Monteria.

The day after, November 29, we were carried to Cheese Industry PLANTA DE LACTEOS, PLANETA RICA, Cordoba, where mozzarella cheese is produced in sterilized system, with shelf life of one month, plus burrata, ricotta, yogurt. The second step was the farm EL DIAMANTE, La Apartada, Cordoba, where 1,800 buffaloes Murrah are bred, fed pasture and producing about 3 liters per day. The climate is 38 grade centigrade with 90% humidity and 1860 mm rain per year. After the lunch we went to the farm EL TEATRO, that is part of a Cooperative constituted by 9 farms in Cordova and Antiochia, who produces coffee and replaced 14,000 zebu Brahman with 13,400 Murrah buffaloes because of the earlier puberty, the higher fertility, the higher longevity, the shorter inter calving interval, the reduced mortality. Buffaloes do not loose weight during dry season and growth is normally 28%, according the studies of Alcide Ramorin.

Finally the buffalo tour was ended with a final dinner in the Hotel Monteria.

THE 11th WORLD
BUFFALO CONGRESS
XI CONGRESO MUNDIAL DE BÚFALOS
CARTAGENA ▪ COLOMBIA ▪ 2016

From the tropics to the world

REPORT ON THE ASSEMBLY
OF THE INTERNATIONAL BUFFALO FEDERATION

In the day November 25, at 8.00 a.m., the IBF Assembly was held, directed by the President Claudia Roldan and by the General Secretary Prof. Antonio Borghese.

The first point in the order of the day, sent by the General Secretary to all the IBF members on October 27, 2016, was the election of the IBF President 2016/2019. The Secretary called each IBF member who voted by secret ballot, each member one vote according the amendments voted by the members referendum on 2015 reported on the new Constitution on March 2, 2016. Dr. Inderjeet Singh for India received 20 votes. Prof. Ihsan Soysal for Turkey received 25 votes. Therefore the IBF President now is Prof. Soysal, who will organize the next World Buffalo Congress in Turkey on 2019. Dr. Inderjeet Singh, as president of Asian Buffalo Association, will organize the Asian Buffalo Congress on 2018 in India. Dr. Ismael Coronel, as president of the American Buffalo Association, will organize the Symposium of America and Europe on November 2017 in Mexico.

The second point in the order of the day was the confirmation of the Executive Officers, elected by their Continents. The General Secretary underlined that the Asian people elected Dr. Inderjeet Singh as President of the Asian Buffalo Association, therefore he is the Executive Officer for Asia. The Executive Officer for Africa remains Prof. Ibrahim Soliman as Africa is represented only by him and by Prof. Hofi. The same for Australia, that is represented only by Dr. Barry Lemcke. American people elected Ismael Coronel President of the American Buffalo Association, therefore he has to be the Executive Officer of America. But at this point Claudia Roldan asked to vote Joao Ghaspar de Almeida as Executive Officer of America instead of the President Ismael. The American people in the Assembly voted Joao Ghaspar de Almeida. For Europe the General Secretary communicated that from the election on line Dr. G.M. Terzano resulted the more voted by European members. At this point Prof. Campanile proposed Prof. Luigi Zicarelli as Executive Officer of Europe and the Assembly voted for him.

The third point in the order of the day was Present and future activities of the IBF. The General Secretary Prof. Antonio Borghese presented the staff of the IBF General Secretariat and their specific activities: Dr. Antonio Fagiolo as Director in the Animal Prophylaxis Research Institute in Rome, is involved for sanitary and pathologies aspects, Dr. Francesco D'Ausilio as president of ANASB and of CIPAB, is involved for the link with the breeders and for the selection of the best bulls, Dr. Anna Chiacchierini, as owner of the bull Centre, is involved in the projects in the world to increase the milk production genetic potential, Prof. Federico Infascelli, as professor in Federico II University in Napoli, is involved for feeding and nutrition, Dr. Giorgio Saralli, as veterinary manager in the Animal Prophylaxis Research Institute in Latina, is the responsible of the IBF website www.internationalbuffalofed.org that is very active instrument of communication, as Dr. Carlo Boselli, from the same Institute,

cures the aspects of milk quality. Dr. Ugo Della Marta, the General Director of the Animal Prophylaxis Research Institute in Rome, and Dr. Antonella Bozzano from the same Institute are involved as Editorial Committee of the Buffalo Newsletter, where the editor is Prof. Borghese, that is sent to many hundred people for communicate news about congresses, researches, projects and others in buffalo field. Dr. G.M. Terzano and V.L. Barile, from the Animal Production Research Institute in Monterotondo, Roma, attend to the international relations, to receive foreign delegations according with the Ministry of Agriculture, and to have link with the Embassies. Therefore in the IBF Secretariat are involved 11 people: a very strong team, that now is occupied to organize the third IBF Training Course from 9 to 19 of May in Italy, visiting different Institutes, buffalo Farms and industries for processing milk and meat, from Roma to Perugia, Latina, Capua, Paestum, Napoli. The total cost of the course will be 1200 US dollars and the inscription are open, asking the IBF Secretariat. Finally the Scientific Committee collaborates with the Secretariat as external support for international projects and it is composed by Prof. Yang Bingzhuang (China), Prof. Livia Vidu (Romania), Prof. Suhubdy (Indonesia), Prof. William Vale (Brazil), Dr. Leela Rastogi (Trinidad and Tobago).

The fourth point was other proposals. Claudia Roldan asked the vote on the IBF Constitution, preferring the old one edited on 1997, instead of the Legal Act registered on 11/10/ 2004 with Notary Dr. Francesco Di Pietro in Monterotondo, Roma, that is the official one recognizing by the Italian Government, according what is possible to have a Bank count registered with the name of International Buffalo Federation and an economic activity, or instead of the renewed Constitution on March 2, 2016, changed according the results obtained in different referendum on line from 2015 to 2016, with the votes of the IBF members. Claudia in the first time asked the individual vote of the present IBF members by hand raising. The votes yes or not were quite the same: but only 18 IBF members were present at that time, on the contrary at the start of the Assembly they were 45 IBF members who voted individually for the President. Prof. Borghese started to count the votes, when Claudia changed totally opinion and asked the vote for country, calling according her choice one person for country and concluding that more countries voted yes to come back to the old Constitution on 1997: 8 countries against 5. Many people protested as they declared the right to vote individually in different manner of the member called by Claudia, as they paid the IBF fees and they want to tell their will, particularly Dr. Luis Pacheco Diaz from Venezuela and Prof. Luis Rosales Rodriguez from Costa Rica. Prof. Borghese said that this process was ridiculous, as in the Constitution is written that in the Assembly the vote must be individual, the vote for country was asked against the by-low and only after that the vote for person had a result that was not agreeable with Claudia expectations, finally because the IBF members were present only in few quantity, probably about 18.

We have to remember that in November 2015 a referendum was promoted to the 100 IBF

members to propose 4 amendments on the IBF Constitution. 68 IBF members voted yes to the proposed amendments, only 5 voted against. The results of referendum was sent to the 100 IBF members on March 2, 2016 with the names of each member and his vote. One of the amendments was that EACH IBF MEMBER HAS THE RIGHT OF VOTE, INSTEAD OF ONE VOTE FOR COUNTRY. The Constitution was changed according the will of this referendum: in Section V, art. 9 is reported: The IBF members enjoy equal voting rights, being allowed one vote each.

We have to remember that in May 2016 a second referendum was promoted asking the 100 IBF members about who can change the Constitution, the Assembly or the majority of the IBF members, because of there were different interpretations on the Constitution . We obtained the same result of the previous referendum as the IBF members, who paid the fees, like to be involved in the decision, independently from the economic possibility to take part to the Assembly. Therefore the decision was that each proposal to change the Constitution MUST be submitted to the IBF people. The Assembly can propose, of course, but the majority of members has to accept the proposal to became effective. About this point it is not possible to accept that only 8 votes expressed in the Assembly can cancel the Constitution approved together with the Legal act on 2004, confirmed for many years and by which the IBF activities were possible to be realized, nor the new one approved by the IBF majority of members on 2016.

Prof. Antonio Borghese, IBF General Secretary

Effect of whole cottonseed on milk production of Iraqi buffaloes. An extension trial

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Abstract

This study was conducted to investigate the influence of whole cottonseed on milk production of Iraqi buffaloes as an extension trial to improve the buffalo producer's skills to enhance milk production and consequently their economic income. This study was carried out on demonstrating farms pertaining to the Directorate of Agricultural Extension and Training, Ministry of Agriculture. These farms located in four villages within four Iraqi governorates (Thi-Qar, Baghdad, Qadissiyia and Muthanna). Twenty four buffalo females (6 buffaloes / governorate). Four of these buffaloes were supplemented with a concentrate diet including 10% whole cottonseed (WCS) (16 % crude protein and 2600 kcal/ kg) in addition to their routine diet of low quality roughages and wheat bran. The remaining two buffaloes were regarded as control fed on a routine diet available in the area. The concentrate diet was introduced one-month pre-partum and post-partum as four stages. The first two stages lasted for 15 days each fed 3 and 4 kg / head/ day, respectively, whereas, the last two stages lasted for 30 days each fed 5 and 6 kg/ head/ day respectively. Milk yield and increasing percentage of milk yield were recorded for each buffalo and for each stage. Higher milk yield ($P \leq 0.01$) and increasing percentage of milk yield ($P \leq 0.05$) were noted progressively in the WCS group during the whole stages as compared with the control group. Muthanna governorate was superior ($P \leq 0.01$) in milk yield in comparison with the other governorates during four stages studied. Simultaneously, Muthanna governorate was superior ($P \leq 0.05$) in an increasing percentage of milk yield during the first stage and Qadissiyia during the fourth stage. In conclusion, inclusion of WCS within the concentrate diet one-month pre-partum and post-partum buffaloes feeding resulted in obvious improvement in milk yield. This will positively reflect in increasing the income of Iraqi buffalo producers.

Photo 1. Iraqi buffalo fed on cottonseed-supplemented diet in Thi-Qar governorate

Photo 2. Iraqi buffalo fed on cottonseed-supplemented diet in Muthanna governorate

Photo 3. Iraqi buffalo fed on cottonseed-supplemented diet in Baghdad governorate

A Model for prediction of the Buffalo- Bulls live Weight Given Chest-Circumference Measure

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Abstract

The buffalo population in Egypt reached about 3,959, 000 heads in 2014. The total number of slaughtered buffalo was about 1,220,000, i.e. the off-take rate was around 31%. The average carcass weight reached 319.7 kg. About 50% of such numbers are slaughtered off-slaughter houses due to shortage in the capacity of slaughter-houses and other financial and administrative reasons. The buffalo meat market is a wide spread market in Egypt. The buffalo meat shares by 36% of the total ruminant meat production. The conducted field survey showed that the majority of Egyptian livestock markets lack of live weight-scales and, if available, they are expensive and frightening for the animals. However, the ability of farmers to estimate the live bodyweight of cattle enables them to evaluate the price, yield and expected profit from meat that can be obtained. Several recent studies have developed equations to predict the weight of live cattle-bulls knowing the circumference of the chest. Even though, the literature lakes of such relation for buffalo-bulls. Therefore, the objective of the study was to design a model for prediction of buffalo-bull live weight, knowing its chest circumference. 500 buffalo-bulls of different live-weight from 14 villages in 4 provinces were used to get the required data. While most of recent studies have presented a linear form the estimated best fitted model was curve-linear, i.e. a quadratic form [$y = 201.997108 – 3.674401(x) + 0.025245 (x^2)$]. For field application the study presented a table of predicted live-weight of buffalo-bulls at a range 100-200 cm chest circumference.

FUNDACIÓN PARA EL DESARROLLO E INVESTIGACIÓN SOCIAL DEL BÚFALO EN COSTA RICA

(FOUNDATION FOR THE DEVELOPMENT AND SOCIAL INVESTIGATION OF BUFFALO IN COSTA RICA)

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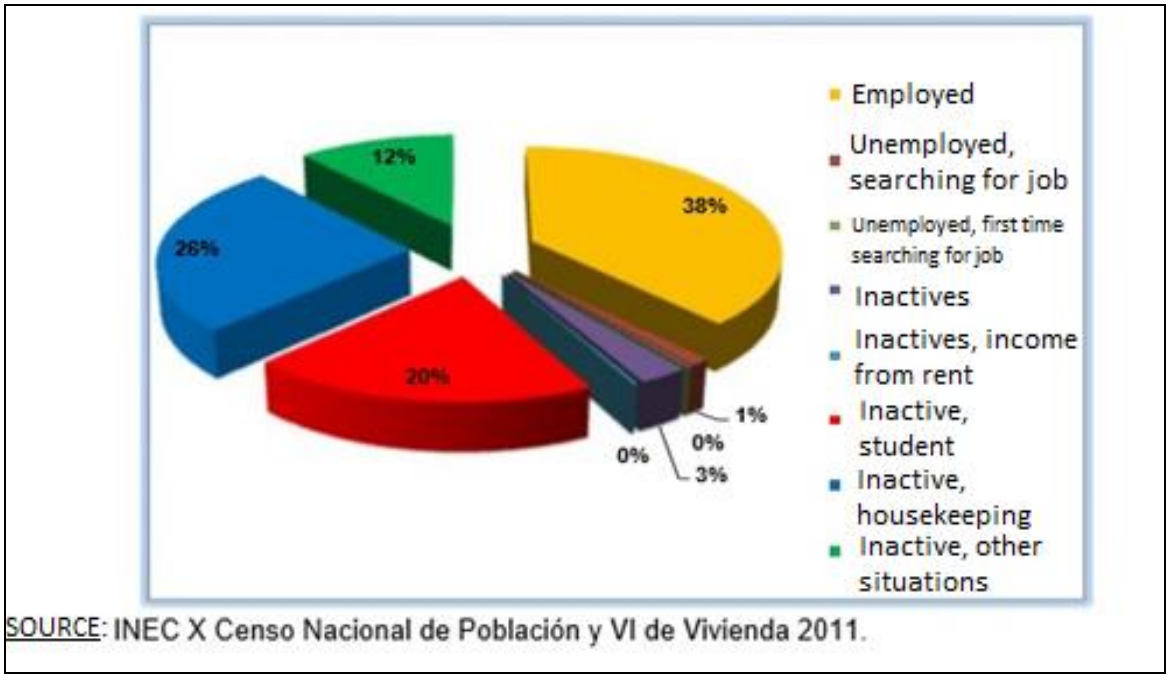
FUNDEBUFALO CR is in the first stage of a project of a farm-school, in which the population of the North-North Region (Guatuso, Upala and Chiles, Cost Rica) it is trained in matters related with soils, pastures, farm housing and safety, and handling of buffaloes in general. These trainings require a year in their first contact, so that after this period, milk and meat production, as well as other buffalo derivatives can be developed, in order that these trainings can be periodically continued and then extended to the rest of the country in a term of ten years.

It is necessary to implement an intelligent agriculture and livestock farming, with an adequate management of natural resources in a sustainable way, promoting practices of quality and low production costs, for example implementing the use of live fences and afforestation in order to accomplish a low carbon-footprint.

It should be noted that the area selected for the project is part of the territory of Costa Rica identified as one of the regions with the highest number of communities that live in extreme poverty and have the lowest employment rates in the country. This project was conceived taking account these elements, however the situation of this region changed drastically due to the recent passage of Hurricane Otto, first hurricane that affected the country directly, reason why the current conditions of the region are unknown since this area is in alert for being today considered as a disaster zone.

CURRENT EMPLOYMENT SITUATION OF THE REGION



SOURCE: INEC X Censo Nacional de Población y VI de Vivienda 2011.

CODE	AREA	IDS 2013	POSITION	LEVEL	QUINTILE
215	Guatuso	23,5	75		Q1
21501	San Rafael	45,3	408	LOW	Q1
21502	Buenavista	45,0	413	LOW	Q1
21503	Cote	37,4	457	VERY LOW	Q1
21504	Katira	44,3	422	LOW	Q1
213	Upala	22,5	76		Q1
21301	Upala	52,2	331	LOW	Q2
21302	Aguas Claras	46,5	399	LOW	Q1
21303	San José (Pizote)	31,3	469	VERY LOW	Q1
21304	Bijagua	50,9	348	LOW	Q2
21305	Delicias	42,9	428	VERY LOW	Q1
21306	Dos Ríos	38,4	455	VERY LOW	Q1
21307	Yolillal	41,0	442	VERY LOW	Q1
21308	Canalete	50,9	349	LOW	Q2
214	Los Chiles	34,9	80		Q1
21401	Los Chiles	43,4	426	VERY LOW	Q1
21402	Caño Negro	47,6	385	LOW	Q1
21403	El Amparo	38,7	453	VERY LOW	Q1
21404	San Jorge	40,9	443	VERY LOW	Q1

SOURCE: Caracterización socioeconómica RHN, MEIC, 2013.

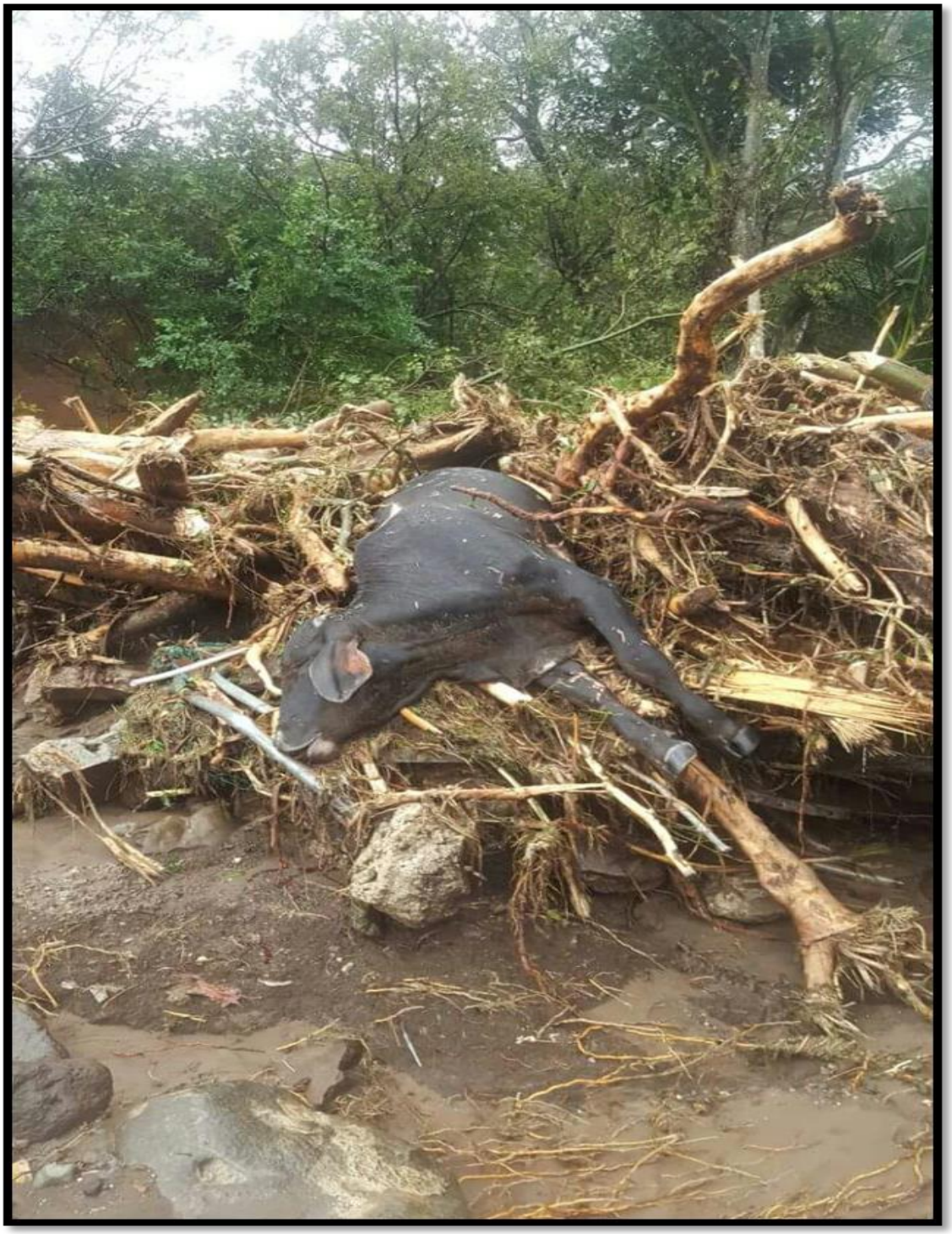
Today, important meetings are held with the President of the country in order to support and implement the project which possesses a great interest from the Government due to the recent emergency in the area that requires an economic revival.

After Hurricane Otto, many people have communicated with the organization to get information about the project and how can they participate in it, majorly expressing that they lost everything they had and not having a source of income to emerge again form their economic situation, thereby the project has been aroused a great interest among the inhabitants of the region as a feasible socioeconomic alternative.

Due to this reasons is why we are urgently asking the international buffalo community for any help, both economic and didactic, that can be provided for this project, as well as specimens, semen or embryos from buffaloes that will represent an important aid for the region.

By Sady Quesada Sanchez, squesada63@hotmail.com

Contact: fundebufalocr@gmail.com



One of the death buffaloes found in the region after the pass of the Hurricane Otto in Costa Rica on 24 and 25 November, 2016

Community of Upala, Alajuela, Costa Rica after the pass of Hurricane Otto, early morning of November 25th, 2016

Dairy farm destroyed after the pass of the Hurricane Otto on November 26th, 2016

Pakistan Buffalo research agenda for 2017

Pakistani institutes, University of Veterinary and Animal Sciences (UVAS), Lahore and Buffalo Research Institute (BRI), Kasur are working in collaboration for buffalo development. To establish the priority research areas during year 2017, a series of meetings were conducted during November and December 2016. Main theme of the meetings was to address the issues faced by poor farmer community. Representatives from Pakistan Buffalo Breeders Association were also part of the discussions between UVAS, Lahore and BRI Kasur.

To finalise the research agenda, a meeting was chaired by organizational heads on December 31, 2016 at BRI Kasur. UVAS vice-chancellor Prof Dr Talat Nasir Pasha mentioned that Pakistan is blessed with best dairy buffalo breeds in world and now it is our responsibility to harvest the genetics of this animal. Secretary, Livestock and Dairy Development (L&DD) Department Punjab Mr Nasim Sadiq emphasized that the research should address the issues of poor farmer and it should provide guide lines for production improvement of our local breeds. He mentioned that the L&DD Department was aggressively targeting the issue of foot and mouth disease virus through a massive vaccination program in collaboration with Food and Agriculture Organization (FAO) of the United Nations and the UVAS.

Research proposals of different division were discussed one by one and following projects were approved during the meeting.

BREEDING AND GENETICS DIVISION

1. Molecular characterization of recessive disorders in buffalo breeding bulls.
   Wasim Shehzad wasim.shehzad@uvas.edu.pk
2. Identification of superior buffalo bulls for increasing milk production through genome analyses.
   Wasim Shehzad wasim.shehzad@uvas.edu.pk
3. Identification of genetic markers for milk yield and composition in Nili-Ravi buffaloes and subsequent identification of superior breeding stock.
   Imran Zahoor imran.zahoor@uvas.edu.pk
4. Identification of polymorphism in MSTN, GHR, and IGF-1 genes associated with growth-related traits in male calves of Nili-Ravi buffalo.
   Imran Zahoor imran.zahoor@uvas.edu.pk

REPRODUCTION DIVISION

1. Effect of season on oocytes competence in Nili-Ravi buffalo.
   M. Irfan-ur-Rehman Khan irfan.khan@uvas.edu.pk
2. *In-vitro* fertilization: success of good freezer vs. poor freezer bulls.
   Amjad Riaz dramjadriaz@uvas.edu.pk
3. Comparison of *in-vivo* vs. *in-vitro* matured buffalo oocytes and their subsequent developmental competence.
   Amjad Riaz dramjadriaz@uvas.edu.pk

4. Effect of different capacitation agents on in-vitro embryo production of Nili-Ravi buffaloes.
   Mian Abdul Sattar masattar@uvas.edu.pk
5. Effect of breeding method (natural *vs.* ai) and season (breeding *vs.* low breeding) on pregnancy rate, embryonic and fetal losses in Nili-Ravi buffalo.
   Nasim Ahmad nasimahmad@uvas.edu.pk

NUTRITION DIVISION

1. Mapping of Macro Minerals in Seasonal Forages of Progeny Testing Program Districts Punjab.
   Afzal Rashid drafzal@uvas.edu.pk

2. Evaluation of Weaning Age Based on Starter Intake in Neonatal Buffalo Calves Fed on Enhanced Feeding Programs.
   Afzal Rashid drafzal@uvas.edu.pk

HEALTH DIVISION

1. Sensitivity and specificity of various screening tests of Bovine Tuberculosis in Buffalo herd.
   Muhammad Ahmed Zia crobripattoki@gmail.com

2. Prevalence of Brucellosis in BRI Disease Control Compartment (DCC).
   Irem Anwar crobripattoki@gmail.com
3. Risk Assessment of Foot & Mouth Disease (FMD) in BRI Disease Control Compartment (DCC).
   Muhammad Ahmed Zia crobripattoki@gmail.com

Expressing their confidence in researchers, both the secretary and the vice-chancellor assured their full support to them for implementing the approved research ideas.

By Prof. Talat Naseer Pasha, tnpasha@uvas.edu.pk

Call by Jabbar Al Saedy for war tragedy in Iraq

Mesopotamian Buffaloes in southern part of Iraq suffered by many drastic environmental factors and war impacts through three decades, need urgent conservation plans.
Their breeders, Ma'dan, the local name going through genocide operations and till now under the same impacted circumstances, lead to displacement and massacre especially from Daash Isis wars.
Please we are working in hard enough environment under grey sky, need your help.

Food and Agriculture Organization of the United Nations

TCP PROJECT AGREEMENT

Capacity building to expand artificial insemination services to Buffalo herds in Iraq

Upon request from the Government of the Republic of Iraq, the Food and Agriculture Organization of the United Nations (FAO) will provide technical assistance for the execution of the following Technical Cooperation Project (TCP).

PROJECT DOCUMENT

Project Title:	Capacity building to expand artificial insemination services to Buffalo herds in Iraq
Recipient Country/ies:	Iraq
Government / other counterpart(s):	Ministry of Agriculture and other concerned government entities.
Expected EOD (Starting Date):	1 January 2017
Expected NTE (End Date):	31December 2017
Contribution to FAO's Strategic Framework:	Organizational Outcome: The project will have a direct contribution to the attainment of the FAO/SO 1,2 & 3 and NDP in Iraq. The Goal will be focused on "Eradicate extreme poverty and hunger" through increasing domestic food production and employment, promotion of income-generating livestock activities; strengthened governance of stakeholders in Iraq; strengthened foundation of economic growth; revitalized private sector and improved quality of life. This project will contribute to IraqiCPF(2013-17)Priority: Improvement of public services, with particular focus on animal performances, output: People in Iraq have improved food and nutrition security, and food safety.

Executive Summary

Livestock production in Iraq has a great potential in addressing employment and food security challenges. In addition, it provides animal source foods essential for the health and wellbeing of the population. Among livestock subsectors, buffalo dairy subsector has unique roles in enhancing food security, creating sustainable employment and generating income along the value chains in rural and urban areas where the species is raised.

The national herd of buffalo in Iraq is estimated at 300 000 heads inhabited in seven governorates, namely, Baghdad, Messan, Thiqar, Dewania, Ninawa, Karkuik and Salah-eldine. In terms of labor, women play a major role in the production, processing and marketing of the dairy products.

Productivity improvement of buffalo herds will increase income and status of women within their household and in the community, especially in the marsh land community where the majority of the buffalo population are kept. The project will raise the potential for domestic food production, creates jobs and income-generating livestock activities, ultimately improving food security. Indirectly the project contributes to other goals such as upgrading their enterprise capacity, creating viable and sustainable activities, improve production and productivity and strengthen service capability.

By Jabbar Al Saedy, kingfisher_ja@yahoo.com; alsaedyjabbarkh@gmail.com

WATER BUFFALO PARENTAGE ANALYSIS TEST

Background. Parentage testing has a critical role in water buffalo breeding for the evaluation of animal productivity and breeding animal selection. Pedigree analysis by molecular genetic methods is the main step for registration and identification of animals for a successful animal breeding program. Parentage analysis using molecular biology techniques, such as microsatellite analysis, is the preferred method to obtain precise results. Microsatellite analysis utilizes DNA markers called STRs and their different alleles originating from both parents.

Molecular genetic based parentage analysis is used in breeding programs all over the world, enabling identification of efficient animals and producing higher product yields by successfully breeding animals of higher economical value, and the need for a water buffalo parentage analysis test has been identified.

Product Development. The absence of a ready-to-use kit inspired us to develop a molecular genetic based parentage analysis test for water buffalo, resulting in a government-backed R&D project.

The project, which took to two years to finalize, included 950 blood and hair samples collected from different populations of water buffalos, from different regions. Samples from family members were also collected for validation. Initially, 30 STRs indicated by the ISAG and FAO were selected and worked on all collected samples. The results were run on a genetic analyzer. and the statistical analysis carried out using custom-designed software. It was concluded that the 16 STRs were adequate for meaningful statistical results, with 99.75% accuracy. As a result, the kit was formatted to include the following STRs: CSSM061, CSSM033, ILSTS005, CSSM022, CSRM060, BRN, ILSTS033, CSSM032, CSSM057, CSSME070, CSSM036, CSSM043, ETH003, CSSM047, CSSM029 and ETH121, located on chromosomes 1, 2, 5, 7, 8, 10, 12, 17, 19 and 27.

The Genometry Water Buffalo Genotyping Kit. The Genometry Water Buffalo Genotyping Kit enables analysis of 16 STRs recommended by the International Society of Animal Genetics (ISAG) and Food and Agriculture Organization of the United Nations (FAO). This kit allows the user to test a sample in 4 different reaction tubes for all 16 STRs in multiplexes. Following the amplification step, the mixes are incubated and loaded on capillaries separately for microsatellite analysis. The kit is compatible with all ABI genetic analyzers and is user-friendly. The peaks observed in microsatellite analysis have distinct characteristics and a low incidence of stutter peaks, preventing misinterpretation of results.

The kit is validated for blood and hair samples. Ready to use mixes enable user-friendly preparation and 4 separate mixes facilitate analysis of the peaks and stutter differentiation. Ready "data bin sets" enable analysis and easy peak calling, while the positive control included in the kit is used for analysis control.

Employing a ready-to-use water buffalo parentage analysis test kit in breeding programs improves the economic impact by increasing the yield of animal products. Parentage data are obtained within 5 hours from extraction to result, using the **Genometry Water Buffalo Genotyping Kit.**

By Elif Akyayla, Turkey, elif.akyayla@genometri.com.tr

THIRD IBF TRAINING COURSE ON
BUFFALO MANAGEMENT AND INDUSTRY

Roma, 9/19 May 2017

Coordinator: Prof. Antonio Borghese, IBF General Secretary
Scientific Committee: Antonio Borghese, Antonio Fagiolo, Luca Buttazzoni

PROVISIONAL PROGRAM

TUESDAY, MAY 9

9.00-13.00	Arrival of participants, check-in to accommodation and registration in Monterotondo (Rome) Hotels
15.00-16.00	**Welcome and Course presentation** Prof. Antonio Borghese, IBF General Secretary
16.00-17.30	**Visit of the Animal Production Research Centre (CREA-PCM) in Monterotondo, Rome, and of buffalo farm.**
17.30-19.00	**Buffalo Livestock and Products** Prof. Antonio Borghese

WEDNESDAY, MAY 10

9.00-10.30	**Buffalo genetic improvement in Italy and molecular research at CREA-PCM** Dr. Luca Buttazzoni, Dr. Bianca Moioli, Dr.Giovanna de Matteis
10.30-12.00	**Estrous control and Artificial Insemination** Dr. Vittoria Lucia Barile
12.00-13.00	**Use of agricultural waste to produce biogas and green energy** Dr. Antonella Chiariotti
13.00-15.00	Lunch
15.00-17.00	**Mozzarella cheese production in cheese industry** Dr. Carmela Tripaldi
17.00-18.00	**Ultrasonography for evaluation and improvement of reproductive efficiency**

	Dr. G. Maria Terzano
18.00-19.00	**Buffalo meat quality and production** Dr. Sebastiana Failla
19.00-20.00	**Buffalo as draught animal** Dr. Antonio Perrone
20.00	Dinner and night in Monterotondo Hotel

THURSDAY, MAY 11

9.00-12.30	**Presentation and visit of the Animal Prophylaxis Research Institute in Rome** Dr. Ugo Della Marta
12.30-14.00	Lunch
14.00-16.00	**Management, infective and environmental diseases** Dr. Antonio Fagiolo
16.00-17.00	**Control of milk quality** Dr. Simona Amatiste, Dr. Carlo Boselli, Dr. Gilberto Giangolini
18.00	Travel with bus to Perugia
20.00	Dinner and night in Perugia

FRIDAY, MAY 12

9.00-11.00	**Visit of Bull Centre Chiacchierini in Civitella D'Arna**
11.00-13.00	**Semen production in a Buffalo Bull Centre** Dr. Anna Chiacchierini
13.00-15.00	Lunch
15.00-18.00	Travel with bus to Latina
20.00	Dinner and night in Latina Hotel

SATURDAY, MAY 13

9.00-9.30	**Presentation of the activities in Latina Section of Animal Prophylaxis Research Institute** Dr. Remo Rosati
9.30-11.00	**Prophylaxis for brucellosis and tuberculosis** Dr. Giorgio Saralli
11.00-12.00	**Correct practices of milking and milk production measurements** Dr. Tiziana Galli, Dr. Gianpaolo Bruni

12.00-15.00	**Tour in Perseo cheese industry with practical experiences in milk processing and in mozzarella production** Dr. Tiziana Zottola, Dr. M.C. Campagna
16.00-18.00	**Tour in Casabianca farm and industry.** Dr. Francesco D'Ausilio
20.00	Dinner and night in Latina Hotel

SUNDAY, MAY 14

FREE DAY FOR TOUR IN ROME

MONDAY, MAY 15

9.00-13.00	**Visit of Buffalo Beef Centre for fattening in Galluccio** **The buffalo meat in Italian market** Prof. Federico Infascelli
13.00-14.00	Lunch
14.00-16.00	**Visit of Buffalo Beef Centre in S. Angelo in Formis** **Practical demonstration of meat processing in the Industry**
16.00-19.00	**Visit of Fattorie Garofalo and of mechanized Cheese Industry** **Practical demonstration of milk processing in the cheese factory** Avv. Raffaele Garofalo
20.00	Dinner and night in Capua

TUESDAY, MAY 16

9.00-13.00	**Visit of Improsta farm in Capaccio, Paestum.** **Applied technologies on buffalo.** Prof. Giuseppe Campanile
16.00-19.00	**Visit of Animal Prophylaxis Research Institute in Napoli.** **Activities of the Reference Centre for Buffalo in Italy** Dr. Esterina De Carlo, Dr. Domenico Vecchio
20.00	Dinner and night in Napoli

WEDNESDAY, MAY 17

9.00-13.00	**Visit of Napoli University Federico II.**

	State of art in research on buffalo. Prof. Luigi Zicarelli
13.00-15.00	Lunch
15.00-16.30	**Nutrition and feeding in buffalo** Prof. Federico Infascelli
16.30-18.00	**Advanced reproductive technologies** Prof. Bianca Gasparrini
20.00	Dinner and night in Napoli

THURSDAY, MAY 18

9.00-13.00	**Visit of the Institute for Animal Production Systems in Mediterranean Environment (ISPAAM), National Research Council (CNR), Napoli** Dr. Andrea Scaloni, Prof. Leopoldo Iannuzzi
13.00-15.00	Lunch
15.00-18.00	**During the travel to Rome, Prof. Borghese will promote a discussion on the goals of the IBF Training Course and on the problems of different countries to be considered.**
18.00-20.00	**Conclusions: quality of products and global market. Diploma to the participants.** Researchers of the Animal Production Research Centre in Monterotondo, Roma
20.00	**Closure dinner and night in Rome**

FRIDAY, MAY 19

Organizing of departures

REGISTRATION

Send your request to antonio.borghese@email.it or antonioborghese@live.it

The cost for ten night and eleven days, all included: hotels, meals, bus transport, CD of lessons, books, material and final diploma, is **1200 US dollars** or 1128.00 euro.

400 US dollars or 376.00 euro are to be paid for inscription, you can send the fees by bank transfer to:
International Buffalo Federation count n. 3963.06, in the Bank: Monte dei Paschi di Siena, address: Via G. Mameli 6, 00015 Monterotondo, Roma, Italy
IBAN: IT 83 I 01030 39240 000000 396306, BIC: PASC IT M1R89.

Preliminary information on Symposium of America and Europe 2017

Campeche, Mexico

Monday, November 20 – Pre-symposium courses
Tuesday 21 – Thursday 23 – Buffalo Sympsium of the America and the Europe 2017
Friday 24 – Saturday 25 – Buffalo tour

Coordinator: Ismael Coronel, carnedebufalo@hotmail.com, contacto@bufalosdemexico.com

INTERNATIONAL BUFFALO FEDERATION

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