



भाकृअनुप-रापअनुसंब्युरो

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To survive today, other animals must endure global warming, pollution, and fewer habitats. More tragically, they must endure the silence of human hearts.

Anthony Douglas Williams

From Director's Desk...

I am immensely pleased to put forth the first issue of the 14th volume of Bureau's Newsletter to our readers which chronicles the achievements of NBAGR in the area of identification, evaluation, characterization, conservation and utilization of livestock and poultry biodiversity of the country. In the last six months, phenotypic characterization of Ladakhi donkeys was carried out through field surveys. In addition, characteristics of Sambalpuri buffaloes of Odisha were evaluated by phenotypic and genetic approaches. Gene Bank at NBAGR was strengthened by addition of 4,500 frozen semen doses of four cattle breeds (Kankrej, Gir, Sahiwal and Bargur). Adaptability of indigenous livestock to climatic extremes has been acknowledged worldwide. To validate this concept, phenomic, transcriptomic and proteomic data was generated on high altitude adapted Zanskar ponies after subjecting them to endurance stress which highlighted differential expression of genes and proteins during pre-exercise, post exercise and post recovery periods.

A significant achievement during this period was the registration of nine new breeds of indigenous farm animals which include Lakhimi cattle, Salem Black and Sumi-Ne goats, Kachchhi-Sindhi horse, Zovak pig, Arunachali yak, Pati duck, Kashmir Anz geese and Hansli chicken. Due to the efforts of the bureau, the total number of registered breeds has now reached to 169. Timely organization of important meetings such as RAC and IRC ensured critical evaluation of progress of ongoing research projects and prospects

of new research proposals. Under the HRD module of ICAR, training programs for enhancement of professional competence of technical, administrative and skilled supporting staff were organized. Breed

Saviour Award ceremony, to felicitate livestock keepers striving to conserve our indigenous livestock germplasm, was a hallmark event during this period. On the occasion of Foundation Day of the institute, best workers in scientific, technical and administrative categories were bestowed with awards. I am very pleased with the active participation of the scientists of the bureau in Mera Gaon Mera Gaurav program. I would also like to compliment my colleagues for publication of their scientific research in the form of articles, monographs and bulletins. There is no denying the fact that with their vision and cooperation, NBAGR shall always be able to succeed in its endeavors. It is always heartwarming to receive words of encouragement and appreciation from distinguished personalities and visitors who come to NBAGR.

I hope you enjoy reading the current issue of NBAGR's Newsletter. Feedback and suggestions are always welcome.



Arjava Sharma
(Arjava Sharma)

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SECTORAL NEWS



With about 20% of the world's local farm animal breeds currently at risk of extinction, urgent action is needed to safeguard livestock diversity. With the adoption of the Sustainable Development Goals (SDGs) in 2015, Domestic Animal Diversity Information System's (DAD-IS) importance as a global data repository for indicators related to the Sustainable Development Goals (SDG) increased, calling for an improved organizational structure and the use of state-of-the-art information technology. DAD-IS has therefore been equipped with the latest technology. The 4th version of DAD-

IS has been launched on 21st November, 2017 at FAO Headquarters in Rome, Italy. Countries can use this updated tool to monitor animal genetic resources that are important for food and agriculture. Containing information on 8,800 breeds of livestock and poultry across the world, the new DAD-IS platform can be used to measure SDG progress, create attractive graphics and tables for internal reporting purposes or export data for scientific analysis.

RESEARCH ACCOMPLISHMENTS

Characterization of Ladakhi donkeys

Survey was undertaken in the Leh district of Jammu & Kashmir to characterize donkey population of this region. The total donkey population of Leh district is 5,296. In all, 85 donkeys were measured from three regions - Leh area, Nubra valley including Panamic area and Sham block. Each household has 1-6 donkeys. Cattle, sheep, goat, poultry, yak and yak hybrids are also reared in this region besides donkeys. They are housed in either enclosures of thatched walls with or without roof near the house or in proper animal houses. They are raised both on grazing and stall feeding. In winter months, when this region remains completely under snow cover, they are provided stored fodder and crop residues. The coat colour of Ladakhi donkeys varies from light brown to dark brown and black. The bellies of these animals are white. The nasal bone is straight to slightly concave. Forehead is flat to convex. The mean height at wither of Ladakhi donkeys in males and females are 93.92 ± 3.63 and 93.85 ± 3.8 cm, respectively. The body length of the male and female animals are 95.58 ± 6.17 and 97.46 ± 7.37 cm. The heart girth in the male and female animals are 100.5 ± 3.99 and 102.96 ± 5.58 cm. The estimated weight of the male and female animals are 81.15 ± 8.74 and 78.97 ± 18.03 kg. The tail extends upto hocks. The canon circumference of fore and hind limbs in



male animals are 12.25 ± 0.72 and 13.04 ± 1.25 cm whereas, in female animals they are 11.94 ± 0.55 and 12.69 ± 0.89 cm, respectively. The Ladakhi donkeys are mainly used as pack animals for transportation of dung and manure from animal house/enclosure to the fields, fuel-wood and fodder from the nearby forests, construction material, trekking and camping materials for tourists etc. However, due to the development of road network and rapid mechanization, their population is decreasing alarmingly and requires serious efforts for conservation and improvement to save them from extinction.

(Contributed by Dr. Rahul Behl)

Characterization of Sambalpuri buffalo of Odisha

During two field visits to the breeding tract in Sambalpur, Jharsuguda, Bargarh, Deogarh and Boudh districts, Sambalpuri type buffaloes were observed mainly in Naktideul and Redhakhol blocks of Sambalpur. Phenotypic characters and body measurements have been recorded. Dwindling population of Sambalpuri buffalo in its native tract is a cause of concern, major reasons observed for which were mechanization of farm operations, and choice of Murrah for milk production. DNA has been isolated from the blood samples collected and comparative mitochondrial D-loop sequence analysis of 24 Sambalpuri buffaloes with other riverine and



swamp buffaloes helped in identification of 83 haplotypes, 8 of them being specific to Sambalpuri buffaloes. With 92 variable sites, overall haplotype diversity (Hd) recorded was 0.9367. Phylogenetically Odisha buffaloes including Sambalpuri, Chilika, Paralakhemundi and Kalahandi were found to be clustering with other riverine type buffaloes, however within major cluster representing riverine buffaloes, haplotypes of Odisha buffaloes sub clustered separately.



(Contributed by Dr. RS Kataria)

Ex situ conservation

Germplasm repository at NBAGR is being strengthened by preserving diversified form of germplasm (semen, embryos, DNA, epididymal sperms and somatic cells). During April-September 2017, 4500 semen doses of 4 cattle breeds (Kankrej, Gir, Sahiwal and Bargur) have been procured for long term cryopreservation in GeneBank.

(Contributed by Dr. RAK Aggarwal)

Evaluation of milk fat as an alternative source of RNA from buffalo milk

Since no specific commercial kits are available for extraction of total RNA from Milk Fat Globules (MFG), the methodology for extraction of total RNA from buffalo milk fat was optimized. Milk fat (containing MFGs) was separated from milk by centrifugation. RNA was isolated from the two different sources namely Milk and MFG using three different methods: 1) Trizol extraction method, 2) Commercial RNA isolation kit and 3) Combination of Trizol method and commercial kit. All the experiments were carried out in triplicate. Maximum yield of total RNA was obtained by Trizol method followed by purification using filter columns in case of both milk and fat. Least amount of mRNA was isolated using only commercial kits. However, much higher yields were obtained from buffalo milk fat as compared to skim milk, with manual method as well as commercial kits. Quality and integrity of the samples from both methods was comparable. The A260/280 ratio was observed to be between 1.9 and 2.05 in all cases. The quantitative-PCR (qPCR) was performed on cDNA derived from both milk and fat RNA, using the specific primers for RPS9, ACTB and CSN2 genes. Quantitative profiling of mammary gland specific genes from skim milk and fat derived RNA validated the efficiency of MFG as an alternate source of total RNA. This study confirmed that the RNA obtained from buffalo MFG was suitable for studies of mammary genes expression.

(Contributed by Dr. Reena Arora)

Genetic diversity in caprine class II Major Histocompatibility Complex DRB3.2

Using the gene specific primers, Class II MHC DRB3.2 locus was amplified in the Black Bengal, Beetal, Barbari, Osmanabadi, Sangamneri, Sirohi and Chegu breeds of indigenous goats by PCR. A gene product of approximately 280 bp was obtained. The gene sequence data was generated across 15 animals

each from these afore mentioned breeds. A very high degree of genetic polymorphism was observed to be present in this locus which has been reported to be involved in the antigen presenting site (APC) of the Class II MHC locus. A total of 40 SNP(s) were observed to occur in this short span of 280 bp. Therefore, there was an SNP present in this locus for every 7 base pair nucleotide length. Further analysis of the sequences generated is being carried out with regard to the amino acid variation(s) resulting from the nucleotide variations found to be present across the region. Also other parameters like generation of the different haplotypes and various other genetic parameters are being worked upon.

(Contributed by Dr. Jyotsna Behl)

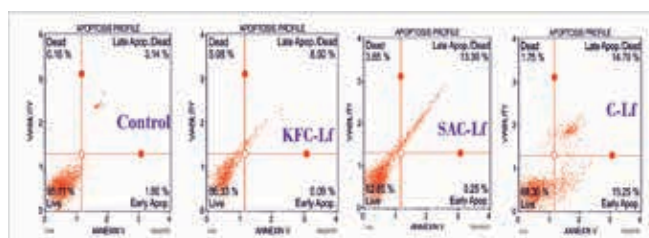
Proteome map of high altitude adapted Zanskar ponies

A field trial on 12 well trained Zanskar ponies at Zanskar Ponies Breeding Unit, Vets of Remount Veterinary Services (RVS), Partapur, Leh at an altitude of about 10,800 feet was carried out to generate phenomic, transcriptomic and proteomic data. The animals were subjected to endurance exercise with 65-70 Kg load on a track of 5-6 Km. Various physiological parameters viz., pulse rate, heart rate, rectal temperature, respiratory rate and oxygen saturation were recorded during pre-exercise (T0), post-exercise (T1) and post recovery period (T2). Different parameters of liver function and detailed biochemical profile were measured in serum samples. The data detected more than 1000 proteins in serum of which 155 proteins were found to be differentially expressed across T0, T1 and T2 stages. Proteins like, Alpha-2-antiplasmin, Pigment epithelium-derived factor, Apolipoprotein A-IV, Antithrombin-III, Serotransferrin, Anoctamin-4, Cholinergic receptor nicotinic alpha, etc. were found upregulated after endurance stress. Majority of proteins were involved in biological regulation, cellular development, metabolic and immune system process and in important signaling pathways such as Oxytocin receptor mediated signaling pathway, Endothelin signaling pathway, Cytoskeletal regulation by Rho GTPase, PI3 kinase pathway, PDGF signaling pathway, Oxidative stress response, Cadherin signaling pathway, Dopamine receptor mediated signaling pathway, Wnt signaling pathway, DNA replication etc.

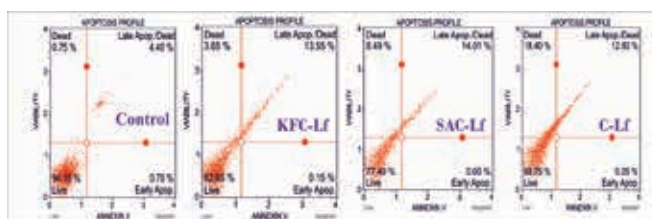
(Contributed by Dr. Manishi Mukesh)

Evaluation of lactoferrin for its anticancer activity

Lactoferrin (Lf) purified from Sahiwal cow colostrum was evaluated for its anti-cancer property in two human breast cancer cell lines: MCF-7 and MDA-MB-231. The results indicated sufficient quantity of Lf purified from colostrum of Sahiwal cows (6.0 mg/ml) using HPLC-AKTA-prime plus with a molecular mass of 80.12 kDa of purified protein. Different concentration of Lf ranging from 125-2000 µg/ml were used to evaluate the dosage and time points (24h, 48h, and 72h) for cell culture studies. A dosage of 750 µg/ml of Lf and time point of 48h and 72h was selected for further experimentation. Both MDA-MB-231 and MCF-7 cells were treated with 750 µg/ml of Lf from three different sources; Sahiwal Lf (SAC-Lf), Karan Fries-Lf (KFC-Lf) and Commercial-Lf (C-Lf) for 48h and 72h and parameters like LDH based cytotoxicity assay, cell viability, Annexin V based apoptotic and cell proliferation assays were measured. All three sources of Lf showed a significant ($p < 0.05$) increase in cytotoxicity level in both the cancerous cell types compared to untreated cells. Comparatively, Lf from commercial source (C-Lf) had maximum effect on cytotoxicity, cell viability, cell proliferation and induction of apoptosis in MDA-MD-231 and MCF-7 cells followed by SAC-Lf and KFC-Lf. Further, the effect of Lf treatment was also evaluated through changes in expression of genes associated with apoptosis (*Bax*, *Bcl-2*), tumor progression (*p53*, *p21*, *CD44*, *NF-κβ*) and cell survival (*survivin*) in cancerous cells.



After 48 h in Lf treated MCF-7 cells



After 72 h in Lf treated MCF-7 cells

Fig. : Evaluation of cellular apoptosis 48h & 72h

The overall results strongly emphasized that Lf purified from bovine colostrum has the capacity to inhibit the growth of cancerous cells albeit to a varied extent.

(Contributed by Dr. Manishi Mukesh)

New Registered Breeds of Indigenous Farm Animals

Breed registration Committee in its meeting held on 4th August, 2017 at New Delhi approved registration of nine new breeds of livestock and poultry. This includes one breed of cattle, two breeds of goat, and one breed each of horse, pig, yak, geese, duck and chicken. The institute has registered first time indigenous breeds of yak, duck and geese.

Lakhimi Cattle

Lakhimi cattle of Assam are distributed in entire state and reared for milk and draught purposes by local people. Total population is about 79 lakhs. Animals are small sized, horned and have relatively short legs. Coat colour is variable, mainly brown and grey. Hump is medium in size and the backline is slightly curved. Udder is small and bowel shaped. Bullocks are excellent draft animals especially for carting and ploughing especially in the muddy fields for paddy cultivation. Lactation milk yield ranges from 270 to 375 kg.



*Acc.No. INDIA_CATTLE_0200
LAKHIMI_03041*

Salem Black Goat

Salem Black goats of Tamil Nadu are reared by Vanniyar and Kongu vellala Gounder communities for meat, skin and manure in Salem, Dharmapuri, Krishnagiri and Erode districts of Tamil Nadu. Estimated population is about 86



*Acc. No. INDIA_GOAT_1800_
SALEMBLACK_06027*

thousand. These goats are tall, lean and leggy. Colour is black. Ears are medium, semi-pendulous having leaf-like appearance. Both males and females have horns that are medium in size, curved upwards and backwards. In males, neck is thick, broad and well placed. Early sexual maturity, multiple births and low mortality are main features of this breed.

Sumi-Ne Goat

Sumi-Ne Goat of Nagaland also known as "Nagaland long hair goat" is reared by Sumi tribes in traditional open range system with almost zero input. Estimated population is about 4,500. It is a medium sized goat reared mainly for its silky fibre. Coat colour is white with black patches on head, neck and legs. Head is straight. Ears are horizontal. Horns are pointed, small sized and curved backwards. Beard is present. Long silky fibres obtained from these goats are used by local people for making traditional items with socio-cultural significance.



*Acc. No. INDIA_GOAT_1400_
SUMINE_06028*

Kachchi-Sindhi Horse

This indigenous horse breed is native to Kachchh district of Gujarat and Jaisalmer and Barmer districts of Rajasthan. Total population is about four thousand. Unique features include roman nose appearance of face, ears curved at tips but not touching each other, 56 to 60 inch height, short back, short pastern bone length, broader hoof for better grip and docile temperament. Coat colour is mainly bay. Famous for its 'Rewal chal' as it performs with great speed and stamina covering long distance. The horse possess excellent drought and heat tolerance capacity in arid and semi arid region.



*Acc. No. INDIA HORSE_0417_
KACHCHHISINDHI_07007*

Zovawk Pig

Zovawk pig is distributed in Mizoram with an estimated population of about 39 thousand. It is reared by Mizo community for pork and manure purposes. Animals are black with white spot on forehead, white patches on belly and white boots. Erect ears, concave snout, pot belly, concave top line and long bristles on mid-line are characteristics of the Zovawk pig. Average body weight is 54 kg in males and 59 kg in females.



Acc. No. INDIA_PIG_2700_ ZOVAWK_09007

Arunachali Yak

Native tract of Arunachali yak includes West Kameng and Tawang districts of Arunachal Pradesh. These are reared by Monpa community for milk, meat, fibre, transportation and manure. Estimated population of Arunachali yak is about 14 thousand. Predominantly black in colour with medium sized and compact body. Legs are short and stocky. Horns are mostly curved, black in colour and are bigger in males than females. Horizontal ear is typical characteristic of Arunachali Yak. Brisket, belly, ribs, lateral parts and legs are covered with long hair. Adult body weight ranges between 206 to 416 kg. Males are massive and aggressive. Milk production is about 1 kg per day.



Acc. No. INDIA_YAK_2300_ ARUNACHALI_16001

Pati Duck

Pati ducks are reared in backyard production system in rural areas of Assam. Estimated population is 18.21 lakhs. These are squat in posture. Plumage is dark brown in drakes with



Acc. No. INDIA_DUCK_0200_ PATI_11001

greyish black head; tail with black and white feathers. Ducks are solid brown. A white ring may or may not be present at neck in both sexes. The bill, shank and feet are predominantly yellow. Pati ducks are used for meat, egg and ritual sacrifices. The average body weight is 1.58 kg.

Kashmir Anz Geese

Native tract of Kashmir Anz geese is Srinagar, Bandipora, Ganderbal, Baramulla and Budgam districts of Jammu and Kashmir. Estimated population is more than 13,000 birds. They are reared for meat, eggs, and feathers, and as a hobby in areas located around the water bodies. Colour of the plumage is cinnamon, white, and a mixture of cinnamon and white. Adult body weight is 3.82 and 3.34 kg in male and female, respectively. The goose lays about 12 white-shelled eggs/year each weighing about 137 g. Kashmir Anz geese are hardy, disease resistant and foragers requiring minimum inputs for rearing.



Acc. No. INDIA_GEESE_0700_ KASHMIRANZ_18001

Hansli Chicken

Hansli chicken is reared in Mayurbhanj and Keonjhar districts of Odisha for game (fighting) and meat purposes. Estimated population is about 12,000. Birds are tall and slim, and have majestic look. Plumage is predominantly black. Males have golden yellow or red hackle and saddle feathers. Comb is pea type. Spur is present in males. Beak is small, strong and stout. Wattles are small and rudimentary; plenty of hackle feathers flow over the shoulder in males. Wings are medium to large and well folded. Average egg production is 67 per year with an egg weight of 46 g. Average body weight is about 3.8 kg in males and 2.5 kg in females.



Acc. No. INDIA_CHICKEN_1500_ HANSLI_12018

(Contributed by Dr. PK Vij)

CURRENT STATUS OF BREED REGISTRATION

Total number of indigenous breeds now in the country is 169, which include 41 for cattle, 13 for buffalo, 28 for goat, 42 for sheep, 7 for horses & ponies, 9 for camel, 7 for pig, 1 for donkey, 1 for yak, 18 for chicken, 1 for duck and 1 for geese.

PUBLICATIONS

Research Publications

1. Arora R, Yadav DK, Sharma A, Pothuraju M, Tanwar N and Girdhar Y (2017). Tetra-primer ARMS-PCR assay for genotyping SNPs in ovine *GDF8* gene associated with mutton traits in sheep. *Indian Journal of Animal Sciences* 87 (4): 525-528.
2. Dash S, Singh A, Bhatia AK, Jayakumar S, Sharma A, Singh S, Ganguly I and Dixit SP (2017). Evaluation of Bovine High-Density SNP Genotyping Array in Indigenous Dairy Cattle Breeds. *Animal Biotechnology* DOI.org/10.1080/10495398.2017.1329150.
3. Dubey PK, Dubey S, Mishra SK, Arora R, Patel J, Singh KP, Kathiravan P, Mishra BP and Kataria RS (2017). PCR-SSCP analysis of MDGI gene and its association with milk production traits in river buffalo (*Bubalus bubalis*). *Research in Veterinary Science* 115: 307-309. <https://doi.org/10.1016/j.rvsc.2017.06.006>.
4. Mishra P, Dixit SP, Aggarwal RAK, Behl J, Dangi PS and Verma NK (2017). Estimation of genetic diversity and relationship among goats of Maharashtra state. *Indian Journal of Animal Sciences* 87(8):982-990.
5. Mishra SK, Niranjana SK, Banerjee B, Singh R, Singh RV, Kumar N and Kataria RS (2017). Genetic diversity at MHC-DRB3 locus suggests distinctness of the riverine-swamp buffalo populations in North-East region of India. *Indian Journal of Animal Research* DOI:10.18805/ijar.v0i0F.8000.
6. Sharma A, Swami SK, Kumar M, Sodhi M, Kataria RS, Jain P, Bhatia AK, Mohanty AK, Niranjana SK, Shandilya UK, Kumari P and Mukesh M (2017). Analysis of sequence variability and expression pattern of lactoferrin gene in Sahiwal cows (*Bos indicus*) and Murrah buffaloes (*Bubalus bubalis*). *Journal of livestock Biodiversity* 7:1-6.
7. Sharma R, Sharma P, Ahlawat S, Singh TR, Vij PK, Viji R and Tantia MS (2017). Genetic variability and phylogenetic relationship establishes distinctness of Kaunayen chicken of Manipur. *Indian Journal of Animal Sciences* 87: 871-878.
8. Sharma R, Sharma H, Ahlawat S, Barik N, Singh PK and Tantia MS (2017). Hazra chicken: A precious germplasm in need of immediate scientific intervention. *Indian Journal of Animal Sciences* 87:597-603.
9. Singh S, Mishra AK, Vohra V, Raja KN, Singh Y, Singh KM, Ganguly I and Arora R (2017). Microsatellite based genetic diversity estimation in Kajali sheep and its phylogenetic relationship with other indigenous sheep breeds. *Indian Journal of Animal Sciences* 87(9): 1097-1101.
10. Singh R, Kumar V, Rajesh C, Gurao A, Kulshrestha A, Sehgal M, Kaushik A, Sharma P, Mishra SK and Kataria RS (2017). Computational Analysis of HSP-60 Protein with Structural Insights into Chaperonin Containing TCP-1 Subunit 5 in *Bos taurus*. *MOJ Proteomics Bioinformatics* 6(1): 00183. DOI: 10.15406/mojpb.2017.06.00183.
11. Singh R, Mishra SK, Rajesh C, Dash SK, Niranjana SK and Kataria RS (2017). Chilika- A Distinct Registered Buffalo Breed of India. *International Journal of Livestock Research* 7: 259-266. DOI:10.5455/ijlr.20170704044822.
12. Yadav DK, Arora R and Jain A (2017). Classification and conservation priority of five Deccani sheep ecotypes of Maharashtra, India. *PLoS ONE* 12(9): e0184691. <https://doi.org/10.1371/journal.pone.0184691>.

Bulletin/Monographs

1. NK Verma, RAK Aggarwal, Pushp Raj Shivahre, N Savino and Arjava Sharma. Goat Germplasm of Nagaland state. Monograph # 101/2017 (ISBN: 978-93-83537-33-4).
2. Anand Jain, VS Kulkarni, Reena Arora and DK Yadav. Sheep Genetic Resources of India: Mouli Sheep. Monograph # 102/2017 (ISBN: 978-93-83537-34-1).
3. Anand Jain, VS Kulkarni, Reena Arora and DK Yadav. Sheep Genetic Resources of India: Yalaga Sheep. Monograph # 103/2017 (ISBN: 978-93-83537-35-8).

OTHER ACTIVITIES

Important Meetings

- Research Advisory Committee meeting was held on 3rd April, 2017 under the chairmanship of Dr. SL Goswami, Vice Chancellor, Banda University of Agriculture and Technology, Banda. Dr. RS Gandhi, ADG (AP&B), ICAR, Krishi Bhawan, New Delhi also attended the meeting. The newly published breed calendars were released on this occasion.



RAC meeting in progress

- IRC meeting was held on 28th to 29th April, 2017 wherein final reports of the completed projects and new project proposals were discussed and approved. Another IRC meeting was held on 19th September to discuss the pending new project proposals.
- An Interactive meet on "Animal Genetic Resources of Ladakh Region" was held on 10th June, 2017 at Ladakh Autonomous Hill Development Council (LAHDC), Leh-Ladakh to discuss various related issues for characterization and evaluation of Ladakh animal genetic resources especially yak, local non-descript cattle, Zanskari horse, donkey and double hump camel. Meeting was attended by Councillors of LAHDC, ADG (AP&B) and Scientists from ICAR Head Quarter, Director and Scientists of ICAR-NBAGR and DRDO- Defense Institute of High Altitude Research and Officers of AHD, Jammu & Kashmir.



Participants of the interactive meet

- A meeting of Breed Registration Committee was held on 4th August, 2017 at ICAR, Krishi Bhawan, New Delhi which approved registration of nine new breeds of livestock and poultry.

Livestock Production and Health Management

Cytogenetic screening of 179 samples: Cattle (65), buffalo (92), pig (17) and army dog (5) was carried out. A total of 38 bulls of cattle (25) and buffalo (13) were screened for genetic diseases such as BLAD, Citrullinemia, Factor XI deficiency and DUMPS (HF and HF crosses only). A revenue of Rs 3,94,000/- was generated from the cytogenetic screening and DNA testing during the April to September, 2017.

Human Resource Development

Training programmes were conducted at NBAGR for upscaling the skills of administrative, technical and supporting staff of ICAR institutes.

- A Training program on "Enhancement of professional competence of ICAR technical and administrative professionals" was conducted under ICAR-HRD program during 27th to 29th June, 2017 at ICAR-NBAGR, Karnal. A total of 22 participants including 13 technical and 9 administrative professionals from ICAR-NBAGR, Karnal (6), ICAR-CSSRI, Karnal (3), ICAR-IIWBR, Karnal (3), ICAR-NDRI, Karnal (4), ICAR-SBI, Karnal (RC) (3) and ICAR-IARI, Karnal (RS) (3) attended the training program.
- A Training program for Skilled Supporting Staff of ICAR entitled "कुशल सहायक स्टाफ की योग्यता वृद्धि एवं व्यक्तित्व विकास हेतु प्रशिक्षण कार्यक्रम," was conducted under ICAR-HRD during 29th to 31st August, 2017 at ICAR-NBAGR, Karnal. A total of 18 participants from six ICAR Institutes attended this program.



Director interacting with the participants

The following staff was also nominated to attend the trainings conducted at NBAGR as well as at other ICAR institutes:

1. Sh. Karambir Malik (PS to Director), Dr. PS Dangi (CTO), Sh. SK Jain (ACTO), Smt. Anita Chanda (PA), Sh. Harvinder Singh (STO) and Sh. Naresh Kumar (LDC) attended training programme on "Enhancement of professional competence of ICAR technical and administrative professionals", from 27th to 29th June, 2017 at ICAR-NBAGR.
2. Sh. Ramesh Kumar (TO) attended training programme on "Basic training on chemical analysis", from 21st to 26th August, 2017 at ICAR-NDRI.
3. Sh. Balwinder (Technician) attended training programme on "Automobile maintenance, road safety & behavioural skills" from 19th to 23rd September, 2017 at CIAE Bhopal.
4. Sh. Harish Arya (AO), Sh. Sunil Kumar (F &AO), Sh. Balkar Singh (AAO) and Sh. Pawan Kumar Gupta (AF&AO) attended the PFMS Training by ICICI BANK on 22nd September, 2017 at ICAR-NDRI, Karnal.
5. All Skilled supporting staff including Sh. Krishan Lal, Sh. Ram Sagar, Sh. Deepak and Sh. Satbir attended training programme on "कुशल सहायक स्टाफ की योग्यता वृद्धि एवं व्यक्तित्व विकास हेतु प्रशिक्षण कार्यक्रम," from 29th to 31st August, 2017 at ICAR-NBAGR, Karnal.

Mera Gaon Mera Gaurav programme

Linkages were strengthened through visits to the adopted villages under MGMG programme. Bureau team visited Senior Secondary Schools of Narukheri, Pingli, Shahjanpur, Sambhli and Chirao villages of Karnal and sensitized the people about various social and farming/animal husbandry issues.

BREED SAVIOUR AWARD

ICAR-NBAGR, Karnal in collaboration with SEVA, Madurai, Tamil Nadu organized International Biodiversity and Breed Saviour Award ceremony during 21st to 22nd May, 2017. Dr. JK Jena, Deputy Director General (AS & Fisheries) graced the function as chief guest. Twenty farmers/breeders representing various states were solicited with Breed Saviour Award- 2015 for conserving and maintaining different indigenous livestock and poultry. On this occasion, a poster competition on the subject "Biodiversity and its conservation" was also organized for school students

and research scholars of ICAR-NBAGR, Karnal. In the school group, Delhi Public School (First), Tagore Bal Niketan (Second), The Millennium School and Adarsh Public School (Third) received the awards. Among research scholars group, Ankita Sharma, Himani Sharma and Prerna Kapoor secured first, second and third positions, respectively.



Breed Saviour Award ceremony

CELEBRATIONS

- ◆ **International Yoga Day:** ICAR-NBAGR, Karnal celebrated International Yoga Day and organized a Yoga camp in the bureau premises on 21st June, 2017. All the employees, RA/SRF/JRF, students/scholars along with their families attended the Yoga camp under the guidance of well-known Yoga teacher, Sh. Dinesh Gulati and his team.



Bureau staff participating in Yoga camp

- ◆ **Independence Day:** The 70th Independence Day was celebrated on 15th August in the bureau campus. All the staff, SRFs, RAs and their families attended the programme. Dr. Arjava Sharma, Director hoisted the tricolor and addressed

the gathering. Various cultural activities were also organized in which staff and their wards participated actively.



Director, NBAGR unfurling the tricolor

FOUNDATION DAY

- ICAR-National Bureau of Animal Genetic Resources, Karnal celebrated its 34th Foundation Day on 21st September, 2017. Dr. KML Pathak, Vice-Chancellor, UPPDUPVV, Mathura was the chief guest and Dr. R.S. Gandhi (ADG, AP&B, ICAR) and Sh. Umesh Kumar Sharma (DGM, Canara Bank, Karnal) were the guests of honour on this occasion. The prestigious Dr. P.G. Nair Award for scientific contribution in the field of identification, evaluation, characterization, conservation and utilization of livestock and poultry genetic resources of the country during last 3 years (January, 2014 to December, 2016) was conferred upon Dr. Rekha Sharma (Principal Scientist, Core Lab). The best workers in technical and administrative category were Sh. Om Prakash and Sh. Jita Ram, respectively. The contribution of livestock keepers in conservation of diverse breeds from different livestock species was acknowledged by bestowing them with Breed Conservation



Dr. Rekha Sharma receiving Dr. PG Nair Award

Awards. The winners of various competitions organized during "Hindi Pakhwada" were also solicited. The best articles published in the 7th issue of "Pashudhan Prakash" were also awarded. The eighth edition of "Pashudhan Prakash" and three breed monographs on Nagaland goats, Mouli sheep and Yalaga sheep, respectively were released on this occasion. The programme ended with an inspiring Foundation Day speech by the chief guest, Dr. KML Pathak.



Conservation Award winners with the Chief Guest Dr. KML Pathak

DISTINGUISHED VISITORS

Dr. T. Mohapatra, Secretary, DARE and Director General, Dr. JK Jena, DDG (Fisheries & Animal Science), Indian Council of Agricultural Research along with Dr. RK Singh, Director, ICAR-IVRI and others visited on 06.05.2017.

Dr. JK Jena, DDG (Fisheries & Animal Science), ICAR and Dr. RS Gandhi, ADG (AP&B), ICAR visited on 22.05.2017.

Dr. Santosh Kumar Singh, Agricultural Specialist in Embassy of the USA, New Delhi visited on 10.07.2017.

Dr. KML Pathak, Former DDG (AS), ICAR and Vice-Chancellor, DUVASU, Mathura and Dr. RS Gandhi, ADG (AP&B), ICAR visited on 21.09.2017.

Promotions/Joinings

- Dr. Karan Veer Singh has been promoted to the next higher grade of Senior Scientist w.e.f. 07.02.2013.
- Dr. PS Panwar has been promoted to the next higher grade of Assistant Chief Technical Officer w.e.f. 28.02.2013.
- Sh. Sanjeev Mathur has been promoted to the next higher grade of Assistant Chief Technical Officer w.e.f. 02.01.2017.
- Sh. Ashok Kumar has been promoted to the next higher grade of Technical Officer w.e.f. 24.02.2016.

- Sh. Balwinder Singh has been promoted to the next higher grade of Technical Assistant (Driver) w.e.f. 18.01.2016.
- Sh. HR Arya, Administrative Officer, IARI Regional Station Karnal joined NBAGR on the post of Administrative Officer w.e.f. 01.04.2017.

राजभाषा संबंधी गतिविधियाँ

राजभाषा कार्यान्वयन समिति की बैठकें

संस्थान में राजभाषा कार्यान्वयन समिति की बैठकें निरंतर की जाती हैं। इन बैठकों में लिए गए निर्णयों पर क्रियान्वयन व अनुपालन किया जाता है। प्रत्येक तिमाही में निष्पादित कार्रवाई पर चर्चा करके पुष्टि की जाती है। इस अवधि के दौरान दो बैठकें 2-5-17 तथा 29-7-17 को आयोजित की गई हैं।

राजभाषा सलाहकार समिति की बैठकें

संस्थान में समय-समय पर संस्थान राजभाषा सलाहकार समिति की बैठकों का आयोजन भी किया जाता है जिसमें संस्थान की वार्षिक हिंदी पत्रिका “पशुधन प्रकाश” के प्रकाशन से संबंधित, हिंदी चेतना माह अथवा पखवाड़ा के आयोजन संबंधित विषयों पर चर्चा करके कार्यक्रमों की रूप-रेखा बनाई जाती है। राजभाषा सलाहकार समिति की बैठक का आयोजन 27-7-2017 तथा 08-08-2017 को किया गया।

हिंदी पखवाड़ा का आयोजन

ब्यूरो में प्रत्येक वर्ष की भांति इस वर्ष भी 6-21 सितम्बर, 2017 तक हिंदी पखवाड़े का आयोजन किया गया। निदेशक महोदय द्वारा गठित हिंदी पखवाड़ा आयोजन समिति जिसके अध्यक्ष डॉ. एन.के. वर्मा, प्रधान वैज्ञानिक तथा सदस्यगण डॉ. अनिल मिश्र, डॉ. सोनिका अहलावत, डॉ. करणवीर सिंह और सदस्य सचिव श्री सतपाल, राजभाषा अधिकारी ने ब्यूरो स्टाफ के लिए लिखित व मौखिक प्रतियोगिताओं का संचालन किया।



हिंदी लेखन प्रतियोगिताओं के अंतर्गत हिंदी निबंध प्रतियोगिता का विषय ‘गो संरक्षण में गोचरण का महत्व’ रखा गया था। इसके अतिरिक्त हिंदी पत्र लेखन, टिप्पणी/मसोदा लेखन, शब्दार्थ व अनुवाद, आशु भाषण, भाषण (विषय “नकदी रहित भारत”) प्रतियोगिताओं का आयोजन किया गया था।



ब्यूरो वैज्ञानिकों/तकनीकी अधिकारियों/शोधवेत्ताओं हेतु दिनांक 12-9-17 को “मेरा गांव मेरा गोरव” विषय पर पोस्टर-प्रदर्शन तथा दिनांक 13-9-17 को हिंदी में शोध-पत्र प्रस्तुतीकरण प्रतियोगिता का आयोजन किया गया।



दिनांक 14-09-2017 को हिंदी दिवस के शुभ अवसर पर विशेष रूप से उचित हिंदी शब्द ज्ञान प्रतियोगिता का आयोजन किया गया।

संस्थान में हिंदी उत्कृष्ट कार्मिक के चयन हेतु कार्मिकों द्वारा 2016-17 के दौरान किये गये राजकीय कार्यों में से हिंदी में किये गए कार्यों का मूल्यांकन गठित समिति द्वारा करके विजेताओं को पुरस्कृत किया गया।

दिनांक 21-09-2017 को संस्थान ने अपना 34वां स्थापना दिवस तथा हिंदी पुरस्कार वितरण समारोह आयोजित किया। समारोह के दौरान ही मुख्य अतिथि डॉ. के.एम.एल. पाठक, कुलपति, पंडित दीनदयाल उपाध्याय पशु विज्ञान एवम् गो अनुसन्धान विश्वविद्यालय, मेरठ ने हिंदी प्रतियोगिताओं के विजेताओं को पुरस्कार प्रदान किये।



“पशुधन प्रकाश” पत्रिका के सप्तम अंक में प्रकाशित श्रेष्ठ लेख के लिए पुरस्कार वितरण

(माइटोकोड्रियल डी. एन. ए.– पशुधन प्रजातियों के विकास एवं वंशावली रूप रेखा के लिए एक चिन्हक. पशुधन प्रकाश, 7:80-87 द्वारा रीना अरोड़ा, राकेश कुमार, अंजु शर्मा, याशिला गिरधर, सोनिका अहलावत एवं रेखा शर्मा)।

इसी शुभ अवसर पर ब्यूरो की वार्षिक हिंदी पत्रिका “पशुधन प्रकाश” के सप्तम अंक (वर्ष 2016) में प्रकाशित लेखों के मूल्यांकन के आधार पर तीन श्रेष्ठ लेखों को भी पुरस्कार प्रदान किये गए तथा वार्षिक हिंदी पत्रिका पशुधन प्रकाश के अष्टम अंक (वर्ष 2017) का विमोचन भी किया।



“पशुधन प्रकाश” पत्रिका के अष्टम अंक का विमोचन

विशेष उपलब्धि

नगर राजभाषा कार्यान्वयन समिति द्वारा दिए जाने वाले राजभाषा पुरस्कारों के अंतर्गत वर्ष 2016-17 का द्वितीय पुरस्कार दिनांक 9-6-2017 को नराकास की छमाही बैठक के दौरान राष्ट्रीय पशु आनुवंशिक संसाधन ब्यूरो करनाल को मिला, जिसमें संस्थान के लिए एक ट्राफी तथा सतपाल, नामित राजभाषा अधिकारी के नाम से प्रशस्ति पत्र प्राप्त हुआ।



राष्ट्रीय पशु आनुवंशिक संसाधन ब्यूरो को वर्ष 2016-17 का द्वितीय राजभाषा पुरस्कार

पशुधन प्रकाश 2017 में प्रकाशित लेख

1. आर के पुंडीर, पी के सिंह, नील कान्त, सी वी सिंह, बी प्रकाश एवं अनिल कुमार मिश्र. 2017. बद्धी: उत्तराखंड की एक नई गोनस्ल, पशुधन प्रकाश (8): 1 – 5.
2. मोनिका सोढ़ी, मनीषी मुकेश, प्रवेश कुमारी, आर एस कटारिया, आर के पुंडीर, प्रीति वर्मा, अंकिता शर्मा, विजय के भारती, शैलेश कुमार स्वामी, अरूप गिरी, प्रभात कुमार, दीपक गगोई, एवं भुवनेश कुमार. 2017. लद्दाखी गाय: लद्दाख की एक अनमोल गो- सम्पदा, पशुधन प्रकाश (8): 6 – 10.
3. अनिल कुमार मिश्र, आनंद जैन एवं संजीव कुमार सिंह. 2017. चितरंगी: भारत के उत्तर – पश्चिमी क्षेत्र में पाई जाने वाली भेंड का मूल्यांकन एवं अध्ययन, पशुधन प्रकाश (8): 18 -21.
4. नरेश कुमार वर्मा. 2017. नागालैंड की लम्बे बालों वाली बकरियों का शारीरिक लक्खसन, प्रबंधन व् उपयोग, पशुधन प्रकाश (8): 18 -32
5. करण वीर सिंह एवं एस जय कुमार. 2017. भारतीय हिमालयन याक, पशुधन प्रकाश (8): 39 - 42.
6. बीरबल सिंह, गोरख मल, मोनिका सोढ़ी, प्रवेश कुमारी एवं मनीषी मुकेश. 2017. ग्लोबल वार्मिंग एवं देशी पशुधन संसाधन, पशुधन प्रकाश (8): 44 – 47.
7. सोनिका अहलावत, नेहा, रेखा शर्मा, रीना अरोड़ा एवं एम् एस टांटिया. 2017. समेकित कृषि : सतत आजीविका के लिए एक उत्कृष्ट विकल्प, पशुधन प्रकाश (8): 50 – 55.
8. उमा कान्त वर्मा, अजीत सिंह, नदीम शाह एवं विकास वोहरा . 2017. शूकर पालन: एक लाभकारी व्यवसाय, पशुधन प्रकाश (8): 68 – 70.
9. करण वीर सिंह, विकास वोहरा, अवनीश कुमार एवं मनीषी मुकेश. 2017. किलनी संक्रमण से दुधारू पशुओं का बचाव, पशुधन प्रकाश (8): 89 - 91.