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ICAR-CIRG NEWSLETTER

भा.कृ.अ.प.–केन्द्रीय बकरी अनुसंधान संस्थान

ICAR-Central Institute for Research on Goats

CIRGMATHURA

GoatResIndia

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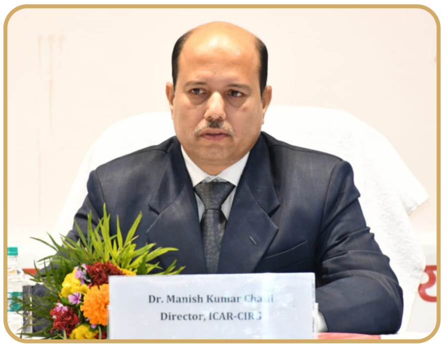
From the Director's Desk



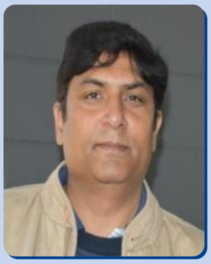
Greetings to our blooming goat community!

New Year 2023 began with a rejuvenated and vibrant scientific temper and activities. As the United Nations declared the Year 2023 the "*International Year of Millets*", the ICAR-CIRG pitched its contribution to scientific thought and activities. Each year brings its own set of significant events that provide opportunities to take action in order to achieve the ultimate goal, serving the goat community and achieving research excellence. Goat farming has emerged as an essential component of rural development, providing a viable livelihood option to numerous individuals throughout the country. The demand for goat meat and milk has been steadily rising, making this sector an attractive venture for small and marginal farmers. Through our efforts and continuous support, we have witnessed remarkable success stories of farmers who have transformed their lives through this enterprise. In the coming decades, goats are considered as a "*future animal*" and will play a significant role in helping to meet the growing food demands of an increasingly populous world in order to counter the negative impacts of climate change. ICAR-CIRG has been serving the country with research, extension activities, outreach programmes, technologies transfer, goat entrepreneurship, flagship programme on scientific goat farming and economic upliftment of goat farmers since its inception. Our Institute is working on specific technologies on commercial goat farming like superior germplasm selection, Artificial insemination, Laparoscopic Ovum Pick-Up, pellets feed, methane mitigation, goat diagnostics & drug formulation and special goat milk products. Under the development action plan for schedule caste (DAPSC) and schedule tribes (DAPST), we organized various programme *i.e.*, scientific goat farming, goat fair, distribution of seeds, animal feeds and other inputs, highlighted its significance, encouraging wider participation and understanding of these transformative initiatives by Government of India. Institute organised goat fair, '*Industry Scientist Farmer's Interface*' on Goat products and technologies, workshop on goat AI, National workshop on goat export opportunities, IRC and 28th RAC. Institute has achieved the milestone by organising the **100 National Trainings on 'scientific goat farming'** which was inaugurated by her Excellency the Governor of Uttar Pradesh **Smt. Anandi Ben Patel** and valedictory function was chaired by **Smt. Hema Malini**, Member of Parliament, Mathura (U.P.). Institute has transferred **05** technologies to various stakeholders and also signed **11** MoUs with various Governmental and non-Governmental organisations. During this period, many dignitaries like **Shri Laxminarayan Chaudhary,** Honourable Cabinet Minister, U.P. Govt., **Smt. Jaskaur Meena**, Member of Parliament, Dausa (Raj.), **Dr B.N. Tripathi**, Honourable DDG (Animal Sciences), ICAR, New Delhi, **Dr A.K. Srivastava**, Honourable VC, DUVASU, Mathura, **Dr S.P. Kimothi**, Honourable Member, ASRB, New Delhi, **Dr A.K. Sahoo,** Honourable Director, ICAR-NRC on Camel, Bikaner, **Dr A.K. Tomar**, Honourable Director, ICAR-CSWRI, Avikangar, **Dr S.K. Dora,** Chief General Manager, NABARD, U.P., **Dr V.K. Vidyarthi**, General Manager, APEDA, and **Mr. A.K. Tiwari**, Executive Director, IOCL, Mathura have visited the Institute and graced the various occasions. As we embark on this journey of growth and prosperity, let us harness the potential of goat farming to uplift lives and build a more equitable and harmonious goat community. Thank you all for your unwavering support and belief in our goat mission.

I congratulate the chief editor and his editorial team for the makeover of this "Goat newsletter."

(Manish K. Chatli)

Nano-minerals as feed supplements



Ravindra Kumar, A. K. Dixit, Nitika Sharma and Mohd Arif*
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Trace minerals are essential nutrients required by all animal species at levels generally less than 100 ppm. They play a vital role in the livestock industry. Trace minerals perform a wide range of functions like vitamin synthesis, hormone production, enzyme activity, collagen formation, tissue synthesis, oxygen transport, nutrient metabolism and other physiological processes related to growth, reproduction, and health. The most commonly discussed trace minerals are zinc (Zn), copper (Cu), manganese (Mn), selenium (Se), cobalt (Co), iron (Fe) and iodine (I). The trace mineral requirement of animals vary greatly with various factors like genetics, age, maintenance, growth, reproduction, lactation, level of production, stress and also the chemical and physical form of minerals used. The lower bioavailability of these minerals has been a main concern for animal nutritionists as the larger doses leads to various interactions reducing the stability and availability of vitamins, minerals and other nutrients. Nano minerals have provided a promising and potential alternative to the conventional forms.

Properties of nano minerals

Nanotechnology is the study of phenomena and the manipulation of materials at the nano-scale dimensions of approximately between 1 and 100 nanometers. This exceptionally small size with higher surface volume endows them with some highly useful and unique properties in terms of chemical, physical, photo-electrochemical and electronic properties which capitalized its application in almost every field especially food/feed technologies These nano particles differ fundamentally and often unexpectedly in their physical, chemical and biological properties. They are stable under high temperature and pressure and are easily taken up by the gastrointestinal tract, so are more effective than the conventional minerals. In the animal body, nano minerals interact more effectively with organic and inorganic substances due to their larger surface area thereby overcome the mineral antagonism at the cellular level preventing the mineral imbalance at absorption, transportation and excretion. They have the capability to cross the small intestine and further distribute into the blood, brain, lung, heart, kidney, spleen, liver, intestine and stomach. The functional activities such as chemical, catalytic or biological effects of NP are heavily influenced by the particle size of the nano-metals. Nano minerals as feed additives in animal husbandry has resulted in improved the appetites of livestock and poultry, daily gain, the feed to gain ratio, the diarrhea ratio and death rate of weanling piglets etc.

Nano minerals can be synthesized by physical, chemical, and biological methods. The selection of any of these methods depends on the particular objectives and conditions in which they are meant to be used. Thus, it is necessary to consider the physical and chemical stability of the active agent, as well as its toxicity, its liberation profile, among many other considerations. In general, biological methods are safe to use and can be efficiently exploited without further experiment on the residual effect and are eco-friendly too. For animal feeding, nanoparticles can be produced by any of the above methods but thorough study including toxicological effect is advocated before using these particles in the ration of livestock and poultry on a routine basis. Nano minerals as feed supplement in animals are having a great potential to boost the bioavailability of nutrients, production performance and immunity thus, augmenting the economy along with environmental safety. However, the systematic and thorough studies are required to be undertaken to support the effectiveness, and safety of nanotechnology, without any adverse effects on crops, human and animal health, and the environmental safety.

Application of antimicrobial peptide to check microbial load in goat semen

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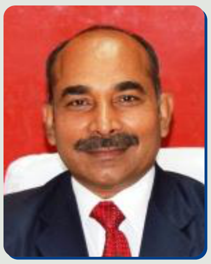
Antibiotics like penicillin, streptomycin and gentamicin are generally added in goat semen diluent to check microbial growth but these antibiotics sometimes reduce the semen quality and cause development of antibiotic resistance bacterial population. So, we need to change the types and doses of antibiotics to reduce the microbial growth and antibiotic resistance bacterial population. We had designed antimicrobial peptide (AMP) β-defensin1 using tool NCBI/Uniprot, ORF finder and synthesized from GenScript. AMPs have antibacterial, antimicrobial, antiviral, anticancer and immuno-modulatory properties. We used AMP (β-defensin1) as additives in goat semen diluent for ensuring the sanitary quality of the semen. Bacterial load was assessed as per Miles-Mishra technique. Goat semen diluent was fortified with (1.) β-defensin1 (20μM), (2.) Penicillin (1.67 mg/ml) and streptomycin (1 mg/ml) and (3.) β-defensin1 (20μM), Penicillin (1.67 mg/ml) and streptomycin (1 mg/ml) and (4.) without any antibiotics and AMP on well-dried nutrient agar growth medium plate and incubated at 37°C for 48hr. There was no microbial growth in AMP and AMP+ Antibiotics fortified semen sample but there was very little growth in antibiotics fortified semen sample and control group showed maximum microbial growth. The result proved that β-defensin1 may be an alternative in place of antibiotics in goat semen diluent to reduce the microbial load.

Phenotypic and performance characteristics of Karauli goat



M K Singh, Lokesh Gupta[1], Siddharth Mishra[1] and S C Jingar[1]*

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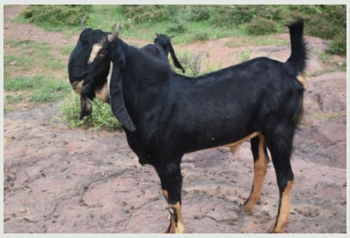
The home tract of karauli goat exist in Karauli district however flocks of these goats in large number are also found in Kota, Swai-Madhopur, Dholpur and Bundi districts of Rajasthan. These goats were exclusively reared under extensive management (distant grazing in ravines). Karauli is a medium size goat with 60-80 cm height at withers and body length. Coat colour is predominately black with tan colour strips on face, ears, lower portion of all leg and lower sides (portion) of abdomen. Muzzle is also predominately of tan colour. Ears are long (30-40 cm), horizontal, pendulous and folded with tan colour border lines (stripes). Horns are medium in size (14-17 cm), cork screw with 1-2 fold, pointed upward and outward, and present in both sex. Coat of goats were thick with tuft of hairs on hind legs. Hanging dewlap and bear is common in both sex however, much prominent in male. Head is moderately convex. Wattles were seen in about 30% goats. Goats of other breed in these villages were not observed i.e. native tract do not overlap with other goat breeds. Udder is developed and teats are cylindrical. Average milk yield is about 0.8 litres per day (ranged from 0.5 to 2.0 litres) for a period of 140 to 165 days. Peak milk yield was varied from 1.5 to 2.0 litres under grazing with no concentrate. Incidence of multiple births was ranged from 30 to 50% over the flocks. The average body weight of kids at birth, 3, 6, 9 and 12 months were ranged from 1 to 3, 7 to 10, 12 to 15, 17 to 22 and 20 to 26 kg, respectively. Body weight of adult animals at one and 3 years were observed 22 to 26 and, 45 to 75 kg, corresponding weight in females were 18-25 and 35-50 kg. Karauli goat is unique, stable and uniform with more than 2.0 lakh populations and playing very important role in sustaining livelihood of poor people in ravine prone areas of Rajasthan. Feed scarcity during summer, inadequate housing, inbreeding, poor adoption of prophylactic measures were major areas of concern and need attention for productivity improvement.



Importance of breeds in goat farming

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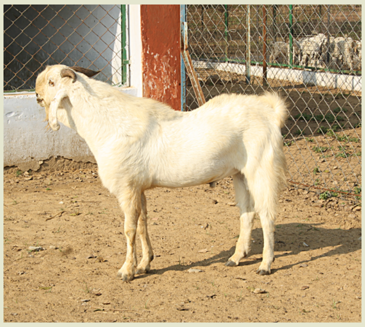
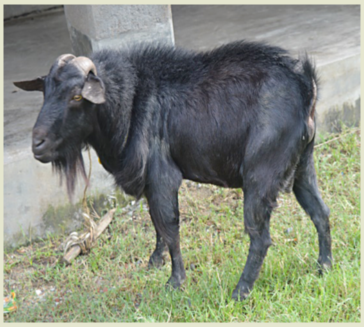
A group of similar animals within a species is called a breed. A particular goat breed has difference from other goat breeds in the form of variations of breeding tract, production efficiency, reproductive rate, body size, coat color and type and size of horns, ears, nose, etc. Presently, India possesses 37 recognized goat breeds which can be broadly classified into three groups based on body size. These are large, medium and small sizes. Jamunapari, Sirohi, Jakhrana, Beetal, Zalawadi, Gohilbadi are categorized as large breeds and these reach to maturity age at 12 month age, whereas medium size goat breeds like Barbari, Gaddi, Marwari, Surti, Sangamneri, Osmanabadi, Pantja, Ganjam, etc attain maturity at 10 months and small size breeds viz Black Bengal and Assam Hill at 8 months of age. In general, the maturity age in males is higher than the females by 4-6 months. The average body weight of kids of large, medium and small-sized goats are 28-32, 20-24 and 14-16kg, respectively.

Goat breed should be selected on the basis of suitability/adaptability for prevailing climatic conditions, suitability for management systems, demand in market of particular goat breed and its product. Performance and survivability of goat breeds of North-Western region (Beetal, Jamunapari, Jakhrana, Sirohi and Barbari etc.) deteriorate in hot and humid Eastern and Southern regions. Whereas some breeds like Barbari and Sirohi have been proven to perform well in entire semi-arid regions/ states of India. All the breeds perform well in semi-intensive feeding management but there are some breeds whose performances were declined in intensive feeding. Barbari goat's performance in stall feeding is better than other breeds of semi-arid regions of India. Whereas, Sirohi breed performance is remarkably good in extensive system with good biomass availability as compared to other breeds of semi-arid regions. Breed with good potential for milk like Beetal, Jamunapari, Barbari, Jakhrana and Zalawadi in North and Central India should be for milk production. Males of Jamunapari, Sirohi, Barbari and Beetal also have good demand during Eid. Whereas, Surti, Sangamneri and Malabari breeds are recommended for central and southern region for milk purpose. Goats of these breeds are equally good for meat purpose and have demand for eid. Osmanabadi in central and southern states (Maharashtra, Karnataka, Andhra Pradesh, Telangana) reported to be good performer. Black Bengal, most prolific breed of India is recommended for entire eastern regions for meat over other breeds. Selection of a breed is considered as foundation of success in the goat farming.



Large size breed (Jamunapari)

Medium size breed (Barbari)



Small size breed (Black Bengal)

Goat milk in diabetes management

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Diabetes mellitus (DM) is one of the largest global public health metabolic disorder characterized by persistent hyper glycaemia causing high mortality and reduced life expectancy. About 90% of the cases occur as type 2 diabetes mellitus (T2DM) and carry a high risk of developing other serious clinical situation such as cardiovascular disease, hypertension, stroke, chronic liver disease, chronic kidney disease and cancer.

Food-derived bioactive peptides regulate a number of physiological processes and could act as antidiabetic, antihypertensive as well in addition to being antioxidant, anticancer, and immuno-modulatory agents. Goat milk has two major proteins - casein and whey, both of which are rich sources of bioactive peptides and can serve as antidiabetic nutraceutical. These peptides regulate blood glucose levels by inhibiting major enzymes such as α-amylase, β-glucosidase, and Dipeptidyl **peptidase-4** (DPP IV) or acting as an agonist of glucagon-like peptide 1 (GLP-1).The peptides from casein hydrolysates significantly improve glucose metabolism in insulin-resistant HEPG-2 cells along with inhibition of DPP IV.

Goat milk also alters glycogen concentration through a decrease in the mRNA level of phosphoenolpyruvate carboxykinase 1 and **Glucose 6-phosphatase** and in turn reduces the glucose levels in blood. Thus, peptides from goat milk could ameliorate insulin resistance and manage type 2 diabetes.

The liver is an important target organ for glucose metabolism- it maintains systemic glucose homeostasis with a balance between glycogenesis (glucose storage) and gluconeogenesis (glucose output). Goat milk is hepato-protective and its consumption can protect liver cells from injury and has been used as a treatment for hepatic adipose infiltration in children. Goat milk casein hydro lysates enhance glucose utilization and improve insulin resistance in insulin-resistant HepG2 cells *in vitro*. Goat milk casein hydro lysates increased glucose consumption rate and intracellular glycogen concentration significantly, and decreased the expression of phosphoenol pyruvate carboxymkinase 1 and **Glucose 6-phosphatase.**

Goat milk peptides are wonderful antioxidants. Oxidative stress can reduce GLUT-4 **(insulin-responding glucose transporter** responsible for pushing the glucose into the cell) by negatively effecting its gene expression due to which hyperglycemia is observed. Any factor which reduces GLUT-4 expression has a marked effect on insulin sensitivity as there is a reduction of glucose entering into the target cells that translates into lower insulin sensitivity in these tissues. Goat milk peptides moderate free radical production and thereby, increase GLUT-4 expression and/or localization, thus, lowering insulin resistance and T2DM

Its amino acid composition matches more closely to that of human breast milk than to that of bovine milk, and it can be easily absorbed and digested as compared to the latter, especially by newborns. It also has higher levels of essential amino acids, including threonine, isoleucine, lysine, cysteine, tyrosine and valine.

To conclude, goat milk enriched with its antidiabetic, hepatotprotective, antioxidant, antibacterial, and antithrombotic bioactive peptides can serve as an excellent nutraceutical to newborns and can also be used to prevent as well as treat diseases like diabetes, common cold, diarrhoea in adults naturally.

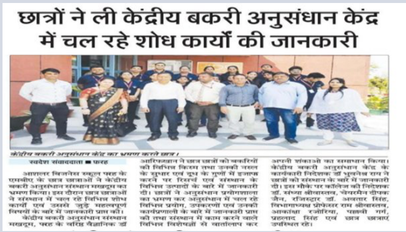
Extension and farmer's education programme

Training programme

- Three national training (98th from 01-07 February, 99th from 14-20 February, and 100th from 29 May-04 June) on "Scientific Goat Farming" was organised during the period of Jan – June, 2023.
- One sponsored training on "Scientific Goat Farming" was organised from 29-31 January, 2023. This training was sponsored by NABARD, Rajsamand, Rajasthan and was attended by twenty six women goat farmers.

Visitors

- Thirty (30) women farmers visited CIRG and they were appraised on scientific goat farming. Visit was sponsored by Deputy Director Agriculture, Siddharth Nagar (U.P.) with the collaboration of Gautam Budh Jagriti Samiti Siddharth Nagar.
- Students (105) from G.G.I.C. School, Achhnera block of Agra district (U.P.) visited CIRG on 19 January, 2023. They were appraised on scientific goat farming and management.
- Exposure Visit of 65 Agricultural graduates' along with faculty staff of Dr. B.P.S. College, Agra on 04 February, 2023 was conducted. They were appraised on significance of goat farming in livelihood security and goat technologies developed at CIRG.
- Thirty five (35) women farmers from Durg, Chhattisgarh visited ICAR-CIRG. They were appraised on scientific goat farming, visited livestock units and agriculture farm to learn natural farming.
- Twenty two (22) farmers visited CIRG from Sagar, M.P. to learn scientific goat farming. They were shown institute movie, visited livestock units and agriculture farm.
- Thirty six (36) farmers from Dist. Kabirdas of Chhattisgarh visited CIRG on 01 March, 2023. They were appraised on scientific goat farming using institute movie, visited livestock units and agriculture farm.
- Nineteen (19) students and college staff from Aashlar Business School, Mahuan Farah visited CIRG Mathura at 02 March, 2023. They were appraised on scientific goat farming and institute activities. They also visited livestock units and agriculture farm.
- Seventeen (17) farmers from Sakh, Chhattisgarh visited CIRG on 13 March, 2023. All were appraised on scientific goat farming and institute activities. They also visited livestock units and agriculture farm.
- Twenty-five (25) farmers from Ghaziabad U.P., visited CIRG on 20 March, 2023. They were appraised on scientific goat farming and institute activities. They also visited livestock units and agriculture farm.

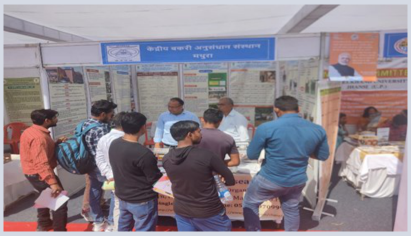

छात्रों ने ली केंद्रीय बकरी अनुसंधान केंद्र में चल रहे शोध कार्यों की जानकारी

Extension and farmer's education programme

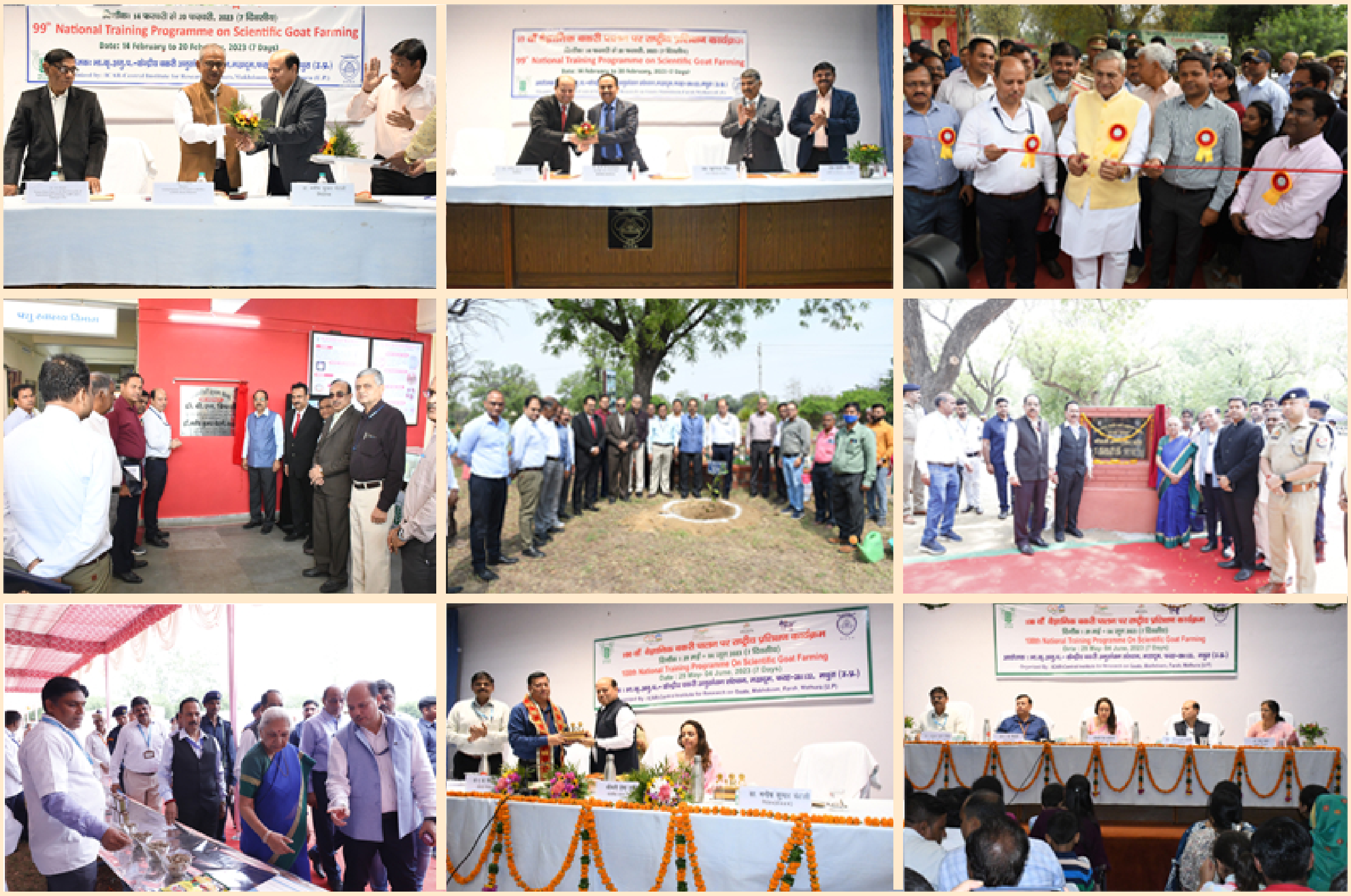
- Final Year students (75) along with faculty staff of GBPUA&T, Pantnagar, Uttarakhand had an exposure visit at CIRG on 22 March, 2023. They were appraised on scientific goat farming and institute activities. They also visited livestock units and agricultural farm. Coordinators explained them all the activities of the institute, importance of goat and sheep farming, natural farming and production of fodder round the year etc.
- Exposure visit of 12 veterinary officers from Guntur, Andhra Pradesh at CIRG was conducted on 11 May, 2023. During the visit, Institute movies were shown and they also visited livestock units and agriculture farm.

Mela/ Exhibition

- ICAR-CIRG showcased goat technologies in *pashu sanrkshan, uaddhan pradarshani evam aatmnirbhar krishi* Mahotsav-2023 in Krishi Vigyan Kendra Piparkothi Purvi Champaran, Bihar on 18-20 February, 2023. Large number of farmers visited stall and appraised about good practices of goat farming with special reference to Bihar state.
- ICAR-CIRG showcased Institute goat technologies in Rani Laxmi Bai University, Jhansi Mela on "*Bundelkhand me krishi niryat evam poshak Anaj ki sambhavanaye*" on 26-27 February, 2023. Large number of farmers visited stall and appraised about good practices of goat farming with special reference to Bundelkhand region.
- ICAR-CIRG showcased Institute goat technologies in G. B. Pant University of Agriculture & Technology Pantnagar, Uttarakhand on "113th All India Farmers' Fair and Agro-Industrial Exhibition-2023" on 25-28 February, 2023. Large number of farmers visited stall and appraised about good practices of goat farming with special reference to Uttarakhand region.
- ICAR-CIRG showcased Institute goat technologies in Shri Mallinath Pashu Fair at Tilwara, Tehsil Balotra, Barmer (Rajsthan) during 21-22 March, 2023. Large number of farmers visited stall and appraised about good practices of goat farming with special reference to Rajasthan region.
- ICAR-CIRG showcased Institute goat technologies at "पशु प्रदर्शनी एवं कृषि मेला" in Muzaffar Nagar, UP. This event was jointly organised by DAHD and ICAR-CIRC Meerut (6-7 April, 2023). Farmers visited CIRG stall and ovserved goat technologies exhibition. Technical literature on "scientific goat farming" was also distributed to the visitors and farmers.


Distinguished visitors



Patents granted

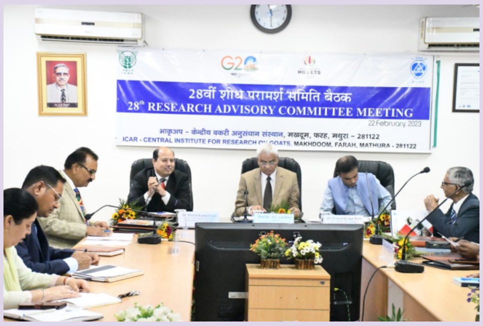
The scientists of ICAR- CIRG, Makhdoom were granted with five patents during this period. The details of patent granted are as follows:

S.N.	Title	Inventor	Patent Grant No.	Date of Grant
1.	Method for preparation for herbal anti stressor formulation for goat	Dr. Ashok Kumar	421306	13.02.2023
2.	Economic concentrate pellet feed with Brassica oil cake for ruminant feeding: chemical composition, production protocol, storage and uses thereof	Dr. M. K. Tripathi	424865	13.03.2023
3.	A formulation having antibacterial herbal extract for animal use.	Dr. Ashok Kumar	425919	20.03.2023
4.	Oil extracted meal (cake) less concentrate feed for ruminants: chemical constituents, production methodology, storage and uses	Dr. M. K. Tripathi	426736	24.03.2023
5.	AJAS antiseptic-Goat milk based natural herbal antiseptic soap	Dr. Ashok Kumar	433430	31.05.2023

Important meetings, events and other activities

Important meetings

- ### Research Advisory Committee (RAC)



28th Research Advisory Committee (RAC) meeting was conducted on 22 February, 2023 under the chairmanship of Dr A.C. Varshney, Former VC, DUVASU, Mathura, along with RAC members Dr. D.C. Shukla, Head (Rtd), IVRI; Dr. Harish Verma, Former Director (Extension), GADVASU; Sh. Ramavtar Meena, Rajasthan; Dr. P. K. Rout, ADG (AP&B), ICAR Hq, New Delhi, Dr. M.K. Chatli Director and scientists of the Institute. Director of the institute highlighted the progress, research achievements and other activities of the Institute to the RAC members. Dr Ashok Kumar, Pr. Scientist cum I/c PME, Member Secretary RAC, presented the action taken report on recommendation made by last RAC. The Head of the division /sections presented the progress of last year, action taken on recommendations and next year research programme. The committee gave several recommendations on various research projects being undertaken by scientists at this institute. The committee members also inaugurated the renovated gymnasium of the institute during their visit.

- ### Institute Research Committee (IRC)

Annual Institute Research Council (IRC) meeting for year 2022-23 was conducted from 11-13 May, 2023 in the committee room under the chairmanship of Director of the institute. Dr. Ashok Kumar, Pr. Scientist cum I/c PME of the institute extended formal welcome to the Director and emphasized that IRC is an important meeting at institute level to review and modify the technical program of projects, which can fulfill the expectation and commitment of ICAR and government of India. The Director in his introductory address highlighted the importance of Institute IRCs, provides an opportunity to interact with the scientists of other divisions, to know about their work, projects running in different divisions and overall research achievements of the institute. All the scientists presented their respective project work in the meeting. A thorough discussion was made and suggestions were made for the improvement of the project.

Events Organised

- ### Republic Day Celebration

The ICAR-CIRG celebrated the 74th Republic Day with joy and happiness on 26 January, 2023. Dr. Manish K. Chatli, Director of the institute hoisted the national flag and remembered the contribution of our great national leaders. He congratulated the scientific, technical, administrative and supporting staff of the institute for their contribution in the institute activities. He hailed the contribution of scientists and other staff for their constant effort in uplifting goat farmers of the country. Skilled supporting staff and Multi -Tasking staff of the institute were awarded by Director on this occasion.

Important meetings, events and other activities

- **International yoga day celebration**

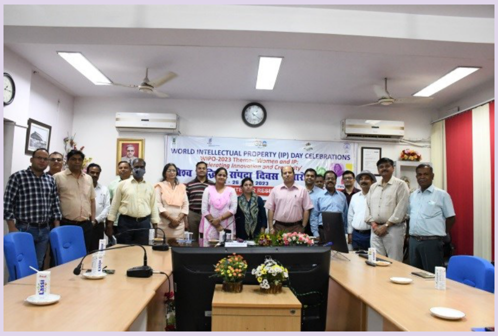
  International yoga day 21 June, 2023 was celebrated with great enthusiasm in ICAR-CIRG, Makhdoom. All the scientific, technical, administrative and supporting staff of the institute along with family members participated in the program. Yoga instructor narrated the importance of yoga in day-to-day life and requested to make yoga a routine activity in life. The Director of the institute, Dr. Manish K. Chatli, requested the staff to perform yoga for complete physical and mental health.

- **World Veterinary day celebration**

  On the occasion of world veterinary day, two animal health camps were organized on 25-26 April, 2023. One field level camp was organised at village Kachora, Achhnera, Agra. On this occasion, the chief guest of the program, Dr. Manish K. Chatli, Director, ICAR-CIRG emphasized on the importance of animal husbandry in the rural economy and scientific method of animal husbandry to increase the income of the farmers. He said that a healthy animal lays the foundation of a healthy family and also contributes in increasing the income of the family. About 110 goat herders from five villages namely Kachora, Magura, Kathwari, Janutha and Bastai of Achhnera block participated on this occasion. In the health camp, a large number of goats that came from the villages were given vaccination, anti-parasitic medicine, their treatment and artificial insemination was done in the goats. Goat health kit, mineral mixture and technical literature were provided to all the goat farmers. Farmers were provided information on scientific goat rearing by the scientists associated with the project. Another health camp was organized on 26 April 2023, at the main gate of theICAR-CIRG institute.

- **World intellectual property day celebration**

  ICAR CIRG celebrated world intellectual property day on 26 April, 2023 under the chairmanship of Director Dr. Manish K. Chatli with guest speaker Dr. Vidisha Garg, IP expert, Anand and Anand. The event was attended by all the Scientists and staff of CIRG. Program was arranged by ITMU section, CIRG, Mathura.

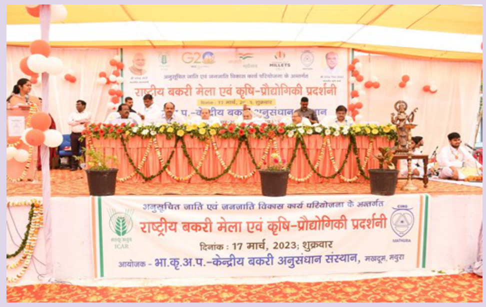


- **Industry-Scientist-Farmers Interface Organization**

  ICAR-CIRG organized an Industry-Scientist-Farmers interface on 16 March, 2023. This interface meeting was attended by 32 industry persons and 35 progressive farmers from 11 states. Dr. Manish K. Chatli, Director of the institute explained the present status and future prospects of goat rearing in India and emphasized the importance of technology-based production for economic sustainability and conservation of livestock.

Important meetings, events and other activities

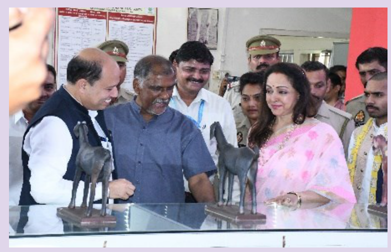
- **National Goat Fair and Agro-Industrial Exhibition Organisation**



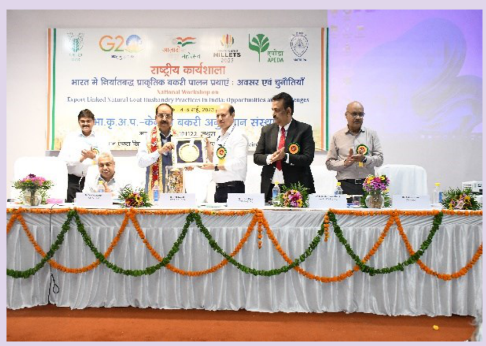
National goat fair and agro-industrial exhibition (with special reference to SC & ST farmers) were organized at ICAR-CIRG, Makhdoom, Mathura. Fair was inaugurated by cutting the ribbon by the chief guest Chaudhary Laxminarayan, Honorable Cabinet Minister, Ministry of sugarcane and sugar Industry, Government of Uttar Pradesh. About 1000 farmers and goat herders from far-flung areas along with their representatives, entrepreneurs and representatives from various council institutions participated.

- **Centenary 100th National training programme on "Scientific Goat farming" organisation**

ICAR-CIRG organized 100th National training programme and goat fair on 29 May, 2023.Training program was formally inaugurated by cutting the ribbon by the Chief Guest Smt. Aanandi Ben Patel, Honourable Governor Uttar Pradesh. In her speech, she emphasised on importance of goat farming in sustainable livelihood security, poverty eradication and women empowerment. More than 1000 farmers and goat herders from far-flung areas along with their representatives, entrepreneurs and representatives from various ICAR's institutions participated and showcased their technology. More than 500 goat farmers from SC and ST social class were participated and get benefitted. Training kit, medicine kits, technical literature and umbrella were distributed to these farmers. Member of Parliament (MP) Mathura was the chief guest of valedictory function (04 June, 2023) of this training.



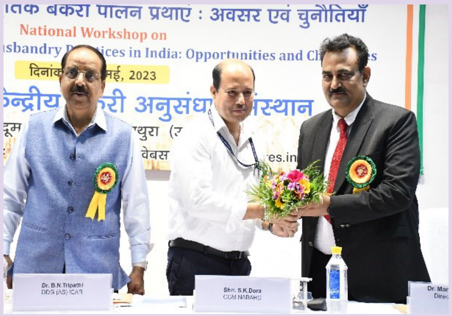
- **National Workshop on "Export Linked Natural Goat Husbandry Practices in India: Opportunities and Challenges" organisation**

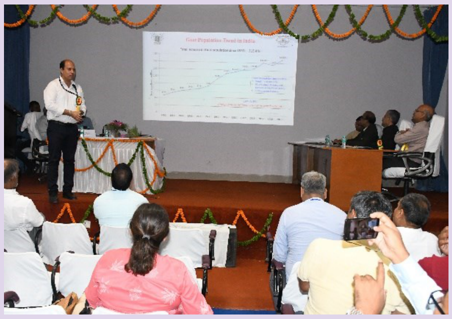


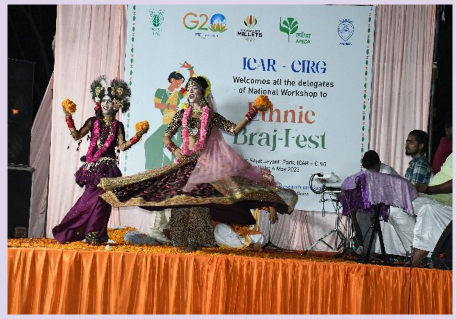
Two days APEDA sponsored National Workshop on 'Export Linked Natural Goat Husbandry Practices in India: Opportunities and Challenges' held on 4-5 May, 2023 at ICAR-CIRG Mathura. About 150 participants from different ICAR institutes, universities, IIM, Lucknow, Government officials, NGOs, FPOs, SHGs, NABARD, and State Animal Husbandry Department and other line departments attended this workshop and shared their valuable insights and experiences has contributed immensely towards a better understanding of the challenges and opportunities in natural goat husbandry practices in India and its potential for export. Four technical sessions along with panel discussion on issues in natural goat farming were successfully conducted. About 25 papers including 5 lead papers under various themes of the sessions were presented and discussed. Twenty progressive farmers and women goat farmers were also participated in this workshop. Progressive goat farmers were felicitated, and SC and ST women goat farmers were provided inputs- goat medicine kit, technical literature, umbrella etc.

Important meetings, events and other activities

A Technology Information Centre (TIC) was also inaugurated by Hon'ble DDG (Animal Science) Dr. B.N. Tripathi in the presence of CGM NABARD Dr. S.K. Dora, Dr. V. K. Vidhyarthi GM APEDA and the Director ICAR-CIRG, Dr. Manish K. Chatli. Technical literature, products developed by CIRG scientists and CIRG signature were also released by the Chief Guests and other dignitaries. A goat technology exhibition was also organised on this occasion. A cultural programme 'Ethnic Braj Fest' for delegates was also organised on this occasion.

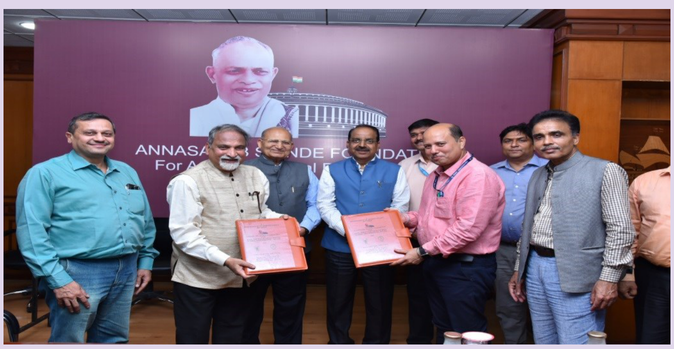


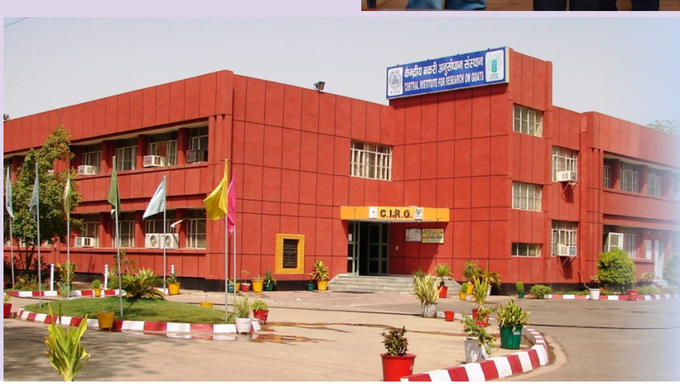




- **MOU with Annasaheb Shinde Foundation**

On 23 March, 2023, under the aegis of the National Agricultural Science Complex, New Delhi, an MoU was signed between the ICAR - CIRG and Anna Saheb Shinde Foundation for Agro and Social Development, Mumbai, Maharashtra. Under this MoU, ICAR-CIRG will provide technical assistance on scientific goat rearing to ST women goat farmers of Nandurbar district in the field of agriculture and social development and will support in their efforts to increase their income. Former Director General of ICAR Dr. R.S. Paroda, DDG Animal Science Dr. B.N. Tripathi, ADG Dr. P.K. Raut, CEO of Annasaheb Shinde Foundation Mr. Anil Shinde and Shri Kiran Patwardhan Director ICAR -CIRG Dr. Manish K. Chatli, Director ICAR-CIRC Dr. Umesh Singh, Director Administration (Animal Science), Dr. Pankaj Singh and scientists from both the institutes were present. On this occasion, various technologies, products and products made from goat milk developed by the scientists of ICAR -CIRG were demonstrated, which were appreciated by the people present.





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