



## From the Director's desk.....



Nature has blessed our country with 535.78 million livestock and 230.58 million tons of milk production; which has led to the top rank worldwide in both of these aspects. However, the country is not yet satisfactory in terms of animal productivity. Improper feeding management is the major factor responsible for the low productivity of animals. India is facing 35.6% deficit for green fodder, 10.95% for dry crop residues, and 44% for concentrate feed ingredients, while the total area under fodder crops is merely 5% of the cultivable area.

In this context, ICAR-IGFRI aims for actions and deliberations among different stakeholders to prepare a roadmap for accelerating forage and livestock production, which will contribute to achieving the national goal of food security in sustainable ways. The institute is determined to work on all aspects of the forage and livestock sector for enhancing entrepreneurship and farm productivity under distinct areas viz., technological advances in forage genetic improvement, forage production, conservation, utilization, value addition,

mechanization, and feedstock development, quality forage seed production and processing along with modern tools and techniques, natural farming and entrepreneurship and employment opportunities.

There has to be a concerted effort that envisages accelerating production of fodder through promotion of integrated technologies and processes for enhancing the availability of fodder round the year. Forage production from unused lands like common property resource, degraded and waste lands, mechanized farming, biofortification of forage crops with improved digestibility, rhizosphere engineering for enhanced nutrient use efficiency etc. are some of the important areas to be stressed. Many aspects related to forage breeding, plant genetic resources, plant-protection measures, forage quality, palatability and seed production are being appropriately addressed adopting an integrated approach. The institute is resolute to facilitate and provide a professional, skill-based platform and will act as a knowledge hub to the scientists, teachers and students of agriculture, animal husbandry, forestry and allied sectors; regarding recent trends in sustainable livestock and crop production technologies vis-à-vis climate change.

## संस्थान में हिन्दी पखवाड़ा (14-29 सितम्बर, 2023) का आयोजन

हिन्दी दिवस का शुभारम्भ माननीय केन्द्रीय गृह राज्यमंत्री श्री अजय मिश्रा जी, भारत सरकार की अध्यक्षता में अत्यन्त भव्य एवं गरिमामय स्वरूप में पुणे, महाराष्ट्र से किया गया, तदन्तर संस्थान में दिनांक 18-09-2023 को प्रारूप एवं टिप्पणी लेखन, 19-09-2023 को निबन्ध, 20-09-2023 राष्ट्र के विकास में नागरिकों का योगदान पर डा. उमाशंकर पचौरी, सदस्य उच्च शिक्षा क्रियान्वयन समिति (म.प्र.) का व्याख्यान एवं 27-09-2023 को भाषण प्रतियोगिता आयोजित की गई। दिनांक 21-26 सितम्बर, 2023 को विभागों, अनुभागों, इकाईयों का हिन्दी कार्यों का मूल्यांकन किया गया। हिन्दी पखवाड़े का समापन माननीय शिक्षक विधायक, प्रयागराज-झाँसी खण्ड डॉ. बाबूलाल तिवारी के मुख्य आतिथ्य एवं कार्यवाहक निदेशक डा. विजय कुमार यादव की अध्यक्षता में किया गया। मुख्य अतिथि ने विजयी प्रतिभागियों को पुरस्कृत किया जिसमें प्रारूप एवं टिप्पणी लेखन प्रतियोगिता में डॉ. मुकेश चौधरी - प्रथम, श्री रविन्द्र सिंह नेगी - द्वितीय एवं डॉ. चन्द्रभूषण त्रिपाठी - तृतीय, निबन्ध प्रतियोगिता में डॉ. राजेश कुमार सिंहल - प्रथम, श्री प्रदीप कुमार कर्पे - द्वितीय एवं श्री दीपक चौधरी - तृतीय। इसके अतिरिक्त उपरोक्त प्रतियोगिताओं के प्रोत्साहन पुरस्कार तथा वर्ष पर्यन्त हिन्दी में उत्कृष्ट कार्य करने वाले कार्मिकों को भी पुरस्कृत किया गया। हिन्दी की वार्षिक प्रोत्साहन योजना नगद पुरस्कार के विजयी प्रतिभागी श्री अजय कुमार गौर एवं श्री यश कपूर एवं प्रक्षेत्र अनुभाग को वर्ष पर्यन्त हिन्दी में अधिक कार्य करने के लिये चल बैजन्ती से पुरस्कृत किया गया।



## Extending Forage Technological Options

### I. New Fodder Crop Varieties

#### 1. Fodder Cowpea Variety IGFRI-DC-215 for Karnataka

Recommended for release by 89<sup>th</sup> meeting of Central Sub-Committee on Crop Standards, Notification and Release of Varieties for Agricultural Crops held on 26<sup>th</sup> October, 2022 (through video conferencing) under Chairmanship of DDG (CS), ICAR, New Delhi. Gazette notification no. S.O. 1056(E) dated 6<sup>th</sup> March, 2023. It is a selection from cross MFC-09-12 x BL-2, with semi-erect to erect growth habit, erect, broad leaves with dark green colour, days to first flowering 50-55 days and days to maturity 85-90 days. It has L/S ratio 0.90-0.95. It gives 30-32 t/ha green fodder yield and 3.5-4.0 t/ha of stover yield. It has CP content of 15-16% with 55-60% IVDMD and 95-97% palatability. It is moderately resistant to rust and aphids. C-215 recorded 26.57% and 42.61% increase over MFC-09-1 across locations and years (station trials, MLTs and Farm Trials) for GFY and DMY, respectively.



(K. Sridhar, B.G. Shivakumar, Vinod Kumar, Edna Antony, N.S. Kulkarni, A. Radhakrishna, Gitanjali Sahay)

#### 2. Lucerne variety IGFR-DL-5 (IGFRI-Dharwad Lucerne-5)

Lucerne variety IGFR-DL-5 (IGFRI-Dharwad Lucerne-5) - Identified for release for Zone 8 and Zone-3 of Karnataka State by 41<sup>st</sup> State Seeds Sub-Committee Meeting held on 23.01.2024 at Agricultural Commissionerate Office, Bangalore. It is a population developed from Anand-2 x CO-1 through polycross breeding. It is a herbaceous perennial and highly nutritious fodder legume grown under irrigated conditions. It grows to a height of 85-90 cm. It has light green, moderately broad and erect leaves and purple coloration on upper portion of stems. It has dark purple flowers and yellow coloured medium bold seeds. It is propagated through seed. It produces green fodder yield of 90-110 t/ha/year and dry matter yield of 15-20 t/ha. It has Crude Protein content of 15-20% with *in-vitro* Dry Matter Digestibility (IVDMD) of 65-68%. Besides it is having lower Acid Detergent Fibre (ADF) (25-30%) and lower Neutral Detergent Fibre (NDF) (35-40%) which is desirable indicating digestibility and voluntary intake by animal. It is moderately resistant to rust and aphids.



(K. Sridhar, S. Karthigeyan, Sultan Singh, N.S. Kulkarni, Edna Antony)

#### 3. Dinanath Grass Variety: Bundel Dinanath-3

A new Dinanath grass (*Cenchrus pedicellatus* (Trin.) Morrone synonym *Pennisetum pedicellatum* Trin.) variety JHD-19-4 (Bundel Dinanath-3) developed by ICAR-Indian Grassland and Fodder Research Institute was notified for release. JHD-19-4 was tested in AICRP (FC&U) trials during 2019-2021 at 07 locations in IVT, 07 locations in AVT-1 and 08 locations in AVT-2 with national check variety Bundel Dinanath-2 and three qualifying varieties viz., BAU DN-103-18-2, BAU DN-109-18 and BAU DN-110-18-2. The average productivity of JHD-19-4 for green fodder was 288 q/ha, dry matter was 62.0 q/ha and for crude protein was 4.5 q/ha. The average potential green fodder yield of JHD-19-4 was 436.0 q/ha and dry matter yield was 99.1 q/ha and crude protein yield was 9.7 q/ha. The average green fodder per day productivity of JHD-19-4 was 3.05 q/ha/day and dry matter was 0.68 q/ha/day. JHD-19-4 provided seed yield of 11.3 q/ha. It was moderately resistant to leaf spot disease and leaf defoliators. The variety is good in forage quality with 8.5% crude protein content. Based on the superior and stable yielding ability over three years of testing the JHD-19-4 was identified for release by the Varietal Identification Committee meeting of AICRP(FC&U) held on 13-06-2022 and notified by the Central Sub-Committee on Crop Standard Notification and Release of Varieties for Agricultural Crops, Government of India vide Gazette Notification no. S.O. 4222(E), date 25<sup>th</sup> September 2023 for cultivation in West Bengal, Jharkhand, Odisha, Assam, Bihar, Madhya Pradesh, Uttar Pradesh.



(Tejveer Singh, Shahid Ahmed, Nilamani Dikshit)

## II. Seed Coating Machine for Forage Seeds

Received technology certificate for development of Forage Seed Coating Machine (certificate no. ICAR-AE-IGFRI-Technology-2023-030) from ICAR New Delhi on the occasion of ICAR technology cum foundation day on 16th July, 2023. The developed machine is useful for applying certain chemical agents (in liquid or powder form) to the seed's surface before sowing or during storage to control or repel pathogens, insects, and other pests that attack seeds, seedlings, or plants. It is suitable for coating/treatment of different forage seeds i.e. Berseem, Cowpea etc. It has a capacity of 6q/h with the coating efficiency and cost of coating 97%, Rs.10/kg respectively.

(A.K. Patil, C.S. Sahay, S.K. Singh)



## Managing Natural Resources for Sustainable Fodder Production

### 1. Soil Carbon Fractions and Forage Yield in Improved Temperate Pastureland

Five pasture combinations were studied in a temperate pastureland, viz., SG (50% *Festuca arundinacea* + 50% *Dactylis glomerata*), SGL1 (25% *F. arundinacea* + 25% *D. glomerata* + 50% *Onobrychis viciifolia*), SGL2 (25% *F. arundinacea* + 25% *D. glomerata* + 50% *Trifolium pratense*), SGL12 (25% *F. arundinacea* + 25% *D. glomerata* + 25% *O. viciifolia* + 25% *T. pratense*) and NG (Natural pasture) and F (uncultivated fallow). The system diversification with legume inclusion significantly impacted the TOC, MBC, LC, and RC. Soils of SL under SGL1, SGL2, and SG12 had ~18, 36, and 22% greater TOC than SG, respectively. The SGL1, SGL2, and SG12 had ~15, 30, and 18% greater MBC than SG, respectively (Table 1). They contained ~12, 26, and 11% higher LC as well as 27, 51, and 38% greater RC, respectively over SG. At the SSL, SGL1 and SGL12 had ~25 and 39% higher TOC, 20 and 32% higher LC, and 32 and 47% higher RC than SG. However, at the SSL, SG and SGL2 had identical TOC and RC content, although, SG had significantly greater LC than SGL2. At the SL and SSL, NG had significantly greater TOC, MBC, LC, and RC than SG, indicating detrimental impact of SG on soil properties (Table 1). The biomass production under SG, SGL1, SGL2, and SG12 was ~2.1, 2.5, 2.4, and 2.2 times greater than NG, respectively. However, biomass production under SGL1, SGL2, and SG12 was ~18, 12, and 6% higher than SG, respectively.

**Table 1. Impact of pasture combinations on total organic carbon (TOC; g kg<sup>-1</sup>), labile C (LC; g kg<sup>-1</sup>), recalcitrant C (RC; g kg<sup>-1</sup>), microbial biomass C (MBC; mg kg<sup>-1</sup>) and pasture productivity in a temperate pastureland.**

| Treatments | TOC                 |                    | LC                |                   | RC                 |                   | MBC                  |                      | Pasture Productivity (Mg ha <sup>-1</sup> ) |
|------------|---------------------|--------------------|-------------------|-------------------|--------------------|-------------------|----------------------|----------------------|---|
|            | 0-15 cm             | 15-30 cm           | 0-15 cm           | 15-30 cm          | 0-15 cm            | 15-30 cm          | 0-15 cm              | 15-30 cm             |   |
| SG         | 9.08 <sup>b</sup>   | 7.99 <sup>b</sup>  | 5.42 <sup>b</sup> | 4.47 <sup>b</sup> | 3.66 <sup>bc</sup> | 3.52 <sup>c</sup> | 257.71 <sup>b</sup>  | 232.24 <sup>b</sup>  | 8.98 <sup>b</sup>                           |
| SGL1       | 10.71 <sup>ab</sup> | 9.98 <sup>ab</sup> | 6.04 <sup>a</sup> | 5.34 <sup>a</sup> | 4.67 <sup>b</sup>  | 4.64 <sup>b</sup> | 295.92 <sup>ab</sup> | 278.94 <sup>a</sup>  | 10.59 <sup>a</sup>                          |
| SGL2       | 12.34 <sup>a</sup>  | 7.26 <sup>b</sup>  | 6.82 <sup>a</sup> | 3.86 <sup>c</sup> | 5.53 <sup>a</sup>  | 3.41 <sup>c</sup> | 334.13 <sup>a</sup>  | 215.26 <sup>b</sup>  | 10.02 <sup>a</sup>                          |
| SGL12      | 11.07 <sup>a</sup>  | 11.07 <sup>a</sup> | 6.02 <sup>a</sup> | 5.91 <sup>a</sup> | 5.05 <sup>a</sup>  | 5.16 <sup>a</sup> | 304.41 <sup>ab</sup> | 304.41 <sup>a</sup>  | 9.48 <sup>ab</sup>                          |
| NG         | 10.17 <sup>ab</sup> | 8.90 <sup>b</sup>  | 5.54 <sup>b</sup> | 4.69 <sup>b</sup> | 4.63 <sup>b</sup>  | 4.21 <sup>b</sup> | 283.19 <sup>b</sup>  | 253.47 <sup>ab</sup> | 4.22 <sup>c</sup>                           |
| F          | 6.90 <sup>c</sup>   | 6.40 <sup>c</sup>  | 3.81 <sup>c</sup> | 3.42 <sup>c</sup> | 3.09 <sup>c</sup>  | 2.98 <sup>d</sup> | 206.71 <sup>c</sup>  | 195.00 <sup>c</sup>  | -   |

Values with same small-case letters within a column are statistically similar.

(Suheel Ahmad, Avijit Ghosh, SS Bhat, NH Mir, JP Singh and N Biradar)

## Institute Foundation Day

ICAR-IGFRI, Jhansi celebrated the Foundation Day (62<sup>nd</sup>) on 1<sup>st</sup> November, 2023. On this occasion, Dr. A.K. Singh, VC, RLBCAU, the chief guest inaugurated a farmer's fair cum technology demonstration exhibition and delivered foundation day lecture. Dr. S.K. Pradhan, ADG, FFC was the special guest of the programme. The programme started with the lighting of lamp and Dr. V.K. Yadav, Organizing Secretary of the programme welcomed the guest. Dr. Amaresh Chandra, Director IGFRI briefed about the research achievements and other activities of the institute.



## Silvipasture Innovations: Boosting Fodder Biomass, Ecorestoration, and Climate Mitigation in Degraded Landscapes of Semi-arid India

A 12-year silvipasture system (SPS) established in the degraded landscape of Bundelkhand, at ICAR-IGFRI, Jhansi, U.P., India, integrates three high-value fodder trees species (*Ficus infectoria*, *Morus alba*, *Acacia nilotica*), a shrub (*Leucaena leucocephala*), and two perennial grass species (*Megathyrsus maximus* and *Chrysopogon fulvus*), along with a perennial fodder legume *Stylosanthes seabrana*. The system has been evaluated for fodder production, biomass carbon storage, oxygen release, soil organic carbon (SOC) build-up, SOC mineralization, and eco-restoration efficiency (ERE). Grasses yield approximately 30–40 Mg ha<sup>-1</sup>yr<sup>-1</sup> green fodder, while forage legumes yield 10–12 Mg ha<sup>-1</sup>yr<sup>-1</sup>, providing high-quality fodder from July to December. Trees with 30% crown lopping yield 12–15 kg/tree green top feed, and shrubs with pollarding produce 5–6 kg/shrub top feed, ensuring a consistent supply of green fodder from December to June. These SPS maintain 4–5 Adult cattle Unit (ACU) ha<sup>-1</sup>yr<sup>-1</sup>, ensuring year-round fodder security. Trees/shrubs stored 6.45 to 19.62 Mg ha<sup>-1</sup> total biomass carbon and pasture stored 7.90 to 11.06 Mg C ha<sup>-1</sup>, accumulating 14.35 to 30.68 Mg C ha<sup>-1</sup> in above and below-ground biomass equivalent to 52.66 to 112.60 Mg ha<sup>-1</sup> of atmospheric CO<sub>2</sub> equivalent storage and system also released 38.31 to 81.92 Mg ha<sup>-1</sup> oxygen. SPS also accumulated 31 to 48 Mg C ha<sup>-1</sup> in top 60 cm soil layer. Thus, SPS offer huge potential for C trading, additional financial gains and contribution to India's pursuit of carbon neutrality by 2070. Further, SPS had 55% to 95% more SOC & 2–2.5 times higher microbial biomass C; 10 times higher ERE, significant reduction in hydro-thermal sensitivity  $\Phi$  and temperature coefficient  $Q_{10}$  of SOC mineralization than degraded uncultivated fallow land suggesting potential of SPS to maintain SOC stocks even in the face of future climate challenges in India. Thus, this SPS is ideal nature-based solutions for providing year-round high-quality fodder, building ecological resilience, addressing oxygen shortage, and mitigating/adapting to climate change on degraded landscapes in India.



Field View of *F. infectoria* (a) and *L. leucocephala* (b) based silvipasture system

(R V Kumar, Kamini, Avijit Ghosh, Amit Kumar Singh, Sunil Kumar and AK Roy)

## NEW INITIATIVES

### Establishment of Navagraha, Raashi and Nakshatra Garden-at ICAR-IGFRI Campus

A garden dedicated to *Navagraha*, *Raashi*, and *Nakshatra* was established at ICAR-IGFRI campus during monsoon season of 2023. In accordance with the Vedic astrology, this garden reflects the celestial arrangement of the cosmos, encompassing the 9 *grahas* (planets), 12 *raashis* (zodiacs), and 27 *nakshatra* (constellations). Arranged in a circular design, the garden emanates from its central point, *surya* (Sun), the foremost *graha* in Vedic astrology. Around *surya*, three concentric circles unfold, each representing the *grahas*, *raashis*, and *nakshatras*. The first circle, encircling *surya* closely, is adorned with 8 plants, each corresponding to a specific *graha*. These plants are positioned according to the directional alignment of the *grahas* in the celestial sphere, as per astrological principles. Expanding outward, the second circle accommodates 12 plants, symbolizing the 12 distinct *raashis*. This circle is segmented into 30° angles, with each plant placed at the center of its respective segment, delineating the trajectory of the zodiac signs from west to east, mirroring the movement of celestial bodies. The outermost circle, enveloping the inner circles, hosts 27 plants, each representing a *nakshatra* and is segmented into 13°20' angles, this circle traces the arc of the *nakshatras* from west to east, with plants positioned at the center of segments. The diverse array of plant species planted in the garden have fodder, medicinal, ethnoveterinary as well as religious significance and includes some of the important endangered species as well. This garden will serve the purpose of biodiversity conservation, spiritual reverence, and medicinal importance.



(Kamini, RV Kumar and RK Patel)

## Establishment of Forage Garden for Popularization of Fodder Technologies

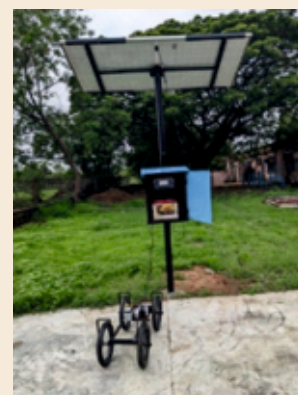
A scientifically designed garden with a uniform layout and demonstration pattern was conceptualized, developed and shared with all the SAUs/ SVUs. Forage Gardens established at 50 SAUs/CAUs/ ICAR institutes across the country ranging from high altitude areas of Jammu and Kashmir to coastal areas of Kerala and warm and dry areas of Rajasthan to high rainfall areas of Assam. As perennial fodder crops are concerned, more than 15 crop species including tree/shrub species depending upon the agro climatic conditions of the respective center are established that provide green fodder throughout the year. For annual fodder crops, fodder oat, berseem, lucerne, lathyrus, shaftal, rye grass etc. were major crops in Rabi season whereas fodder maize, fodder sorghum, fodder pearl millet, fodder cowpea, ricebean, etc. were given priority in kharif season. More than 50,000 visitors including farmers, livestock keepers, students, research associates etc. have visited the forage gardens located across the country and got the information related to cultivation of forage crops and their nutritional qualities.



*(Ajoy Kumar Roy, Rajiv Kumar Agrawal, Subhash Chand, Nitish R. Bhardwaj, Vijay Kumar Yadav)*

## Installation and Testing of the Solar Charging Station

The solar charging station for charging the solar powered multipurpose vehicle was installed and tested at FMOU. It consisted of solar panel (SP), solar management unit (SMU), box, battery and different connectors. A solar panel (335W, 7×3 ft) was fitted over the top of iron pole (h= 10 ft) at the tilt angle of 40 degree from horizontal surface and facing towards south direction for maximum solar system efficiency. The connections were made between the SP, SMU and battery with the help of DC 4 mm<sup>2</sup> wire, DC connectors and battery lugs. The multipurpose vehicle's frame (300×700mm) was fabricated using one inch MS angle and four traction wheels (d=300 mm) fitted at the corner of the frame for transportation as well as for providing traction force during weeding/tiling operation. 250 W DC motor was used for providing the power to the rear wheels. After necessary connections, output voltage and current of solar panel was checked using multi-meter at output point of installed station. It was noted that installed solar charging station was giving necessary voltage and current for charging of batteries of solar vehicle i.e. 39.8V and 7.6 A respectively. The battery and DC motor fitted over the frame was charged and operated using installed solar charging station.



*(Amit Kumar Patil, CS Sahay, Gaurendra Gupta and SK Singh)*

## Workshops on Pastoralism in Jammu and Kashmir

A two-day's workshop on 'Pastoralism in Jammu and Kashmir: Issues, Challenges, and the Way Forward' was organized jointly by the Ministry of Tribal Affairs and the Tribal Research Institute, Jammu and Kashmir, ICAR-Indian Grassland and Fodder Research Institute, Regional Research Station, Srinagar, and Regional IYRP Support Group of South Asia (RISG-SA) during 31<sup>st</sup> July-1<sup>st</sup> August 2023 at Sher-e-Kashmir International Convention Centre, Srinagar. The workshop was attended by more than 200 participants, which included officials from different line departments of Jammu and Kashmir like the forest department, animal husbandry department, sheep husbandry department, and agriculture department among others; faculty members and students of different research institutions especially SKUAST-Kashmir, University of Kashmir, ICAR-Central Institute of Temperate Horticulture, Srinagar, ICAR-National Institute of Agricultural Economics and Policy Research, New Delhi, pastoralists across the Union Territory of Jammu and Kashmir, different NGOs and volunteers, besides participants from organizer institutions.



## Insights into an International Conference on Feeding the Future Through Sustainable Eco-Friendly Innovations in Rangelands, Forages and Animal Sciences

An International Conference was organized jointly by Range Management Society of India, ICAR-Indian Grassland and Fodder Research Institute, Jhansi and University of Agricultural Sciences, Bangalore (UASB) in association with national and international organisations from 2-4 December 2023 at UASB. Nearly 300 participants representing 45 organisations from India and abroad attended the conference. It was inaugurated by Prof. C. Kole, Former VC, BCKV, Kolkatta, in the presence of Guests of honour Dr. S.K. Pradhan ADG (FFC), ICAR, New Delhi and Shri P. Dinesh, CGM NABARD Mumbai, Dr. M.B. Chetti, VC Sanskriti University Mathura, Conference Chairman Dr. Amaresh Chandra, Director, ICAR-IGFRI and President RMSI, Jhansi, Dr. S.V. Suresha, VC UAS, Bangalore and Dr. K.C. Veeranna, VC, KVAFSU, Bidar. Renowned scientist from various reputed organizations like ICRAF, ATREE, ICRISAT, ICARDA, Saskatoon Research and Development Center, Canada shared their work with the participants as lead lectures in different technical sessions.



Nearly 10 industries participated in scientist-industry session wherein industry representatives shared their company profile as well as their expectations from the scientific community. In Young Innovator session selected young scholars presented their work before the high level committee. Special session on harnessing the untapped potential of millets for food security, nutrition and sustainable agriculture was hosted by Genome India International. Dr. Dheer Singh, Director, ICAR-NDRI Karnal was the chief guest of the valedictory program.

## ICAR Zonal Sports Meet (Western Zone) 16-19 December, 2023

ICAR Sports Meet (West Zone) 2023 was organized by ICAR-Indian Grassland and Fodder Research Institute, Jhansi during Dec 15 – 18, 2023. More than 650 sports persons and officials from 20 ICAR institutes of West Zone were participated in the tournament. Shri Ravi Sharma, Member of Uttar Pradesh Legislative Assembly was the Chief Guest in inaugural function on 15<sup>th</sup> Dec 2023. Dr. Amaresh Chandra, Director, IGFRI, while welcoming the players highlighted the importance of the event towards fraternity development.



The Four-day event witnessed various athletics events, team events viz. volley ball (Shooting and smashing), Kabaddi, Basketball, Football, Table Tennis, Badminton, Carom, Chess and T-10 Cricket. Dr. Indu of IGFRI, Jhansi was adjudged as Best Woman and Mr. Bhuvnesh Verma of CAZRI, Jodhpur was declared Best Men Athlete. On the basis of the overall best performance in different events, the overall Championship was awarded to NDRI, Karnal. Dr A K Singh, Vice- Chancellor Rani Lakshmi Bai Central Agricultural University, Jhansi was the Chief Guest of the Closing Ceremony on Dec 18, 2023. Dr. Shahid Ahmed was Organizing Secretary of the event.

## RRS Dharwad activities



Attended UAS, Dharwad *Krishi Mela* from September 9-12, 2023 and exhibited the technologies.



Swachhata saptah was conducted during first week of October, 2023 and various cleaning activities were undertaken during the period.



क्षेत्रीय अनुसंधान केन्द्र धारवाड़ में हिन्दी पखवाड़ा का आयोजन



Vigilance Day was celebrated on November, 2023 and during the program Dr. Narendra Kulkarni, Principal Scientist delivered a talk on "Say No to Corruption and Commit to the Nation"

## Awareness cum training programmes under TSP at RRS, Srinagar

| Programme   | No. of Participants | Date                             |
|---|---------------------|----------------------------------|
| Awareness cum training camp on Integrated Farming Systems   | 50                  | 19 <sup>th</sup> August, 2023    |
| Awareness program on temperate fodder technologies and animal health                                    | 20                  | 12 <sup>th</sup> September, 2023 |
| Awareness cum training programmes on Temperate Forage technologies for enhancing livestock productivity | 46                  | 31 <sup>st</sup> October, 2023   |



Awareness cum training programmes organized at RRS Srinagar



Exposure visit of Farmers from Ganderbal to RRS Srinagar



Dr. T.R. Dharma, DDG (CS) visited RRS Srinagar on 9<sup>th</sup> October 2023



Distribution of Ca Supplement to tribal women at Gram Panchayat, Hapavas, district- Dausa, Rajasthan in Nov. 2023



Dr. Himanshu Pathak, Secretary DARE and DG, ICAR and other dignitaries visited WRRS, Avikanagar farm on 03.11.2023 on the occasion of 27<sup>th</sup> ICAR Regional Committee Meeting- VI held at CSWRI, Avikanagar.

## Glimpses of IGFRI activities



**Dr. Amaresh Chandra**  
Director, IGFRI, Jhansi



**Dr. A.K. Roy**  
Pr. Scientist (Genetics)

## Distinguished Visitors

- Dr. Himanshu Pathak, Secretary DARE and DG, ICAR and other dignitaries visited WRRS, Avikanagar farm on 03.11.2023 on the occasion of 27<sup>th</sup> ICAR Regional Committee Meeting- VI held at CSWRI, Avikanagar.
- Dr. T.R. Sharma, DDG (Crop Science), ICAR visited RRS, Srinagar on 9<sup>th</sup> Oct 2023.

## Promotion of staff

- Dr. Gaurendra Gupta, Scientist to Scientist (Senior Scale)
- Dr. Mahesha H.S., Scientist to Scientist (Senior Scale)
- Dr. Manjanagouda S. Sannagoudar, Scientist to Scientist (Senior Scale)
- Dr. Rajesh Kumar Singhal, Scientist to Scientist (Senior Scale)
- Dr. Hari Singh Meena, Scientist to Scientist (Senior Scale)
- Sh. Arvind Yadav, Assistant to AAO
- Sh. R.S. Negi, Assistant to AAO
- Sh. Faiyaz Ahmad Khan, Assistant to AAO

## New Joining

| Name with designation                               | Date       |
|---|------------|
| Dr. A.K. Shukla appointed, Head, GSM Division       | 19.07.2023 |
| Dr. Satpute Ajay Narayanarao, Scientist (LWME)      | 21.07.2023 |
| Smt. Kirti Chaturvedi, Private Secretary            | 10.11.2023 |
| Dr. Awnindra Kumar Singh, Head, Seed Tech. Division | 23.11.2023 |

## Transfer of Staff

| Name   | Relieved on |
|--|-------------|
| Smt. Renu Punhir, LDC transferred to ICAR-IISWC, RC, Agra                                  | 29.09.2023  |
| Sh. A.K. Gaur, Private Secretary transferred to CAFRI, Jhansi.                             | 10.11.2023  |
| Sh. Monu Ahirwar, LDC Technically resigned   | 23.11.2023  |
| Dr. R.K. Patel, Pr. Scientist (Horticulture) selected on the post of Head, IISWC-RC, Datia | 05.12.2023  |
| Dr. A.K. Dixit, Pr. Scientist (Agronomy) transferred to ICAR-CSSRI-RS Lucknow              | 13.12.2023  |
| Dr. Jeetendra Kumar Soni, Scientist (Agronomy) transferred to DWSR, Jabalpur               | 15.12.2023  |
| Mrs. Bhargavi, H.A., Scientist (G&PB) transferred to ICAR-IIHR, Bengaluru                  | 15.12.2023  |
| Dr. Mahesha, H.S., Scientist (Plant Pathology) transferred to ICAR-CTRI, Rajahmundry (AP)  | 22.12.2023  |
| Dr. Indu, Scientist (G&PB) transferred to ICAR-IISR, Lucknow                               | 28.12.2023  |

## Retirements

| Name with designation                        | Retired on |
|--|------------|
| Dr. A.K. Roy, Pr. Scientist (Genetics)       | 31.08.2023 |
| Dr. Amaresh Chandra, Director, IGFRI, Jhansi | 31.12.2023 |
| Sh. R.K. Sharma, CTO                         | 31.08.2023 |
| Sh. R.K. Nayak, AAO                          | 31.07.2023 |
| Sh. H.P. Khaddar, GO                         | 31.07.2023 |
| Sh. Arvind Yadav, AAO                        | 30.09.2023 |

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Swachh Bharat Abhiyan



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