



CRIDA NEWS

ISO 9001:2008



Volume No. 1 Issue No. 1

January - June, 2022



Dr. Vinod Kumar Singh, Director

From the Director's Desk...

Potential of millets as climate-smart crops in rainfed agriculture

The productivity of rainfed agriculture constituting about 51% of the cultivated area in India is already constrained by the aberrant monsoon, low and unstable yield, small farm size, degraded soil and resource-poor farmers. Climate change may further severely impact the food production and livelihoods of smallholders in these areas. Cultivation of millets can help to address some of the challenges such as nutrition and health needs, climate change mitigation and adaptation and livelihoods of smallholders particularly in resource-constrained rainfed areas. Millets, also known as 'Nutri-cereals' due to their high nutritional value, are among the oldest foods known to humans and have been an integral part of Indian diet since centuries. Millets are hardy crops, mostly grown under rainfed conditions with low rainfall (200-800 mm) and perform better than other crops even during extreme weather events and in the low fertile soils. Millets also form an important source of fodder for the livestock in rainfed areas. India is the leading producer of millets in the world. About 16.9 million tonnes of millets food grains are produced in India from 12.7 million ha area, constituting about 6% of the national food grain basket. Rajasthan, Maharashtra and Karnataka are the major states in millets cultivation with a share of 35, 23 and 14% to total millets area. However, the productivity of millets is low due

to various reasons such as unavailability of seeds of improved varieties, cultivation under low-fertile soils and rainfed conditions with low input use, and poor adoption of agronomic practices. Some of the researchable issues to enhance millets productivity include development of varieties tolerant to multiple stresses, agroecology-specific production technologies, identification of millets-based cropping systems, assessment of millets for their suitability for organic and natural farming, machinery for cultivation and processing of millet produce for value addition, assess the climate change adaptation and mitigation potential of millets. Further, bringing awareness among farmers about importance of millets cultivation, awareness among consumers about health benefits of millets consumption, innovative market opportunities and linkages, and necessary policy-level interventions are required to increase both production and consumption of millets. In this direction, ICAR-CRIDA along with AICRPDA, AICRPAM, NICRA and other outreach programmes will strengthen research and capacity building activities to develop millet-based production systems for rainfed areas and create awareness particularly among farmers and consumers.

Contents

From the Directors Desk

Research Highlights	2
Scientific Activities	3
AICRPs	3
National Innovations in Climate Resilient Agriculture (NICRA)	9
Technology Transfer	12
Important Events	15
Visits Abroad	17
Participation in Seminars and Symposia	17
Awards / Recognition	18
Personnel Information	18
Cultural, Welfare and Sports Activities	19
Forthcoming events	19

ICAR-Central Research Institute for Dryland Agriculture

website: <http://icar-crida.res.in>

Research Highlights

High resolution dissection of Photosystem II in pearl millet (*Pennisetum glaucum* (L.) R. Br.) under combined water deficit and heat stress.

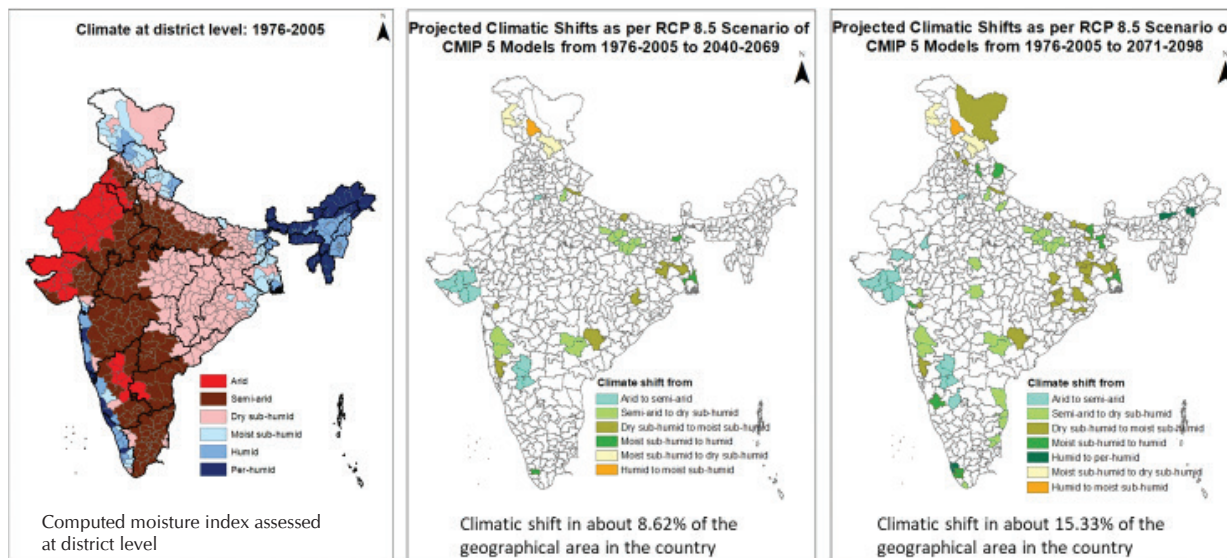
Abiotic stress in general and heat and water stress in particular affect photosystem II functioning in plants. They alter the electron transport pathway which can be seen as a response to stressful stimuli or it can be the result of an adaptive mechanism to overcome the stressful stimuli. A high-resolution dissection of the electron transport pathway in PS II can throw light as to how these responses work. A combination of stress can elicit a different response as compared to stresses in isolation. We attempted to answer these questions with a detailed study of chlorophyll a fast fluorescence kinetics and Non-Photochemical Quenching (NPQ) under these stresses in pearl millet in isolation and in combination. Our study threw information on the mechanism by which these stresses alter photosystem II functioning, specifically the electron transport pathway. The results can further improve our understanding of combined water deficit and heat stress response. It can pave the way for trait discovery and further selection of useful drought tolerance traits to evolve climate ready cultivars.

Harnessing statistical tools for informed decision making towards sustainable rainfed agriculture

District database of crop-wise area sown, production, yield and irrigated area was updated. National Statistical Office (NSO) data of Situation Assessment Survey of Agricultural households in all states of India was gathered for 70th round (2013) and 77th round (2019).

Assessing the impact of climate change on major rainfed crops and constructing agro-climatic analogues for adaptation

- An apportioned district database covering time series data on area sown, production and yield for years 1966-67 to 2017-18 was built for groundnut, sesamum, soybean, rapeseed and mustard and cotton crops.
- Collected data on crop and season-wise Farm Harvest Price (FHP) at district level and Cost of Cultivation (COC) at state level required for computing per ha profitability of different crops in different regions.
- Assessed future climate at district level: Climate projections of multi-model ensemble for precipitation, maximum and minimum temperature at daily scale for 2050s and 2080s for RCP 8.5 scenario of CMIP 5 models at district level were used in the study. Computed Potential Evapotranspiration (PE) at district level using Hargreaves method from maximum and minimum temperature data. These PE estimates were calibrated using FAO recommended Penman-Monteith method as standard. Computed moisture index from Precipitation and PE and assessed climate at district level (Arid, Semi-arid, Dry sub-humid, Moist sub-humid, Humid and Per humid). By and large moisture index is projected to rise indicating enhanced moisture availability but climatic shifts are minimal (figure below). Climatic shifts are projected in 45 districts (8.62% of geographical area) and 87 districts (15.33% of geographical area) of India during 2050s and 2080s respectively.



Scientific Activities

XXX RAC Meeting of ICAR-CRIDA

The XXX Research Advisory Committee Meeting (RAC) of ICAR-CRIDA was held during April 25-27, 2022 at ICAR-CRIDA in a hybrid mode under the chairmanship of Dr. Gurbachan Singh, Former Chairman, ASRB. The members Dr. M.A. Shankar, Former Director of Research, UAS, Bengaluru Dr. H.K. Senapati, Former Dean, OUAT and Dr. M. Maheswari, Former in-charge Director, ICAR-CRIDA participated in the RAC meeting in physical mode and the other members Dr. V. Geethalakshmi, Director (Crop Management, TNAU), Dr. K. Vijaya Raghavan, Ex-Joint Director, IARI & JD Extension, Dr. S. Bhaskar, ADG (AF & CC) joined online and contributed to the proceedings. Dr. V.K. Singh, Director, ICAR-CRIDA, Dr. M. Srinivasa Rao, Member Secretary, Project Coordinators, AICRPDA and AICRPAM, Heads of Divisions /Sections, invited scientists participated in the XXX RAC meeting. During the meeting, Member Secretary presented the Action Taken Report (ATR) on the

recommendations of previous meeting of XXIX RAC and the same was accepted by the Research Advisory Committee. Director, ICAR-CRIDA presented the contributions of CRIDA in dryland agriculture and explained recent national outputs of the institute. At the outset, Chairman of RAC appreciated the contributions of ICAR-CRIDA, AICRPDA and AICRPAM and emphasised on the focussed dryland research in view of changing climate and emerging problems in dryland agriculture. The salient achievements of Divisions, Sections, AICRPDA, AICRPAM and NICRA were presented by Heads of the Divisions and PI and Co-PI of NICRA (Strategic Research and Technology Demonstration Component). Some of the recommendations that emerged out of the deliberations include strengthening of integrated farming systems with horticulture and livestock components, designing experiments on natural farming, expansion of NICRA interventions to achieve carbon neutral village, use of drones and AI etc.



Dr. Gurbachan Singh along with other RAC Members chairing XXX RAC meeting



Visit of RAC to the FACE and FATE facilities at HRF ICAR-CRIDA

Institute Research Council (IRC) meeting

The IRC meeting was held on 23rd May, 4th, 7th, 8th, 11th and 13th July, 2022 under the chairmanship of Dr. V.K. Singh, Director, ICAR-CRIDA and was participated by Project Coordinators, Heads of Divisions/Sections/Units and Scientists. Dr. Singh emphasized that

high priority should be given to publications in high impact journals in general and scientists working on basic aspects in particular. The progress of the ongoing projects under all the divisions were reviewed and suggestions were given.

AICRPs

Azadi Ka Amrit Mahotsav and Golden Jubilee of AICRPDA Activities at AICRPDA centres

AICRPDA centre, Parbhani, Maharashtra

Kisan Goshti (Farmers-Scientists Interaction Meeting) was organized on February 15, 2022 by AICRPDA centre, Parbhani in NICRA villages viz., Babhulgaon, Ujalamba and Pimpalgaon in Parbhani district, Maharashtra. Dr. D.P. Waskar, Director of Research, VNMKV, Parbhani was the Chief Guest, Shri Kailas Gaikwad, Circle Agriculture

Officer was the guest of honour, Dr. W.N. Narkhede, Chief Scientist and scientists from AICRPDA centre, Parbhani, Dr. Sandip Jagtap, TAO Parbhani, Shri Vithal Dhotre, Sarpanch, Ujalamba and Shri Ganesh Dalave, Sarpanch Babhulgaon and 120 farmers participated. Dr. D.P. Waskar suggested to adopt integrated farming system along with cultivation of dryland fruit crops for enhancing farm income, need of *in-situ* moisture conservation and adoption of dryland and climate resilient technologies developed at Parbhani centre.



Kisan Gosthi (Farmers-Scientist Interaction meeting) organized at AICRPDA Centre, Parbhani

XXVII Biennial Workshop of AICRPDA, IX Annual Review Workshop of NICRA-AICRPDA and X Annual Review Workshop of NICRA-AICRPAM

ICAR-CRIDA organised XXVII Biennial Workshop of AICRPDA, IX Annual Review Workshop of NICRA-AICRPDA and X Annual Review Workshop of NICRA-AICRPAM from June 2-4, 2022. The inaugural function held on June 2, 2022 was graced by guest of honours - Dr. Y.G. Prasad, Director, ICAR-CICR, Nagpur, Dr. C.R. Mehta, Director, ICAR-CIAE, Bhopal, Dr. A.S. Panwar, Director, ICAR-IIFSR, Modipuram, Dr. S. Bhaskar, ADG (A, AF & CC); Chief guest Dr. V. Praveen Rao, VC, PJTSAU; Special Chief guest Dr. Arvind Kumar, VC, RLBCAU, Jhansi, Chief Scientists and Scientists of AICRPDA, AICRPAM and ICAR-CRIDA. Dr. V.K. Singh elaborated the mandate, significant accomplishments of AICRPDA and AICRPAM and the outcome of the projects. Dr. G.

Ravindra Chary, PC, AICRPDA presented the research progress, achievements and contribution of AICRPDA to policy. Dr. Y.G. Prasad in his address stressed the need to manage the excess and deficit rainfall in black soil areas and the need to test high density planting system (HDPS) in holistic manner. Dr. C.R. Mehta in his address stressed to carry out collaborative research in farm mechanization in view of resource constraints. Dr. A.S. Panwar appreciated the significant achievements made by AICRPDA and AICRPAM and also assured to work in tandem with the projects. Dr. S. Bhaskar suggested to focus on developing agroecology specific farming systems technologies instead of productivity gains per unit area. Dr. V. Praveen Rao, special chief guest, advocated the scientists to plan for models for entire agri food chains. Dr. Arvind Kumar, chief guest appreciated the significant contributions made by AICRPDA and AICRPAM and suggested



XXVII Biennial Workshop of AICRPDA, IX Annual Review Workshop of NICRA-AICRPDA and X Annual Review Workshop of NICRA-AICRPAM

to develop technologies for increasing water and nutrient use efficiency, residue recycling, enhancing soil organic matter, rainwater harvesting and efficient utilization, agroforestry systems resilience and carbon sequestration and knowledge sharing.

On June 4, 2022, during the plenary session, Dr. S.K. Chaudhari, DDG (NRM), chief guest, highlighted the role of agro-advisories in

copling with weather aberrations particularly in rainfed agriculture. Dr. G. Ravindra Chary, PC, AICRPDA and Dr. S.K. Bal, PC, AICRPAM presented the recommendations of the workshops. On the occasion, Best Centres, 16 Best *Dryland Farmers across the country* and Best *Paper awardees*, were felicitated. 38 publications from PC units and centres were released.



Brainstorming session on Water Policy for Rainfed Agriculture, Plenary session of AICRPDA and AICRPAM Workshops

A brainstorming session on Water Policy for Rainfed Agriculture was jointly organised in hybrid mode by ICAR-CRIDA and Indian Society of Dryland Agriculture (ISDA) on June 4, 2022. The session was chaired by Dr. S.K. Chaudhari, DDG(NRM), ICAR. Dr. B. Rath Technical Expert, NRAA (National Rainfed Area Authority) and Members of Water Policy Development, Dr. V.K. Singh Director, ICAR-CRIDA, scientists from ICAR-CRIDA, AICRPDA, AICRPAM centres and other ICAR institutes, officials from NABARD, NGOs and other organisations participated along with 200 participants. Dr. V.K. Singh Briefed about the objectives of the session and suggested a separate water policy framework for rainfed agriculture and need for regionally differentiated water policy with a view to utilise available resources in an optimal manner. Dr. S.K. Chaudhari, DDG (NRM) in his opening remarks mentioned about the need for prioritization of rainfed areas, high variability of rainfall in rainfed areas and also stressed that the ground water management cannot be dealt in isolation without energy management.

Brainstorming Session on “Agroclimatic Atlas of India: A revisit”

On June 3, 2022, AICRPAM organized a brainstorming session on “Agroclimatic Atlas of India: A revisit” in hybrid mode at ICAR-CRIDA, Hyderabad. Dr. B.V. Ramana Rao, former PC (AICRPAM) was the chairman, Dr. Y.S. Ramakrishna, former Director, ICAR-CRIDA and Dr. V.U.M. Rao, former PC (AICRPAM) were the co-chairmen. Scientists from ICAR, SAUs, IMD, IIT and ISRO gave valuable suggestions. About 80 participants including scientists from CRIDA and AICRPAM centres participated. Dr. V.K. Singh, Director, ICAR-CRIDA highlighted the importance of bringing out the agroclimatic atlas at the national level. Dr. S.K. Bal, PC, AICRPAM briefed about the history of development of agroclimatic atlases in India, a critical analysis of various parameters included in the previously published

atlases and a draft of the work plan for the proposed atlas. The major suggestions included to develop a printed atlas with emphasis on regional/ sub-regional planning, explore possible collaboration with ICAR-NBSS&LUP for soil related information, inclusion of crop suitability zones, drought indices, crop weather calendars and extreme weather events in the proposed atlas, information on efficient cropping zones, all aspects related to weather hazards, areas prone to climate variability and change etc.



Dr. Y.S. Ramakrishna, Former Director, ICAR-CRIDA addressing in brainstorming session

SCSP Activities

The SCSP program is being implemented at 9 AICRPDA centres viz, Ballawal Saunkhri, Kovilpatti, Bengaluru, Varanasi, Chianki, Indore, Phulbani, Rakh Dhiansar and Vijayapura. During the period, field demonstrations on improved dryland agricultural practices and trainings were conducted.

Extension Activities

Four Kisan Ghostis, (Parbhani, Akola, Rewa, Indore), 5 training programmes (Biswanath Chariali, Rajkot, Phulbhani, Kovilpatti and Arjia) and 4 field days (Ananthapuramau, Phulbhani, Ballawal Saunkhri, Bengaluru) were organised in NICRA, OFR and SCSP villages. About 604 farmers benefitted from the programmes.



Field Day organized at AICRPDA Centre, Arjia



Training programmes organized by AICRPDA centre Biswanath Chariali and Phulbhani centres



Activities related to Azadi Ka Amrit Mahotsav and Golden Jubilee of AICRPDA celebration at AICRPDA centres



One day training programme and field day by AICRPDA centre, Arja in OFR village, Sundrapura and NICRA village, Kochriya villages on March 03, 2022 and March 9, 2022 respectively.



AICRPDA centre Bengaluru, organized animal health camp and farmers-scientists interaction meeting on March 11, 2022 in C. Hosahalli village, Kolar District, under SCSP programme.



Two training programmes on improved dryland technologies by AICRPDA centre, Phulbani during March 8-9, 2022, in OFR and NICRA adopted villages.



A field visit organized by AICRPDA centre, Phulbani on March 25, 2022 on improved cultivars in Keshalpura village, Sonepur District, under SCSP programme.



On March 29, 2022, AICRPDA centre, Ananthapuramu organized one-day training programme on climate smart dryland technologies at Kurnool. Mandal Agricultural officers from the Department of Agriculture attended.



Pre-kharif planning programme and Farmers meet organized at Sonna, Ujalamba and Bhabulgaon OFR villages by AICRPDA centre, Parbhani on June 10, 2022.



AICRPDA centre, Ananthapuramu, organized field day on for *in-situ* moisture conservation at Bhachepalli NICRA village on June 08, 2022.



Scientist-farmers' interaction meeting on the importance of rainfed integrated farming systems organized at Aalanda, OFR village by AICRPDA centre, Akola, on June 15, 2022.



Pre-kharif campaign organized under SCSP programme at Heggavadi village Chamarajnagar district, Karnataka by AICRPDA centre, Bengaluru on June 27, 2022.



AICRPDA centre Ananthapuramu, organized awareness programme and animal health camp at OFR village, Niluvurayi, District Ananthapuramu, Andhra Pradesh on June 16, 2022.



Pre-kharif season awareness campaign organized under SCSP programme at village Kangad and Lalwan, Mahilpur block, Hoshiarpur District by AICRPDA centre, Ballawal Saunkri, on June 29, 2022.



A Krishak Sangoshti organized on March 10, 2022 by AICRPDA centre, Rewa in Patuna, Rewa district.



A group discussion on pre-kharif planning organized at Moral Gaon, OFR village by AICRPDA centre, Biswantah Chariali on June 18, 2022.



Pre-kharif planning meeting organized at Hegadhial, OFR village by AICRPDA centre, Vijayapura, on June 15, 2022.



"World Water Day" organized by AICRPDA centre, S.K. Nagar on March 22, 2022.



AICRPDA centre, Kovilpatti organized training programme on "Improved technologies for green gram" on March 24, 2022.



AICRPDA centre, Parbhani organized field day and kharif pre planning meeting at Adgaon, OFR village on June 09, 2022.



AICRPDA centre, Indore, organized pre-kharif season training programme at Damali, OFR village on June 09, 2022.



Organized pre-kharif season training programme at Kanbas, OFR village, Solapur district, Maharashtra on June 16, 2022.



Organized pre-kharif season training programme at Narotewadi, NICRA village, Solapur district, Maharashtra on June 17, 2022.

National Innovations in Climate Resilient Agriculture (NICRA)

Launch and Review Workshop of TDC-NICRA KVKs ICAR-ATARI, Jodhpur (Zone II)

The launch workshop of new KVKs and review of existing KVKs of TDC NICRA of ICAR-ATARI, Jodhpur was held on January 31, 2022 through virtual mode. The TDC-NICRA programme is operational

in existing 5 KVKs of the zone and 13 new KVKs are added. Dr. V.K. Singh, Director, ICAR-CRIDA stressed upon achieving resilience at household while demonstrating technologies to farmers. During the meeting, new KVKs presented their technical programme for next phase of TDC-NICRA and existing KVKs presented the work done for the year 2021-22.



Launch and Review Workshop of TDC-NICRA KVKs ICAR-ATARI, Jodhpur through virtual mode

ICAR-ATARI, Patna (Zone IV)

The launch workshop of TDC-NICRA-cum-Review meeting was held on February 07, 2022 at KVK Jale, Darbhanga for the KVKs under ICAR-ATARI, Patna (Zone-IV), Dr. V.K. Singh, Director ICAR-CRIDA, Hyderabad, was the chief guest and Dr. K.G. Mandal, Director, ICAR-MGFRI, Motihari was the guest of honour. Dr. Anjani Kumar, Director, ATARI, Patna, Dr. J.V.N.S. Prasad, Program Leader, TDC-NICRA & Dr. Prabhat Kumar Pankaj, Principal Scientist, CRIDA Hyderabad, Dr. M.S. Kundu, DEE, DRPCA, Pusa,

Dr. R.K. Sohane DEE, BAU, Sabour, Dr. A.K. Chaudhary, Principal Scientist & Head, Crop Research Division, ICAR-RCER, Patna, Dr. Amrendra Kumar, Principal Scientist, ATARI, Patna and all Senior Scientists & Heads and PI, NICRA participated in the meeting. In this program, total 14 KVKs participated. During inaugural session, Dr. V.K. Singh, Director, ICAR-CRIDA, Hyderabad spoke about the risk proneness of districts selected and the promising technologies identified.



Launch and Review Workshop of TDC-NICRA KVKs ICAR-ATARI, Patna

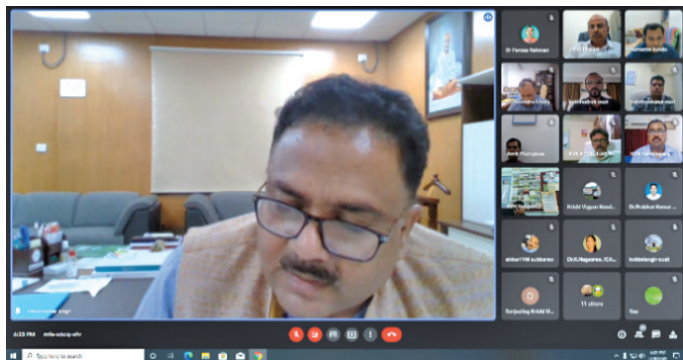
ICAR-ATARI, Kolkata (Zone V)

The ICAR-ATARI, Kolkata virtually organized the launch workshop of TDC-NICRA KVKs of Zone V on February 28, 2022. Dr. V.K. Singh,

Director, ICAR-CRIDA emphasized on farming system perspective and the need to address various components at the household level.

Dr. S.K. Roy, Director, ICAR-ATARI, Kolkata stated that interventions under NICRA should minimise vulnerability. During the technical

session, existing 17 KVKs presented their annual progress reports and action plans.



Launch and Review Workshop of TDC-NICRA KVKs ICAR-ATARI, Kolkata, through virtual mode

ICAR-ATARI, Hyderabad (Zone X)

The launch and review workshop of KVKs implementing TDC-NICRA in zone X, ICAR-ATARI, Hyderabad was jointly organized by ICAR-ATARI, Hyderabad and ICAR-CRIDA at ICAR-CRIDA on March 2, 2022.



Launch and Review Workshop of TDC-NICRA KVKs ICAR-ATARI, Hyderabad

The meeting was chaired by Dr. V.K. Singh, Director, ICAR-CRIDA along with Dr. J.V. Prasad, Director, ICAR-ATARI, Hyderabad. Dr. J.V. Prasad gave a brief account of implementation of TDC-NICRA in zone X since inception of the project. Dr. V.K. Singh in his address emphasized the need to target technology

interventions to the farming system typologies existing in the adopted villages and to strive for resource characterization and optimization. During the meeting, 8 KVKs presented their technical programme for next phase of TDC-NICRA and 5 existing KVKs presented the *kharif* work done during the year 2021-22.

ICAR-ATARI Guwahati (Zone VI) and ICAR-ATARI, Barapani (Zone VII)

The launch workshop of new KVKs and review of existing KVKs of TDC-NICRA of ATARIs, Guwahati and Barapani was held during March 4-5, 2022. Dr. A.K. Singh, Director, ICAR-ATARI, Umiam, briefed about the TDC-NICRA and welcomed 7 new KVKs and 8 existing KVKs. Dr. V.K. Singh, Director, ICAR-CRIDA emphasized on farming system typology for demonstrating climate resilient technologies. He stressed that the existing KVKs must focus on scaling up of promising resilient technologies through convergence with other line departments and NGOs so as to spread the technologies and new KVKs must identify suitable resilient technologies for demonstration.



Launch and Review Workshop of TDC-NICRA KVKs ICAR-ATARI, Guwahati and Barapani

ICAR-ATARI, Jabalpur (Zone IX)

Launch and review workshop of TDC-NICRA KVKs was organized on March 8, 2022 at ICAR-ATARI Jabalpur. Dr. S.K. Chaudhari, DDG (NRM) was the chief guest. Dr. V.K. Singh, Director, ICAR-CRIDA, Dr. S.R.K. Singh, Director, ATARI, Jabalpur, Dr. J.S. Mishra, Director, ICAR-DWR, Dr. Dinkar Sharma, DES, JNKVV, Dr. Sunil Nayak, DES, NDVSU, Dr. J. V. N. S. Prasad, Program leader, TDC-NICRA, CRIDA, Dr. B. Sanjeeva Reddy and Dr. S.K. Bal, PC-AICRPAM, ICAR-CRIDA, Dr. K.P. Singh, Principal Scientist, ICAR-CIAE, Scientists from ICAR-ATARI, Jabalpur, JNKVV, NDVSU and Heads from NICRA-KVKs and



Hn'ble DDG (NRM), Dr. S.K. Chaudhary addressing in the launch and review workshop

A one day workshop on TDC-NICRA project was organized on March 21, 2022 at ICAR-ATARI, Kanpur workshop was inaugurated by chief guest Dr. V. K. Singh, Director, ICAR-CRIDA. Dr. U.S. Gautam, Director, ICAR-ATARI, Dr. Atar Singh, Principal Scientist (Agronomy), ICAR-ATARI, Dr. J.V.N.S. Prasad, Program leader, TDC-NICRA, Dr. I. Srinivas, Principal Scientist, ICAR-CRIDA, Dr. D.P. Patel, Principal Scientist, ICAR-IIPR, Kanpur, Dr. Avani Kumar, Principal Scientist, IARI, New Delhi, Dr. S.K. Dubey, Principal Scientist, Dr. Sadhna Pandey, Principal Scientist, Senior scientists and Head of KVKs and staff of ATARI participated in the workshop. About 12 existing KVKs and 5 new KVKs participated in the workshop. Dr. V.K. Singh spoke about the climatic vulnerabilities of various districts in the state and stressed the need for technologies for minimizing the climate impact. He also emphasized the need for adopting farming

other staff from Madhya Pradesh and Chhattisgarh participated in the workshop. On this occasion, exhibition was inaugurated by Dr. S.K. Chaudhari displaying promising technologies identified by KVKs in NICRA villages. He emphasized the need to create awareness about climate change and promote interventions to address climate change in the zone. He also suggested to work in convergence with the other departments. Dr. V.K. Singh emphasized on the proper documentation based on farming system typology at farm and household level.



Dr. V.K. Singh, Director, ICAR-CRIDA addressing in the launch and review workshop

system for comprehensively addressing the problem. Dr. A.K. Singh spoke on protected cultivation and how it can minimise the impact of various climatic stresses.

ICAR-ATARI, Pune (Zone VIII)

The launch workshop of new KVKs and annual review of existing KVKs of TDC-NICRA of ICAR-ATARI, Pune was held on June 8-9, 2022 at KVK Jalna. Dr. V.K. Singh, Director, ICAR-CRIDA in his opening remarks stressed upon the new approach to be adopted by considering various typologies, constraints, resources available in the village, possible technologies for minimising the impact of climatic variability. All the participants visited NICRA village of Kadegaon and Varudi and also the farmer FIRST village and witnessed the impact of interventions and also interacted with communities.



Launch and Review workshop of TDC-NICRA KVKs of ICAR-ATARI, Pune



ICAR-ATARI, Bengaluru (Zone XI)

The launch workshop of new KVKs and annual review of existing KVKs of TDC-NICRA of ICAR-ATARI, Bengaluru was held on June 13-14, 2022 at ICAR-ATARI, Bengaluru. The workshop was chaired by Dr. V.K. Singh, Director, ICAR-CRIDA and co-chaired by Dr. V. Venkatasubramanian, Director, ICAR-ATARI, Bengaluru. Dr. D.V. Srinivasa Reddy, Principal Scientist and nodal officer of NICRA, ATARI, Bengaluru, welcomed the chief guest and all participants. The TDC programme is currently operational

in existing 5 KVKs and 8 new KVKs are added. Dr. V.K. Singh in his introductory remarks highlighted the need for adopting a comprehensive approach to minimise the impact of climatic stresses. He emphasized the need to promote carbon sequestration, biomass recycling, reduce the application of nitrogen and improve crop productivity and soil health in a holistic way. Later, 13 KVKs presented their annual work done for the year 2021-22 and work plan for 2022-23.



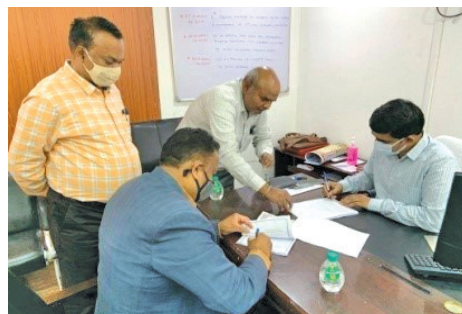
Launch and Review workshop of TDC-NICRA KVKs of ICAR-ATARI, Bengaluru

Technology Transfer

Signing of MoU between ICAR-CRIDA and PR&RD, Government of Telangana

An MoU was signed by Dr. V.K. Singh, Director, ICAR-CRIDA and Shri V.S.N.V. Prasad, Special Commissioner, PR&RD & CEO, SLNA, Government of Telangana on January 25, 2022 to take up NRM based developmental activities in Mancherial and Adilabad districts

of Telangana under SCSP and TSP, respectively. The signing of MoU ceremony was attended by Dr. Mohammed Osman, Dr. K. Sreenivas Reddy and Dr. Boini Narsimlu from ICAR-CRIDA and Shri Gopala Krishna of PR&RD.



MoU was signed between ICAR-CRIDA and PR & RD, Govt. of Telangana

Use of Tarpaulins as Climate Smart Technologies in SCSP Villages

A team of ICAR-CRIDA comprising Dr. M. Osman, Nodal Officer, SCSP and Dr. Sridhar K.B. Scientist (Agroforestry) visited Chincholi

cluster villages Chindanur and Bhunyar K on February 05, 2022. About 130 SC farmers from Chindanur and 93 farmers from Bhunyar K participated in the programme. The tarpaulins were distributed in the presence of village panchayat president Shri Vittal.

National campaign on Farm Mechanization

ICAR-CRIDA organized Campaign on Farm Mechanization during March 28 to April 4, 2022. As part of this, a field day was organized on "Mechanization practices for crop residue management" at Chaudharpally, KVK adopted village, Ranga Reddy District on April 4, 2022. The programme was attended by more than 50 farmers. Dr. I. Srinivas, Principal Scientist (FMP) explained about the importance of mechanization of crop residue management and elaborated different kinds of machinery available for crop residue management which included tractor operated mulcher, straw baler, slasher, brush cutter etc. Dr. G. Pratibha, Principal Scientist (Agronomy) focused on importance of available nutrients in crop residues and different agricultural practices for crop residue management. After the meeting, on-farm demonstrations of tractor operated shredder, round baler and brush cutter were conducted in field.



National Campaign on-farm mechanization during March 28 to April 04, 2022

Farmer-scientist interaction to celebrate Azadi Ka Amrit Mahotsav under the theme of 'Kisan Bhagidari, Prathamikta Hamari' was organized by KVK, ICAR-CRIDA in collaboration with ATMA on April 28, 2022 at Medipalli village in Yacharam Mandal, Ranga Reddy District. Importance of integrated Watershed Development and its contribution to sustainable utilization of natural resources and enhancing livelihood and income of farmers were discussed. About 284 farmers from Medipalli, Thadipatri, Nakdtha, Nanaknagar and Kothapalli villages participated.



Garib Kalyan Sammelan at HRF, ICAR-CRIDA

Farmer-Scientist Interaction on Kisan Bhagidari, Prathamikta Hamari

KVK, ICAR-CRIDA organized training-cum-awareness on agriculture & allied issues as a part of Azadi Ka Amrit Mahotsav under the theme 'Kisan Bhagidari, Prathamikta Hamari' on April 26, 2022 at KVK. Dr. K. Sammi Reddy, Head DRM, Dr. I. Srinivas, Principal Scientist (FMP), Dr. G. Prathibha, Principal Scientist (Agronomy), Dr. S.M. Vidhyashekar and Er. S. Vijayakumar participated in the programme. Various issues related to natural farming, organic farming, horticulture plantations, mechanization, micro-irrigation systems etc. were discussed and clarified the doubts expressed by the farmers. Farmers were also exposed to CRIDA technologies. About 212 farmers, final year BSc. (Agriculture) students and officials attended the programme.



Farmers Scientists interaction on Kisan Bhagidari

Garib Kalyan Sammelan

Garib Kalyan Sammelan and a nation-wide farmer interaction programme by the Hon'ble Prime Minister was telecasted at Hayathnagar Research Farm, ICAR-CRIDA on May 31, 2022. The event was presided over by Shri. G. Kishan Reddy, Union Minister of Tourism, Culture and Development of North Eastern Region of India and also attended by dignitaries viz. Shri M.P. Rethees Kumar, ED, LPG, HPCL; Shri. R. Sravan Kumar, ED, IOCL; Shri. Anita Mohan,



*Live telecast of PM's message**Visit to CTGC Facility**Hon'ble Minister Shri G. Kishan Reddy delivering his message**Felicitations of Hon'ble Minister Shri G. Kishan Reddy by Director, CRIDA*

ED, BPCL and other public representatives. More than 4200 farmers and other GoI scheme beneficiaries participated in the programme. All ICAR institutes located in Hyderabad participated in organizing the event which was sponsored by HPCL. Hon'ble Prime Minister was on live from Shimla and interacted with the beneficiaries. The chief guest Shri. G. Kishan Reddy visited CRIDA farm along with Director Dr. V.K. Singh and appreciated the efforts of CRIDA. Later, he delivered a speech on various schemes. He also stated that these schemes helped in providing soil health cards, encouraging natural and organic farming, introducing nano-urea in India, and establishing processing units and cold storage across the nation.

Awareness Campaign on Efficient and Balanced Use of Fertilizers

CRIDA-KVK organized an awareness programme and national campaign on efficient and balanced use of fertilizers including nano-fertilizers as a part of *Azadi Ka Amrit Mahotsav* on June 21, 2022 at Rythu Vedika, Akuthotapally village, Amangal Mandal of Ranga Reddy District. Dr. DBV Ramana, OIC, KVK welcomed farmers and explained about the objectives of the programme. Dr. K. Sammi Reddy, Head, DRM highlighted challenges in agriculture pertaining to major, secondary and micronutrients and their importance in improving crop yield in different agro-climatic conditions. He also stressed on soil test-based fertilizer application and site-specific

nutrient management. Sri. Chandranna, District Manager, IFFCO Ranga Reddy District briefed about the advantages of using nano liquid urea over solid organic fertilizers. Method demonstration on soil sample collection and analysis was organized on the farmers' fields and collected samples for analysis. About 123 progressive farmers participated in this programme.

*Dr. K. Sammi Reddy addressing the farmers*

Campaign on Annadata Devo Bhava

Training-cum-Demonstration on Processing & Value Addition of Millets

ICAR-CRIDA organized a series of events as a part of Campaign on Annadata Devo Bhava under Azadi Ka Amrit Mahotsav on April 23, 2022. On this occasion, a training-cum-demonstration was organized on Processing and Value Addition of Millets for Farm Women by Dr. K. Sreedevi Shankar, Principal Scientist

(Food & Nutrition), Er. Ashish Satish Dhimate, Scientist (FMP) and Dr. CN Anshida Beevi, Scientist (Agril. Extension) at HRF. Around 35 farm women participated in the programme. Initially, Dr. K. Sreedevi Shankar, programme coordinator interacted



Dr. K. Sreedevi Shankar interacted with the farmers

Awareness Campaign on Balanced Fertilization for Soil Health Maintenance and Productivity Enhancement

As a part of “Annadata Devo Bhava” Campaign, an awareness programme on Balanced Fertilization for Soil Health Maintenance and Productivity Enhancement was organized at Mallampeta village, Kotapally Mandal, Mancherla District, Telangana on April 23, 2022 by Dr. K. Srinivas, Principal Scientist (Soil Science), Dr. T.V. Prasad, Principal Scientist (Agril. Entomology), Dr. G. Venkatesh, Principal Scientist (Forestry) and Dr. A.G.K. Reddy, Scientist (Horticulture). Sri. A. Madhukar, Sarpanch, Sri. Shankaraiah, MPTC, Ms. Vaishnavi, AEO and about 80 farmers attended the programme. Dr. T.V. Prasad explained on various programmes being implemented in Kotapally Mandal under SCSP programme of ICAR-CRIDA and the objective

with the farm women on the importance of millets in food and nutritional security and about value-added products. Later, demonstration was carried on the preparation of millet-based products.



Training cum demonstration was organised value addition of millets at HRF

of the awareness programme. Dr. K. Srinivas explained the farmers about the soil testing taken up in the village and the results and the recommendations provided through soil health cards.

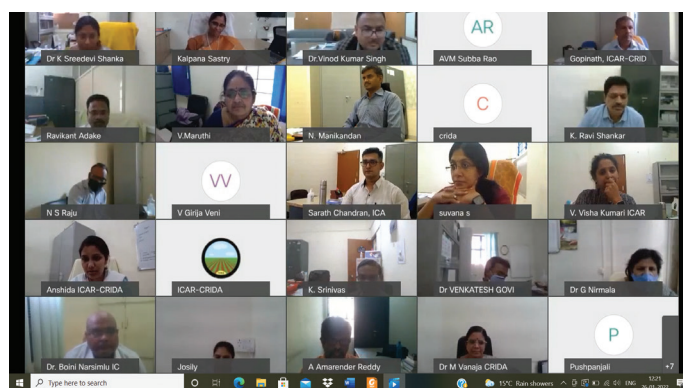


Awareness campaign on soil health maintenance and productivity enhancement

Important Events

National Girl Child Day Celebration

ICAR-CRIDA celebrated National Girl Child Day on January 24, 2022 to create awareness about the rights of the girl child, the importance of girl's education and the health of girl child. On this occasion, an online lecture was organized for the staff of ICAR-CRIDA. The chief guest of the programme was Dr. R. Kalpana Sastry, Former Joint Director, ICAR-NAARM & Managing Director, AgHub Foundation, Centre for Innovation and Agri-Entrepreneurship, PJTSAU, Hyderabad. Dr V.K. Singh, Director, in his opening remarks explained about the relevance of celebrating National Girl Child Day. Later, the chief guest, Dr. R. Kalpana Sastry delivered a talk on “National Girl Child Day - Its Significance for National Agricultural Research System (NARS)”. She specifically pointed out how do we as part of the national agricultural system plan to value this concept and mainstream it into our institutional working strategies. The programme was coordinated by Dr. G Nirmala, Dr. K. Ravi Shankar, Dr. Anshida Beevi CN and Dr. Jagriti Rohit.



Celebration of National Girl Child day virtually

International Women's Day

ICAR-CRIDA, Hyderabad celebrated International Women's Day on March 8, 2022. Ms. K. Nirmala, IAS, Secretary, Public Enterprises, Govt. of Telangana was the chief guest of the programme.



Celebration of International Women's Day virtually

Dr. V.K. Singh, Director, ICAR-CRIDA welcomed all and highlighted the role of women in agriculture and allied sectors. He also appreciated the efforts of women scientists and women staff of CRIDA. Ms. K. Nirmala, IAS in her presidential address talked about gender equality and women empowerment. She urged that training should be provided to women in value addition.

Celebration of World Water Day

CRIDA-KVK celebrated World Water Day on March 22, 2022 on the theme "Groundwater - making the invisible visible". Dr. D.B.V. Ramana, OIC, KVK enlightened about the judicious use of water and role of water conservation measures for sustainable agriculture and allied sector production under climate change scenario. Dr. K.S. Reddy, Principal Scientist (SWC), explained about various water harvesting and micro irrigation techniques. Sri. Srinvasa



Farmers felicitated during the world water day at KVK-Ranga Reddy, ICAR-CRIDA



Dr. D.M. Hegde delivering the lecture

CRIDA Foundation Day Celebrations

Foundation day celebrations of ICAR-CRIDA started from April 12, 2022. The valedictory function of 38th foundation day was celebrated

Reddy, Sarpacnch, Akuthotapalli informed how the water harvesting activities in watershed area helped in increasing village ground water resources and also crop productivity. Smt. Neeraja Gandhi, DHSO explained about importance of rainwater conservation especially in rainfed plantation crops. Er. S. Vijayakumar and Shri. G. Srikrishna showed and explained solar based micro irrigation systems established at CRIDA. About 60 farmers & farm women, rural youth, and 10 agriculture trainee students participated in the event.

Atmanirbhar Bharat - Harnessing Potential of Oilseeds for Import Substitution

Under the aegis of Azadi ka Amrit Mahotsav, an invited lecture on Atmanirbhar Bharat-Harnessing Potential of Oilseeds for Import Substitution was organized on April 16, 2022 in hybrid mode. Dr. D.M. Hegde, Former Director, ICAR-IIOR, Hyderabad delivered the lecture. Dr. V.K. Singh, Director, ICAR-CRIDA opined that the huge foreign exchange spent on import bills of edible oils to meet the domestic demand could be saved to a larger extent by enhancing the productivity and thus production by realizing yield maximization potential of oilseeds crops focusing on agronomic management. Dr. Hegde presented the production scenario of different oilseeds crops in India and world and the future projections of oils and fats in terms of requirement and production. He stressed on educate the consumers about the role of fat/oil in diet and how to optimize good health by advocating optimum consumption of both visible and invisible fats.



Exposer visit to the farmers

on April 25, 2022. Dr. Gurbachan Singh, Former Chairman, ASRB graced the occasion as the chief guest. Apart from the employees, former Directors of CRIDA and former Project Coordinators also participated in the programme in hybrid mode. Dr. V.K. Singh, Director, CRIDA highlighted the achievements and appreciated the contributions of previous as well as present employees in the growth of the institute while presenting the action plan for the future. Dr. S.K. Chaudhari, DDG (NRM) joined the programme in virtual mode and appreciated the performance of CRIDA in various fronts. Dr. Gurbachan Singh in his foundation day address highlighted the importance of research, extension and participatory approaches for enhancing food security and farm level profitability in rainfed regions. He also appreciated the work of CRIDA in coordination with

various national and international organisations. On this occasion, 29 best innovative farmers from 12 states were felicitated for their innovative farming practices for enhancing productivity and climate resilience. Besides these, best staff awards, publication awards,

merit certificates and super achievers' awards were also given. Two publications were released on this occasion. Prizes were distributed for the winners of sports and quiz conducted as a part of foundation day celebrations.



Hon'ble RAC Chairman Dr. Gurbachan Singh lighting the lamp



38th Foundation Day of ICAR-CRIDA

Visits Abroad

Dr. M. Prabhakar, Principal Scientist (Agril. Entomology) & PI NICRA participated in UNFCCC World Climate Change Conference at Bonn, Germany during June 6-16, 2022.



Participation in Seminars and Symposia

Scientist	Programme	Duration	Venue
G. Ravindra Chary	Agricultural Research Council Meeting	February 21, 2022	Dr. PDKV, Akola
	Pre-workshop Meeting, AGM of AICRP - Rice, ICAR-IIRR	April 19, 2022	Virtual
	I BIRD Project presentation to PSA, PMO	April 2, 2022	Virtual
	Academic Council Meeting	March 22, 2022	PJTSAU, Hyderabad
	PMFBY - Meeting on Study on Operational issues in the implementation of PMFBY organized by NRAA	April 20, 2022	Virtual
	Webinar on Integrated Watershed development, its contribution towards sustainable utilization of natural resources, enhancing livelihood and income of farmers	April 29, 2022	Virtual, DoLR, MoRD, GoI
	State Level Technical Programme Meeting	May 9-10, 2022	PJTSAU, Hyderabad
C.A. Rama Rao	State Level Workshop on Land and Water Management for Building Drought Resilience	March 22-23, 2022	Watershed Organization Trust (WOTR), Pune
	Sectoral Working Group Meeting for preparation of India's Adaptation Communication	April 5 & April 21, 2022	Virtual
	Third meeting of the Steering Committee to prepare India's Adaptation Communication	May 25, 2022	Virtual
B.M.K. Raju	Workshop on 'Mandal Level Risk and Vulnerability Assessment and District Level Climate Adaptation plans for Telangana State' organized by EPTRI and ICRISAT	March 25, 2022	EPTRI, Hyderabad
	National Seminar cum Webinar on Climate Change Concerns: Challenges for Agriculture Sector and Food and Nutrition Security and delivered an oral presentation on "Climate vulnerability index"	May 14-15, 2022	ICAR-IIR, Hyderabad
C.A. Rama Rao & B.M.K. Raju	Meeting organized by DA&FW in connection with the study on 'Operational issues in the implementation of PMFBY to recommend effective implementation strategies for the most vulnerable districts' given to ICAR-CRIDA, ICAR-NBSSLUP and ICAR-NIAP by NRAA, DA&FW, GoI	June 29, 2022	Virtual
All scientists	27th Biennial Workshop of AICRPDA and 9th Annual Review Workshop of NICRA-AICRPDA and 10th Annual Review Workshop of NICRA-AICRPAM	June 2-4, 2022	ICAR-CRIDA, Hyderabad
	Brainstorming Session on Water Policy for Rainfed Agriculture organized by ICAR-CRIDA and ISDA	June 4, 2022	
	30th RAC Meeting of ICAR-CRIDA	April 25-27, 2022	

Awards / Recognition

First prize in 3rd National Water Award

The NICRA village of Tumakuru District, D. Nagenahalli (Yelerampura gram panchayat) being implemented by KVK, Hirehalli (Tumakuru) of Karnataka secured first prize in 3rd National Water Award for 2020 given by Ministry of Jal Shakti, Government of India. The award was given as the recognition of the commendable efforts

in the area of water conservation, Yelerampura Panchayat in the category of the Best Village Panchayat-South Zone. The award was presented by the Honorable President of India and received by Dr. N. Loganandhan, Senior scientist and Head, KVK on March 29, 2022 at New Delhi.



Dr. N. Loganandhan, Senior Scientist & Head, KVK, D Nagenahalli received first prize in 3rd National Water Award for 2020



Dr. C.A. Rama Rao received third ICAR-NIAP Foundation Day Award in the field of Agricultural Economics

Dr. M. Prabhakar, Principal Scientist (Agril. Entomology) & PI, NICRA has been selected as a Fellow of National Academy of

Biological Sciences under Agricultural Sciences & Forestry for the Year 2019.

Personnel Information

PROMOTIONS:

Scientific Category:

Sl. No.	Name	From	To	Date of issue of Office Order	Date from which upgradation is given
01.	Dr. R. Nagarjuna Kumar	Level 12 of 7 th CPC (RGP Rs. 8000/-)	Level 13A of 7 th CPC (RGP Rs. 9000/-)	21.02.2022	27.06.2018
02.	Dr. M. Manjunath	Level 11 of 7 th CPC (RGP Rs. 7000/-)	Level 12 of 7 th CPC (RGP Rs. 8000/-)	14.06.2022	20.04.2019
03.	Mr. Dhimate Ashish Satish	Level 10 of 7 th CPC (RGP Rs. 6000/-)	Level 11 of 7 th CPC (RGP Rs. 7000/-)	14.06.2022	01.01.2021
04.	Dr. A. Gopala Krishna Reddy	Level 11 of 7 th CPC (RGP Rs. 7000/-)	Level 12 of 7 th CPC (RGP Rs. 8000/-)	23.06.2022	07.05.2019

Technical Category:

Sl. No.	Name	From the post of	To the post of	Date of issue of Office Order	Date of promotion
01.	Shri. Ahmed Pasha	Senior Technical Assistant	Technical Officer	31.03.2022	07.08.2021
02.	Shri. P. Raju	Technical Assistant	Senior Technical Assistant	31.03.2022	04.06.2021
03.	Shri. P. Ramakrishna	Senior Technical Assistant	Technical Officer	04.05.2022	08.04.2021

Administrative Category:

Sl. No.	Name	From the post of	To the post of	Date of issue of Office Order	Date of promotion
01.	Shri. G. Udaya Bhaskar	LDC	UDC	28.02.2022	28.02.2022

TRANSFERS:

Sl. No.	Name	From the post of	To the post of	w.e.f.
01.	Shri. Sushil Kumar Singh	Chief Administrative Officer, ICAR-IIWBR, Karnal	Chief Administrative Officer, ICAR-CRIDA, Hyderabad	13.06.2022

Cultural, Welfare and Sports Activities

CRIDA Foundation Day sports meet

CRIDA foundation day sports meet was inaugurated by Dr. Mohammed Osman, Director (In-charge) at Hayatnagar Research Farm on April 12, 2022 wherein a cricket match was played.



CRIDA Foundation day Sports meet at HRF

International Day of Yoga Celebration

The International Day of Yoga (IDY) was organized on June 21, 2022 at ICAR-CRIDA as a part of Azadi Ka Amrit Mahotsav. About 50 staff members including scientists, technical, administrative and supporting staff, senior research fellows, young professionals and contractual staff participated in the event. Dr. S.S. Balloli, Principal Scientist apprised about the yoga and theme of this year - Yoga for humanity. Dr. V.K. Singh, Director in his address asked the participants to make yoga as part of their daily life. Later, the participants performed yoga *asanas* as demonstrated in the Common Yoga Protocol video developed by Ministry of Ayush, Government of India.



Staff of ICAR-CRIDA practicing Yoga in International Day of Yoga

Forthcoming Events

Title of the Event	Dates
ICAR Foundation Day	July 16, 2022
Independence Day	August 15, 2022
Hindi Diwas	September 14, 2022
World Soil Day	December 05, 2022
Capacity Building programme for NICRA-TDC KVKs in 3 phases	July & August, 2022
International Conference on Reimagining rainfed agro-ecosystems Challenges and opportunities	December 22-24, 2022

निदेशक की कलम से ...

वर्षा आधारित कृषि में जलवायु-स्मार्ट फसलों के रूप में श्रीअन्न/कदन्न की क्षमता

भारत में कृषि योग्य भूमि का लगभग 51 प्रतिशत क्षेत्र वर्षा आधारित है, जिसमें कृषि की उत्पादकता पहले से ही असामान्य मानसून, कम और अस्थिर उपज, खेत के छोटे आकार, निम्न कोटि

की मृदा और संसाधनों की कमी वाले गरीब किसानों द्वारा बाधित है। जलवायु परिवर्तन इन क्षेत्रों में खाद्य उत्पादन और छोटे किसानों की आजीविका को और भी गंभीर रूप से प्रभावित कर सकता है। श्रीअन्न/कदन्न (मिलेट्स) की खेती कुछ चुनौतियों का समाधान करने में मदद कर सकती है, जैसे कि पोषण और स्वास्थ्य की

जरूरतें, जलवायु परिवर्तन प्रशमन और अनुकूलन, और विशेष रूप से संसाधनहीन वर्षा आधारित क्षेत्रों में छोटे किसानों की आजीविका। श्रीअन्न/कदन्न को उनके उच्च पोषण मूल्य के कारण 'पोषक-अनाज' के रूप में भी जाना जाता है। ये मनुष्यों के लिए ज्ञात सबसे पुराने खाद्य पदार्थों में से एक है और सदियों से भारतीय आहार का एक अभिन्न अंग रहा है। ये पोषक-अनाज एक प्रकार की कठोर फसलें हैं, जो अधिकतर कम वर्षा (200-800 मिमी) के साथ वर्षा आधारित परिस्थितियों में उगाई जाती हैं और खराब मौसम की घटनाओं और कम उपजाऊ मृदाओं में भी अन्य फसलों की तुलना में बेहतर प्रदर्शन करती हैं। बारानी क्षेत्रों में पोषक-अनाज पशुओं के लिए चारे का एक महत्वपूर्ण स्रोत भी है। भारत दुनिया में पोषक-अनाजों का एक अग्रगण्य उत्पादक है। भारत में 12.7 मिलियन हेक्टेयर क्षेत्र से लगभग 16.9 मिलियन टन पोषक अनाजों का उत्पादन होता

Published by : Dr. Vinod Kumar Singh,
Director, ICAR-CRIDA

Editorial Board

Chairman : Dr. Vinod Kumar Singh,
Director, ICAR-CRIDA

Editors :

Dr. K. Sreedevi Shankar, Pr. Scientist, DCS

Dr. A.K. Indoria, Scientist, DRM

Dr. Sumanta Kundu, Scientist, DRM

Dr. Suvana S, Scientist, DRM

Dr. CN Anshida Beevi, Scientist, TOT

Dr. Jagriti Rohit, Scientist, TOT

Hindi Translation : Dr. S.R. Yadav, Assistant Director (OL)

है, जो राष्ट्रीय खाद्यान्न भंडार का लगभग 6 प्रतिशत है। पोषक अनाजों की खेती में राजस्थान, महाराष्ट्र और कर्नाटक प्रमुख राज्य हैं, जिनका कुल पोषक अनाजों का हिस्सा क्रमशः 35, 23 और 14 प्रतिशत है। हालांकि, उन्नत किस्मों के बीजों की अनुपलब्धता, कम उपजाऊ वाली मृदा के अंतर्गत खेती और कम निवेश उपयोग के साथ वर्षा आधारित परिस्थितियों और कृषि संबंधी पारंपरिक प्रक्रियाओं को अपनाना जैसे विभिन्न कारणों से पोषक अनाजों की उत्पादकता कम है। पोषक अनाजों की उत्पादकता बढ़ाने के लिए शोध योग्य मुद्दों में से कुछ इस प्रकार हैं: तनावों के प्रति सहिष्णु किस्मों का विकास, कृषि-पारिस्थितिकी-विशिष्ट उत्पादन प्रौद्योगिकियां, पोषक अनाज-आधारित फसल प्रणालियों की पहचान, जैविक और प्राकृतिक खेती के लिए उनकी उपयुक्तता के लिए पोषक अनाजों का मूल्यांकन, कृषि और प्रसंस्करण के लिए मशीनरी शामिल हैं। मूल्यवर्धन के लिए पोषक अनाजों का उत्पादन, पोषक अनाजों के लिए जलवायु परिवर्तन का अनुकूलन और प्रशमन क्षमता का आकलन करना है। इसके अतिरिक्त, पोषक अनाजों की खेती के महत्व के बारे में किसानों में जागरूकता लाना, पोषक अनाजों के सेवन से होने वाले स्वास्थ्य लाभों के बारे में उपभोक्ताओं को जागरूक करना, बाजार के नए अवसर और जुड़ाव एवं पोषक अनाजों के उत्पादन और खपत दोनों को बढ़ाने के लिए आवश्यक नीति-स्तरीय हस्तक्षेप की नितांत आवश्यकता है। इस दिशा में, एक्रीपडा, एक्रीपाम, निक्का और अन्य तत्संबंधी कार्यक्रमों के साथ भाकृअनुप-क्रीडा नामक संस्थान बारानी क्षेत्रों के लिए पोषक अनाजों पर आधारित उत्पादन प्रणाली विकसित करने और विशेष रूप से किसानों और उपभोक्ताओं के बीच जागरूकता पैदा करने के लिए अनुसंधान और क्षमता निर्माण गतिविधियों को मजबूत करेगा।



ICAR-Central Research Institute for Dryland Agriculture

Santoshnagar, Saidabad PO, Hyderabad-500 059

Ph: 040-24530157/161/163; Fax: 040-24531802;

E-mail: news.crida@icar.gov.in; Website: <http://icar-crida.res.in>

