# Krishi Vigyan Kendra Ramgarh

**ICAR Research Complex for Eastern Region, Patna** Mandu, Ramgarh (Jharkhand)-825316

## **News** Letter

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Mandate of Krishi Vigyan Kendras (KVKs) **Technology Assessment and Demonstration for** its Application and Capacity Development

#### **Director's Desk**

It gives me immense pleasure to announce the release of the January to June 2024 edition of the Krishi Vigyan Kendra (KVK) Ramgarh newsletter. This publication is a reflection of our ongoing commitment to advancing agricultural knowledge and innovation within the Ramgarh region. Through this newsletter, we aim to bring forth stories of inspiration, breakthroughs in agricultural techniques, and updates on the KVK's latest initiatives and outreach activities.



The mission of KVK Ramgarh has always been to empower local farmers with the latest knowledge, skills, and resources to optimize their productivity and sustainability. In this issue, we focus on several key areas critical to the region's growth and resilience, including rainfed farming techniques that maximize yields in water-scarce environments and strategies to mitigate the effects of climate change through crop diversification. The newsletter also highlights our initiatives under the Tribal Sub Plan and Schedule Caste Sub Plan, which are tailored to support and uplift these communities through targeted agricultural training and resources.

Our commitment to promoting sustainable practices is further demonstrated through our emphasis on natural farming, which encourages eco-friendly methods that help preserve soil health and biodiversity.

We hope this edition will serve as a valuable resource for farmers, extension workers, and all stakeholders committed to enhancing agricultural productivity and quality of life in rural areas. I extend my heartfelt thanks to the editorial team and the entire KVK Ramgarh family for their dedication and contributions to this publication.

Warm regards,

Anup Das

#### **Training Program**

#### **Empowering Rural Communities Through Targeted Skill Development**

From January to June 2024, the KVK implemented a dynamic series of training programs tailored to diverse rural groups, driving impactful change. A total of 38 programs for practicing farmers empowered 1,164 participants (554 males, 610 females) with enhanced agricultural techniques. Four specialized trainings for rural youth equipped 131 participants (53 males, 78 females) with innovative skills for self-reliance. Additionally, three programs for extension functionaries engaged 96 professionals (39 males, 57 females), strengthening outreach capabilities. These targeted initiatives fostered capacity building, gender inclusivity, and sustainable development, creating a ripple effect of growth and progress in rural communities.



#### Front line Demonstration of pigeon pea in upland under CFLD Programme

Under the CFLD (Cluster Front Line Demonstration) programme, pigeon pea (variety IPA 203) was demonstrated in upland areas, focusing on improving crop yield through advanced agricultural practices. The demonstration covered 50 hectares and benefitted a total of 308 farmers, comprising 112 males and 196 females. Key technologies introduced included seed treatment with Rhizobium to promote nitrogen fixation, foliar application of NPK (19:19:19) to enhance nutrient availability, and the use of need-based insecticides for pest management. These interventions aimed to boost both productivity and sustainability in pigeon pea cultivation. As a result, the yield achieved was 16.30 quintals per hectare, showcasing the effectiveness of these techniques in increasing the crop's performance.

#### Enhancing Oilseed & Pulse Production in Rice Fallow Land through CFLD Programme

Under the CFLD (Cluster Front Line Demonstration) programme in Ramgarh, Jharkhand, oilseeds and pulses were demonstrated in rice fallow land to enhance productivity and optimize land use after rice cultivation. The initiative covered a total of 111 hectares, involving 277 beneficiaries, including 158 males and 119 females. Four key crops: linseed, lentil, mustard, and sunflower were selected for demonstration, focusing on improved technologies. Linseed (variety Priyem), the demonstration covered 20 hectares and involved 88 beneficiaries. Seed treatment, foliar application of NPK (19:19:19), and need-based insecticides resulted in a yield of 9.02 quintals per hectare. Similarly, lentil (variety HUL 57) was demonstrated over 20 hectares, benefiting 89 farmers, and achieved a yield of 10.81 quintals per hectare. Mustard (Variety PM 25) was demonstrated on 20 hectares, benefiting 100 farmers, with a yield of 10.45 quintals per hectare. Lastly, sunflower (Cv. Modern) was planted over 20 hectares with 7.42 quintals per hectare yield. These demonstrations successfully showcased advanced agronomic practices and technology, resulting in significant yield improvements, contributing to better economic outcomes for farmers and optimizing the use of rice fallow lands in the region.

#### **On-farm Trails (OFTs)**

### Assessment of INM along with micronutrients application on yield and quality of mango cv. Amrapali

An On Farm Testing was conducted on five farmers' fields to evaluate the impact of Integrated Nutrient Management (INM) with micronutrient application on the yield and quality of mango cv.



Amrapali addressing low yield and poor fruit quality due to inadequate nutrient management. Treatments included Farmer's Practice (FP) with FYM and urea application, TO1 with the Recommended Dose of Fertilizer (RDF) and foliar sprays of ZnSO<sub>4</sub> and boric acid, and TO2 with RDF plus foliar sprays of ZnSO<sub>4</sub>, CuSO<sub>4</sub>, and boric acid. The recommended practice involved basal application of 1 kg lime, NPK (0.5:0.5:0.3 kg), 100 g zinc sulphate, 50 g copper sulphate, and 50 g boric acid per tree post-harvest, along with two foliar sprays of boric acid, zinc sulphate, and copper sulphate at critical growth stages. Results showed improved yield (8.37 t/ha) and quality (TSS 23.65°B) compared to FP (TSS 20.13°B), with higher economic returns (net Rs. 1,13,100/ha; BC ratio 3.08) compared to FP (net Rs. 86,062.50/ha; BC ratio 2.92), validating the INM approach for enhanced mango production.

#### **STCR-Based Integrated Nutrient Management in Sweet potato**

An On-Farm Testing (OFT) was conducted in 10 farmers' fields to evaluate the impact of Integrated

Nutrient Management (INM) on the yield and quality of sweet potato variety Shree Bhadra. Low yields and poor economic returns were attributed to imbalanced fertilizer use and lack of awareness about proper nutrient management. The treatments included Farmer's Practice (FP) with 100 q/ha FYM and NPK at 20:30:07 kg/ha, TO1 with the Recommended Dose of Fertilizer (RDF) using 200 q/ha FYM, NPKB at 60:60:60:02 kg/ha, and 3 q/ha lime, and TO2 with Soil Test Crop Response (STCR)-based nutrient management. The STCR approach significantly enhanced tuber yield (282.24 q/ha) and quality, improved soil health, and provided superior economic returns



(Rs. 1,66,630/ha) compared to FP (183.33 q/ha, Rs. 61,860/ha). The BC ratio improved from 3.08 to 5.40, making STCR-based nutrient management a highly effective practice for sweet potato cultivation.

#### **Evaluating Extension Methods for Enhancing Adoption of Commercial Vegetable Production Technologies** -

On-Farm Testing was conducted in 30 farmers' fields across Kaitha and Sarlakala villages to evaluate the

effectiveness of extension methods in promoting commercial vegetable production technologies. The study addressed the low impact of traditional approaches. Four methods were tested: Farmer's Practice (FP) with no extension methods, TO1 using individual contact (farm/home visits), TO2 using group contact (demonstrations, training), and TO3 using mass



contact (leaflets, mobile advisories, films). Farmers rated individual contact methods as the most effective based on the effectiveness intensity index. This approach ensured better adoption of technologies, highlighting its potential for enhancing knowledge dissemination at the micro level.

#### Enhancing Green Cob Production through Kisan Mobile Advisory System

An On-Farm Testing (OFT) was conducted in 40 farmers' fields across Barkachumba and Unchringa villages to evaluate the effectiveness of the Kisan Mobile Advisory (KMA) system for green cob growers. The study addressed the challenge of untimely access to technological knowledge. Four approaches were tested: Farmer's Practice (FP) with peer interactions, TO1 with KMA text messages, TO2 with audio messages, and TO3 with combined audio and video messages.



The results showed progressive improvements in yield, income, and benefit-cost ratio (BC) with advanced advisory methods. TO3, utilizing audio and video messages, achieved the highest yield (92.30 q/ha), net income (Rs. 94,970/ha), and BC ratio (2.18). This method provided timely and actionable information, outperforming traditional practices

and other treatments. Adopting KMA with multimedia tools is recommended for green cob production to maximize economic returns and efficiency.

#### **Enhancing Broccoli Cultivation Knowledge through Leaflets**

An On-Farm Testing (OFT) was conducted in 40 farmers' fields in Sarlakala and Bariyatu to evaluate the effectiveness of leaflets in improving broccoli growers' knowledge over time. Farmers faced challenges due to the lack of updated literature for self-study. The trial compared four approaches: Farmer's Practice (FP) relying on personal knowledge sources, TO1 using training sessions, TO2 combining training with advisory services, and TO3 integrating advisory services, training, and leaflets for home reference. TO3 proved most effective, enabling farmers to refresh their knowledge periodically, resulting in better broccoli cultivation practices and improved incomes.

#### **Training and Awareness Programs During Viksit Bharat Sankalp Yatra**

KVK, Ramgarh actively participated in the Viksit Bharat Sankalp Yatra of Ramgarh district, held from 5<sup>th</sup> December 2023 to 12<sup>th</sup> January 2024, covering the entire panchayat of the district. Throughout the Yatra, a total of 60 training programs and 65 awareness sessions were conducted, focusing on crucial topics such as soil health management, soil sampling methods, natural and organic farming, nutritional



gardening, millet production, and the use of drone technology in agriculture. These initiatives aimed to equip farmers, farm women, rural youth, extension functionaries, stakeholders, and officials with essential knowledge and skills to enhance agricultural productivity and sustainability. The comprehensive outreach and diverse training modules ensured that participants gained practical insights and were motivated to adopt innovative practices in their farming activities. The event successfully fostered awareness and empowered the agricultural community of Ramgarh district towards achieving a developed and sustainable Bharat.

#### Farmer Fair cum Farmer-Scientist Interaction and Agricultural Exhibition

On 27th January, a Farmer Fair cum Farmer-Scientist Interaction and Agricultural Exhibition was organized at Krishi Vigyan Kendra, Ramgarh, in collaboration with NABARD. The event commenced with the ICAR Song, followed by a lamp-lighting ceremony led by Mr. Jaiprakash Bhai Patel, Honorable MLA of Mandu, and Mr. Subhash Chandra Garg, Regional Deputy General Manager of NABARD, with the Chief Guest Mr. Jayant Sinha, Honorable MP of Hazaribagh, joining virtually. The Head of Krishi Vigyan Kendra, Ramgarh, welcomed the guests and showcased the achievements of the Kendra over the past year. The event highlighted the significance of adopting new seeds, advanced technology, and natural



farming practices. More than 550 farmers and FPO governing bodies attended, with 50 Scheduled Caste and Scheduled Tribe farmers receiving small agricultural equipment. The program concluded with a vote of thanks delivered by Mr. Upendra Kumar Sah, DDM of NABARD.

#### Live Telecast of PM Samman Nidhi 16 th and 17 th instalment and Farmer-Scientist Interaction Programmes

Krishi Vigyan Kendra, Ramgarh, hosted live telecasts of the PM Samman Nidhi on 28th February 2024

and 18th June 2024, where Honourable Prime Minister Shri Narendra Modi addressed and interacted with farmers across the country. Alongside the telecasts, Farmer-Scientist Interaction Programmes were organized, focusing on rice fallow cultivation of pulses and oilseeds, Integrated Farming Systems (IFS), Integrated Nutrient



Management (INM), and nursery management of horticultural crops. The first event on 28th February saw the participation of 80 farmers, farm women, and rural youth, while the second event on 18th June attracted 130 participants. These programs provided a platform for farmers to gain valuable insights into modern agricultural techniques and engage directly with experts, enhancing their knowledge and farming practices. The combination of live telecasts and interactive sessions aimed to empower the farming community by connecting them with national initiatives and expert guidance.

#### **International Women's Day**

Krishi Vigyan Kendra, Ramgarh celebrated International Women's Day with great enthusiasm on March

8, 2024. The event was graced by the Chief Guest, the District Development Manager, NABARD. The program aimed to honour the contribution of women in agriculture and rural development. Around 55 women from various villages participated in the celebration, engaging in discussions on women empowerment, financial independence, and sustainable agricultural



practices. The DDM highlighted NABARD's initiatives to support women farmers, emphasizing the importance of skill development and self-reliance. The women shared their success stories, inspiring others to take active roles in their communities.

#### Green Initiative: Plantation Drive and drone demonstration at KVK Ramgarh

In a vibrant effort to promote sustainable agriculture and environmental conservation, Honourable, MLA of Mandu, Mr. Jaiprakash Bhai Patel, inaugurated a plantation drive and drone demonstration event at the KVK, Ramgarh premises. His visit coincided with the inauguration of the Farmer Fair cum Farmer-Scientist Interaction and Agricultural Exhibition, where he encouraged local farmers to adopt innovative seeds, modern technology, and natural farming practices. Mr. Patel's initiative underlines a commitment to sustainable growth and the advancement of eco-friendly agricultural practices in the region.



#### **Certificate Course on Integrated Nutrient Management**

The Krishi Vigyan Kendra (KVK), Ramgarh, organized a fifteen-day certificate course on Integrated

Nutrient Management from 29 th February to 11th March 2024. This training aimed to equip 40 input dealers and rural youth with essential knowledge on sustainable nutrient management practices. Inaugurated virtually by Dr. Anup Das, Director of ICAR-RCER, Patna, the program emphasized the role of technology in enhancing agricultural productivity and income.



Participants learned about efficient fertilizer use, the application of bio-fertilizers, soil health maintenance, and quality control measures for bio-fertilizers. The training also covered the importance of micro-nutrients in optimizing crop yields and maintaining soil fertility. This comprehensive program not only imparted crucial skills but also empowered participants to become change agents in their communities, fostering sustainable agricultural development and contributing to economic growth in the region.

#### Director general and Secretary, DARE Visited KVK, Ramgarh

The Director General of ICAR and Secretary of DARE, along with the Directors of NISA and IIAB and

other dignitaries, recently visited the Krishi Vigyan Kendra (KVK) in Ramgarh. During his visit, the Director General appreciated the impactful work being carried out by KVK, particularly noting their efforts in advancing local agricultural practices and supporting farmer welfare. He visited various demonstration units at KVK, observing firsthand the practical models and techniques being implemented. The Director General provided valuable suggestions aimed at further enhancing the efficacy of these demonstration units to benefit local farmers. Additionally, he addressed the farmers participating in the Integrated Farming System (IFS) training,



encouraging them to adopt diversified farming practices for improved resilience and income. He also engaged with input dealers attending the Integrated Nutrient Management (INM) training, underscoring the importance of balanced nutrient use to maintain soil health and boost crop productivity.

#### **Training programs on Integrated Farming System (IFS)**

Scheduled

Caste

Krishi Vigyan Kendra (KVK) Ramgarh organized two threeday Skill Development Training programs on Integrated Farming System (IFS) under their extension program 'PRAYAS', supported by ICAR-IIAB, Ranchi. The first training, held from February 28 th to March 1st, 2024, focused

on





(SC) farmers under the Schedule Cast Sub Plan. It aimed to enhance their livelihoods through sustainable agricultural practices. Around 35 SC farmers, mostly women from Udlu village, participated, engaging in lectures and practical exposure to IFS models like agro-forestry, agro-horticulture, and livestock

farming. The second training, conducted under the Tribal Sub-Plan from March 4th to 6th, 2024, targeted tribal farmers from Lodhma village. With about 30 participants, this program covered topics such as seedling production, goat and pig farming, and marketing strategies, blending theoretical insights with hands-on sessions. Both trainings emphasized adopting IFS models to boost income and ensure sustainability in agriculture.

#### **Farmer-Scientist Interaction Programme**

Krishi Vigyan Kendra, Ramgarh, hosted a Farmer-Scientist Interaction Programme on March 12th, 2024, funded by ICAR-IIAB, Ranchi. This event provided a valuable platform for farmers to directly interact with scientists, fostering knowledge exchange and empowerment within the agricultural community. About 75 farmers participated, with a notable presence of women farmers. The chief guest, Shri Jaiprakash Bhai Patel, MLA of Mandu, Ramgarh, highlighted the importance of optimizing the efficiency

and effectiveness of inputs in crop production. He emphasized that improving these factors would not only boost crop productivity but also reduce the labour burden on farmers. As part of the initiative, 25 mono-block pumps were distributed to Scheduled Caste farmers, demonstrating a commitment to supporting and equipping them with essential



tools to enhance their agricultural practices and livelihoods. This program underscored the vital role of farmer-scientist collaborations in advancing sustainable agriculture.

#### **Exposure Visits of Tribal Farmers**



On March 13th, 2024, 50 tribal farmers participated in exposure visits to FSRCHPR, Ranchi and BAU in Ranchi under the Tribal Sub-Plan (TSP). The visits aimed to enhance farmers' skills and knowledge of modern agricultural technologies. At BAU, Kanke, farmers explored the piggery and goat units, learning about advanced animal husbandry practices. They also

attended a lecture on commercial pig farming to improve livestock management techniques. At

FSRCHPR, Ranchi, farmers were introduced to innovative agricultural practices such as drip irrigation, poly mulching, multi-tier orchards, and protected vegetable cultivation, which help optimize resources and boost productivity in rainfed farming. Interactions with the Director of ICAR RCER Patna, the Head of FSRCHPR, and scientists from FSRCHPR provided valuable guidance,



encouraging farmers to adopt integrated farming systems to potentially double their income. These visits empowered tribal farmers with practical knowledge to improve their agricultural practices and achieve sustainable livelihoods.

#### **Farmers Awareness Programme cum Animal Health Camp**

On 18th March 2024, Krishi Vigyan Kendra, Ramgarh, organized a Farmers Awareness Programme cum

Animal Health Camp at Udalu village under the Scheduled Caste Sub Plan. The event aimed to educate farmers on advanced agricultural and animal husbandry techniques, including mulching, drip irrigation, and the importance of vaccinations. Experts also addressed common animal diseases and preventive measures. The camp provided a platform for farmers to enhance their knowledge and adopt better practices to improve productivity



and animal health. Over 200 farmers, predominantly women, actively participated in the program, gaining valuable insights into modern farming methods and livestock care. The initiative highlighted the role of women in agriculture and underscored the importance of continuous learning for sustainable farming practices.



#### **Exposure Visit of Scheduled Caste (SC) Farmers**



On March 19th, 2024, an exposure visit for 40 Scheduled Caste (SC) farmers was organized under the Scheduled Caste Sub Plan (SCSP) to ICAR RCER Patna. The visit aimed to enhance their skills in modern agricultural practices and animal husbandry. Farmers toured various facilities, including the Integrated Farming System, goat, dairy, duck, poultry units, fish hatchery, nutri garden, and seed production areas. This

hands-on experience allowed them to observe and learn efficient farming techniques. A key highlight

was the farmer-scientist interaction session chaired by the Anup Das, Director ICAR RCER Patna, focusing on the importance of poultry, duckery, goatery, and integrated crop production. This session provided farmers with the opportunity to engage with experts, ask questions, and exchange ideas. As a gesture of support, milk cans were



distributed to the farmers during the valedictory session, reinforcing the commitment to empowering SC farmers with practical knowledge and resources for sustainable agricultural development.

#### **Celebration of World Environment Day**

World Environment Day was celebrated on 5th June 2024 at Krishi Vigyan Kendra, Ramgarh. The event was inaugurated by Chief Guest Mr. Sanjay Kongari, Block Development Officer of Mandu Block, along with Special Guests Mr. Modassar Nazar Mansoori, Circle Officer, Mandu; Mrs. Preeti Lata, Branch Manager of SBI, Mandu; and Mrs. Pratibha Kumari,





Child Development Project Officer (CDPO) of Mandu. The program emphasized the importance of environmental stewardship, with Mr. Kongari highlighting that protecting the Earth is a collective responsibility. He stressed the need to combat pollution, climate change, and deforestation through awareness and action. Participants, including farmers and

Anganwadi workers, planted saplings of fruit trees on the Kendra's premises, reinforcing the message of environmental care. Each participant also received a sapling to take home. Over 50 attendees, engaged enthusiastically, underscoring the community's commitment to environmental protection.

#### **International Yoga Day**



On 21st June 2024, Krishi Vigyan Kendra, Ramgarh, hosted a celebration for International Yoga Day, attended by 33 farmers from various villages of district Ramgarh. The event emphasized the importance of yoga for enhancing human health and overall well-being. Participants were introduced to various yoga asanas (postures) and their benefits, which were demonstrated

and practiced during the session. The programme highlighted how integrating yoga into daily life can contribute to improved physical and mental health, ultimately supporting a better quality of life. The session also offered practical advice on maintaining a balanced lifestyle through yoga, helping farmers manage stress and improve their resilience. The event successfully fostered awareness of yoga's benefits among the farming community, promoting a holistic approach to health and wellness in Ramgarh.

#### Pre Kharif workshop

A one-day pre-Kharif workshop was organized on May 6, 2024, at KVK, Ramgarh. The event was graced by Dr. K.D. Kokate, Chairman of RAC, ICAR-RCER, Patna and Dr. Anup Das, Director of ICAR, Patna, along with other distinguished members. Dr. Sudhanshu Shekhar, Head of KVK, Ramgarh welcomed the guests and highlighted the ongoing work at the center for the benefit of farmers. During the inauguration, two technical bulletins authored by Krishi Vigyan Kendra were released. The guests visited the plantation field, observed research systems, and provided valuable feedback. Interacting with farmers from various villages, Dr. Kokate encouraged them to connect with KVK and adopt scientific farming methods. Dr. Das suggested using the Dobha technique for drip irrigation and water harvesting. The workshop focused on reducing agricultural costs and increasing farmers' income. Progressive farmers, including Hari Mahato, Sunita Devi, and others, participated in the event.





#### **Field Visit**

Dr. K.D. Kokate, Chairman of the Research Advisory Committee (RAC) of ICAR-RCER, Patna, and Dr. Anup Das, Director of ICAR, Patna, along with other distinguished members, visited Armadag and Kodi villages in the Patratu block of Ramgarh district. During the visit, Dr. Kokate interacted with farmers engaged in seedling production under the expert



guidance of KVK Ramgarh. He also visited mango orchard where he observed an innovative intercropping system with watermelon. Impressed by the vibrant efforts of KVK at the grassroots level, he provided insightful and valuable suggestions to the farmers, encouraging them to continue adopting these sustainable and progressive practices. His appreciation reinforced the vital role KVK Ramgarh plays in empowering local farmers.



#### **Farmer-Scientist Interaction**

Farmer-Scientist Interaction under the Scheduled Caste Sub Plan was held at Krishi Vigyan Kendra,

Ramgarh. The event was inaugurated by Dr. S.K. Chakraborty, Chairman of the Review Team (QRT), Patna, alongside other distinguished guests. The program featured the release of three technical bulletins authored by KVK, Ramgarh. The review team inspected various units, including technology demonstrations, intensive horticulture, and animal



husbandry units, while reviewing KVK's achievements from 2018 to 2023. Dr. Sudhanshu Shekhar, Head of KVK, highlighted the center's work in agriculture and related fields. The review team praised KVK's efforts and stressed extending agricultural techniques to more farmers. Progressive farmers shared their experiences, including Baleshwar Mehta, who discussed year-round cauliflower cultivation. Experts emphasized fingerling production, organic farming, and strategic marketing. The event also featured the planting of fruit trees and the distribution of sewing machines to women farmers and batteryoperated sprayers to male farmers. Over 60 Schedule farmers from Udalu village participated.



#### **District Agromet Advisory Services**

The DAMU, KVK-Ramgarh has issued 282 block-level Agromet Advisory bulletins in a bilingual format in every Tuesday and Friday of the week and 12 special advisory, significantly impacting agricultural information dissemination across the district. Utilizing Information and Communication Technology (ICT) tools, the advisory service has reached around 300 stakeholders and nearly 3260 progressive farmers. The popularity of this service stems from its comprehensive coverage of critical topics, such as crop planning, harvesting techniques, and agronomic practices. These timely, region-specific bulletins have enabled farmers to make informed decisions and adopt best practices, boosting agricultural productivity. The bilingual approach has broadened accessibility, ensuring diverse stakeholders benefit from the insights provided.

#### **Technical bulletin**

- स्वच्छ पशुशाला (2024) डॉ स्धांश् शेखर, डॉ इन्द्रजीतडॉ धर्मजीत खेरवार एवं सन्नी कुमार
- थनैला रोग (2024) डॉ स्धांश् शेखर, डॉ इन्द्रजीत डॉ धर्मजीत खेरवार एवं सन्नी कुमार
- वैज्ञानिक विधि से सूर्यमुखी की खेती (2024) डॉ इन्द्रजीत, डॉ सुधांशु शेखर, डॉ धर्मजीत खेरवार एवं सन्नी कुमार
- सूक्ष्म पोषक तत्वों के कार्य (2024) डॉ इन्द्रजीत, डॉ सुधांशु शेखर, डॉ धर्मजीत खेरवार एवं सन्नी कुमार
- उत्तरी छोटानागपुर पठारी क्षेत्रों में आलू की वैज्ञानिक खेती (2024) डॉ धर्मजीत खेरवार, डॉ सुधांशु शेखर, डॉ इन्द्रजीत एवं सन्नी कुमार

Sond

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