ICAR-NRCSS E-NEWS LETTER

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From Director's Desk

It gives me immense pleasure to bring out the current issue of ICAR-NRCSS E- Newsletter for the readers and seed spice stakeholders. Seventy fifth Independence Day was celebrated in the institute with all staff and their families. I am happy to share that the institute has been functioning with its full capacity and all the mandated activities are going on as per the schedule. Over the period due to sustained R&D, remarkable growth in area, production and productivity of seed spices reached at new heights in India.Even seed spices introduced successfullyin nontraditional areas (Coastal region of Gujarat). Organic IPM module for the management of aphid in fennel standardized. Institute conducted various HRD activities for capacity building of all seed spice stakeholders.Under MGMG programmes scientists of ICAR-NRCSS visited the adopted villagesand interacted with farmers whereas, in SCSP scheme, FLDs of improved varieties of fennel and fenugreek have given to beneficiaries and promoted crop diversification. In AzadikaAmritMahotsav' eight webinars were conductedduring the period as well as scientists farmers workshop was organized. ICAR- NRCSS Ajmer and Agricultural UniversityJodhpur signed MoUs to carry our R&D activities in seed spice research and academic activities. Various events such as ICAR foundation day, 75th Independence Day, mass awareness campaign on organic farming, Parthenium awareness week observed. Four capacity building programme and virtual tours forstudents organized.

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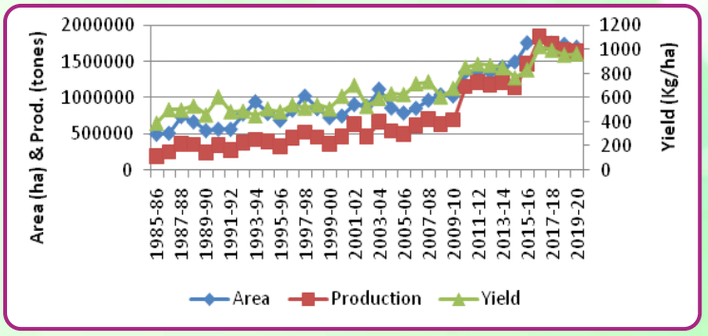
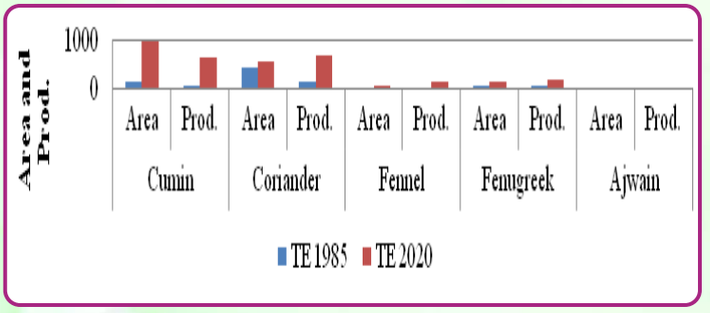
Research Highlights

Seed spices reaching new heights in India

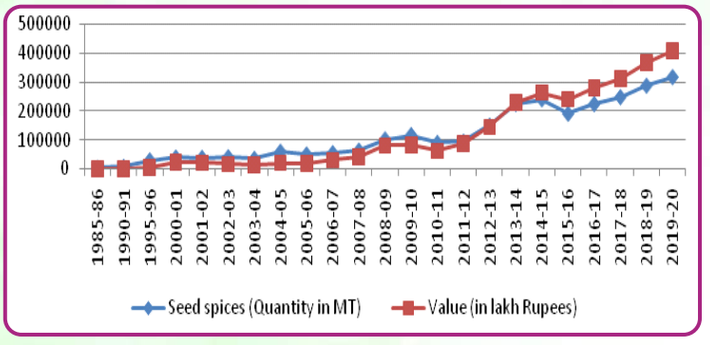
Economic analysis of production and export performance of cumin and coriander in India highlighted significant increase in area, production and productivity of seed spices in the country. During 1985-86 to 2019-20, seed spice production increased to eight folds as result of three and half fold increase in area coupled with two and half fold increase in yield. Area, production and yield of seed spices in the country increased at compound growth rate (CGR) of 3.44, 5.92 and 2.9 percent per annum during above period. Area share of seed spices enhanced from 30 to 45 percent to total spice acreage in the country. A downward trend in coriander and fenugreek was observed in last two-three years due to comparatively lower market prices for these seed spices . During triennial ending (TE) 1985 and TE 2020, highest percent increase in area is measured in cumin (769.73%) followed by fennel and ajwain whereas least area expansion is noted in coriander (36%). Maximum percent increase in production is noted in ajwain (1167%) followed by cumin (987%) and fennel (567%). Highest percent increase in productivity has been measured in coriander (284%) followed by ajwain (221%), whereas cumin witnessed lowest increase in yield.



Area, production and yield of seed spices in India from 1985-86to 2019-20.



Increase in Area ('000 ha) and Production ('000 ton) of major seed spices from TE 1985 to TE 2020.

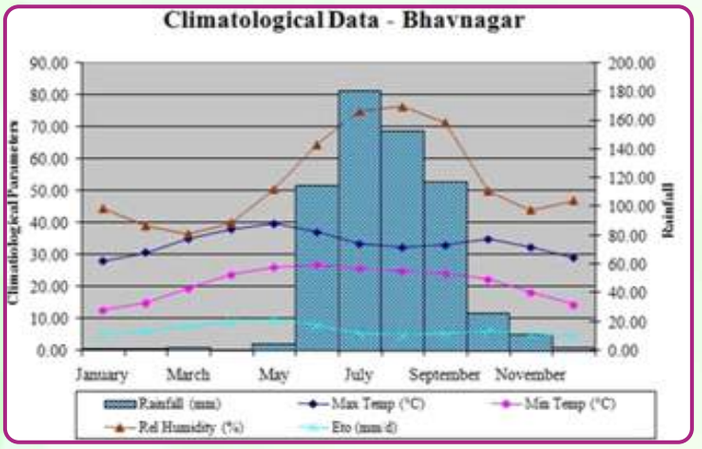


Export of seed spices from India from 1985-86 to 2019-20.

During 1985-86 to 2019-20, seed spices export from India made remarkable growth increasing at compound growth rate (CGR) of 11.92 and 21.51 percent per annum in quantity and value term, respectively. From 1985-86 to 2019-20, coriander export increased by 577 and 8879 per cent in quantity and value term, respectively. In the same period cumin export has increase by 5884 and 60798 percent in quantity and value term, respectively. During this period cumin and coriander export registered compound growth of 17.05 and 9.32 percent per annum respectively.

Murlidhar Meena, Mukesh K. Vishal and M.A. Khan

Management of fennel (*Foeniculum vulgare* Mill) aphid through organic based IPM modules



An organic based IPM module consisted garlic extract, azadirachtin and *citrullus colocynthis* fruit extract applied on fennel in the form of complete model in a specified formulation and mode of application, provided an effective control of aphid without leaving residual effect on crop produce (seeds), relatively safer to natural enemies, pollinators and the environment under organic production system. The methodology adopted to prepare organic product with formulation, took 100 g chopped garlic cloves and added 500 ml water and ground completely in an electric mixture to obtained extract. Then extract was sets in the muslin cloth and squeezed them. The garlic extract was added with10ml of liquid soap and mixed thoroughly and stored in glass bottles. While using the extract first l shacked the bottle well, took 10 ml solution and dilute in 1 liter of water for spraying on fennel crop. Similarly, a required quantity of fresh tumba fruits were collected from field, washed thoroughly with running water in order to get rid of dirt, insects and planktons. After that, pulp with seed was extracted with help of stainless steel knife and kept in a glass jar. Took 100 g tumba fruit pulp and added 30 ml distilled water and ground in an electric mixture to obtained fruit extract. Hundred ml distilled water was added in extracted and ground pulp and squeezed with muslin cloth.. Extracted pulp can be stored in the laboratory in glass bottles.. While using the extract first l shacked the bottle well, took 10 ml solution and dilute in 1 liter of water for spraying on fennel crop. The treatments of IPM module M-3 were applied at sufficient buildup of aphid population on fennel with garlic extract @10 ml/litre followed by azadirachtin 0.03EC @ 5ml/lit and tumba fruit extract @ 10ml/lit at 15 days interval. Based on five years experimental results carried out from 2015-16 to 2019-20 for the management of aphid on fennel under organic production system, it was found that amongst six IPM modules tested IPM module M-3 was given effective management of aphids on fennel reduced 71.44% aphid population (average of five years) under field conditions and also provided highest yield (2458 kg/ha). The total cost of technology for one hectare area is Rs. 4450. This technology is a cost effective, comparatively safe to natural enemies, pollinators and the environment.

N.K. Meena, G. Lal, R.D. Meena, N. Choudhary, M.K. Choudhary and S. N. Saxena

Success Story

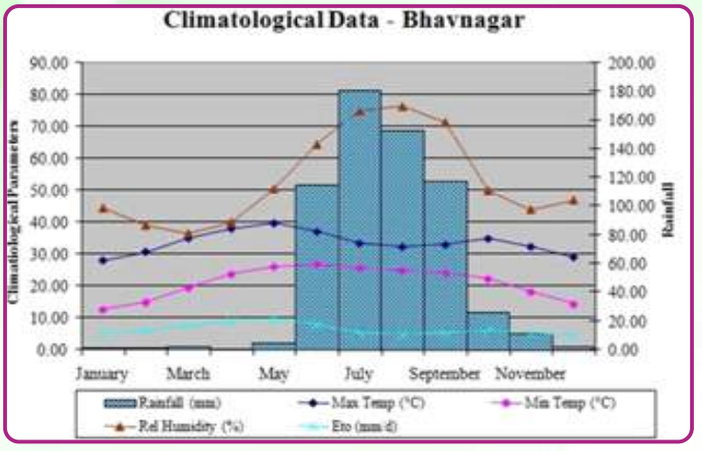
Introduction of seed spices in coastal region of Gujarat

With a view to introduce seed spice crops in coastal region of Gujarat some initial trials were conducted at Manar, near the Gulf of Cambay (Gulf of Khambhat) in the Arabian Sea, a part of Saurashtra peninsula, in central part of Gujarat, India. The trials were managed by Center for Agri-Hort Development Institute, Manar, Bhavnagar, Gujarat during last two years (2018-2020).

Geographical Location: Center for Agri-Hort Development Institute, Manar is situated near the Gulf of Cambay (Gulf of Khambhat) in the Arabian Sea, a part of Saurashtra peninsula, in central part of Gujarat, India.

Climate, Soil, Geology & Socio-economic status: The region receives an average annual rainfall of 537 mm (IMD data) which is erratic in nature and the climate is semi-arid type. The soil is mostly found in 3 categories- i) Medium black soils ii) Alluvial soils iii) Alkaline soils.

Geology: Geologically, 80% of the area is covered by Basalts and the remaining 20 % by alluvial formation and mudflats About 63 % of the region is cultivated of which 24 % is irrigated. The crops like ground nut, cotton, bajra, sorghum etc. are important crops of the areas. Among vegetables Brinjal, Chilies (Less pungent), Tomato, Onion are grown more. Fruits like kesar Mango, Sapota, Lemon and Guava are primarily grown by farmers.



Source: Government of India, Ministry of Water Resources, Central Ground Water Board, West Central Region, Ahmedabad. (2013)

Water: High TDS water is present of around 1500 due to coastal line location. Detailed analysis of water report indicates high calcium and magnesium presence in the water as well as high presence of calcium carbonate which gives hardening of water. Overall quality of water is not good enough for irrigation purpose.

Seed material: - Seeds of elite varieties of seed spice crops were procured from ICAR-National Research Centre on Seed Spices, Ajmer.

Fennel: Fennel plantation (AF-1 variety) has been done at Center for development of Agri-Horticulture from last three years and it has been cultivated successfully despite of poor quality of

soil and water. For initial two-year, fennel was planted in 1500 sq. m area which was increased to 2000 sq. m in last year with spacing of 60:45. Yield of last three year i.e. 2018-2020 were achieved to 458, 485, 487 kg/acre respectively.

Coriander: Coriander (Acr-1) crop has been sown at Center for development of Agri-Horticulture from last two years and it has been cultivated successfully despite of poor quality of soil and water. For last two years, coriander crop was sown in 250 and 85 sq. m area respectively with spacing of 20:10. Yield of last two year i.e. 2019-2020 were achieved to 388 and 333 kg/acre respectively.

Dill: Dill is an annual herb in the celery family Apiaceae. It is the only species in the genus Anethum. Dill variety Ajmer Dill-2) has been cultivated from last two year at Center for development of Agri-Horticulture in 185 and 65 sq.m respectively with spacing of 45:15. Yield of last two year i.e. 2019-2020 were achieved to 491 and 471 kg/acre respectively.

Nagouri methi: Nagouri methi (local variety) has been cultivated from last two year at Center for development of Agri-Horticulture in 50 sq.m with spacing of 20:10. Yield of last two year i.e. 2019-2020 were achieved to 323 and 339 kg/acre respectively.

Fenugreek: Fenugreek (AFg-3 variety) has been introduced at Center for development of Agri-Horticulture from last two last year i.e. 2019-2020. Cultivation of fenugreek was done in 250 and 85 sq.m area with spacing of 20:10. Yield was achieved to 388 and 333 kg/acre respectively.

Ajwain: Ajwain (AA-1 variety) has been introduced at Center for development of Agri-Horticulture in last year i.e. 2020. Cultivation of ajwain was done in 100 sq.m area with spacing of 20:10. Yield was achieved to 566 kg/acre.

Fennel intercrop with gram (channa): - Fennel as an intercrop with Gram (channa) was also tried. Gram is natural nitrogen fixer it is enhance the nitrogen content in soil which help to another crop. This model gives more income with maximum use of land. A farmer can get Rs. 40000 to 45000 per acer net profit from this intercrop model.

Overall results of two years showed encouraging possibilities of seeds spice cultivation in coastal region with substantial productivity. Seed spice crops showed comparatively good performance on less fertile and degraded soils of coastal region.

Dr. L. K. Sharma, Dr. Virender Singh, Dr. P. K. Shukla,
Dr. Nikunj Balar, Prashant Bhil, Karan Barad,
Yuvraj Gadhavi, Narender Chauhan,
Virat Chauhan and Dr. S. N. Saxena

Transfer of technologies (TOT)

Mera Gaon Mera Gaurav (MGMG)

Team of scientists from ICAR-NRCSS visited the adopted villages namely Saradhana, Masania and Amba on 04/08/2021 under Mera Gaon Mera Gourav (MGMG) scheme. The team met with Sh. Harkishan Jat, Sarpach Saradhana and Sh. P.N. Singh AAO, Saradhana to discuss the agriculture issues in the above adopted village. Considering the issues raised by village sarpanch and AAO, team conducted the meetings with farmers at Masania and Amba villages. In meetings farmers were imparted with knowledge on better soil management practices and plant health management like organic farming and precise use of plant protection chemicals. The adverse effect of over doses of chemical fertilizers, pesticides and weedicide were highlighted to the participants. The farmers in adopted villages mostly grow flower crops and vegetables. There is good scope to introduce seed spices like coriander and fenugreek for more returns from same resources. Farmers in these villages can also grow fennel as additional source of income. Participants were given knowledge on high yielding varieties of seed spices and informed about seed availability at NRCSS at comparatively lower prices than markets. The farmers were also provided with written literature for further reference.

SCSP programme of ICAR- NRCSS

Popularization of ICAR-NRCSS fennel variety AF-2 by FLDs

Recently farmers of some villages of Karauli district showed interest in cultivation of fennelbut due to lack of availability of promising varieties seeds and technical knowhow, farmers is presently not getting desired yield and quality of produce. Hence, to promote and popularize

ICAR-NRCSS new promising variety AF-2 and other production technologies, training cum agri- input distribution programme in form of front line demonstration was organized at Hindon city of Karauli district. Under this two days training programme training kit, bioagents (*Trichoderma harzanium*, *T. viridae*), *Rhizobium* culture and seeds of AF-2 variety of fennel was distributed among the SC beneficiaries. To

बीजीय मसालों फसलों की उन्नत उत्पादन तकनीकी पर प्रशिक्षण का समापन

■ निर्भीक राजस्थान

सूरोठ। राष्ट्रीय बीजीय मसाला अनुसंधान केंद्र अजमेर एवं कृषि विज्ञान केंद्र करौली के संयुक्त तत्वाधान में अनुसूचित जाति उपयोजना अंतर्गत दो दिवसीय कृषक प्रशिक्षण संपन्न हुआ। राष्ट्रीय बीजीय मसाला अनुसंधान केंद्र के वरिष्ठ वैज्ञानिक एवं योजना के प्रभारी डॉ.शिव लाल ने बताया कि इस प्रशिक्षण में 50 कृषकों ने भाग लिया। उन्होंने बताया कि करौली जिले में सौंफ की खेती की बहुत अपार संभावनाएं हैं और इसकी खेती को बढ़ावा देने के लिए उत्तम गुणवत्ता वाले बीजों व अन्य तकनीकों का पुरजोर विस्तार करना होगा।

अनुसंधान केंद्र के वरिष्ठ वैज्ञानिक डॉ० नरेंद्र चौधरी ने जैविक खेती व सौंफ उत्पादन तकनीकियों के बारे में जानकारी दी। डॉ० चेतन कुमार जांगिड़ वैज्ञानिक ने मृदा विज्ञान व मृदा स्वास्थ्य संबंधी जानकारी दी। इस कार्यक्रम में सौंफ की प्रथम पंक्ति प्रदर्शन हेतु सौंफ की उन्नत किस्म का बीज, बायो ऐजेंट एवं राइजोबियम कल्चर का वितरण भी सभी को किया गया। कृषि विज्ञान केंद्र के पशुपालन वैज्ञानिक डॉ बी०एस० मीना ने कार्यक्रम का संचालन किया एवं बीजीय मसाला फसलों का पशुओं के दुग्ध उत्पादन के महत्व के बारे में जानकारी दी। इस मौके पर केंद्र के साथ वैज्ञानिक डॉ० शंकर लाल कस्वा ने मसाला फसलों में खरपतवार प्रबंधन एवं पोषण प्रबंधन के बारे में जानकारी दी। केंद्र के मौसम वैज्ञानिक डॉ० एमके नायक ने मौसम संबंधी जानकारी दी। प्रशिक्षणार्थियों का पंजीकरण किसान बायोटेक परियोजना के वरिष्ठ अनुसंधान विश्लेषक लोकेश कुमार मीना ने किया एवं कार्यक्रम के अंत में सभी का धन्यवाद ऐग्रीमेट ओवजरवर

कृषि विज्ञान केंद्र में दो दिवसीय प्रशिक्षण शिविर का आयोजन

सूरोठ। राष्ट्रीय बीजीय मसाला अनुसंधान केंद्र अजमेर एवं कृषि विज्ञान केंद्र करौली के संयुक्त तत्वाधान में गांव एकोरावती स्थित भारत सरकार के कृषि विज्ञान केन्द्र परिसर में अनुसूचित जाति उपयोजना अंतर्गत दो दिवसीय कृषक प्रशिक्षण शिविर आयोजित किया गया। राष्ट्रीय बीजीय मसाला अनुसंधान केंद्र के वरिष्ठ वैज्ञानिक एवं योजना के प्रभारी डॉ.शिव लाल ने बताया कि इस प्रशिक्षण शिविर में 50 कृषकों ने भाग लिया। उन्होंने बताया कि करौली जिले में सौंफ की खेती की बहुत अपार संभावनाएं हैं और इसकी खेती को बढ़ावा देने के लिए उत्तम गुणवत्ता वाले बीजों व अन्य तकनीकों का पुरजोर विस्तार करना होगा। अनुसंधान केंद्र के वरिष्ठ वैज्ञानिक डॉ. नरेंद्र चौधरी ने जैविक खेती व सौंफ उत्पादन तकनीकीयों के बारे में जानकारी दी। डॉ.चेतन कुमार जांगिड़ वैज्ञानिक मृदा विज्ञान ने मृदा स्वास्थ्य संबंधी जानकारी दी। इस कार्यक्रम में सौंफ की प्रथम पंक्ति प्रदर्शन हेतु सौंफ की उन्नत किस्म का बीज, बायो ऐजेंट एवं राइजोबियम कल्चर का वितरण भी सभी को किया गया। कृषि विज्ञान केंद्र के पशुपालन वैज्ञानिक डॉ बी.एस. मीना ने कार्यक्रम का संचालन किया एवं बीजीय मसाला फसलों का पशुओं के दुग्ध उत्पादन के महत्व के बारे में जानकारी दी। इस मौके पर केंद्र के साथ वैज्ञानिक डॉ. शंकर लाल कस्वा ने मसाला फसलों में खरपतवार प्रबंधन एवं पोषण प्रबंधन के बारे में जानकारी दी।

impart technical know how about fennel production subject specific lectures were delivered to participants by different resource persons of KVKs and ICAR-NRCSS, Ajmer. All farmers were also briefed about package of practices of fennel production. As far as possible safety measures (mask) and appropriate social distancing was followed during the entire programme. This programme was coordinated and organized by Dr. Shiv Lal, Dr. N. Chaudhary, Dr. C.K. Jangid and S.R. Balai with local coordinator Dr. B.S. Meena, Sr Scientist (KVK, Hindon city).

Popularization of ICAR-NRCSS Fenugreek varieties by FLDs

To promote and popularize ICAR-NRCSS new promising varieties of fenugreek (AFg-4, AFg-5 and AFg-2) FLDs were given to the SC farmers . In addition to seeds of improved varieties other agrri-inputs such as bioagents (*Trichoderma harzanium*, *T. viridae*), *Rhizobium* culture, sprayer, solar torch, bio decomposer and bael plants were also distributed to each SC beneficiaries. To impart technical know how about fenugreek production subject specific lectures were delivered to participants by scientist of ICAR-NRCSS, Ajmer. All farmers were also briefed about package of practices of fenugreek production. A total of 50 SC farmers were participated in this event and got benefitted. This programme was coordinated and organized by Dr. Shiv Lal, Dr. N. Chaudhary, Dr. C.K. Jangid and local coordinator Sh. Babulal, patwari, Singrawat village, Sikar.

Promotion of crop diversification

To promote the crop diversification and theme of “Her Med Per Ped' one day agri-inputs and fruit plants distribution programme for the beneficiaries/farmers/growers etc. of SC community was organized on 12/08/2021 at ICAR-NRCSS, Ajmer. Under this programme approximately 62 beneficiaries/farmers/growers etc of SC community of MGMG adopted villages (Lamana, Mangliawas, Tabiji, Saradhna, Massinia, Budhwara, Dantra) were participated. Bael fruit plants and agri-inputs were distributed to all the beneficiaries. Dr. S. N. Saxena, Director, NRCSS urged the farmers to plant the given fruit plants and and use the other agri inputs judiciously for their benefit. The programme was coordinated by SCSP team and MGMG teams/team leaders of ICAR-NRCSS, Ajmer.

Mahila kisan biotech fellowship under Biotech-KISAN for western dry region

Ms. Kavita Shivkiran of Balaya village in Nagaur district has been awarded "Mahila Kisan Biotech Fellowship" under the mission program on Biotech-Krishi Innovation Science Application Network (Biotech-KISAN for Western Dry Region) of the Department of Biotechnology, Ministry of Science & Technology, Govt. of India. Woman farmer Kavita received a certificate of "Mahila Kisan Biotech Fellowship" and shall get modest fellowship every month for year 2021-22. DBT Biotech Kisan Hub for Western Dry Region is implemented jointly by the South Asia Biotechnology Centre (SABC), Jodhpur and National Research Centre on Seed Spices (ICAR-NRCSS), Ajmer. Ms Kavita was selected by the selection committee under the leadership of Dr. CD Mayee, President of South Asia Biotechnology Centre (SABC), Jodhpur. She has been selected on the basis of her performance in implementation of IPM based field demonstration of cumin in Rabi 2020 and her interaction with the members of DBT's Project Steering & Monitoring Committee (PSMC) in March 2021. Bhagirath Choudhary of South Asia Biotechnology Centre said that this is the first time that a woman farmer from Rajasthan has been selected for Mahila Kisan Biotech fellowship of DBT-SABC Biotech Kisan Hub for Western Dry Region. The award ceremony was attended by Dr. Bhagirath Choudhary, Dr. Sandeep Agale & Dr Naresh from South Asia Biotechnology Centre and Dr. SS Meena & Dr. Murlidhar Meena from ICAR-NCRSS, Ajmer and farmers of village Balaya.

किसानों के लिये खाद्य एवं पोषण पर कृषक वैज्ञानिक संगोष्ठी

राष्ट्रीय बीजीय मसाला अनुसंधान केंद्र, अजमेर पर कृषि विज्ञान केंद्र के संयुक्त तत्वाधान में समन्वित खेती –किसानों के सम्पूर्ण पोषण का आधार विषय पर कृषक वैज्ञानिक संगोष्ठी व सेमीनार का आयोजन किया गया।

इस कार्यक्रम अंतर्गत मुख्य अतिथि कृषि अनुसंधान उप केंद्र के विभागाध्यक्ष डॉ दिनेश अरोड़ा ने अपने संबोधन में सीमित जमीन एवं सीमित साधनों से अपनी आय के साथ पोषकता को बढ़ाने हेतु कार्य करने पर जोर दिया। डॉ अरोड़ा ने किसानों को समन्वित कृषि प्रणाली को बढ़ावा देने हेतु शस्य फसल उपज के साथ–साथ अन्य घटक फल उत्पादन, सब्जी उत्पादन, गौ पालन, बकरी पालन, मुर्गी पालन, मछली पालन, मशरूम उत्पादन आदि को सम्मलित करने की आवश्यकता बतायी।

अध्यक्षीय संबोधन में राष्ट्रीय बीजीय मसाला अनुसंधान केंद्र के निदेशक डॉ एस.एन. सक्सेना ने बताया कि आजादी के अमृत महोत्सव के अंतर्गत आयोजित किसानों के लिये खाद्य एवं पोषण के महत्व के इस कार्यक्रम को आगे बढ़ाने हेतु प्रगतिशील कृषकों की भागीदारी सुनिश्चित की है। किसानों को आज के अर्जित इस ज्ञान को अपने साथियों तक भी पहुंचाने का बीड़ा उठाना है। डॉ सक्सेना ने न्यूट्री गार्डन की महत्ता की जानकारी देते हुये खेत के एक छोटे से हिस्से में मौसमी सब्जियों, फलदार पौधों एवं औषधिय पौधों को सम्मिलित करते हुये न्यूट्री गार्डन विकसित करने पर जोर दिया।

कृषि विज्ञान केंद्र के वरिष्ठ वैज्ञानिक एवं अध्यक्ष डॉ डी.एस. भाटी ने अपने संबोधन में बताया कि कोविड काल ने हमारे खान–पान के प्रति जागरूकता बढ़ायी है। किसानों को भी

अपनी रोग प्रतिरोधकता बढ़ाने हेतु शुद्ध एवं गुणवत्तापूर्ण उत्पादों को आहार में सम्मलित करने की आवश्यकता जतायी।
प्रधान वैज्ञानिक डॉ श्याम सुन्दर मीणा ने अपने संबोधन में बताया कि आधुनिकता में कहीं न कहीं खाद्य पोषकता को हम भूलते जा रहे है। हमें अपनी भूमि, पशुओं की पोषणता के महत्व को ध्यान में रखते हुये किसानों के आहार में भी पोषक तत्वों का समावेश करना है।

माननीय कृषि मंत्री नरेंद्र सिंह तोमर भी किसानों से रूबरू हुये कार्यक्रम को भी लाइव दिखाया गया।
कार्यक्रम के संयोजक डॉ एन.के. मीणा ने खाद्य एवं पोषण की महत्ता विषय पर पॉवर पॉइंट प्रस्तुतिकरण के साथ ही आगन्तुक कृषकों एवं अतिथियों का स्वागत किया। कार्यक्रम के समापन पर वरिष्ठ वैज्ञानिक डॉ शिव लाल ने सभी को धन्यवाद ज्ञापित किया। कार्यक्रम में वैज्ञानिकों, कृषकों सहित लगभग 70 प्रतिभागियों ने अपनी भागीदारी निभाई।

HRD activities

Azadi Ka Amrit Mahostav

Under the main theme "**Azadi ka Amrit Mahotsav'** eight webinars have been organised during the month of July-August by different eminent speakers. The following lecture have been delivered during July-August, 2021.

Date	Lecture topic	Speakers
02.07.2021	Seed spice crops: Reservoir of predators/parasitoids and pollinators	Dr. Krishna Kant, Principal Scientist
09.07.2021	Edaphic stresses and seed spices: Constraints and opportunities	Dr. O.P. Aishwath , Principal Scientist
16.07.2021	Biological nitrogen fixation for sustainable agriculture	Dr. B.K. Mishra, Principal Scientist
23.07.2021	Orchids: An overview	Dr. N.K. Meena, Senior Scientist
30.07.2021	Biofortified Plant Varieties : A sustainable way for mitigation to zero hunger, malnutrition and corona virus	Dr. R.S. Meena, Senior Scientist
06.08.2021	Gender based harassment and its prevention at work place	Dr. Sharda Choudhary, Senior Scientist
13.08.2021	Financial management with reference to ICAR-NRCSS	Mr. S.K. Agrawal, AFAO
26.08.2021	Integrated farming: complete way of nutrition to farmers	Dr. N.K. Meena, Senior Scientist

Scientific meetings/ MoUs

ICAR, NRCSS Ajmer and Agricultural University Jodhpur signed Memorandum of Understanding (MoUs) to carry our R&D activities in seed spice research and other academic activities. In addition to that understanding was also made for exploring possibilities in the field teaching and extension activities with respect to seed spices.

दैनिक भास्कर अजमेर 26-07-2021

भास्कर खास • दोनों संस्थानों में हुआ एमओयू, शिक्षा और प्रसार को भी बढ़ाएंगे

बीजीय मसाला अनुसंधान केंद्र और जोधपुर के कृषि विवि मिलकर करेंगे अनुसंधान

सिटी रिपोर्टर | अजमेर

राष्ट्रीय बीजीय मसाला अनुसंधान केंद्र तबीजी और कृषि विश्वविद्यालय जोधपुर अब मिलकर अनुसंधान और शिक्षा के क्षेत्र में परस्पर सहयोग करेंगे। विशेषकर मारवाड़ की प्रमुख फसल जीरा में नए अनुसंधान और किस्म विकसित किए जाने की दिशा में कार्य होगा। रविवार को दोनों संस्थानों के बीच इसी लेकर एक एमओयू हुआ है। एमओयू पर कुलपति प्रो. बीआर चौधरी तथा केंद्र के निदेशक डॉ एसएन. सक्सेना ने हस्ताक्षर किये। बीजीय मसाला अनुसंधान केन्द्र के निदेशक डॉ. एसएन. सक्सेना ने बताया कि इस एमओयू का प्रमुख उद्देश्य बीजीय मसाला उत्पादन के क्षेत्र में परस्पर अनुसंधान, शिक्षा एवं प्रसार को बढ़ाना है।

नवीन शोध एवं तकनीकों के हस्तांतरण, विभिन्न अनुसंधान परियोजनाओं के क्रियान्वयन, बीजीय मसालों की उत्पादकता तथा उत्पादन वृद्धि पर आपसी सहयोग किया जाएगा। बीजीय मसालों की विभिन्न किस्मों के जर्मप्लाज्म के वैज्ञानिक संरक्षण, विश्वविद्यालय के प्रसार केन्द्रों के उन्नयन के लिए नवीन तकनीकों के हस्तांतरण के लिए कार्य होंगे। साथ ही विश्व विद्यालय के शोधार्थी केन्द्र की उत्कृष्ट प्रयोगशालाओं एवं प्रक्षेत्र फार्म पर बीजीय मसालों पर शोध का लाभ प्राप्त कर सकेंगे।

जीरे की नई किस्म का विकास

बीजीय मसालों में जीरा मारवाड़ की एक महत्वपूर्ण फसल है। वर्ष 2004 में जीरे की विकसित किस्म जी.सी 4 के पश्चात इससे अन्य कोई अच्छी किस्म आज तक विकसित नहीं हो पाई है। इन दोनों संस्थानों के परस्पर एमओयू होने से जीरे की नई किस्म विकसित किये जाने के लिए एक नई दिशा मिलेगी, जिससे इस क्षेत्र के जीरा उत्पादक किसानों की उत्पादकता तथा आय में बढ़ोतरी हो सकेगी। पीआरओ जी के त्रिपाठी ने बताया कि इस अवसर पर डॉ भरत सिंह भौमावत, डॉ ईश्वर सिंह, डॉ सीताराम कुम्हार, तथा डॉ एम.एल. मेहरिया उपस्थित रहे।

Events/days/programmes etc.

ICAR Foundation day celebrated

ICAR NRCSS, Ajmer has celebrated 93rd foundation day of ICAR on 16 July 2021. On this occasion Dr. S.N. Saxena, Director, ICAR-NRCSS, Ajmer begins high density plantation of avenue trees in mission mode within the institute. On the occasion Director ICAR-NRCSS along with all staff were planted a trees in farm section. Dr. Saxena stress upon for sincere look after of all the planted trees. He urged all the staff to all officials' activities with full enthusiasm and responsibility.

दैनिक नवज्योति Ajmer City - 17 Jul 2

भारतीय कृषि अनुसंधान परिषद का स्थापना दिवस मनाया

अजमेर। भारतीय कृषि अनुसंधान परिषद का 93वां स्थापना दिवस शुक्रवार को राष्ट्रीय बीजीय मसाला अनुसंधान केंद्र पर मनाया गया। इस अवसर पर संस्थान में सघन वृक्षारोपण अभियान का शुभारम्भ निदेशक डॉ. एस. सक्सेना द्वारा किया गया। डॉ. सक्सेना ने संस्थान के सभी वैज्ञानिकों, अधिकारियों एवं कर्मचारियों से राष्ट्र हित एवं समाज हित में अपने कर्तव्यों के निर्वहन का आह्वान किया। निदेशक एवं समस्त स्टाफ ने क्षेत्र में पौधरोपण किया एवं अपने द्वारा लगाए गए पौधे की देखरेख की जिम्मेदारी ली। परिषद् के दिल्ली स्थित मुख्यालय पर भारतीय कृषि अनुसंधान परिषद के महानिदेशक डॉ. त्रिलोचन महापात्रा द्वारा 'हर मेड पर पेड़' अभियान द्वारा कृषकों को वृक्षारोपण एवं कृषि वानिकी के लाभ बताए। इस अवसर पर डॉ. श्याम एस. मीना, डॉ वायके शर्मा, डॉ. बीके मिश्र, डॉ. रविन्द्र सिंह, डॉ. कृष्णकांत, जीके त्रिपाठी सहित अन्य मौजूद थे। प्रभारी डॉ. आरएस. मीना के द्वारा

ICAR-NRCSS observed 75th Independence Day and Celebrated Azadi Ka Amrit Mahotsav

ICAR-NRCSS observed 75th Independence Day with grandeur, gaiety, fervor and enthusiasm. Dr. S.N. Saxena, Director, ICAR-NRCSS hoisted the tricolor and briefed about India's journey of independence. On the occasion he paid homage to all the freedom fighters and covid martyrs and stressed upon enjoying freedom with responsibility. Dr. Saxena briefed the gathering about the contribution of horticulture in national economy in general and ICAR-NRCSS contribution in seed spices R&D particular. He further stressed upon the importance of team work and cohesiveness to achieve the institutional as well as professional goal. At the end of function with national anthem, sweets were distributed among the gathering. In view of spread of Covid-19 pandemic, while organizing various programmes or activities for the Independence Day celebrations, institute has followed preventive measures such as maintaining social distancing, wearing of masks, proper sanitization, avoiding large congregations, protecting vulnerable persons, etc.; and followed all guidelines related to Covid-19 issued by the Ministry of Home Affairs and Ministry of Health a Family Welfare.

Mass awareness campaign programme on organic farming

To commemorate the 75th Year of India's independence, ICAR-IIFSR, Modipuram and ICAR-NRCSS, Ajmer jointly organized mass awareness campaign programme on organic farming on 03 August, 2021 under AI-NPOF through virtual mode. Dr. N. Ravishanker, Pr. Scientist & National Coordinator, Organic Farming Network Project, Modipuram, U.P. briefed about the objective of mass awareness campaign on organic farming and necessity to disseminate the organic farming technologies developed under AI-NPOF among the organic farmers, growers and stakeholders. Dr. A.S. Panwar, Chief Guest of the programme and Director, ICAR-IIFSR, Modipuram, U.P. stresses upon the need of organic farming in seed spices especially grown in Rajasthan and Gujarat state. Dr. S.N. Saxena, Director, ICAR-NRCSS, Ajmer

emphasized the importance of organic seed spices and informed about the successful production of organic seed spices at farmer's fields using ICAR-NRCSS, Ajmer technologies. He further stresses upon the set up of referral lab in the region for quality testing of organic growing seed spices. He suggested that traders and consumer awareness is also an important connecting tool to maintain supply chain in market and there is need to initiate a programme for consumers too. Dr. D.S. Bhati, Special Guest of the programme and Head, KVK, Ajmer briefed about the organic
agriculture pattern in Rajasthan and addressed the participants about current scenario and various schemes of the Rajasthan Government for the promotion of organic farming. Dr. Rashmi Singh, RCOF, Gandhinagar, Gujrat delivered her expert talk on certification procedure and digital marketing of organic products by creating farmers own group where they can sell their product to anyone from their own place itself. She has advised all the organic growers to form a cluster/ groups and then approach for certification procedures. More than 100 participants (students, farmers, ICAR-NRCSS, staff, ICAR-IIFSR, Modipuram staff, organic growers etc.) attended the programme. The programme was convened by Dr. Shiv Lal, Dr. S.N. Saxena, Dr. N.K. Meena, Dr. R.D. Meena and Dr. N. Chaudhary.

16th *Parthenium* awareness week observed

ICAR-National Research Centre on Seed Spices, Ajmer observed 16th *Parthenium* Awareness Week from 16th to 22nd August, 2021. On day of start, Dr. S. N. Saxena, Director, NRCSS, Ajmer made a brief introduction about the weed and significance of observing the week every year in front of farm workers and scientific staff of NRCSS. He stressed upon harmful effect caused by *Parthenium* like skin allergy and asthma as well as a threat to natural biodiversity of the region. He insisted upon the staff to make their surroundings and NRCSS farm free of *Parthenium* which is main goal of observing this week every year as this weed suppresses the growth of other potential crops like fodder etc. Our crops productivity and regional biodiversity have been affecting after the introduction of this noxious weed in our country. It was suggested to wear gloves and mask while uprooting this noxious weed as it may cause dermatitis and asthma. A drive was performed to eradicate the weed from farm area of NRCSS. Though NRCSS campus is free of 3P (plastic, paper and *Parthenium*) even then staff members moved to non-approachable areas of campus in search of *Parthenium* and uprooted the same. Dr. Narendra Chaudhary, nodal officer of the campaign urged to farm workers to uproot this weed at its initial stage (before flowering) to avoid the further spread of its seed to other places by means of wind and water. Uprooted biomass of *Parthenium* can be used for making compost and vermicompost. All the staff members of NRCSS actively participated in this programme. In addition, during this week following literatures were circulated among the

staff of ICAR-NRCSS, in order to create awareness with respect to research work being done around the globe with reference to *Parthenium*.

गाजरघास जागरूकता सप्ताह का शुभारंभ

अजमेर,(नसं.-सरेराह)। राष्ट्रीय बीजीय मसाला अनुसंधान केन्द्र तबीजी, अजमेर में 16वें गाजरघास जागरूकता सप्ताह का शुभारंभ किया गया। संस्थान के जनसंपर्क अधिकारी जीके त्रिपाठी ने बताया कि यह सप्ताह 16 से 22 अगस्त तक मनाया जाएगा। इस कार्यक्रम में राबीमअनु के अजमेर के निदेशक डॉ. एसएन सक्सेना ने किसानों को गाजरघास को पहचानने एंव इसके दुष्प्रभाव के बारे में विस्तार से समझाया। उन्होंने उपस्थित कृषक समुदाय से आग्रह किया कि इस खरपतवार को इसकी आरंभिक अवस्था में ही नष्ट कर दिया जाना चाहिए। इसके पश्चात आसपास के क्षेत्रों से गाजरघास को उखाड़ने का अभियान चलाया गया। जिसमें संस्थान के सभी कर्मचारियों ने भाग लिया।

Training/workshop/seminar etc.) organized:

S. No	*Name of Programme (Training/workshop/seminar/meetings etc.) Organized*	*Date of Programme*	*Participant (No.)*
1.	In-house meeting for revision of spices and condiments terminology of BIS	28th July, 2021	Dr. S. N. Saxena Director, ICAR-NRCSS and Dr O.P. Aishwath, Dr K Kant, Dr R.S Meena, Dr N.K. Meema, Dr Shiv Lal, Dr M.D. Meena, Dr A.K. Verma, Dr N. Chaudhary and Dr B.K Mishra
2.	Virtual meeting of panelists for revision of spices and condiments terminology of BIS	10th August 2021	Dr. S. N. Saxena Director, ICAR-NRCSS, Dr K Kant, Dr Shiv Lal, Dr A.K. Verma and Dr B.K Mishra
3.	Virtual meeting with GIZ team (a NGO funded by Govt of Germany) regarding mutual cooperation in area of pesticide free and organic cumin production.	23rd August, 2021	Dr. S. N. Saxena, Dr. B. K. Mishra & Krishna Kant from ICAR-NRCSS, Ajmer
4.	Organized one day **Scientist-Farmers Sangoshthi** and a Seminar on 'Integrated Farming: An approach for complete nutrition for farmers' under theme 'Food and Nutrition for Farmers'	26th August, 2021	70 farmers, scientists and students were participated

ICAR-NRCSS organized virtual tours for IV Year B. Sc. (Horticulture) students

The students of final year B.Sc. Horticulture from the different universities of Karnataka state have undergone All India Study Tour as a part of their course curriculum. In this view, Universities have decided to conduct the tours in virtual mode due to Covid-19 pandemic. Hence, on the request of universities a series of virtual tours have been organized by ICAR-NRCSS, Ajmer, Rajasthan for the final year students. In the first tour Dr S.N. Saxena, Director, ICAR-NRCSS, Ajmer interacted with the students of College of Horticulture, Hiriyur, University of Agriculture and Horticulture Science, Shivamogga, Karnataka through virtual mode on 23 July 2021. He gave the brief introduction of the institute and ongoing research and development at the centre through Power Point Presentation and video clips. It was the quite interesting to organized virtual tours in Covid-19 pandemic situation. Further, institute received more request for virtual tours and the entire request has been accepted by the institute and virtual tours have been organized by the ICAR-NRCSS, Ajmer. The virtual tours coordinated by Dr. Arvind K. Verma, Scientist and delivered the lectures for the students through PowerPoint and videos.

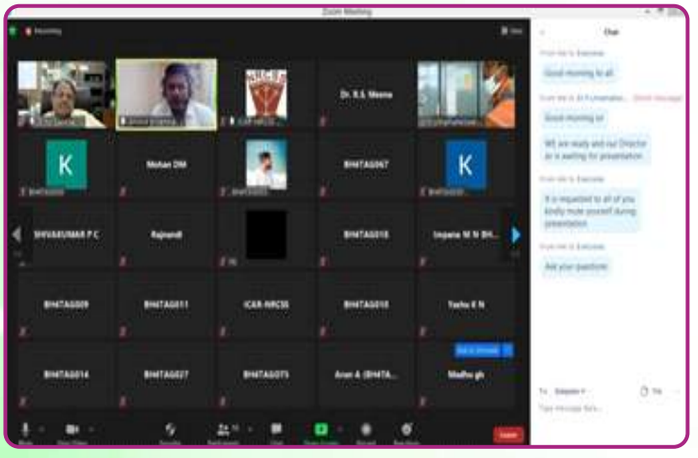
Following virtual tours have been organized during July-August 2021 by the ICAR-NRCSS, Ajmer

1. College of Horticulture, Hiriyur, University of Agriculture and Horticulture Science, Shivamogga, Karnataka on 23 July 2021.

2. College of Horticulture, Bidar, Bagalkot, Arabhavi and Sirsi (UHS, Bagalkot) on 03 August, 2021

3. College of Horticulture, Kolar, Bengaluru, Mysuru and Munirabad of University of Horticultural Sciences, Bagalkot, Karnataka on 19 August, 2021

4. College of Horticulture, University of Agricultural & Horticultural Sciences, Shivmogga, Mudigere-577 132 Chikmagalur- Dist. Karnataka on 21 August, 2021



Training / workshop / seminar / virtual meet / webinar etc. attended

S. No.	Name of Programme (Training/workshop/seminar etc.) attended	Organized By (Name of Institute)	Date of Programme	Participant (Name)
1.	Virtual Midterm Interaction Meet of AINP on Organic Farming	Co-ordination Unit ICAR-IIFSR Modipuram, Meerut, U.P	13th July, 2021	Dr. Shiv Lal, Dr. N. K. Meena, Dr. R. D. Meena, Dr. N. Chaudhary
2.	Azadi ka Amrit mahotasva lecture on"Biological nitrogen fixation for sustainable agriculture"	Under Azadi ka Amrit Mahotasva	16th July 2021	All Scientists of ICAR-NRCSS, Ajmer.
3.	Azadi ka Amrit mahotasva lecture on "Remote sensing innovations for smart and precision agriculture" organised by SKN Agriculture university, Jobner (Raj.)	S.K.N. Agriculture University, Jobner (Raj.)	25th July, 2021.	Dr. Chetan Kumar Jangir
4.	Three days international training on Biofortification: A key to nutritional security virtually organized by MANAGE, Hyderabad.	MANAGE, Hyderabad.	12-14th July, 2021	Dr. Chetan Kumar Jangir
5.	Virtual meeting of nagar rajbhasha karyanvan samiti baithak and and presented the data of last six month Rajbhasha activities at NRCSS.	ICAR- NRCSS, Ajmer.	28th July, 2021.	Dr. B. K. Mishra and Dr S.N. Saxena
6.	Webinar on 'Food safety and hygiene in food industry- role of Indian standards'	Bureau of Indian Standards, Govt. of India.	22th July, 2021.	Dr. B. K. Mishra
7.	National webinar on "Microbial biopesticides: next generation preparedness"	DBT-North East Centre for Agril. Biotech. in Collabo. with Dept of Pl. Pathology, AAU, Jorhat, Assam.	2nd July, 2021.	Dr. B. K. Mishra
8.	Three days international training on biofortification: A key to nutritional security (virtual mode)	MANAGE, Hyderabad	12-14th July, 2021.	Dr. N.K Meena

9.	International Conference on Innovative and Current Advances in Agriculture & Allied Sciences	SSDAT, Meerut	19-21st July 2021	Dr. N.K Meena
10.	Two days workshop on 'Soil and plant health for sustainable agriculture'	SK Memorial Agril. College, Padampur, Sri Ganganagar, Rajasthan	26-27th August 2021	Dr. Chetan K. Jangir
11.	National webinar on integrated pest management: A paradism shift	ICAR-NCIPM, New Delhi	27-28 August, 2021	Dr. N.K. Meena

Awards

- Dr Chetan K. Jangir received best paper award for "Impact of Agrochemicals on Soil Microbiota and Management: A Review", published in the Land Journal (impact factor -3.39)

Publications

- Kumar, K., Sahu, P.K., Kushwaha, D.K., Saxena, S.N., Mani, I., Singh, G. and Pradhan, N.C. (2021). Cumin cultivation: Present status and future prospects. *Pharma Innovation Journal*, SP-10(8):1121-1133.

- Jangir C.K., Rani, K. and Parashar, A. (2021). Crop management under stress conditions. AkiNik Publications, New Delhi. ISBN: 978- 93- 91216 -22 -1, Book DOI: https: // doi.org /10. 22271 /ed. book.1235

- **ऐश्वथ, ओ.पी.** (२०२०) समस्याग्रस्त भूमि एवं जल संसाधनों के लिए रोसा घास (पामारोसा)। मसाला सुरभि, २ (जुलाई - दिसम्बर): ६६-६८।

- लाल, शि., लाल, गो., **ऐश्वथ, ओ.पी.**, सक्सेना, एस.एन., मिश्र, बी.के., शेखावत,ने., चौधरी, म. एवं बलाई, ऐस.आर. (२०२०) बिजिया मसाला फसलों के अपशिष्टों एवं अवशेषों से मूल्य वर्धित उत्पाद और उद्यमिता सम्भावनायें। मसाला सुरभि, २ (जुलाई - दिसम्बर): ४२-४४।

- बाल कृष्ण झा, ओ.पी. ऐश्वथ, अणिमा प्रभा, रणवीर सिंह एवं ओंकार कुमार (२०२१) **पूर्वोत्तर पठारी एवं पहाड़ी क्षेत्रों में मसाला फसलों की वैज्ञानिक खेती। (प्रसार पुस्तिका सं.: ई १८३/राँची-७४)** मुद्रकः द कम्पोजर्स प्रैस, न्यू पटेल नगर, नई दिल्ली - ११० ००८.