



# भाकृअनुप-केशुबास समाचार



भाकृअनुप-केन्द्रीय शुष्क बागवानी संस्थान  
बीछवाल, बीकानेर (राजस्थान)

अंक : 20 क्रम : 02

जुलाई-दिसम्बर : 2020

निदेशक की कलम से.....



संस्थान के जुलाई-दिसम्बर, 2020 की अवधि के समाचार पत्र को इस दौरान संस्थान द्वारा किए गए महत्वपूर्ण अनुसंधान एवं विकास उपलब्धियों और अन्य कार्यक्रमों/गतिविधियों के साथ प्रकाशित और प्रस्तुत करना बहुत खुशी की बात है। देश के गर्म शुष्क/अर्ध-शुष्क क्षेत्रों में पोषण और आय सुरक्षा और कृषि-पारिस्थितिकी संतुलन प्राप्त करने के लिए, इन क्षेत्रों में बागवानी विकास का अत्यधिक महत्व है। लगातार बढ़ती आबादी की आवश्यकताओं की प्रतिपूर्ति हेतु बागवानी आधारित उद्योगों के कच्चे माल की मांग आज के समय का प्रमुख चुनौतीपूर्ण कार्य है। इन चुनौतियों को कम करने के लिए, देश के गर्म शुष्क/अर्ध-शुष्क क्षेत्रों की कठोर जलवायु परिस्थितियों के तहत गुणवत्ता वाले फलों और सब्जियों का उत्पादन करने के लिए नवीन तकनीकों को विकसित करना समय की आवश्यकता है। उपरोक्त लक्ष्य को प्राप्त करने के लिए, भाकृअनुप-केन्द्रीय शुष्क बागवानी संस्थान, बीकानेर (राजस्थान) अपनी स्थापना के समय से ही पूर्णरूप से समर्पित है। संस्थान अत्यधिक विपरीत पारिस्थितिकी में भी सीमित पानी और अन्य आवश्यकताओं के साथ बागवानी फसल उत्पादन प्रौद्योगिकियों को विकसित करने के लिए कड़ी मेहनत कर रहा है। यद्यपि, दुनिया भर में खतरनाक बीमारी कोविड-19 के फैलने के कारण यह अवधि चुनौतीपूर्ण थी। लेकिन, संस्थान के सभी वैज्ञानिक और अन्य कर्मचारियों ने कड़ी मेहनत करते हुए संस्थान के सभी अनुसंधान और विकास कार्यक्रमों/गतिविधियों को प्रगतिशील माध्यम में बनाए रखा।

एसिड लाइम के उन्नत जननद्रव्यों की पहचान, संकर किन्हीं का प्रवेशन, कुछ फसलों के डीएनए फिंगरप्रिंटिंग, फोग उत्पादन प्रौद्योगिकियों का मानकीकृत, बेहतर फसल उत्पादन के लिए खारे पानी की प्रबंधन तकनीक, गर्म शुष्क परिस्थितियों में प्याज की किस्मों की पहचान, पोषणोषधीय भरपूर बेल कैंडी प्रोटोकॉल का मानकीकरण, बेल, सहजन और

लम्बी सेमफली में विशिष्ट प्रकार के जननप्रकार/किस्मों की पहचान आदि प्रमुख शोध कार्य रहे हैं, जो देश के गर्म शुष्क/अर्ध-शुष्क क्षेत्रों की प्रतिकूल जैविक और अजैविक तनाव स्थितियों में बागवानी विकास में महत्वपूर्ण भूमिका निभा सकते हैं।

प्रस्तुत अवधि के दौरान, विभिन्न मानव संसाधन विकास और टीओटी कार्यक्रम / गतिविधियाँ जैसे वैज्ञानिकों / कर्मचारियों की विभिन्न संगठन / प्रशिक्षण कार्यक्रमों / वेबिनार / आभासी सम्मेलनों और संगोष्ठियों आदि में भागीदारी, आयोजित किए गए थे। उपरोक्त कार्यक्रमों के अलावा, कई किसानों के प्रशिक्षण, किसानों के दौरे, अनुसंधान-विस्तार-किसान-पुनरावृत्ति बैठकों, किसानों के खेतों का दौरा, किसान परामर्श, विभिन्न दिवसों का आयोजन / किसान सम्मेलन / संगोष्ठी, सप्ताह / पखवाड़े, के आयोजन के साथ अग्रिम पंक्ति प्रदर्शन, विधि प्रदर्शन इनपुट का वितरण, तकनीकी साहित्य आदि आयोजित / किए गए। संस्थान में चल रही एससीएसपी योजना के तहत किसानों / कृषि महिलाओं के बीच प्रशिक्षण और इनपुट वितरण जैसे विभिन्न कार्यक्रम / गतिविधियाँ भी आयोजित की गईं। आईआरसी, आईटीएमसी की वर्चुअल मीटिंग, एक्रिप (आईसीएआर-आईसीआरपी) की समीक्षा बैठक, पौधशाला की मान्यता के दल की बैठक आदि जैसी महत्वपूर्ण बैठकें आयोजित की गईं।

कुछ महत्वपूर्ण / गणमान्य व्यक्ति जैसे श्री हरीश चौधरी, माननीय राजस्व मंत्री, राजस्थान सरकार ने संस्थान का दौरा किया। उनके द्वारा यहां किए जा रहे अनुसंधान और विकास कार्यक्रमों की बहुत सराहना की गयी।

संस्थान द्वारा राजभाषा पत्रिका 'मरु बागवानी' के लिए भाकृअनुप का 'गणेश शंकर विद्यार्थी हिंदी पत्रिका पुरस्कार-2018-19' एक प्रतिष्ठित पुरस्कार प्राप्त किया गया था। संस्थान की प्रमुख विकास गतिविधियों में नवनिर्मित पुस्तकालय-सह-वीडियो कॉन्फ्रेंसिंग का आभासी उद्घाटन था। इस अवसर पर डॉ. त्रिलोचन महापात्रा, सचिव डेयर और महानिदेशक, भाकृअनुप, नई दिल्ली मुख्य अतिथि और डॉ. आनन्द कुमार सिंह, उप महानिदेशक (बागवानी विज्ञान) सम्मानित अतिथि थे।

इस समाचार पत्र में इसके क्षेत्रीय स्टेशन और केवीके सहित पिछले छह महीनों के दौरान आयोजित प्रमुख कार्यक्रमों / गतिविधियों और उपलब्धियों पर संक्षेप में प्रकाश डाला गया है।

(पी. एल. सरोज)  
निदेशक

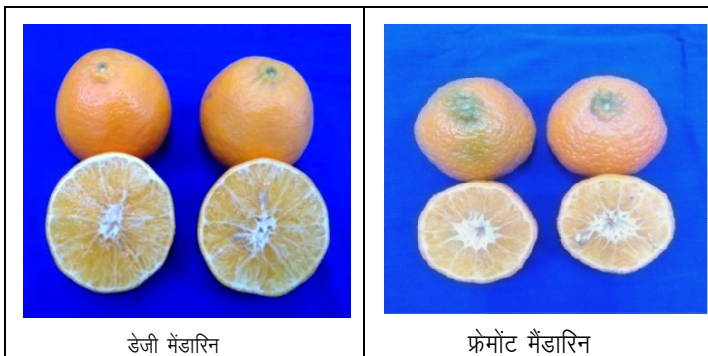
## अनुसंधान ज्योति

### मुख्यालय, बीकानेर

**एसिड लाइम के उन्नम जननद्रव्य की पहचान:** राजस्थान की गर्म शुष्क परिस्थितियों में उच्च उपज और गुणवत्ता के लिए एसिड लाइम के दो उन्नत जननद्रव्य सीआईएएच एसिड लाइम -3 और सीआईएएच एसिड लाइम -11 की पहचान की गई। जर्मप्लाज्म सीआईएएच एसिड लाइम -3' एक अर्ध-ओजस्वी पौधा है। फलों की कटाई ग्रीष्म ऋतु (जून-अगस्त के दौरान) में की जाती है। फल आयताकार, सुखद स्वाद के साथ मध्यम आकार में हरे रंग के और फलों का वजन 45.30 ग्राम होता है। रस सामग्री वजन के हिसाब से 55.10 प्रतिशत है। तीसरे वर्ष की फल उपज 10.60 किग्रा/पौधे थी। अन्य पहचाने गए जननद्रव्य 'सीआईएएच एसिड लाइम-11' एक अत्यधिक ओजस्वी पौधा है। इसके फलों की कटाई सितंबर-दिसंबर के दौरान देर से की जाती है। फल आयताकार, सुखद स्वाद के साथ मध्यम आकार के, हल्के हरे रंग के और फलों का वजन 40.05 ग्राम होता है। रस की मात्रा वजन के हिसाब से 52.31 प्रतिशत है। तीसरे वर्ष फल की उपज 14.28 किग्रा/पौधे थी। साइट्रस कैंकर रोग का प्रभाव बहुत कम था, जो राजस्थान की गर्म शुष्क स्थिति के तहत एक बहुत ही गंभीर समस्या है ( **रमेश कुमार, जे.एस. गोरा और बी.डी. शर्मा**) ।



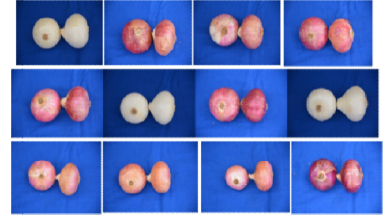
**गर्म शुष्क जलवायु परिस्थितियों में अगती फसल के लिए संकर मंडारिन का प्रवेशन:** भाकृअनुप-केशुबासं, बीकानेर ने आठ अलग-अलग मंडारिन संकरों की पहचान कर उनका मूल्यांकन किया है। यह हैं-किन्नौ, डेजी, फ्रेमोंट, मिशाल, पर्ल टैंगलो, फेयर चाइल्ड, नागपुर संतरा और मुरकोट। उनमें से, डेजी मंडारिन (फॉर्च्यून x फ्रेमोंट) को नवंबर के महीने के दौरान बेहतर फलों की गुणवत्ता और जल्दी परिपक्वता के साथ आशाजनक पाया गया।



फ्रेमोंट मंडारिन (क्लेमेंटाइन x पोंकन) को भी दिसंबर माह में परिपक्वता के साथ बेहतर फल गुणवत्ता के आधार पर आशाजनक पाया गया। डेजी और फ्रेमोंट मंडारिन राजस्थान के गर्म शुष्क क्षेत्रों में नवंबर-दिसंबर के दौरान अगती तुड़ाई (किन्नौ मंडारिन की तुलना में अगती तुड़ाई, जिसमें जनवरी से फरवरी तक कटाई की जाती है) के कारण लाभकारी मूल्य प्राप्त करने में सहायक हो सकते हैं ( **रमेश कुमार, जे.एस. गोरा और बी.डी. शर्मा**) ।

**गर्म शुष्क परिस्थितियों में प्याज की किस्मों का प्रदर्शन मूल्यांकन:** गर्म शुष्क क्षेत्रों में प्याज के महत्व और संभावनाओं को ध्यान में रखते हुए, प्याज की ग्यारह किस्मों यथा- भीम सुभरा, भीम राज, भीम सुपर, भीम किरण, भीम शक्ति, भीम सफेद, भीम श्वेता, भीम रेड, भीम डार्क रेड और आरओ-252 का मूल्यांकन

रबी सीजन के दौरान किया गया। कंद की उपज 19.14 टन/हेक्टेयर (भीम शुभ्रा) से लेकर 44.85 टन/हेक्टेयर (भीम रेड) के बीच पाई गई। प्रदर्शन के मूल्यांकन के आधार पर, यह अनुमान लगाया जा सकता है कि प्याज में अच्छी उपज और गुणवत्ता के साथ गर्म शुष्क जलवायु परिस्थितियों में खेती की क्षमता है। ( **ए.के. वर्मा, पी.पी. सिंह, पी.एल. सरोज और मेजर सिंह**)



**शहतूत (मोरस अल्बा एल.) में सीधी-सपाट शाखाएं :** इससे पहले, चीकू आम और अन्य फल फसलों में सीधी-सपाट शाखाओं के स्फूटन को देखा जा रहा था, लेकिन यह शहतूत के अंकुर चयन पहली बार देखा गया है, जैसा कि नीचे दर्शाया गया है। ( **डी.के. सरोलिया, के.एल. कुमावत, डी. सिंह और पी.एल. सरोज**)।



चित्र. शहतूत में सीधी-सपाट शाखाएं

**पोषणोषधीय गुणों से भरपूर बेल कैंडी बनाने की एक विधि का मानकीकरण:** बेल फल की कैंडी तैयार करने के लिए एक विधि का मानकीकरण किया गया है। फलों के बीज और छल्ले को अलग करने के लिए कच्चे फलों को 4 X 2 सेमी (लम्बाई x चौड़ाई) के आकार में काटा गया। स्लाइस को उबलते पानी में 15 मिनट के लिए पकाया गया और 24 घंटे के लिए 60° ब्रिक्स की चाशनी में डुबोया गया। इसके बाद चाशनी से बाहर निकालकर उस चाशनी को 70° ब्रिक्स तक बढ़ायाकर बेल के स्लाइस को पुनः उसमें डुबोया गया। इस प्रक्रिया को चाशनी की मिठास के स्थिर होने तक 3 बार दोहराया गया। इसके बाद स्लाइस को सिरप निकालकर गर्म पानी (50° सेल्सियस) से धोकर उस पर लगी चाशनी को हटा दिया गया। इसके बाद 50° सेल्सियस तापमान पर 8 घंटे के लिए कैबिनेट डिहाइड्रेटर में सुखाकर 3 घंटे तक कंडीशनिंग के लिए कमरे के तापमान पर रखा जाता है। स्वादाकार मूल्यांकन के दौरान कैंडी को 9 पॉइंट हेडोनिक स्केल में से 8.60 अंक मिले ( **पी.एस. गुर्जर, आर.के. मीणा और एस.आर. मीणा**)।



**क्षेत्रीय केन्द्र, वेजलपुर -गोधरा (गुजरात)**

**थार सृष्टि- फल रूप में खाने और प्रसंस्करण हेतु एक नई बेल किस्म:** थार सृष्टि बेल की मध्यम परिपक्व किस्म है, जिसमें बारानी गर्म अर्ध-शुष्क पारिस्थितिकी तंत्र में शानदार वृद्धि, विशेष पत्ती आकार और प्रकार के साथ घना चंदवा, धूप का प्रभाव कम, सूखा प्रतिरोधी और विपुल-फलन होता है। इसमें फल बनने के बाद 300 दिनों पकता है और 9वें वर्ष के दौरान औसत उपज 91.50 किग्रा/पौधे देता है। अत्यधिक केंद्रित बीज गुहा (लोक्यूल व्यवस्था) वाली यह पहली किस्म है जिसमें आकर्षक फल रंग और मनमोहक गूदा होता है। फलों का औसत वजन 1.5 किलो होता है। यह स्वाद में बहुत मीठा, गूदा व लगदी की मात्रा, कुल घुलनशील ठोस और टीएसएस /अम्लता अनुपात उच्च (128.33) होता है ( **ए.के. सिंह, संजय सिंह और पी.एल. सरोज**) ।





## सहजन में अधिक उपज वाले जननप्रकार सीएचईएसडी-40 (आईसी-0629352)

**की पहचान :** शुष्क भूमि अर्ध शुष्क परिस्थितियों में मध्यम पौधे की ऊँचाई (2.74 मी.) के साथ एक अत्यधिक फलन वाले सहजन जननप्रकार की पहचान की गई है जिसमें सुवापंखी रंग की फली लगती है। प्रत्येक फली का वजन 218 ग्रा., 45-48 सेमी लंबाई, 9-10 बीज और टीएसएस 9.5 डिग्री ब्रिक्स के साथ उच्च पोषण दर होती है **(एल पी यादव) ।**



## किसानों के लिए कार्यक्रम/विस्तार गतिविधियां बीकानेर

### मानव संसाधन कार्यक्रम/गतिविधियां एससीएसपी कार्यक्रम की गतिविधियां

#### एससीएसपी योजना के तहत प्रशिक्षण और सामग्री वितरण कार्यक्रम का आयोजन:-

- श्री गंगानगर (राजस्थान) के विभिन्न स्थानों पर दिनांक 06.07.2021 और 07.07.2020 को कार्यक्रम आयोजित किया।
  - बीकानेर जिले के पेमासर गांव में दिनांक 18.07.2020 को तथा भरूपवा गांव में 31.07.2020 में प्रशिक्षण कार्यक्रम आयोजित किया।
  - 19.08.2020 और 20.08.2020 को सीकर जिले के खूड़, दांता रामगढ़, और चैनपुरा, पीरपराली में और 25.08.2020 को हनुमानगढ़ जिले के चक हीरासिंह वाला और जंदवाला, सांगरिया में कार्यक्रम आयोजित किया।
  - दिनांक 04.08.2020 से 05.08.2020 के दौरान राजस्थान के बाड़मेर जिले के बुडीवाड़ा, बालोतरा और धंधलवास, गुडमलाई में, 19.10.2020 को जोधपुर जिले के कलिमाली, फलोदी प्रखंड और जैसलमेर के दुधिया (गोगलियों की ढाणी), पोंकरण प्रखंड में प्रशिक्षण एवं सामग्री वितरण कार्यक्रम आयोजित किया गया।
  - जैसलमेर के दक्षिण प्रखंड के बसनपीर गांव में दिनांक 21.10.2020 को तथा झुंझुनू जिले के डिंगाली, ब्लॉक राजगढ़ और बंगोठारी, ब्लॉक पिलानी, 02.11.2020 को 03.11.2020 को प्रशिक्षण एवं सामग्री वितरण कार्यक्रम आयोजित किया गया।
  - बीकानेर जिले के खारा (चक 4 जेएमडी) गांव में 05.12.2020 को तथा नागौर जिले के कंवलीसर में दिनांक 07.12.2020 को प्रशिक्षण एवं सामग्री वितरण कार्यक्रम आयोजित किया गया।
  - पाली जिले के सुमेरपुर ब्लॉक के बीसलपुर गांव में दिनांक 08.12.2020 को प्रशिक्षण एवं सामग्री वितरण कार्यक्रम आयोजित किया गया।
- ( बी.डी. शर्मा, एम.के. जाटव, बी.आर. चौधरी, आर.सी. बलाई, रेखा रानी और पी. एल. सरोज)।



विभिन्न एससीएसपी कार्यक्रमों की झलकें

## संगोष्ठी/सम्मेलन/दिवस/सप्ताह /पखवाड़ा का आयोजन

- दिनांक 21.09.2020 को 'पौधे बिक्री दिवस' मनाया गया।
- दिनांक 28.09.2020 को संस्थान का 27वां स्थापना दिवस मनाया गया।
- महात्मा गांधी जयंती का उत्सव 02.10.2020 को मनाया गया।
- सांप्रदायिक सद्भाव अभियान सप्ताह 19.11.2020 से 25.11.2020 के दौरान मनाया गया।
- दिनांक 26.11.2020 को 'संविधान दिवस' मनाया गया।
- बीकानेर जिले के खारा (2 और 4 जेएमडी) गांव में 05.12.2020 को 'विश्व मृदा स्वास्थ्य दिवस' मनाया गया।
- संस्थान में दिनांक 16.12.2020 से 31.12.2020 तक 'स्वच्छता पखवाड़ा' का आयोजन किया गया।
- बीकानेर जिले के मेघासर गांव में 23.12.2020 को भारत के पांचवें माननीय प्रधानमंत्री चौधरी चरण सिंह के जन्मदिन के प्रतीक के रूप में 23.12.2020 को किसान दिवस मनाया गया।



### विभिन्न कार्यक्रमों की झलकें

**किसान मेला/किसान सम्मेलन का आयोजन :** दिनांक 25.12.2020 को "पीएम किसान सम्मान निधि योजना" के लाइव टेलीकास्ट के अवसर पर संस्थान में किसान सम्मेलन/किसान मेले का आयोजन किया गया, जिसमें 300 से अधिक किसान, नागरिक, अधिकारी, जनप्रतिनिधियों, वैज्ञानिकों और छात्रों ने भाग लिया और पीएम किसान सम्मान निधि योजना पर आयोजित माननीय प्रधानमंत्री के लाइव प्रसारण को देखा। इस अवसर पर मुख्य अतिथि श्री मोदाराम मेघवाल, जिला प्रमुख, बीकानेर (राजस्थान) थे।



पीएम किसान सम्मान निधि योजना के लाइव टेलीकास्ट के अवसर पर आयोजित किसान सम्मेलन में बोलते हुए संस्थान के निदेशक प्रो. पी. एल. सरोज।

### संस्थान में गणमान्य व्यक्तियों का भ्रमण

श्री हरीश चौधरी, माननीय राजस्व मंत्री, राजस्थान सरकार ने 22.10.2020 को संस्थान का दौरा किया। उन्होंने संस्थान के फार्म/प्रयोगात्मक ब्लॉकों का दौरा किया और संस्थान द्वारा विकसित प्रौद्योगिकियों के बारे में निदेशक और वैज्ञानिक के साथ बातचीत की। उन्होंने किसानों के लाभ के लिए संस्थान द्वारा विकसित अनुसंधान और विकास कार्यक्रमों और प्रौद्योगिकियों की अत्यधिक सराहना की।



संस्थान के निदेशक प्रो. (डॉ.) पी.एल. सरोज श्री हरीश चौधरी, माननीय राजस्व मंत्री, राजस्थान सरकार को यहां से विकसित खेजड़ी की उन्नत किस्म (थार शोभा) के बारे में बताते हुए।

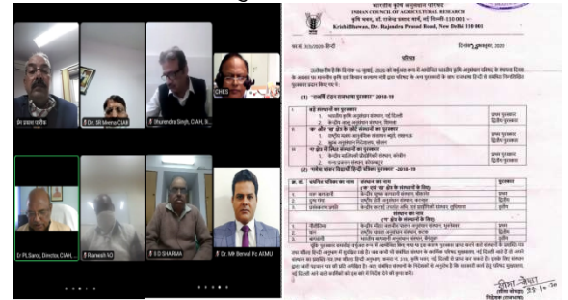
### राजभाषा गतिविधियां

**राजभाषा कार्यन्वयन समिति की बैठक एवं त्रैमासिक हिन्दी कार्यशाला :** राजभाषा कार्यन्वयन समिति की तिमाही बैठकों का आयोजन कोविड-19 महामारी के लोकडाउन एवं अन्य बंधनों के कारण समय पर एवं तिमाही आधार पर नहीं हुआ। यद्यपि संस्थान ने वर्ष 2020 के दौरान चार बैठक आयोजन की प्रतिबद्धता को पुरा किया है। इस क्रम में प्रथम एवं द्वितीय बैठक एक साथ 15 जुलाई को ऑनलाईन माध्यम से आयोजित की गयी, जिनमें जनवरी-मार्च 2020 और अप्रैल-जून 2020 के बिंदुओं पर चर्चा की गयी। जुलाई-सितम्बर की बैठक का आयोजन भी ऑनलाईन माध्यम से दिनांक 24 जुलाई, 2020 को किया गया था। अक्टूबर-दिसम्बर, 2020 तिमाही की बैठक का आयोजन 8 दिसम्बर, 2020 को किया गया था। संस्थान में कार्यरत अधिकारियों/कर्मचारियों को हिन्दी में कार्य करने की प्रेरणा के लिए दिनांक 19 सितम्बर, 2020 को हिंदी कार्यशाला का आयोजन किया गया था।

**हिंदी सप्ताह का आयोजन:** भाकृअनुप.-केन्द्रीय शुष्क बागवानी संस्थान, बीकानेर में हिंदी सप्ताह के दौरान दिनांक 14 सितम्बर 2020 को हिंदी दिवस का आयोजन किया गया। हिंदी दिवस के साथ ही हिंदी सप्ताह का प्रारंभ हुआ जिसमें सप्ताहभर संस्थान में हिंदी भाषा को बढ़ावा देने के लिए विभिन्न प्रतियोगिताएं आयोजित की गयी। एक सप्ताह तक चले इस आयोजन में विभिन्न प्रतियोगिताएं रखी गयी थी, जिनमें संस्थान के वैज्ञानिकों के सहित सभी कर्मिकों ने भाग लिया। हिंदी में वाद-विवाद प्रतियोगिता में प्रथम स्थान पर डॉ. दीपक कुमार सरोलिया, वरिष्ठ वैज्ञानिक, डॉ. अजय कुमार वर्मा, वैज्ञानिक और डॉ. हनुमान राम, वैज्ञानिक संयुक्त रूप से द्वितीय स्थान पर रहे। तृतीय स्थान पर डॉ. मुकेश कुमार बेरवाल, वैज्ञानिक और डॉ. अनीता मीणा, वैज्ञानिक संयुक्त रूप से तृतीय स्थान पर रहे। प्रशासनिक वर्ग के लिए आयोजित हिंदी टिप्पण लेखन प्रतियोगिता में प्रथम स्थान पर श्रीमती पूजा जोशी, आशुलिपिक, द्वितीय स्थान पर श्री राजेश दैया, सहायक और तृतीय स्थान पर श्री राकेश कुमार स्वाामी, सहायक रहे। इसी प्रकार हिंदी शब्द लेखन प्रतियोगिता में वर्ग के आधार पर प्रतिभागियों को रखा गया था। वैज्ञानिक वर्ग में प्रथम स्थान पर संयुक्त रूप से डॉ. एस. के. माहेश्वरी, प्रधान वैज्ञानिक एवं डॉ. कमलेश कुमार, वैज्ञानिक रहे। द्वितीय स्थान पर डॉ. अजय कुमार वर्मा, वैज्ञानिक और तीसरे स्थान पर डॉ. पवन कुमार गुर्जर, वैज्ञानिक रहे। तकनीकी वर्ग से प्रथम स्थान पर श्री भोजराज खत्री, तकनीकी अधिकारी, दूसरे स्थान पर श्री पृथ्वीराज सिंह, तकनीकी अधिकारी और तीसरे स्थान पर श्री छट्टन लाल मीणा, वरिष्ठ तकनीकी अधिकारी रहे। प्रशासनिक वर्ग से प्रथम स्थान पर श्री कुलदीप पान्डे, सहा. प्रशासनिक अधिकारी, दूसरे स्थान पर श्री स्वरूप चंद राठौड़, अश्रलि और तीसरे स्थान पर श्रीमती पूजा जोशी, आशुलिपिक रहे। आर.ए तथा वाईपी वर्ग से प्रथम स्थान पर श्री लोकेश कुमार, द्वितीय स्थान पर श्री पवन कुमार पारीक और तीसरे स्थान पर श्री मुकेश कुमार नागर रहे।

संस्थान की राजभाषा पत्रिका "मरु बागवानी" को दिनांक 16 जुलाई 2020 को वर्ष 2018-19 का गणेश शंकर विद्यार्थी हिंदी पत्रिका पुरस्कार प्रदान किया। भारतीय कृषि अनुसंधान परिषद के स्थापना दिवस के अवसर पर आयोजित

समारोह में माननीय कृषि एवं किसान कल्याण मंत्री, भारत सरकार, नई दिल्ली के द्वारा ऑनलाईन माध्यम से यह पुरस्कार दिया गया।



संकास की ऑनलाईन बैठक की झलक एवं पुरस्कार घोषणा पत्र

### संस्थान में आयोजित विकास गतिविधियां

**नवनिर्मित पुस्तकालय-सह-वीडियो कॉन्फ्रेंसिंग भवन का उद्घाटन :** डॉ. त्रिलोचन महापात्र, सचिव डेयर और महानिदेशक, आईसीएआर, नई दिल्ली ने 12.10.2020 को ऑनलाईन माध्यम से आईसीएआर-सीआईएएच, बीकानेर में नव निर्मित पुस्तकालय-सह-वीडियो कॉन्फ्रेंसिंग भवन का उद्घाटन किया। इस अवसर पर डॉ. आनन्द कुमार सिंह, उप महानिदेशक (बागवानी विज्ञान), भाकृ अनुप, डॉ. बी. के पांडे, सहायक महानिदेशक (बागवानी-1), डॉ. ओ. पी. यादव, निदेशक, भाकृअनुप-काजरी, जोधपुर, डॉ. ए. के. तोमर, निदेशक, भाकृ अनुप-सीएसडब्ल्यूआरआई, अविनगर, प्रो. (डॉ.) पी. एल. सरोज, निदेशक, भाकृ अनुप-सीआईएएच, बीकानेर तथा बीकानेर स्थित भाकृअनुप संस्थानों के क्षेत्रीय केन्द्रों के प्रमुख, वैज्ञानिक और अन्य गणमान्य व्यक्ति ऑनलाईन और ऑफलाईन उपस्थित रहे।



डॉ. त्रिलोचन महापात्र, सचिव, डेयर और महानिदेशक, भाकृअनुप, नई दिल्ली ने डॉ. ए.के. सिंह, उप महानिदेशक (बागवानी विज्ञान), भाकृअनुप, नई दिल्ली की उपस्थिति में संस्थान के नवनिर्मित पुस्तकालय-सह-वीडियो कॉन्फ्रेंसिंग भवन का उद्घाटन किया।

**प्रकाशक** प्रो. (डॉ.) पी. एल. सरोज, निदेशक, भाकृअनुप-केन्द्रीय शुष्क बागवानी संस्थान, बीकानेर (राजस्थान)

**संकलन एवं सम्पादन** : डॉ. शिवराम मीना, प्रधान वैज्ञानिक  
: डॉ. रेखा रानी, वैज्ञानिक  
: श्री प्रेम प्रकाश पारीक, सहा. मुख्य तक. अधिकारी

**शब्द-सज्जा** : श्री भोजराज खत्री

**छायाचित्रण** : श्री संजय पाटिल





## CIAH: NEWSLETTER



**ICAR-Central Institute for Arid Horticulture  
Beechwal, Bikaner-334 006, Rajasthan**

Vol. 20, No.02

July - December, 2020

### From the Director's Desk .....



It is a matter of great pleasure to bring out the Institute's Newsletter and to present significant R & D research achievements and others programmes/activities carried out by the Institute during July - December, 2020. To achieve the nutritional and income security and agro-ecological balance in hot arid/semi-arid regions of the country, the horticultural development in these areas has vital importance. To meet the needs of ever-increasing population and demand of raw materials of the horticulture-based industries are the major challenging tasks of the day. To mitigate these challenges, it is the need of the hour to develop novel technologies to produce the quality fruits and vegetables under the harsh climatic conditions of the hot arid/semi-arid regions of the country. To achieve above goal, the ICAR-Central Institute for Arid Horticulture, Bikaner (Rajasthan) is fully dedicated since its inception. The Institute is working hard to develop needful horticultural crop production technologies with limited water and other inputs under high stress conditions. Although, the reported time was challenging due to the worldwide spread of dreaded diseases COVID-19. But, all scientific and other staff of the Institute worked hard and maintained all the research and developmental programmes/ activities of the Institute in progressive mode.

The research progress like identification of superior germplasm of acid lime, introduction of hybrid mandarins, DNA fingerprinting of some crops, standardized of *Phog* production technologies,

management techniques of saline water for better crop production, identification varieties of onion under hot arid conditions, standardization of a protocol for preparation of nutraceutical rich bael candy, identification of elite type genotype/varieties of bael, drumstick and Yardlong bean, etc were major research achievements which can play a vital role in advancement of horticultural development under prevailing adverse biotic and abiotic stresses conditions in hot arid/semi-arid regions of the country.

During the reported period, various HRD and TOT programmes/activities like organization/ participation of scientists/staff in different trainings programmes/webinars/virtual conferences and seminars, etc. Were achieved. In addition to above several farmers' training programmes, FLDs, method demonstrations were organized along with farmers' visit, research-extension-farmers-interaction meets, visit to farmers' fields, advisories, organization /celebration of Diwas/ day/ days/ Kisan sammelan/ meet, week/ fortnight, distribution of inputs, technical literatures etc., were also carried out during the reported period. Various programmes/ activities like trainings and input distribution among farmers/ farm women were also organized under ongoing SCSP Scheme in the Institute. Important meetings like virtual meetings of IRC, ITMC, review meeting of ICAR-AICRP on AZF, meeting of Nursery Accreditation Team, etc were held.

Some VIPs/ Dignitaries like Sh. Harish Chaudhary, Hon'ble Minister of Revenue, Govt. of Rajasthan visited the Institute on 22/10/2020 and he highly appreciated the research and development programmes of the Institute.

A prestigious awards like ICAR "Ganesh Shankar Vidyarthi Hindi Patrika Puraskar-2018-19 for Rajbhasha Patrika " Maru Bagwani" was achieved by the Institute. Among the major developmental activities of the Institute were virtual inauguration of the newly constructed library-cum-video conferencing building by Dr. Trilochan Mohapatra, Secretary DARE and DG, ICAR, New Delhi as Chief Guest and Dr. A. K. Singh, DDG (HS) as Guest of Honour.

In this Newsletter such major programmes/activities and achievements of the Institute including its regional station and KVK during last six months are being highlighted in brief.

**(P. L. Saroj)  
Director**

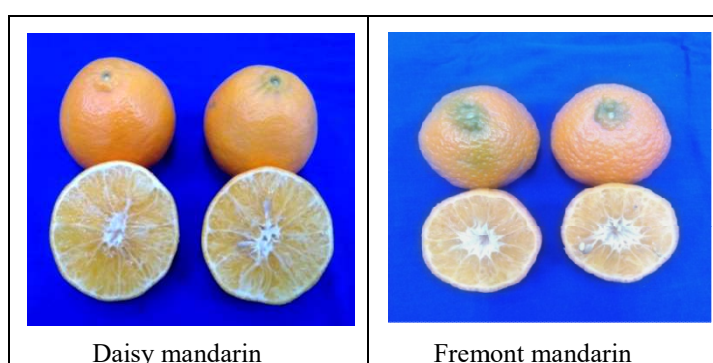
## Research Spectrum

At H. Q. , Bikaner.

**Identification of superior germplasm of acid lime:** Two superior germplasm of acid lime namely CIAH acid lime-3 and CIAH acid lime-11 were identified for higher yield and quality under hot arid condition of Rajasthan. The germplasm "CIAH acid lime-3" is a semi vigorous plant. Fruits are harvested in summer season (during June-August). The fruits are of oblong shape, medium size with pleasing flavour, greenish colour and fruit weight is 45.30g. The juice content is 55.10% by weight. The fruit yield on third year was 10.60 kg/plant. The other identified germplasm "CIAH acid lime-11" is a highly vigorous plant. Fruits are harvested late during September-December. Fruits are of oblong shape, medium size with pleasing flavour, light greenish colour and fruit weight is 40.05g. The juice content is 52.31% by weight. The fruit yield on third year was 14.28 kg/plant. The effect of citrus canker disease was very less which is a very serious problem under hot arid condition of Rajasthan (**Ramesh Kumar, J.S. Gora and B.D. Sharma**).



**Introduction of hybrid mandarins for early harvesting under hot arid climatic conditions:** ICAR-CIAH, Bikaner introduced and evaluated eight different mandarin hybrids i.e. Kinnow, Daisy, Fremont, Michal, Pearl Tanglo, Fair Child, Nagpur Santra and Murcott. Among them, Daisy mandarin (Fortune x Fremont) was found promising with improved fruit quality and early maturity during the month of November.



Fremont mandarin (Clementine x Ponkan) was also found promising with improved fruit quality and early maturity during December. Daisy and Fremont mandarin can help in fetching remunerative prices due to early harvesting during November-December (early harvesting in comparison to kinnow mandarin in which harvested January to February) in hot arid regions of Rajasthan (**Ramesh Kumar, J.S. Gora and B.D. Sharma**)

**DNA fingerprinting of long melon cv. *Thar Sheetal* and ridge gourd cv. *Thar Karni*:** ISSR, ScoT and CBDP markers

were profiled using PCR amplification on genomic DNA of long melon. For assessing the fidelity of varietal-specific bands, Punjab Long melon-1 cultivar was used as control for comparison. Ten ISSR, 3 ScoT and 7 CBDP markers produced specific bands which differentiated *Thar Sheetal* variety to Punjab Long Melon-1. Likewise, for identification of *Thar Karni* variety of ridge gourd, Pusa Nutan, Pusa Nasdar and AHRG-57 (improved line) were used as controls for comparison. As a result of PCR amplification, five CBDP and 2 ISSR markers were differentiated *Thar Karni* variety from the controls (**Chet Ram, D. Singh, MK Berwal, Kamlesh Kumar, AK Verma and BR Choudhary**).

**DNA Fingerprinting of *Cordia myxa* cv. *Thar Bold*:** For assessing varietal-specific DNA fingerprints in *Thar Bold*, thirty six ScoT and 22 CBDP markers were profiled in *Thar Bold* variety of *lasora* and 6 germplasm of *Cordia myxa*. The banding pattern in *Thar Bold* variety was scored and fidelity of the varietal-specific bands was compared with banding pattern of 6 germplasm. Out of 36 ScoT markers, six markers were produced *Thar Bold*-specific bands. Similarly, two CBDP markers (CBDP11 and CBDP16) were produced *Thar Bold*-specific bands (**Chet Ram, D. Singh and P. L. Saroj**).

**Management techniques of saline water for better production of Kachri (*Cucumis callosus*) crop under hot arid climatic conditions:** The was carried out to investigate the effect of with ( $4EC_{dSm-1}$ ) and without saline ( $5EC_{dSm-1}$ ) water on the performance of *Kachri* crop. It was recorded that the maximum percent yield response was observed with the application/treatment of Gypsum@5ton/ha+ $4EC_{IW}$  (49.00%) followed by vermicompost @10 ton/ha+ $4EC_{IW}$  (45.83%), FYM @15 ton/ha+  $4EC_{IW}$  (41.66%) in comparison to control. The maximum dry matter percentage (12.39%) and (12.80) were recorded with the treatment of FYM@15ton/ha under with or without saline water. It was concluded that the treatment of Gypsum@5ton/ha+ $4EC_{IW}$  was good for yield as well as yield response of *Kachri* crop under hot arid conditions of Western Rajasthan (**Anita Meena, M.K. Jatav and R.C. Balai**)

**Performance evaluation of onion varieties under hot arid conditions:** Considering the importance and scope of onion under hot arid regions, eleven varieties of onion viz. Bhima Subhra, Bhima Raj, Bhima Supar, Bhima Kiran, Bhima Shakti, Bhima Safed, Bhima Shweta, Bhima Red, Bhima Dark Red and RO-252 were evaluated during *Rabi* season. The bulb yield was found in the range between 19.14 t/ha (Bhima Shubhra) and 44.85 t/ha (Bhima Red). Based on the performance evaluation, it can be inferred that onion has potential for cultivation under hot arid climatic conditions with good yield and quality (**A.K. Verma, P.P. Singh, P.L. Saroj and Major Singh**)



**Challenges in cultivation of *Thai ber* under hot arid ecosystem:** *Thai ber* variety is one of the newly introduced material of ber in India but in hot arid ecosystem of western Rajasthan, there were some problems





in cultivation of the same. Amongh them, major are abnormal/ misshape of fruits, frost injury (at fruit growth stage), limb breakage, etc. To control or mitigate the above problems, encouraging results were found by the application of GA<sub>3</sub>, boric acid, sucrose. (P.L.Saroj, D.K.Sarolia, B.D.Sharma & K.L. Kumawat).

#### Flat branching in Mulberry (*Morus alba* L.)

Earlier, flat branching phenomenon were being reported in sapota, mango and other fruit crops, but it was noticed first time in seedling selection of mulberry also as given below. (D.K. Sarolia, K.L. Kumawat, D. Singh & P.L. Saroj).



Fig. : Flat branching in seedling selection of mulberry

**Standardized of Phog production techniques:** The Institute (CIAH), initiated the work on conservation and protection/promotion of Phog (*Calligonum polygonoides*) in hot arid regions. The freshly harvested seeds of Phog gave 72–78 % germination and 40-45 days old seedlings good for planting and August is best. Nursery raise seedlings survived 65 % whereas self-sown saplings re-planting gave 52 % field establishment. Adoption of good management practices in initial 24 months can give highest results for establishing it orchard. Seedlings of CIAH Selection-1 (Phog) took faster growth and shrubs well-shaped in 4-5 year and from this age May pruning and November lopping is recommended for higher bio-mass. Plants took quick growth, huge flowering and seed formation in the month of May. This is the period for bio-mass harvest through light pruning (2.65 kg fodder and 2.88 kg fuel-wood yield). Plants re-sprouted from June and lopping for fodder (3.16 kg/plant) is done in November (DK Samadia, MK Berwal, PS Gurjar, AK Verma and HR Chodhary).

**Standardization of dehydration techniques for cluster beans for rural entrepreneurship:** Twenty diverse genotypes of cluster bean were evaluated for dehydration and rehydration characteristics of their green pods. Average dried product (pods) recovery was 19.77% of fresh weight. It was recorded highest in HG-2-20 (24.45%) followed by Kiran (22.90%), Thar Bhadvi (21.24%) while lowest (13.87%) was observed in RARI 1 genotype. Average rehydration ratio of all genotypes was 3.52. It was recorded maximum (4.64) in MDU 1 followed by Thar Bhadvi (4.42), Kiran (3.92) while minimum rehydration ratio (2.72) was recorded in HG-2-20. Based on drying and rehydration characteristics MDU 1, Thar Bhadvi and Kiran genotypes were found suitable for dehydration and rural entrepreneurship to money from local market (P.S. Gurjar, A.K. Verma, Hanuman Ram, R.K. Meena and D.K. Samadia).

**Standardization of a protocol for preparation of nutraceutical rich bael candy:** A protocol was standardized for preparing the candy of the bael fruit. Raw fruits were sliced into size of 4 cm x 2cm (LxW) to separate the seeds and ring of the fruits. Slices were blanched in boiling water for 15

minutes and dipped in 60 °Brix sugar syrup for 24 hrs and were taken out from the sugar syrup and concentration of the sugar syrup was enhanced up to 70 °Brix and removed slices



of bael, again dipped in so concentrated syrup. This process was repeated for 3 times till the stability of syrup °Brix. The slices were removed from syrup, washed with hot water (50 °C) to remove adhered sugar from surface, dried in cabinet dehydrator for 8 hours at 50 °C. Removed from the dehydrator and kept for 3 hours at room temperature for conditioning. Candy got 8.60 score out of 9 point hedonic scale during sensory evaluation (P.S. Gurjar, R.K. Meena and S.R. Meena)

**At CHES, Vejalpur, Godra, Gujarat.**

**Thar Srishti: A new table and processing purpose bael variety:** Thar Srishti is mid maturing variety of bael having luxuriant growth, dense canopy with peculiar leaf shape and size, less sunscald, drought hardy and prolific-bearer which starts ripening after 300 days of fruit setting with an average yield 91.50kg/plant during 9<sup>th</sup> year of orchard life. This is first Bael variety with highly centric seed cavity (locule arrangement) with attractive and appealing ripened pulp and fruit colour (no off flavour). Average fruit weight (kg) is 1.5. It is very sweet in taste and having high pulp and mucilage total soluble solids and high TSS/acidity ratio (128.33) under rainfed hot semi-arid ecosystem (A. K. Singh, Sanjay Singh and P. L. Saroj).



**Eelite genotype of Bael: CHESB-27 (IC-06293867):** It was collected from Undel village, Anand, Gujarat during the year 2011 and evaluated for its characteristics. It is heavy yielder and average yield per plant is 105.80 kg/plant at 9<sup>th</sup> year and weight of each fruit ranged between 1.2-1.45 kg. It is mid maturing variety (4<sup>th</sup> week of April). Compact canopy, cluster bearing, deep yellow colour of ripened fruit. It is having excellent shelf life (15days) after harvesting and free from canker under Godhra, Gujarat conditions. It is highly suitable for pickle, candy and powder making. (A. K. Singh, Sanjay Singh and P. L. Saroj)



### Early maturing genotypes of Yardlong bean.

**CHESVC-15:** The pods this genotype are dark red in colour, long (an average length of 52-54cm), and an average pod girth of 2.6cm with pod weight of 20-22g. The first flowering take place 38-40 DAS. The total pod per plant varies 180-220 with an average yield of 3-3.5kg/plant.

**CHESVC-16:** This is **early flowering genotype** with attractive light green colour pods, an average pod length of 50-52cm and pod girth of 3.2cm with pod weight of 28-30g. The first flowering take place **29-30** DAS. The total number of pods per plant varies 150-180 with an average yield of 3.5- 4.0kg/plant of fresh pods (**Gangadhara K, L.P.Yadav and V.V. Apparao**).

**Identification of heavy yielder genotype of drumstick - CHESD-40 (IC-0629352):** A heavy yielder drumstick genotype with medium plant height (2.74 m) was identified which produce parrot green coloured pods. The weight of each pod was 218 g with 45-48 cm length, 9-10 seeds and TSS 9.5°Brix having high nutritional value under dryland semi arid conditions (**L. P. Yadav**).



### Farmers' programmes/extension activities.

#### (a) At H.Q. Bikaner

##### ❖ Trainings.

- During the reported period of time 31 training programmes including trainings under SCSP Scheme were conducted on different topics/aspects related to improved arid horticultural production technologies (**S. R. Meena, R.C. Balai, Rekha Rani, and SCSP Committee**).

##### ❖ Front Line Demonstration (FLDs)

- FLDs of improved varieties of Kachri (AHK-119), Snapmelon (AHS-82), and cluster bean (Thar Bhadvi) and ridge gourd were conducted at Ambasar and sujasar village of Bikaner district on 22.07.2020 and 23.07.2020, respectively
- FLDs of improved varieties of Kachri (AHK-119), ridge gourd (Thar Karni) and long melon (Thar Seetal) were conducted at Kisanasr village of Bikaner district on 24.07.2020.
- FLDs of improved varieties of ber (Gola, Kathali and Thai apple ber), Khejri Thar Shobha) and Lasora (budded Thar Bold) were conducted at Kisanasr village of Bikaner district on 29.09.2020.
- FLDs of improve variety of Khejri (Thar Shobha) was conducted at Dholera village(4 KHM) of Bikaner district on 21.10.2020
- FLDs of improve variety of Khejri (Thar Shobha) was conducted at Sarah Rupayat (8 JMD) village of Bikaner district 21.10.2020.
- FLD on "Protected cultivation of arid vegetables like Snapmelon (AHS-82), Long melon (Thar Sheetal), and Palak (Thar Haritparana) were conducted at Meghsar villages of Bikaner district on 17.12.2020.

##### ❖ Organization of Exhibitions.

- A technological exhibition was displayed at the Institute for the benefits of farmers/clients/participants during Farmers' fair/Kisan Sammelan organized by the Institute (on the occasion of live telecast of "PM Kisan Samman Nidhi Scheme) on 25.12.2020.

##### ❖ Other extension activities.

- More than 500 farmers, students, field workers, supervisors, SMS, dignitaries/ NGO, etc. were visited to Institute during the reported of time.
- Conducted /held 16 on campus and 18 off campus Research-Extension-Farmers-Interface-Meetings, > 40 diagnostic visits to farmer's fields and about 100 on/off campus method demonstrations.
- Several Farmers, advisories (digital/one line / telephonic/off line discussions and guidance/Qns.–Ans./daily newspapers, etc were given/produced for the benefits of farmers/ stakeholders.
- Extension activities under Mera Gaon Mera Gaurav MGMG (like farmers' field visits, meeting/ *Sangosthi*, discussions, training, FLDs, method demonstrations, mobile advisory, creating linkages, creating knowledge and awareness, distribution of seeds, planting material and other inputs.
- More than 1000 technical folders/literature were distributed among the farmers/ clients during different extension programmes and activities (**S. R. Meena, R. C. Balai, Rekha Rani and other scietists of the Institue**).

#### (b) At Reginal Station (CHES), Godhara (Gujarat).

During the reported period of time, Reginal Station (CHES), Godhara (Gujarat) conducted 15 farmers' training programme on diferent aspects related to dry land horticulture technologies for enhancing farmers' income.

#### (c). At KVK, Panchmahal, Godhra (Gujarat).

During the reported period of time, Krishi Vigyan Kendra, Panchmahal (Godhra), Gujarat working under ICAR-CIAH, Bikaner conducted 06 On Farm Trials (OFT), 16 FLDs and 36 method demonstrations on various agricultural and animal husbandry production technologies. Twenty seven 27 training programs were conducted on different aspects of agricultural and allied fields in which 566 farmers and farm women participated Other extension activities like workshops (03), Farmer- Scientist-Interactions (04), field day (05), Kisan Goshthi (08), exhibition (04), film shows (19), farmers visit to KVK (1710), SGH meeting (08), farmers meeting (19), scientist's visit to farmers field (108), field and mobile advisory Services (731), diagnostic visit (18), etc. were also held by the KVK during reporting period.

### HRD Programmes/activities.

- Three months Professional Attachment Training (PAT) of Dr. Mahendra Singh Bhinda, Scientist (PBG) of ICAR-BPKAS, Almora (UK) was held at the Institute (ICAR-CIAH, Bikaner) from 15.06.2020 to 14.09.2020 (**D. K. Samadia, Mentor**).
- Three months Professional Attachment Training (PAT) of Dr. Shantanu Rakshit, Scientist (Agricultural Extension) of ICAR-NRC on Camel, Bikaner, Rajasthan was held at the Institute (ICAR-CIAH, Bikaner) from 19 August 2020 to 18 November 2020 (**S. R. Meena, Mentor**).
- Scientists, administrative staff, Technical staff and SSS Staff of the Institute participated in concerned in more than 60 online/off line training programmes/ webinars/ conferences/ seminars/ symposiums related to their concerned and benefits



as organized by different organization/Institutions of the country during the reported period of the newsletter.

### Programmes under SCSP Scheme:

#### ❖ Organization of training and input/items distribution programme under SCSP Scheme:

- At different places of Sri Gangangar (Raj.) and inputs/items like sprayer, seeds of improved varieties of cluster bean, bottle guard, kitchen gardening vegetable seed kits, green shed nets, and technical folder etc., were distributed among the SC farmers during the training programme on 06.07.2021 and 07.07.2020
- At Pemasar village of Bikaner district on 18.07.2020 and distributed the inputs/items like improved seeds of clusterbean, ridge gourd, bottle gourd and sponge gourd, kitchen gardening vegetable seed kit, DAP and technical folders among the SC farmers during the training programme. .
- At Bharupawa village of Bikaner district on 31.07.2020 and distributed the inputs/items, like vermi compost, improved seeds of ridge gourd and bottle gourd, kitchen gardening vegetable seed kit and technical folders during the training programme.
- At Khood, Danta Ramgarh, and Chainpura, Pirparali in Sikar District on 19.08.2020 and 20.08.2020 and distributed inputs/items like 625 plants saplings of Nimboo, Sahajan and Karonda, kitchen gardening vegetable seed kit and technical folders at the end of training programmes.
- At Chak Hirasingsh wala and Jandwala, Sangaria of Hanumangarh district on 25.08.2020 and distributed inputs/materials like 475 plants saplings of Nimboo, Sahajan, Karonda and Flasa and kitchen gardening vegetable seed kit along with technical folders among the SC farmers during the training programmes.
- At Budiwara, Balotra and Dhandhalwas, Gudamalai in Barmer district of Rajasthan during on 04.08.2020 to 05.08.2020 and distributed the inputs/items like 1825 plant saplings of nimboo, pomegranate, sahan, karonda and falsa, kitchen gardening vegetable seed kit and technical folders among the SC farmers at the end of the training programmes.
- At two different places viz; Kalimali, Phalodi block of Jodhpur district and Dudhiya (Gogliyon ki dhani), Pokaran block of Jaisalmer on 19.10.2020 and the inputs/items like seeds of cumin, coriander and methi, kitchen gardening vegetable seed kit and technical folders were distributed among the farmers at each place during the training programme.
- At Basanpeer village of Daksin block of Jaisalmer on 21.10.2020 and inputs/items like seeds of cumin, coriander and methi, kitchen gardening vegetable seed kit and technical folders were distributed among SC farmers at the end of the training programme.
- At Dingali, block Rajgarh and Bangothari, block Pilani, of Jhunjhunu district on 02.11.2020 at 03.11.2020 and inputs/items like seeds of cumin, coriander and fenugreek, kitchen gardening vegetable seed kit and technical folders were distributed among SC farmers during the training programme.
- At Khara (Chak 4 JMD) village of Bikaner district on 05.12.2020 and the inputs/items like vermi compost bags, kitchen gardening vegetable seed kit and technical folders were distributed among SC farmers during the training programme.

- At Kanwalisar of Nagour district on 07.12.2020 and the inputs/items like seeds of cumin, coriander and methi along with kitchen gardening vegetable seed kit and technical folders were distributed among SC farmers.
- At Bisalpur village of Sumerpur block of Pali district on 08.12.2020 and the inputs/items like seeds of coriander and methi and kitchen gardening vegetable seed kit along with technical folders were distributed among the SC farmers. (**B. D. Sharma, M. K. Jatav, B. R. Chaudhary, R. C. Balai, Rekha Rani and P.L Saroj**).



Some views of different programmes/activities under SCSP.

### Organization of Diwas/ day/ days/ sammelan/ meet, week/ fortnight, etc.

- **Celebration of "Plant Selling Day":** The Institute celebrated "The Plant Selling Day" on 21.09.2020 during which the plants of improved variety (Thar Shobha) of Khejri were provided to > 500 farmers at the Institute.
- **Celebration of 27th Foundation Day of the Institute:** 27<sup>th</sup> Foundation Day of the Institute (ICAR-CIAH) was celebrated online on 28.08.2020 in virtual mode in which > 100 dignitaries, scientists, farmers and students participated. Dr. O. P. Pareek, Former Director of this Institute was the Chief guest of the programme.
- **Organization/celebration of Hindi week:** The Institute celebrated the organized the Hindi week from 14.09.2020 to 20.09.2020 during which various programme/ activities organized to create the knowledge and awareness to promote/increase the use of Hindi language in daily work/activities.
- **Celebration of Mahatma Gandhi Jaynti:** The Mahatma Gandhi Jayanti was celebrated in the Institute on 02.10.2020. A pladge programe was also held in which all scietists and staff participated.
- **Observance of Communal Harmony Campaign Week:** The Communal Harmony Campaign Week was observed in the Institute during 19.11.2020 to 25.11.2020. During the



week, created the awareness among the staff of the Institute, students, farmers, etc., about the importance of communal harmony in social system.

- **Celebration of "Constitution Day":** The "Constitution Day" was celebrated in the Institute on 26.11.2020. Took pledge on the occasion and Hon'ble President of India led the Nation at 11.00AM on 26th November, 2020 by reading the Preamble of the Constitution of India to mark the occasion of "Constitution Day" through DD News live telecast.
- **Organization of "World Soil Health Day":** The "World Soil Health Day" was celebrated / organized at farmers fields in At Khara (2 and 4 JMD) village of Bikaner district on 05.12.2020 in which more than 100 farmers (Men & Women) participated.
- **Organization of "Swachhata Pakhwada (Fortnight)" in the Institute:** As per directives of Central Government, "Swachhata Pakhwada" was organized in the Institute from 16.12.2020 to 31.12.2020. The Institute carried out of various activities like cleaning work within and outside (villages, schools, bus stands, railway station, etc) of the of the Institute in the Institute, creating awareness and knowledge about the importance of cleanliness in our healthy life and environment, meeting/discussion, debates, lectures, etc., on purpose and importance of organization of "Swachhata Pakhwada (Fortnight)"



- **Celebration of Kisan Divas/ Farmer's Day :** The Kisan Divas/ Farmer's Day was celebrated on 23.12.2020 at Meghasar villages of Bikaner district of Rajasthan in the memory of India's fifth Hon'ble Prime Minister Chaudhary Charan Singh to symbolize his the birthday on 23<sup>rd</sup> December in which > 500 farmers, civil society officials, politicians, students and others participated.



Prof. (Dr.) P. L. Saroj Director of the Institute explaining to the farmers/participants improved production technologies of arid horticulture on the occasion of the *Kisan Divas* on 23.12.2020 at Meghasar village.

**Organization of Farmers' fair/Kisan Sammelan:** Organization of Kisan Sammelan/ Farmers' Fair was organized in the Institute on 25.12.2020 on the occasion of live telecast on "PM Kisan Samman Nidhi Scheme" in which more than 300 farmers, civil society officials, politicians, scientists and

students participated and listen/viewed the live telecast of the Hon'ble Prime Minister held on PM Kisan Samman Nidhi Scheme. Sh. Modaram Meghwal, Jila Pramookh, Bikaner (Raj.) was the Chief Guest of this Kisan Sammelan/ Farmers' Fair.



Prof. (Dr.) P. L. Saroj Director of the Institute welcoming the guests/farmers and explaining about Kisan Samman Nidhi Scheme.

### Important Meetings held.

- IRC meeting (online) was held in the Institute under the Chairmanship of Prof. (Dr.) P. L. Saroj Director of the Institute on 13-14<sup>th</sup> July, 2020 at ICAR-CIAH, Bikaner. Dr. B. K. Pandey, ADG (Hort.) was the chief guest and meeting was chaired by Director of the Institute.
- ITMC meeting was held in the Institute under the Chairmanship of Prof. (Dr.) P. L. Saroj Director of the Institute on 07<sup>th</sup> August, 2020.
- A virtual meeting was held on 13-14 July, 2020 to discuss the progress of the ongoing research programmes. Dr. B. K. Pandey, ADG (Hort.) was the chief guest of the meeting and Chaired by Director of the Institute.
- Held virtual review meeting of ICAR-AICRP on AZF on 19 December, 2020 at the Institute (ICAR-CIAH, Bikaner).
- During the reported period of time, online three monthly meetings were held on 24.07.2020 and 28.12.2020.
- Meeting of Nursery Accreditation Team was held in the Institute on 04.12.2020. The team highly appreciated the performance of the Institutes' Nursery.

### Visit of VIPs/ Dignitaries at the Institute.

- Sh. Harish Chaudhary, Hon'ble Minister of Revenue, Govt. of Rajasthan visited the Institute on 22/10/2020. He visited the Institutes' farm/experimental blocks and interacted with Director and scientist about technologies developed by the Institute. He highly appreciated the research and development programmes and technologies developed by the Institute for the farmers benefits.



Prof. (Dr.) P. L. Saroj Director of the Institute explaining to Sh. Harish Chaudhary, Hon'ble Minister of Revenue, Government of



### **Rajasthan about ICAR-CIAH developed improved variety (Thar Shobha) of Khejri.**

- Sh. Modaram Meghwal, Jila Pramookh, Bikaner visited the Institute on 25/12/2020 and Chaired the Kisan Sammelan/ Farmers' Fair was organized in the Institute on 25.12.2020 on the occasion of live telecast on "PM Kisan Samman Nidhi Scheme" in which more than 300 farmers, civil society officials, politicians, scientists and students participated and listen/viewed the live telecast of the Hon'ble Prime Minister held on PM Kisan Samman Nidhi Scheme.
- Nursery Accreditation Team members including Dr. I. M. Verma, Chairman (Ex- Prof. SKRAU, Bikaner); Sh. Sansar Ahmad, Dy. Director, NHB, Gurgaon; Sh. Jaydeep, Dogne, Dy. Director, (Horti.), Krishi Bhawan, Sangalpura, Bikaner; Dr. Susil Kumar, AP, KVK, Bikaner; visited the Institute on 04.12.2020.

### **Programmes/ webinars/ confe./ meeting, etc, attended/ participated by Prof. (Dr.) P. L. Saroj, the Director of the Institute.**

- Participated in the National Webinar on "Quality production of pomegranate in arid region" during COVID-19 at SKRAU, Bikaner and presented a paper on "Scenario of Arid Horticulture" on 3 July, 2020.
- Organized and participated in National Webinar on Date palm through virtual platform during 21-22 July, 2020 at ICAR-CIAH, Bikaner.
- Participated in the National Webinar on "Boosting immunity through horticulture" through virtual mode organized by Society for Horticultural Research and Development, Ghazibad (U.P.) on 8 September, 2020.
- Participated and presented a talk on "Horticulture based integrated farming system in arid region" in National Webinar on Climate Smart Integrated Farming System by ICAR-National Institute of Abiotic Stress Management Malegaon, Baramati, Maharashtra on 18 September, 2020.
- Participated as Chief Guest in the National Webinar on "Scenario of pomegranate cultivation in India" on the occasion of sixteenth Foundation Day of ICAR-NRC-Pomegranate, Solapur in virtual mode on 25.09.2020.
- Participated in special lectures session on Gandhian Philosophy organized by IASRI, New Delhi through virtual mode on 25 September, 2020.
- Participated and delivered key note lecture in National e-conference on "Opportunities and challenges in arid horticulture" organized by Suresh Gyan Vihar University, Jaipur in virtual mode on 21 October, 2020.
- Acted as panelist of Theme II: Pollinizers in Horticulture of Brainstorming Session on "Honey Bees, Other pollinators, Pollinizers in Horticulture" organized by Indian Academy of Horticultural Sciences on 22 December, 2020.
- Attended online inauguration of Academic and Administrative Building of RLBCAU, Jhansi through virtual mode on 29 August, 2020.
- Attended meeting on "One District One Commodity" chaired by Secretary DARE and Director General, ICAR, New Delhi through virtual mode on 9 September, 2020.
- Attended review meeting of Horticulture Science Division chaired by Minister of State, Govt. of India and DDG (HS), New Delhi on 22-23 September, 2020.
- Participated on 38 Annual Group Meeting of AICRP (VC) in virtual mode on 25 September, 2020.

- Attended the Vaibhav Summit Inauguration Function by Hon'ble Prime Minister, Govt. of India, New Delhi on 03 October, 2020.
- Attended and Chaired virtual workshop of AICRP-AZF (Review meeting) on 19 December, 2020 at ICAR-CIAH, Bikaner.
- Participated as Visitor's Nominee in Selection Committee Meeting at BHU, Varanasi in virtual mode on 10-13 October, 2020.
- Participated as Chief Guest in the pomegranate meeting at Barmer organized by Pomegranate Association, Rajasthan on 13 October, 2020.
- Participated in 75<sup>th</sup> Anniversary of the Food and Agriculture Organization (FAO) virtual mode on 16 October, 2020.
- Participated in meeting of EFC/SFC of Horticultural Science Division in virtual mode on 22-23 October, 2020.
- Attended as Jury Committee Member of Padma Bhushan Dr. R.S. Paroda Best Scientists Award by SKNAU, Jobner in virtual mode to decide modalities of award on 02.11. 2020.
- Attended ICAR-Regional Committee-IV meeting in virtual mode on 2 November, 2020.
- Attended Director Conference in virtual mode on 5 December, 2020.
- Acted as Subject Expert Member of selection committee for appointment of contractual assistant professor for College of Horticulture, Khuntapani (Chaibasa) under Birsa Agricultural University, Ranchi on 9 December, 2020.

### **Awards.**

- Rajbhasha Patrika "Maru Bagwani" of the Institute was awarded by ICAR with First "Ganesh Shankar Vidyarthi Hindi Patrika Puraskar-2018-19". This award was presented online by the Hon'ble Agriculture and Kisan Welfare Minister, Government of India, Sh. Narendra Singh Tomar on 16.07.2020 on the occasion of ICAR Foundation Day.
- Prof. (Dr.) P. L. Saroj, Director of the Institute, received "Dr. Girdhari Lal Chadha Award" by IAHS on 6 November, 2020 from the Ppresident IAHS, New Delhi in presence of Secretary DARE and DG ICAR, New Delhi.
- Dr. A. K. Singh, Pricipal Scietist (Hort), research "Excellence Award (Horticultural Science) -2020" by Global Research Foundation, New Delhi on the occasion of Teachers Day, 5 September, 2020.
- Dr. Anita Meena, Scientist (Soil Science) received "Research Excellence Award" from Institute of scholar, Bangalore (ISO 9001:2015) certified Institute by International Accurate Certification, Accredited by UASL during the month of October, 2020.
- Dr. Anita Meena, Scientist ( Soil Science) received "Third Best Oral Presentation" award in National conference "Agriculture resource management for *Atmnirbhar Bharat*" organized by Central Agriculture University, Imphal, Manipur during 17-18 July, 2020.

### **Developmental Activities of the Institute.**

#### **❖Inaugurated the Newly Constructed Library-Cum-Video Conferencing Building.**

Dr. Trilochan Mohapatra, Secretary DARE and DG, ICAR, New Delhi inaugurated the Newly Constructed Library-Cum-Video Conferencing Building at ICAR-CIAH, Bikaner using online communication system on 12.10.2020 in the virtual presence of Dr. A. K. Singh, DDG (Horticulture Science), ICAR, Dr. V. K. Pandey, ADG (Horti-I), Prof. (Dr.) P. L. Saroj, Director, ICAR-CIAH, Bikaner, Dr. O. P. Yadav, Director,

ICAR-CAZRI, Jodhpur, Dr. A. K. Tomar, Director, ICAR-CSWRI, Aviknagar, Heads of Regional Stations of ICAR Institutes situated at Bikaner, scientists and other dignitaries.



**Dr. Trilochan Mohapatra, Secretary DARE and DG, ICAR, New Delhi inaugurating virtually the newly Constructed Library-Cum-Video Conferencing Building of the Institute in the presence of Dr. A. K. Singh, DDG (HS), ICAR, New Delhi.**

## Staff News

### Promotion/Assessment:

#### (a) Technical Staff

1. Sh. Himatsinh Bachubhai Patel, Technical Assistant (Driver), KVK- Vejalpur, Panchmahal (Gujarat) promoted to Sr. Technical Assistant (T-4) of Cat.II in the pay band and grade pay of Rs.9300-34800+4200 (pre-revised) Level-VI (Revised) w.e.f. 29.06.2016.
2. Sh. Iqbal Mohammedkhan Abbaskhan Pathan, Technical Assistant (Driver) KVK- Vejalpur, Panchmahal (Gujarat) promoted to Sr. Technical Assistant (T-4) of Cat.II in the pay band and grade pay of Rs.9300-34800+4200 (pre-revised) Level-VI (Revised) w.e.f. 29.06.2016.
3. Sh. Birdi Chand Meena, Sr. Technician (Driver), ICAR-CIAH, Bikaner promoted to Technical Assistant (T-3) of Cat.II in the pay band and grade pay of Rs.5200-20200 + 2800 (pre-revised) w.e.f. 28.07.2019.
4. Sh. B.R. Baria, Sr. Technical Assistant (Lab.), CHES, Vejalpur, Godhra (Gujarat) promoted to Technical Officer (Lab.) (T-5) of Cat.II in the pay band and grade pay of Rs.9300-34800+ 4600 (pre-revised) Level-VII (Revised) w.e.f. 05.02.2017.
5. Sh. B.V. Rathwa, Sr. Technical Assistant (Lab.) .), CHES, Vejalpur, Godhra (Gujarat) promoted to Technical Officer (Lab.) (T-5) of Cat.II in the pay band and grade pay of Rs.9300-34800+ 4600 (pre-revised) Level-VII (Revised) w.e.f. 10.11.2019.

6. Sh. Rakesh Meel, Sr. Technical Assistant/ Farm Manager/T-4, KVK- Vejalpur, Panchmahal (Gujarat) promoted to Technical Officer (T-5) of Cat.II in the pay band and grade pay of Rs.9300-34800+4600 (pre-revised) Level-VII (Revised) w.e.f. 04.04.2017
7. Sh. S.J. Baria, Technical Assistant (Field) .), CHES, Vejalpur (Gujarat) promoted to Sr. Technical Assistant (T-4) of Cat.II in the pay band and grade pay of Rs.9300-34800+4200 (pre-revised) Level-VI (Revised)w.e.f. 08.08.2017.

### Appointment/joining/transfer.

1. Dr. Pawan Singh Gurjar, Scientist (Fruit Science) joined the Institute on 10.08.2020 on transfer from ICAR-CISH, Lucknow.
2. Dr. Hanuman Ram, Scientist (Vegetable Science) joined the on 10.08.2020 on transfer from ICAR-VPKAS, Almora.
3. Dr. K. L. Kumawat, Scientist (Fruit Science) joined on the Institute 17.08.2020 on transfer from ICAR-CITH, Srinagar.
4. Sh. Lal Chand, Scientist (Fruit Science) joined the Institute on 28.09.2020 on transfer from ICAR-CARI, Jhansi.

### Relieving on promotion/transfer/deputation.

1. Dr. Vijay Rakesh Reddy S., Scientist (Fruit Science) relieved from the Institute in the afternoon of 13.08.2020 on transfer to ICAR-IIHR, Bengaluru.
2. Sh. B.R. Baria, Sr. Tech. Assistant (Lab.) relieved from the Institute in the afternoon of 31.08.2020 on transfer to regional station CHES, Vejalpur, Godhra.
3. Mrs. Monika Punia, Scientist Prob. (PBG) relieved from the Institute in the afternoon of 29.09.2020 on transfer to ICAR-IIPR, Regional Station, Bikaner.

### Superannuation/resignation.

1. Dr. R.S. Singh, Principal Scientist (Horticulture) retired on superannuation from the Council's services in the afternoon of 30.09.2020.
2. Sh. M.K. Jain, Technical Officer (Computer) retired on superannuation from the Council's services in the afternoon of 31.10.2020.
3. Sh. I.A. Pathan, Sr. Technical Assistant (Driver) retired on superannuation from the Council's services in the afternoon of 31.10.2020.4. Sh. Z.A. Chouhan, SSS retired on superannuation from the Council's services in the afternoon of 31.10.2020.

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