IIRR

ICAR-Indian Institute of Rice Research

NEWSLETTER

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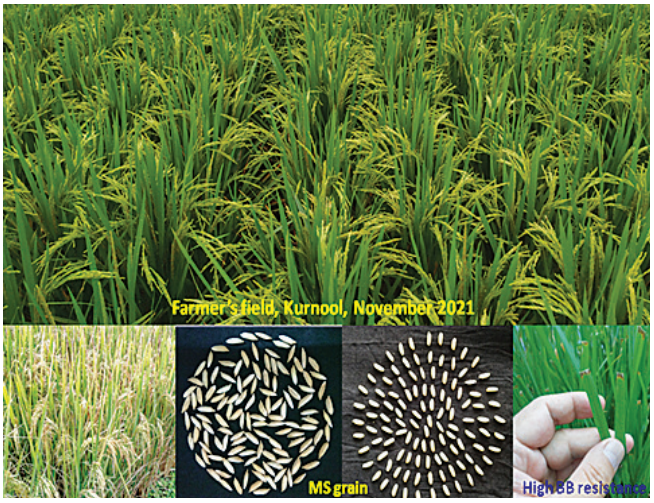
Recently released rice varieties of ICAR-IIRR

ICAR - Indian Institute of Rice Research (ICAR-IIRR) recently released four new rice varieties *viz.,* DRR Dhan 53, DRR Dhan 54, DRR Dhan 55 and DRR Dhan 56 through Central Sub-committee on Crop Standards, Notification and Release of Varieties for Agricultural Crops vide S.O. 500(E) Dt. 29th Jan 2021 [CG-DL-E-03022021-224901] suitable for different ecologies in various parts of the country.

Salient features of new rice varieties

DRR Dhan 53 (MAS derived bacterial blight resistant variety)

- **Varietal characteristics: DRR Dhan 53 (IET 27294)** is a durable bacterial blight (BB) resistant, high-yielding, fine-grain type rice variety, suitable for irrigated ecosystem, possesses major bacterial blight resistance genes, *Xa21+xa13+xa5+Xa38* with seed to seed maturity of 130-135 days and average yield of 5.5- 6 t/ ha.
- **States released:** Telangana, Andhra Pradesh, Tamil Nadu, Karnataka (zone VII), Chhattisgarh (zone V), Odisha, Jharkhand, Bihar (zone III), Gujarat and Maharashtra (zone VI).
- **Designation:** DRR Dhan 53 (IET-27294; RP-6113-Patho-BB9)
- **Notification date:** S.E (500E) dt 29th January 2021
- **Yield:** 5.5- 6 t/ ha
- **Disease reaction**: Highly resistant to bacterial blight; moderately resistant to grain discoloration, false smut, sheath rot and blast.
- **Grain type**: Medium Slender (MS)
- **HRR**: 78.7%
- **Gel Consistency**: 22 mm
- **Amylose Content**: 22.2 %



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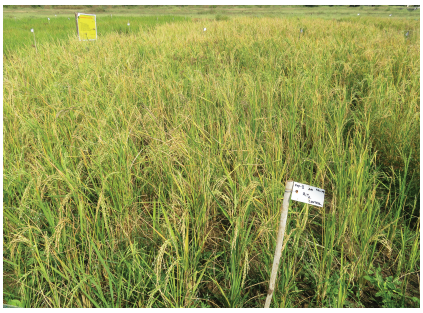
DRR Dhan 54 (Aerobic variety)

- **Varietal characteristics:** High yielding multiple disease resistant culture with desirable grain quality traits suitable for cultivation under direct seeded aerobic conditions in water limiting areas with short bold premium grain and cooking quality
- **DRR Dhan 54** has thick and strong culm with semi dwarf stature, which accounts for lodging resistance, medium green foliage and deflexed compact panicle with strong secondary branching.
- **Designation:** IET 25653 (RP 5943- 421-16-1-1-B)
- **States released:** Telangana (zone VII), Haryana (zone II), Odisha, Bihar, Jharkhand (zone III) and Gujarat (zone VI).
- **Notification date:** S.E (500E) dt. 29th January 2021
- **Yield:** 4.25 to 5.61 t /ha.
- **Disease & pest reaction** : resistant to leaf blast, sheath rot, RTD and false smut and moderately resistant to neck blast, bacterial leaf blight, brown spot and glume discoloration
- **Grain type**: Short Bold (SB)
- **HRR**: 65.3%.
- **Gel Consistency**: 44 mm
- **Amylose Content**: 21.6%

DRR Dhan 54-grown under transplanted conditions



DRR Dhan 54-grown under aerobic conditions

DRR Dhan 54-milled, hulled and polished rice

DRR Dhan 55 (Aerobic variety)

DRR Dhan 55-panicles, paddy, milled and polished rice

- **Varietal characteristics:** A medium duration (120-125 days) aerobic rice variety with multiple disease resistance. It is suitable for cultivation under aerobic conditions
- **Designation:** DRR Dhan 55 [IET 26194 (RP 5591-123-16-2)]
- **States released:** Bihar (Zone III) and Chhattisgarh (Zone V)
- **Notification date:** S.E (500E) dt. 29th January 2021
- **Yield:** 5.0-5.5 t/ha
- **Disease reaction**: Moderately resistant to Leaf blast, Neck blast and Planthoppers.
- **Pest reaction**: Resistant to gall midge and rice thrips
- **Grain type**: Long Bold (LB)
- **HRR**: 55.53%.
- **Gel Consistency**: 22 mm
- **Amylose Content**: 22.58%

DRR Dhan 56 (Early duration high yielding variety)

- **Varietal characteristics:** An early duration (115 days) rice variety with multiple disease resistance.
- **Designation:** DRR Dhan 56 (IET 26803)
- **States released:** Punjab and Haryana (Zone II)
- **Notification date:** S.E (500E) dt. 29th January 2021
- **Yield:** 5.2 t/ha
- **Disease reaction**: Resistant to leaf blast (SI: 3.8), bacterial leaf blight (SI: 4.8) and false smut (0.25)
- **Grain type**: Long Slender (LS)
- **HRR**: 64.1%.
- **Gel Consistency**: 22 mm
- **Amylose Content**: 23.15 %

8th Annual Hill Rice Research Group Meeting

The 8th Annual Hill Rice Research Group Meeting was held during 24-25th February 2021 at ICAR-IIRR, Hyderabad in virtual mode under the chairmanship of Dr TR Sharma, DDG (Crop Science) ICAR. Dr Y P Singh, ADG (FFC) ICAR, Co-chaired the session and Dr D Subrahmanyam, Director (ICAR-IIRR) briefed about the necessity of Hill workshop and its importance. Dr AVSR Swamy presented the action taken report of 2019 workshop and results of AICRIP *kharif* 2020 of Hill ecology. Various cooperating centers under Hill ecology presented progress except for the Wangbal centre. The follwing reccomendations were made during the workshop.

Funding under Tribal sub plan (TSP) should be further increased and distributed to the centers having more of tribal population, which is concentrated in Hill ecology. A merger of centers operating from same location with similar agro-climatic conditions was suggested. Marker Assisted Selection (MAS) and other genomic approaches need to be employed by cooperating centers in collaboration with different disciplines in respective universities and nearby institutes. As hill regions are endowed with rich landraces, more number of lines maybe collected, conserved and registered with NBPGR and PPV & FRA on a priority basis. Research work needs to be published in good impact factor journals. Agronomic trials need to focus on Jhum/shifting cultivation. ICAR-IIRR, being the coordinating institute needs to design a frame work for the type and number of crosses and utilisation of donor parents in crossing programme based on location specificity in consultation with the respective scientists at cooperating center and the progress is to be reviewed in the forthcoming hill workshop.

Release and Notification of new rice varieties and hybrids in India - Gazette Notification [S.O.500 (E)] dt. 29th January 2021

Through the Ministry of Agriculture and Farmers Welfare (Department of Agriculture, Cooperation and Farmers Welfare) official Gazette notification (Govt. of India) dated 29th January 2021, 30 rice varieties/hybrids were notified [S.O. 500(E)] by the Central Government, after consultation with the Central Seed Committee. Of the total 30 rice varieties/hybrids, 12 varieties and 6 hybrids through CVRC (including four varieties from ICAR-IIRR) were released and notified and 12 varieties through SVRC were notified.

Institute Technology Management Unit (ITMU) Activities

- ICAR-IIRR developed a computer software entitled "IIRR GEOPORTAL" and obtained a copy right (SW-14256/2021 dated. 8th March 2021). Geo-referenced maps can be easily published using this portal. Since there are many GIS based applications developed in IIRR, the entire work was effectively visualized through this portal. This portal visualizes geo referenced layers of rice crop created at IIRR. Approximately 45 geo referenced maps were published in this portal. Further this portal will be upgraded with spatial query modules to extract the interesting area of interest and spatial analysis.

  The layers available in the GeoPortal- http://www.iirr-geoportal.in. are AICRIP funded Centres, Agro Climatic Zones- 15 (Planning Commission), District level Rice Area and Yield (2005, 2010, 2015), Rice based Cropping Systems- Rice- Rice and Rice Wheat, Soil Quality Index- Nalgonda district, Telangana, Rice yield estimated from Spatial Rice DSS- Miryalaguda Mandal, Nalgonda Dt, Telangana, Vulnerable temperature Zones forecasted for 2018 and 2019 kharif season, Suitable Areas for Hybrid Seed Production- Favourable weeks during flowering-kharif and rabi seasons and Important Diseases of Rice crop- Distribution and Severity (10 diseases)

- ICAR-IIRR developed a computer software entitled "A Mobile APP on IIRR Profile in English" obtained a copy right (SW-14289/2021 dated. 15th March 2021). This App highlights the success stories and significant achievements of Indian Institute of Rice Research, Rajendranagar, Hyderabad. This mobile app was developed using android studio. This can be downloaded and installed on all android mobiles: https://play.google.com/store/apps/details?id=in.iirrmobapp.hava.myapp5_4_18

- ICAR-IIRR developed another computer software entitled "A Web based Photo-thermic Indexing (PTI) Calculator for Rice Genotypes" and received copy right (SW-14313/2021 dated. 23rd March 2021.). This facility is available in the IIRR website for computing day wise heat units, photoperiod and nyctoperiod and genotype wise cumulative photoperiod and nyctoperiod at different rice crop growing stages. This can be customized to any other crop. Registered users can access the software at https://icar-iirr.org/index.php/services/rue-pti-calculator

Research Highlights

Performance of breeding lines against planthoppers in AICRIP multi-location evaluation trials

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Planthoppers are major devastating pests threatening rice production worldwide. Host plant resistance is the promising approach than chemical control. Two advanced breeding lines, RP 221-3-5-2 and RP 179-3-9-1 derivative of MTU1121/Vijetha developed at IIRR, Hyderabad were evaluated in Plant Hopper Screening Trial (PHS) of AICRIP for 2 years (2019 and 2020) at hotspots including Cuttack, Aduthurai, Coimbatore, Ludhiana, Mandya, Pantnagar, Rajendranagar, IIRR-Hyderabad, Nawagam, Gangavati, Jagitial, Sakoli and Maruteru.

During 2019, RP 221-3-5-2 and RP 179-3-9-1 were screened at 14 locations in 18 tests along with 3 resistant checks, PTB 33 & RP 2068 (Brown plant hopper) and MO1 (Whitebacked planthopper) as well as susceptible check (TN1) in green house and field. Both the lines performed better in 4/8 tests against BPH in glasshouse and in 3/5 tests against planthoppers in field during 2019 similar to resistant check (PTB 33).

During 2020, the entries were re-evaluated at 12 locations in 15 tests under both field (one test each against BPH and WBPH); 4 tests against combined population of planthoppers) and greenhouse (7 tests against BPH & 2 tests against WBPH). They were found superior in >50% of screening tests (4/7 and 5/7 tests for RP 221-3-5-2 and RP 179-3-9-1, respectively) in glass house against BPH with damage scores 3.5 to 5.0 while superior in 1/4 field tests against planthoppers while resistant check (PTB 33) showed DS of 1.0 to 4.9 against BPH in glasshouse and planthoppers in field.

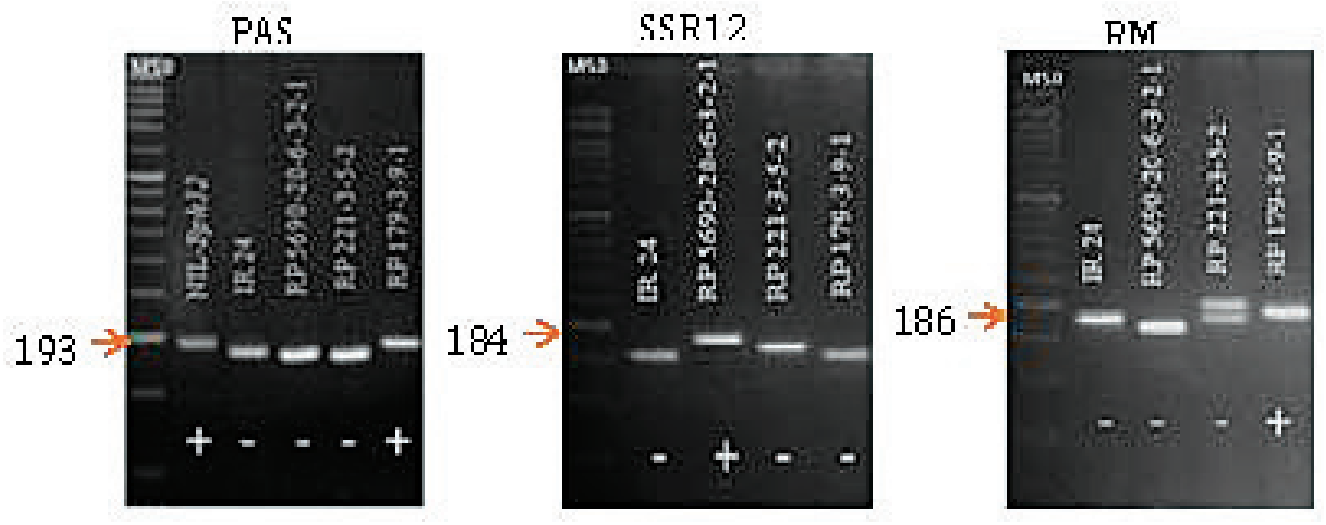
RP 5690-20-6-3-2-1 was found positive for the presence of 4 reported genes (*bph 4, Bph 9, Bph 17* and *Bph 32*) while RP 179-3-9-1 for one gene (*Bph 32*). The markers namely RM 190 (*bph4*), InD 2 (*Bph 9*), RM 518 *(Bph 17*) and RM 588 *(Bph 32)* amplified resistance specific alleles of 144 bp, 240 bp, 193 bp and 98 bp in NIL- *bph4*, NIL-*Bph9*, NIL- *Bph17,* NIL-*Bph 32* respectively

as well as in RP 5690-20-6-3-2-1. RP 179-3-9-1 showed amplicon (193 bp) of *PAS* H6 marker indicating *Bph 32* gene (Fig 1).

Furthermore, three resistance sources namely RP 5690-20-6-3-2-1, RP 221-3-5-2 and RP 179-3-9-1 identified during 2017 to 2020 were genotyped with 10 SSRs and 5 gene specific markers linked to BPH and WBPH resistance genes to detect likely presence of reported genes. For this study we have used 6 monogenic IR 24 NILs carrying single resistance genes (*bph 4, Bph17, Bph 18, Bph 20*, *Bph21* and *Bph 32)* and tested for 12 BPH resistance markers.

Also molecular characterization using 8 linked and 8 designed markers for all reported 12 WBPH resistance genes (*Wbph 1 to Wbph 12)* revealed that RP 5690-20-6-3-2-126 possessed 2 genes (*wbph 10* & *wbph 9).* Two markers, SSR 12-17.2 and RM 589 amplified resistance specific alleles of 184 bp and 186 bp for *wbph 10* and wbph *9* respectively.

Since RP 221-3-5-2 and RP 179-3-9-1 lines showed stable and durable resistance to BPH and mixed population of planthoppers in glass house as well as field respectively across 12 to 14 locations over 2 years, they could be exploited as new sources of resistance.



M 50: 50bp DNA ladder; NIL-*Bph32:* IR101791-1-2-8; IR24 (Susceptible check)

Fig 1. PCR amplification of 3 advanced rice breeding lines (RP5690-20-6-3-2-1, RP221-3-5-2 and RP179-3-9-1) with markers PASH6 (193bp) linked to *Bph 32;* and SSR12-17.2 (184bp) and RM 589 (186 bp) linked to *wbph 10* and *wbph 9* genes.

System of rice intensification vs. conventional method of transplanting: an analysis of economic benefit, energy efficiency and lower global warming potential in India

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A comparison was made between conventional and the system of rice intensification (SRI) methods of rice cultivation by conducting two experiments. One field experiment was conducted from 2013 to 2017 at 25 locations across India under All India Coordinated Rice Improvement Project (AICRIP) and another experiment was conducted in 2017 using surveys by collecting data from 262 randomly selected SRI farmers using a personal interview method in the Telangana State of India. The five-year experimental data revealed that the SRI method of cultivation produced higher rice grain yield (up to 55%) compared to the conventional transplanting method. Survey data revealed that total costs of rice production reduced by 22.71% under SRI. Break even output under SRI was reduced by 58.1%. Adoption of SRI saved total energy inputs by 4350 MJ/ha. The energy productivities were 0.16 kg/MJ and 0.21 kg/MJ for conventional and SRI methods, respectively. Also, SRI resulted into the lowest greenhouse gas emissions of 0.28 kg CO_2e/kg rice grain. Therefore, for ensuring higher productivity, net returns, energy efficiency and sustainable rice production it is recommended to adopt an environmentally friendly SRI method of crop establishment in the Telangana region of India.

Identification of improved drought tolerant restorer lines of rice through Marker Assisted Backcross Breeding (MABB)

Nagaraju P, Beulah P, Jaldhani V, Manasa Y, Sundaram RM, Padmavathi G, Anantha MS, Sreedevi B, Gireesh C, Revathi P, Tuti MD, Sruthi K, Kemparaju KB, Fiyaz A, Hariprasad AS, Sheshu Madhav M, Mahender Kumar R and Senguttuvel P*

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Depleting water resources and irregular rainfall are key limiting factors for the targeted crop returns in rice. Mostly, the prevailing rice varieties and hybrids developed to date are sensitive to abiotic stresses especially drought. An attempt has been made to improve an elite restorer line KMR-3R for reproductive drought tolerance through MABB approach. Advanced 34 BILs (BC_2F_5) derived from KMR3/Vandana NIL possessing a combination of fertility restoration (*Rf3* and *Rf4*) genes and drought tolerant QTLs (*qDTY12.1, qDTY1.1, qDTY2.3, qDTY3.2* and *qDTY6.1*) single or in combination of multiple was evaluated under drought and irrigated conditions. Stringent phenotypic and genotypic selections were followed at each generation to attain desirable phenotype with drought tolerance. Backcross inbred lines (BILs) were imposed to drought stress by adapting IRRI SES protocol at reproductive stage during *kharif 2018* and *rabi 2019* (Fig 1).

Of the 34 BILs, the two BILs namely RP6340-NPVR 32 and RP 6340-NPVR 1 possessing five drought tolerant QTLs in different combination along with two fertility restoration genes (*Rf3* and *Rf4*) performed well under drought conditions. The IL RP6340-NPVR-32 exhibiting earliness by 20-22 days over KMR-3R under both stress and normal irrigated facility (Table 1). With combination of *qDTY12.1, qDTY2.3, qDTY1.1* and *qDTY6.1* along with both fertility restoring genes, RP6340-NPVR1 performed extremely well under both water regimes. In addition, these two improved drought tolerant restorers were crossed with different WA-CMS lines for the yield heterosis, combining ability and restoration ability. The derived hybrid exhibited superiority in standard heterosis of 17% under drought and 21% under irrigated conditions over tolerant check DRR Dhan 42. This present investigation could be fetching to a great extent to develop high yielding hybrids adapting to both drought prone and rainfed ecosystems.

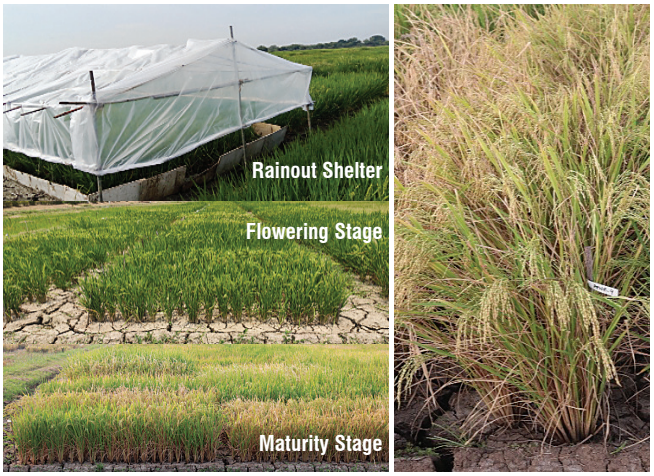

Fig 1. Screening of BILs for reproductive drought tolerance

Table 1. Traits under drought and irrigated conditions

Genotype	Treatment	Days to 50% Flowering	Plant Height (cm)	Spikelet Fertility (%)	Grain Yield (grams)
RP6340- NPVR32	CON	83	101 ± 1.15	86.5 ± 1.7	18.8 ± 0.9
RP6340- NPVR1	CON	93	91 ± 1.76	90.6 ± 1.4	21.8 ± 1.1
Vandana NIL	CON	78	91 ± 1.86	85.9 ± 2.3	11.9 ± 0.6
KMR-3R	CON	104	107 ± 1.76	86.7 ± 2.4	17.2 ± 0.6
RP6340- NPVR32	DRT	90	97 ± 1.45	82.5 ± 1.8	12.6 ± 0.4
RP6340- NPVR1	DRT	99	88 ± 1.33	84.5 ± 1.1	14 ± 0.7
Vandana NIL	DRT	81	87 ± 1.86	82.3 ± 1.3	9.9 ± 0.6
KMR-3R	DRT	112	95 ± 1.2	53.7 ± 3.4	9.2 ± 0.9
CV %			3.54	11.78	12.39
LSD (Geno)			3.55	4.36	1.66
LSD (Treatment)			2.5104	3.0870	1.1741
LSD (Geno x Treat)			5.0209	6.1740	2.3482

Preliminary study on effect of consumption of a bio-fortified zinc rice variety, DRR Dhan 45 based complementary food

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Youth For Action (YFA) - Krishi Vigyan Kendra (KVK), Madanapuram, Mahabubnagar district, Telangana

Zinc malnutrition is an emerging challenge to nutritional security particularly in India. DRR Dhan 45 (IET 23832) is the first high zinc rice variety with zinc content of 22.6ppm in polished rice, semi-dwarf stature, medium duration (125 days) variety released by ICAR- Indian Institute of Rice Research. To create awareness among mothers about health benefits of biofortified zinc rich rice variety DRR Dhan 45, as a complementary food in regular diets for children, Youth For Action (YFA) - Krishi Vigyan Kendra (KVK) conducted trainings in Kothapalli village, Mahabubnagar district and provided critical inputs (Fig 1 and 2).

As a preliminary study, from January to November 2020, a purposive selection was followed in identifying the sample for the study. A male infant under the age of 11 months suffering from hypothyroid and malnourishment was identified. Despite taking breastfeed and regular complementary foods, his growth (height and weight) were partially hindered and for a few months of growth period, he registered fall in weight (Table 1). Negative growth (decreased) in July and slow or partial growth from July to November was observed.

Dietary assessment for the 'Supplementation trial' on the identified male infant was conducted to assess the general meal pattern and intake of micronutrients rich foods using the Food Frequency schedule. Under OFT trials, the identified male infant was given a complementary food in the form of porridge made from 80 grams of DRR Dhan 45 at three times interval for 90 days along with only breast milk. DRR Dhan 45 grain was provided by Dr Neeraja CN, ICAR-IIRR under CRP Bio-fortification project.

Table 1. Initial growth parameters of sampled child

Month wise	Age (months)	Height (cm)	Weight (kg)
Jan, 2020	0	46.0	2.82
Feb, 2020	1	46.8	3.56
Mar, 2020	2	46.8	4.22
Apr, 2020	3	46.8	4.22
May, 2020	4	48.0	4.12
Jun, 2020	5	48.0	4.12
Jul, 2020	6	50.0	3.30
Aug, 2020	7	52.0	4.00
Sep, 2020	8	60.0	4.10
Oct, 2020	9	62.0	4.10
Nov, 2020	10	62.0	4.40

The height and weight of the subject at the baseline (before intervention with DRR Dhan 45 based complementary food) at first day was 62.8 cm and 4.5 kg and on 30th day it was 64.5 cm height and 5.3 kg weight. Similarly, on 60th day, the results recorded were 66.2 cm and 6.5 kg of height and weight respectively. Finally, on 90th day the height and weight recorded were 70.1cm and 7.2 kg (Fig 3-4). The results of the supplementation trail in severe malnourished infant showed that zinc rich bio-fortified rice variety DRR Dhan 45 based complementary foods can significantly contribute in improving the anthropometry parameters and thereby addressing the micronutrient deficiency.

Fig 1. Training to promote "Zinc rich bio fortified rice

Fig 2. Distribution of Critical Input –"Zinc rich bio fortified rice"

Anthropometric measurement

Fig 3. Data collection of growth parameters (Height)

Fig 4. Data collection of growth parameters (Weight)

Sustainable intensification of rice-maize system through conservation agriculture to enhance system productivity in Southern India

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The experiment was carried out at the ICAR-Indian Institute of Rice Research (ICAR-IIRR), Hyderabad, Telangana during the period 2016 to 2021 continuously with a sub-tropical and semi-arid climate. The experiment was laid out in a split plot design in rainy season. Further two tillage treatments were imposed in winter season. So, the rice-maize system as a whole was laid out in split-split design which includes both rainy and winter season with four replications. Rice crop sown on 15th July resulted in significantly the highest system productivity in 2016-17 (13.27 t/ha) and 2017-18 (12.76 t/ha). However, in later years (2018-19, 2019-20 and 2020-21) sowing time did not affect the system productivity. Transplanted rice based system productivity was superior over wet direct-seededsystem during all the five years of experimentation. The highest system productivity of transplanted rice was recorded in 2018-19 (12.63 t/ha). Conventional tilled maize based system was superior over minimum tilled maize in initial three years. The highest system productivity of conventional tilled maize system was recorded in 2018-19 (12.54 t/ha). In later two years there was no significant difference between conventional tilled maize and minimum tilled maize system. Pooled analysis also reflected the same results as that of last two years.

Rice-maize productivity (t/ha) obtained under applied treatments during the 5-year period

Treatment	Rice-maize system productivity (t/ha)					
	2016-17	2017-18	2018-19	2019-20	2020-21	Pooled
Sowing time						
1st July	11.76	11.67	12.06	11.43	11.24	11.63
15th July	13.27	12.76	12.62	11.58	11.23	12.29
30th July	11.67	11.43	11.95	11.36	11.06	11.49
LSD (p=0.05)	1.13	1.11	NS	NS	NS	NS
Establishment method						
Transplanting	12.37	12.39	12.63	11.90	11.61	12.18
Wet direct seeded	11.11	10.92	11.71	11.81	10.85	10.97
LSD (p=0.05)	1.16	1.13	0.98	1.03	1.06	1.10
Tillage (Winter season)						
Conventional	12.36	12.05	12.54	11.84	11.32	12.02
Minimum	11.29	11.04	11.31	10.97	10.90	11.10
LSD (p=0.05)	1.01	1.00	1.10	NS	NS	NS

As a result, in conventional rice-rice and rice-maize rotations in Southern India and similar (sub) tropical agroecosystems, the CA-based rice-minimum tilled maize system may be recommended for higher crop productivity, resource-use efficiency, and soil carbon in Southern India and similar (sub) tropical agroecosystems.

Outreach Activities

- Dr B Nirmala, PI-ICAR-IIRR-SCSP made a field visit to SCSP demonstrations in Khammam on 8th January 2021. Under ICAR-IIRR-SCSP, sprayers were distributed to 20 SC beneficiary farmers of Kattakur village of Mudigonda Mandal of Khammam district of Telangana.

- Drs R Mahender Kumar, T Vidhan Singh and B Nirmala have organised a training program on Direct Sown Rice (DSR) on 21st January 2021 at Jammulapalem village, Bapatla Mandal, Guntur district of Andhra Pradesh. The program was organised in collaboration with an NGO, Praanadhara. The training was followed by a focus group discussion, which was attended by 62 farmers.

- On 22nd January 2021, Drs B Nirmala and Dr R Mahender Kumar organised a training program on 'Good agriculture practices in Rice' at Nalluripalem village of Repalle Mandal of Guntur district. A farmer-scientist interaction was conducted with 60 SC beneficiary farmers of Nalluripalem.

- On 28th January 2021, under SCSP, 30 sprayers were distributed to Kasaram village of Deverakonda Mandal of Nalgonda district.

- As part of International Women's day on 8th March 2021, a three-day institutional training program on improved rice production technologies for farm women under SCSP sponsored by ICAR-CRIDA was inaugurated and was attended by 20 farm women from Mancherial District of Telangana. The program was coordinated by Dr Amtul Waris, PS (Agric Extn) and Dr B Nirmala, Sr. Sci (Agric. Eco)

- On 8th March 2021, Women's Day was organised in Mutharam, Mudigonda and V.V. Kistapuram villages of Khammam district under SCSP. Under the IIRR-SCSP program critical inputs were distributed to women farmers in Khammam district and the Best Woman farmers were felicitated. The program was coordinated by Dr Amtul Waris, Principal Scientist (Agricultural Extension) and Dr B Nirmala, Senior Scientist (Agricultural Economics).

Farmers' Training Programs

Training program on management of zinc deficiency in rice fields

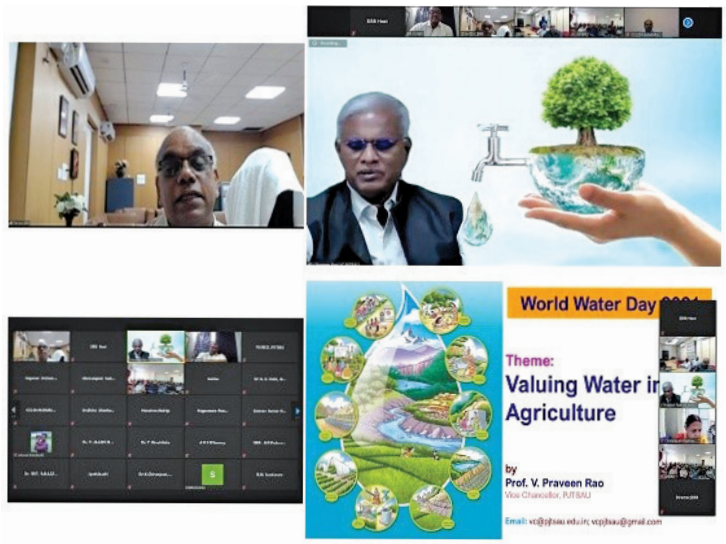
Training program on management of zinc deficiency in rice fields was organized on 28th January 2021 at Devarakonda under the DST-Sponsored project- "Technological empowerment of tribal farm women". Chelated zinc was distributed for spray as zinc deficiency was observed in some farmers' fields in Achamma kunta Tanda and Korra tanda. Eco-entrepreneurship development through vermicompost preparation was promoted among tribal farm women and these units were monitored

Training program on climate resilient rice cultivation practices for farmers under ATMA, Ranga Reddy

An on-campus training program on climate resilient rice cultivation practices for farmers from Ranga Reddy under ATMA was organized on 6th February 2021. It was attended by 30 farmers and the comprehensive subject matter covered topics on Rice sector-preparedness for climate resilience, Climate resilient rice establishment methods for saving water and labour, Rapid soil sample analysis-hands-on soil testing kit, Integrated weed management, Integrated pest management, Disease management in rice based cropping system, Central Sector Schemes being implemented by IIRR, Harnessing ICTs for agro-advisories and government schemes, Optimizing on cost of cultivation to raise income of farmers and Farmer advocates for dissemination of technologies. The training program was coordinated by Drs Amtul Waris and S Arun Kumar.

Webinars hosted

The ICAR-IIRR organized a webinar on World Water Day (22nd March 2021) on "Value of Water for Agriculture -with reference to Rice Cultivation". Dr D Subrahmanyam, Director (A) highlighted the significance of celebrating the World Water Day, followed by lecture by key speaker Prof. V Praveen Rao, Vice-chancellor, PJTSAU. More than 150 participants (IIRR Scientists, Rice workers across the Country, and school children (up to 10th standard) from Rajendranagar and Budvel) participated in the event.



Panorama of Institute Activities

The staff of ICAR-IIRR celebrated New Year beginning with social, cultural and religious observance at the institute on 1st January 2021.

On 26th January 2021, 72nd republic day was celebrated at the institute with patriotic fervour

On 8th March 2021, The International Women's Day was celebrated at ICAR-IIRR under the theme ''Women Leadership in Agriculture: Entrepreneurship, Equity & Empowerment'' in the institute auditorium. All the permanent staff of the institute took part in the celebrations. The guest speaker for the occasion, Ms. Manju Latha Kalanidhi, Senior Journalist and founder of the Rice Bucket Challenge, a social initiative to help the needy, deliberated upon the immense role women farmers play in providing food security and acknowledged the role of women scientists of the institute in contributing to rice science. Dr D Subrahmanyam, Director (A) of the institute, highlighted the significance of celebrating the International Women's Day and acknowledged the contribution of women scientists, administrative and finance personnel in institutional building.

STAFF NEWS

Recognition

Dr B Nirmala, Senior Scientist (Agricultural Economics) has been selected as 'Associate Fellow' of the ''Telangana Academy of Sciences" for the year 2019.

Transfer

Dr Divya PS, Senior Scientist, Crop Improvement section was relieved on 25th Jan 2021 from ICAR-IIRR to join Indian Institute of Spices Research (IISR), Kozhikode, Kerala on transfer.

New charge

Dr B Jhansi Rani took over the charge of Director (A) of ICAR-IIRR, Hyderabad w.e.f. 1st January 2021 and served upto 26th January 2021.

Dr D Subrahmanyam, Principal Scientist took over the charge of Director (A) ICAR-IIRR, Hyderabad w.e.f. 27th January 2021.

New joining

Dr Akshay Sureshrao Sakhare, Scientist (Plant Physiology) joined ICAR-IIRR on 29th January (FN) on transfer from ICAR-IARI, New Delhi.

Retirement

Ms B Susheela retired from the Councils' service on Superannuation on 31st January 2021.

Editorial Committee: Drs. Nageswara Rao DVK, Amtul Waris, Senguttuvel P, Jyothi Badri, Kalyani M Barbadikar, Bandeppa S, Arti Singh and Basavaraj K

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