



IN THIS ISSUE

- RESEARCH & INNOVATIONS
- NEWS & EVENTS
- PRINT & MEDIA
- MEETINGS
- CELEBRATIONS
- SCIENTISTS & FARMERS LINKAGES
- RESEARCH PUBLICATIONS
- AWARD & RECOGNITION
- PERSONNEL
- EDITORIAL

DIRECTOR'S MESSAGE

ICAR-CRIJAF, Barrackpore is the only Institute in India which undertakes research and development work on productivity and quality of natural fibres like jute, mesta, sunnhemp, ramie, sisal and flax. Jute, 'the golden fibre of India', provides livelihood support to more than 40 lakh farm families and direct and indirect employment to another 10 lakh people in the industrial sector.

The jute and allied fibres continues to play a role in the national economy. Presently, jute sector produces goods worth ₹ 6500 crores and contributes to export earning of nearly ₹ 2200 crores/annum. Apart from generating sizeable employment and contributing significantly to the national exchequer, the fibre crops have potential to provide role in eco-system services, carbon sequestration, checking soil erosion etc. These plant fibres are biodegradable and can gradually replace the plastics/synthetic fibres and will facilitate to make clean and green environment.



Jute and sisal based composites have potential to substitute wood in many industries like furniture, automobile, aviation and railways etc. The sunnhemp has potential to use as paper pulp in paper manufacturing industries which can save many forest trees and check deforestation.

Development of entrepreneurship of jute diversified products and handicrafts among the farm women will lead to economic empowerment of farm-women and doubling of farmer's income. Measures like 'Compulsory Packaging Act', ban on 'single use plastics' and announcement of revised minimum support price of jute every year will definitely give a fillip to the development of jute sector. Consumer awareness towards greater use of biodegradable products linked to Government's Clean India initiatives i.e. "Swachha Bharat Mission" will sustain the market demand for jute-based products.

Our multi-disciplinary scientific teams of the institute are working to develop technologies to improve productivity and quality of jute and allied fibres. I am confident that our R&D efforts will continue to support millions of farm families for their livelihood besides mitigating negative impacts of climate change, and building of sustainable clean and green eco-system.



Editorial Board

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Published by

Dr Gouranga Kar, Director

ICAR-CENTRAL RESEARCH INSTITUTE FOR JUTE & ALLIED FIBRES

Barrackpore, Kolkata-700121

(An ISO 9001:2015 certified Institute)

Website: crijaf.icar.gov.in

----- Wish You All Hearty, Happy and Safe New Year 2021 -----

RESEARCH & INNOVATIONS

In-situ Jute Retting Tank based Self Reliant Eco-farming System

Keeping in view the erratic distribution of rainfall, non-availability of community retting tank, declined per capita availability of water resources, high cost of cultivation and dryness of rivers, ponds/canals, farmers face problems of proper retting of jute and mesta. Due to retting with poor quality water, quality of fibre is being affected. To overcome such problems, in-situ retting water was conserved for Self-Reliant Eco-farming, and a model has been developed by ICAR-CRIJAF which can be adapted by the farmers to make jute and mesta farming more profitable.



Demonstration of in-situ jute retting tank at ICAR-CRIJAF Farm

The tank dimension of 40 ft × 30 ft × 5 ft is sufficient for retting of jute harvested from half acre of land. The total area of farming system which includes digging and bund area is about 180 m². Provision is made for appropriate lining of in-situ retting tank with LDPE agri-film of 150-300 microns or RCC to minimize the seepage and percolation loss, particularly in light textured soil. In case, large field is available, tank dimension of 50 ft × 40 ft × 5 ft can also be adopted. By integrating the construction of in-situ retting tank through MGNREGA schemes, large number of man days will also be created (60-70 man days/tank). In addition to retting, the harvested water can be utilized in multiple ways. On dyke based horticulture (papaya, banana, vegetables), rearing of air breathing fish (telapia, magur, singhi), apiaries, duckary, etc. can be integrated for getting an additional income of about ₹30,000 per year from such system. The cost of transporting of harvested jute bundles to the conventional retting pond can save up to ₹4000-6000 per acre. This technology will also be helpful in reducing negative impacts from extreme weather events like drought, cyclone, flood etc. through runoff, recycling and groundwater recharge.

G. Kar, M.S. Behera, Bijan Majumdar and R.K. Naik
ICAR-CRIJAF, Barrackpore

Markov Chain Analysis of Daily Rainfall Patterns of North-24 Parganas, West Bengal

Jute is pre-dominantly a rainfed crop with an average water requirement of 450-550 mm. Presently, the delayed onset of pre-monsoon shower along with uneven rainfall distribution during crop growth period affect fibre yield of jute. Therefore, Markov chain analysis of daily rainfall data (1993-2017) collected from meteorological observatory of ICAR-CRIJAF, Barrackpore was done for assessment of the rainfall pattern of North 24-Parganas, a major jute growing district of West Bengal. The average daily rain (mm) during jute sowing season (March to May) over last 25 years indicated an uneven distribution. The Markov chain analysis revealed that the probability of two consecutive rainy days was 0.52, whereas, the probability of getting a rainy day after a dry day was 0.14. The steady state transition matrix indicated that, in future the probability of getting a dry or a rainy day shall be 0.77 and 0.23, respectively. The rainfall pattern during March-May also indicated that in future, the probability of occurrence of rain on a particular day in March, April and May are 0.05, 0.01 and 0.25, respectively.

Rainfall pattern of North 24 Parganas

Period	Initial Matrix	Steady state transition matrix	Probability of either 'rain' or 'dry' on a day
Daily	$P_{Daily} = \begin{pmatrix} 0.52 & 0.48 \\ 0.14 & 0.84 \end{pmatrix}$	$\begin{pmatrix} 0.23 & 0.77 \\ 0.23 & 0.77 \end{pmatrix}$	0.23/0.77
March	$P_{March} = \begin{pmatrix} 0.18 & 0.82 \\ 0.04 & 0.96 \end{pmatrix}$	$\begin{pmatrix} 0.05 & 0.95 \\ 0.05 & 0.95 \end{pmatrix}$	0.05/0.95
April	$P_{April} = \begin{pmatrix} 0.12 & 0.88 \\ 0.10 & 0.90 \end{pmatrix}$	$\begin{pmatrix} 0.10 & 0.90 \\ 0.10 & 0.90 \end{pmatrix}$	0.10/0.90
May	$P_{May} = \begin{pmatrix} 0.36 & 0.64 \\ 0.21 & 0.89 \end{pmatrix}$	$\begin{pmatrix} 0.25 & 0.75 \\ 0.25 & 0.75 \end{pmatrix}$	0.25/0.75

N.M. Alam, D. Barman, A.K. Chakraborty, S. Mitra and G. Kar
ICAR-CRIJAF, Barrackpore

Simulation of Irrigation Water Requirement of Jute at Different Sowing Periods

Jute is generally sown after 25th March to avoid premature flowering that deteriorates fibre quality and reduces fibre yield. Sowing time of jute varies from place to place due to many reasons. Therefore, for different sowing window, irrigation water requirement of jute crop was estimated by simulating CROPWAT 8.0 model. The model was simulated for jute crop by using the input data of weather, crop, and soil. Crop evapotranspiration, effective rain, and irrigation water

requirements were computed. The model data indicate that with delayed sowing, there may be considerable reduction in crop evapotranspiration and irrigation water requirement.

Irrigation water requirement at different sowing period

Sowing period	Harvesting period	Crop ET (mm)	Effective rain (mm)	IWR (mm)
16-22 Mar	13-19 Jul	475-500	375-400	125-150
23-31 Mar	20-28 Jul	450-475	400-435	100-125
1-7 Apr	29 July-4 Aug	425-450	435-450	80-100
8-15 Apr	5-12 Aug	400-425	460-490	70-80
16-22 Apr	13-19 Aug	400-425	490-500	50-70
23-30 Apr	20-27 Aug	400-415	500-525	30-50
1-7 May	28 Aug-3 Sep	390-400	525-535	20-30
8-15 May	4-11 Sep	385-390	535-550	20-30

ET: evapo-transpiration; IWR: Irrigation water requirement

D. Barman, R. Saha and G. Kar
ICAR-CRIJAF, Barrackpore

Jute Retting in Free Flowing Water System for Improving Fibre Quality

Best quality of fibre is obtained through retting of jute in slowly flowing water, which is less available in jute growing areas. Hence, farmers ret their crop in stagnant water of ponds and ditches and often produce inferior quality fibre. To overcome this problem, a free flowing water system has been developed in a cement tank having three chambers with jet pump (2 hp) and pipe line arrangements. The jute plants (JRO-204) harvested at 120 DAS were retted in two chambers using microbial formulation 'CRIJAF SONA' @ 4kg/ha. The water circulation was made by pumping water from buffer chamber to reservoir chamber and then flowing of water through retting chamber to buffer chamber. Retting was completed in 12 days (October) with best quality golden colour fibre and more lustered fibre having fibre strength of 23.2-27.3 g/tex. There was 17-18 % increase in fibre yield with complete absence of root content in the fibre.



Cement tank based free flowing water system for jute retting

R.K. Naik, B. Majumdar, S.K. Jha, Shamna A.,
G. Kar and M.S. Behera
ICAR-CRIJAF, Barrackpore

Improved Fibre Extractor for Flax Developed

An improved fibre extractor for flax has been designed and developed. The machine is operated by three phase 5 hp electric motor. The flax straw movement in the machine is horizontal with provision of straw feeding and fibre outlet platforms. The machine is having seven scutching points. The longitudinal grooved nylon rollers are driven with the help of chain/sprockets and pinions. The spring loaded bolts fixed on the blocks of upper roller maintains the clearance between the upper and lower rollers. The conveyor belt at the inlet chute facilitates continuous feeding of material into the machine. Two operators are required to operate the machine; one for feeding the straw and other for collection of scutched fibre from outlet. The overall dimensions of the machine including conveyor belt attachment is 3.1 m x 0.9 m x 1.3 m (L x W x H). The primary evaluation of the machine showed the throughput capacity of 80-85 kg flax straw/h and material capacity of 40-45 kg dry fibre/hr.



Flax fibre extractor developed by ICAR-CRIJAF

R.K. Naik and S. Mitra
ICAR-CRIJAF, Barrackpore

Influence of Weed Management Practices on Plant Size Composition in Jute

In this experiment, weed management treatments progressively caused improvement in the share of effective compositions from 41.10 to 81.40%, simultaneously reduced ineffective compositions as well and bettered yield from 11.59 to 34.73 q/ha. Compositions consist of percentages by number of plants at harvest. Weed management practices (T_1 to T_8) progressively affected partial shift of plants from ineffective to effective compositions. Average green weight and fibre weight decreased with decrease in plant size. Plant height and basal diameter are found strongly correlated attributes ($r > 0.9$). In terms of economic contribution, large (length > 300 cm),

medium (length 250-300 cm), and small (150-250 cm) category plants are in descending order. Chads (<150 cm) are mere wastage of resources. Hence, a management strategy is better which maximizes the share of effective (large and medium) compositions with negligible share in the small and chad compositions.

Influence of weed management practices on composition of jute plants

Treatments for weed management	Plant compositions (%)				Effective composition (%)	Fibre Yield (q/ha)
	Large	Medium	Small	Chad		
T ₁ :Unweeded Check	10.6	34.9	14.1	40.4	45.5	12.03
T ₂ :Targa Super 5 EC @ 1.5 ml/1 at 35 DAE (Blanket)	6.4	34.7	28.5	30.4	41.10	11.59
T ₃ :Targa Super 5 EC @ 1.5 ml/1 at 21 DAE+1 HW at 35 DAE	15.3	48.4	19.4	16.9	63.70	24.18
T ₄ :Targa Super 5 EC @ 2.0 ml/1 at 21 DAE+1 HW at 35 DAE	18.8	47.5	17.5	16.3	66.30	24.91
T ₅ :2 HW at 21 and 35 DAE	21.8	50.7	17.9	9.6	72.50	26.15
T ₆ :Red Amaranth + 2 HW at 21 and 35 DAE	20.2	58.8	14.8	6.2	79.00	28.75
T ₇ :Rice Straw Mulch @ 5.0 t/ha + 1 HW at 35 DAE	30.2	40.9	16.4	12.5	71.10	29.59
T ₈ :Rice Straw Mulch @10.0 t/ha + 1 HW at 35 DAE	37.4	44.0	11.0	7.6	81.40	34.73
SEM	10.81	18.64	18.64	15.6	--	--
CD						9.51

A.K. Chakraborty and A. K. Ghorai
ICAR-CRIJAF, Barrackpore

Improved Weed Management Strategies to Enhance Fibre Productivity of Ramie

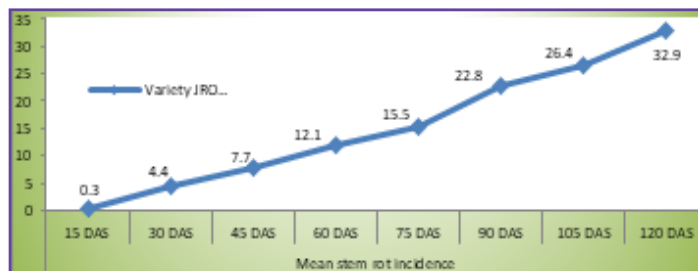
First year data of (cv. R-1411 or Hazarika) showed that the fibre productivity of ramie significantly differ among the treatments and the highest fibre (2124 kg/ha) was produced with weed free treatment followed by Oxyfluorfen 23.5% EC (PE)+Quizalofop-ethyl 10% EC (PoE) treatment at 20 DASp+1HW (1929 kg/ha) and the lowest (481.48 kg/ha) was recorded with weedy check or un-weeded treatment. Similar trend was observed in R-67-34 (Kanai) cultivar.

Kajal Das, S. Sarkar, B. Majumdar and R.K. De
RRS (ICAR-CRIJAF), Sorbhog

Plant Age and Susceptibility to Stem Rot of Jute Caused by *Macrophomina phaseolina*

In order to determine the most susceptible stage of jute plant to stem rot disease, a pot experiment was conducted with jute variety JRO-204 in sterilized soil. Plants of different ages starting from 1 to 18 weeks was exposed to similar inoculum pressure of 42.7×10^3 colony forming units/g soil of *M. phaseolina*

simultaneously. Incidence of stem rot was carefully monitored and final percentage incidence of stem rot of jute was noted fortnightly after inoculation. The least stem rot incidence (0.34%) was recorded in young plant of 15 days old and it slowly increased with increasing age of the plants. Increasing incidence of 4.4% at 30 day old plants, 7.6% at 45 DAS, 15.4% at 75 DAS, finally reaching the peak of 32.8 % at the age of 120 days.



Trend of susceptibility to stem rot with plant age

Rajib Kumar De
ICAR-CRIJAF, Barrackpore

Screening of Advanced Breeding Lines for Stem Rot Resistance in Jute

Two mapping populations OIJ-272 x RS-6 and OIN-456 x OIN-154 were screened for stem rot resistance at ICAR-CRIJAF Research Farm. In population OIJ-272 x RS-6, only 10 plants exhibited moderately resistant symptoms while remaining were found moderate to highly susceptible. In case of mapping population OIN-456 x OIN-154, only 5 plants exhibited moderately resistant and remaining were moderate to highly susceptible.



Stem inoculation in jute plants

J.K. Meena, P. Satya, K. Mandal and K. Das
ICAR-CRIJAF, Barrackpore

Pedo-transfer Functions for Soil Water Retention Characteristics of Jute Areas

Soil water retention characteristics under various jute growing blocks of Cooch Behar and Jalpaiguri districts was assessed for soil texture, bulk density and organic carbon content based on multivariate linear pedo-

transfer functions (PTFs). Few other selected PTFs were also evaluated on large independent soil datasets under present study. Among the various models, equation under Tomasella and Hodnett model (1998) was found to be satisfactory for prediction of soil moisture characteristics. Results revealed that PTFs based on soil texture, bulk density and organic carbon content perform better for soil moisture prediction under diverse jute based cropping systems of sub-tropical per-humid agro-climate.

Pedo-transfer functions for field capacity (ψ_{FC}), permanent wilting point (ψ_{pwp}) and available water in soils

Pedo-transfer Functions-1
$y = \text{Moisture content (\% vol.) at 0.03 MPa}$ $y = -43.02 + 0.63x_1 + 0.05x_2 + 56.14x_3 + 0.18x_4$ ($R^2 = 0.79$)
Pedo-transfer Functions-2
$y = \text{Moisture content (\% vol.) at 1.5 MPa}$ $y = -41.92 + 0.52x_1 - 0.20x_2 + 44.35x_3 + 0.14x_4$ ($R^2 = 0.68$)
Pedo-transfer Functions-3
$y = \text{Available moisture content (\% vol.)}$ $y = 23.16 - 0.22x_1 + 0.35x_2 - 3.53x_3 + 0.04x_4$ ($R^2 = 0.88$)
<i>Where, x_1: Clay (%); x_2: Organic carbon; x_3: Bulk density ($Mg\ m^{-3}$); x_4: Silt (%)</i>

R. Saha, S. Mitra, Shyamal Kheroar, N. M. Alam, D. Barman, S.P. Mazumdar and G. Kar
 AINP-NF, ICAR-CRIJAF, Barrackpore

Collection of *Trichoderma* from Natural Habitats

Cyclonic storm ‘Amphan’ in West Bengal resulted massive destructions of trees. On such substrates, wild mushrooms were flourished due to less human interference. Naturally occurring *Trichoderma* could be spotted infecting such wild mushrooms and on the decaying wood. Ten such samples were collected from ICAR-CRIJAF (Nilganj) and Motijheel (Dum Dum) of North 24 Parganas (W.B.). Successful isolation and purification of the targeted organism were achieved from six samples. The isolates (CJMR192, CJMR193, CJMR194, CJMR195, CJMR196 and CJMR197) are now being maintained at ICAR-CRIJAF laboratory.

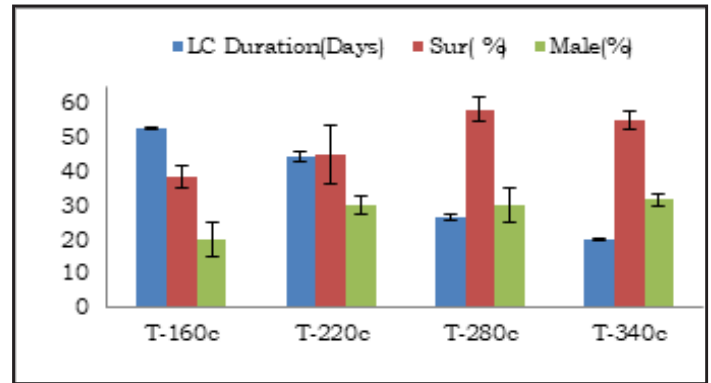


Wild mushroom as source of *Trichoderma*

Kunal Mandal, S. K. Sarkar and Ritesh Saha
 ICAR-CRIJAF, Barrackpore

Phenacoccus solenopsis, a New Pest of Jute in Climate Change Scenario

Cotton mealybug, *Phenacoccus solenopsis* has established as new pest on jute and enhanced its pest status due to the changing temperature and rainfall pattern during the crop establishment phase. In a laboratory experiment, the impact of variable temperature regimes (16°C to 34°C) on the development, survival and sex ratio of mealybug was assessed. The life cycle duration of *P. solenopsis* reared on jute was significantly influenced by temperature. Total life cycle duration was reduced by 32 days with an increase of 18°C temperature.



Effect of temperature on life cycle duration, survival and sex ratio of mealy bug in jute

The survival of mealy bug was maximum (58.33%) at 28°C. The sex ratio of mealy bug altered under different temperature regimes. There was an increase in the proportion of males with increase in rearing temperature. Highest proportion of males i.e., 31.67% was recorded at 34°C rearing temperature. Proportion of males was reduced by 10% with decrease of 18°C temperature.

S. Satpathy, B.S. Gotyal and V. Ramesh Babu
 ICAR-CRIJAF, Barrackpore

Intercropping of Sisal with Other Natural Fibre Crops to Enhance Farm Income

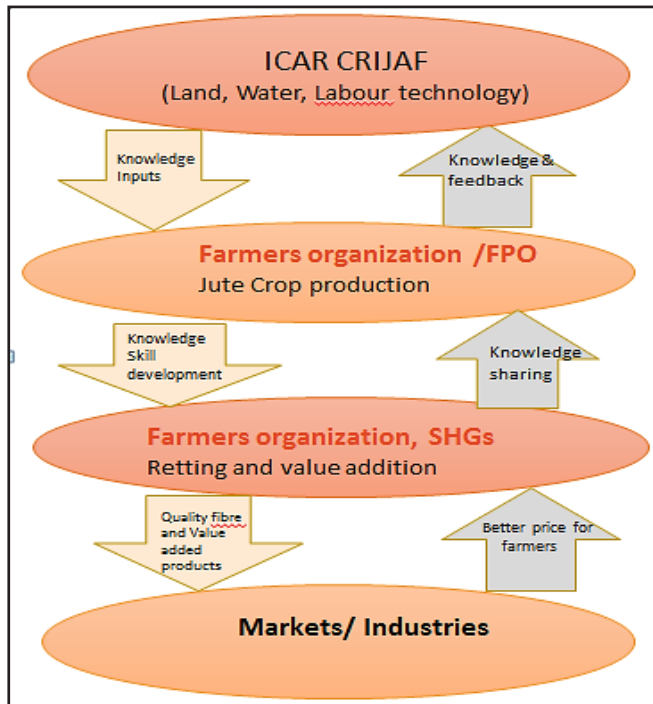
Natural fibre crops like jute, mesta, ramie and sunhemp were grown as intercrop in sisal for generating additional income. An income of ₹19,800 to 38,000 could be generated in this system.



Sisal-natural fibre intercropping system in Odisha

Value Chain Development in Jute

Development of value chain in jute was studied following Likerts scale considering 100 farmers from two Farmers Producer Company (FPOs) namely Badhuria Krishi Bikas FPC (Badhuria) and Sapka Apna FPC (Nilgunj) of North 24 Parganas (W.B.). About 95 % of the farmers had strongly favoured the value chain development in jute. The average area of jute cultivated by farmers of FPOs was 1.5 acre. These two FPCs were linked with ICAR-CRIJAF through various government schemes, programmes and projects as per the conceptual model developed for the value chain in jute.



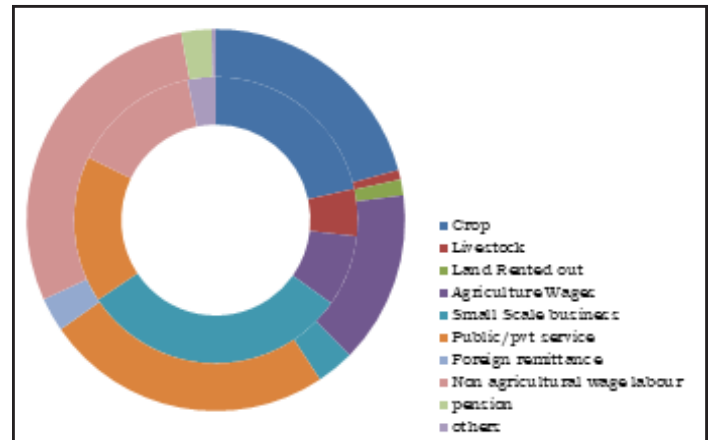
Conceptual model of value chain in jute

Shamna. A, S.K. Jha, T. Samajdar,
R.K. Naik and N.M. Alam
ICAR-CRIJAF, Barrackpore

Enhancing Farm Income through Diversified Products of Jute as an Alternative to Plastics

To promote the use of jute based diversified products as an alternative to plastic use, three skill development programmes were conducted to 24 farm women of two SHG for developing jute based products, entrepreneurship development and the socio economic empowerment of farm women. The baseline data was also collected from the participants to study their profile, analyse their income source, diversity and percentage contribution of each income earning activity to their total income. It was observed

that the average age of Group 1 was 38.8 and group 2 was 34.4. More than 75 percent of the women in both the groups had education up to high school level. The major contribution of household income of group 1 was from small scale business (30.7%) followed by agriculture (21.48%), where as in case of group 2 the major contribution to total house hold income was from non-agricultural wage labour(28.84%) followed by service (24.58%) and agriculture (20.77 %).



Shamna. A, S.K. Jha, S. Kumar and M.L. Roy
ICAR-CRIJAF, Barrackpore

Recycling Leaf Litter as Compost for JAF Crops

Leaf litter acts as a nutrient source and is of great importance in the fertility of the soils. Recycling of such waste materials as compost started in the ICAR-CRIJAF Research Farm. Compost prepared from leaf litter will be used as source of nutrient for JAF crops like jute, ramie and flax. Utilization and management of leaf litter as source of organic plant nutrients in JAF crops may provide an alternative approach to waste management for clean environment.



Production of bench scale compost from leaf litter at ICAR-CRIJAF

A.K. Singh, B. Majumdar, A.K. Ghorai, S. Mitra, M.S. Behera,
S.K. Sarkar, S. Satpathy, Vikas Mangal and M.L. Roy
ICAR-CRIJAF, Barrackpore

NEWS & EVENTS



Webcasting of PM-KISAN Samman Nidhi Yojana

The webcasting of PM-Kisan Samman Nidhi Fund release and address to the farmers by Hon'ble Prime Minister was organized in the institute and its regional stations and KVK on 25th December 2020. On this occasion, Scientists-Farmers interaction was also arranged in which the farmers viewed the live telecast of Hon'ble Prime Minister of India. Dr. Gouranga Kar, Director of the Institute interacted with participating farmers and elaborated about the frontline government schemes like Pradhan Mantri Fasal Bima Yojana (PMFBY), Krishi Sinchai Yojana (PMKSY), Paramparagat Krishi Vikas Yojana (PKVY), Micro Irrigation Fund (MIF), National Agriculture Market (eNAM), National Mission For Sustainable Agriculture (NMSA) as being implemented by the government of India.

Visit of Hon'ble Member of Parliament (Barrackpore) to ICAR-CRIJAF

Shri Arjun Singh, Hon'ble Member of Parliament (Barrackpore) visited ICAR-CRIJAF on 9th September 2020 and interacted with Director and Scientists on jute and allied fibre farming. He also visualized innovative in-situ jute retting tank based integrated farming system and appreciated the efforts made by the institute. He remarked that after adopting the technology, both fibre quality and income of farmers can be enhanced.

Model Demonstration of In-Situ Jute Retting Tank Based Self-Reliant Farming

A model of *in-situ* jute retting tank based self-reliant farming was demonstrated to officials of Jute Corporation of India, Ministry of Textiles, Govt. of India on 10th Sept 2020 to explore possibility of its adoption in all the jute growing states. This in-situ tank will help in getting better quality fibre and generate additional income to farmers. A panel discussion was also organized on overall technology package of improved jute cultivation. Officials of Government of West Bengal also visited to see the model of ICAR-CRIJAF campus.



KOLKATA 8 October 2020

CLEANER AND GREENER

The ICAR-Central Research Institute for Jute and Allied Fibres (CRIJAF), Barrackpore, aims to fulfil Mahatma Gandhi's dream to make India clean and healthy by replacing plastic with natural fibres

Mahatma Gandhi had dreamt of a cleaner and healthier India and he emphasised on it time and again. From river pollution, waste management and sanitation across the nation, the Swachh Bharat Mission was a step taken towards fulfilling of this dream. The Green India Mission also

...involves eradicating a greenhouse gas. The biomass jute, maize, rice etc. can also be used as paper pulp. Since most of the paper pulp will be recycled, it will help to make India greener by keeping a check on deforestation. Jute sticks are a cheap source for biodegradable, stronger paper and




NEW DELHI 16 July 2020


Ray of hope

India is the largest producer of jute and jute goods in the world, contributing about 60 per cent of the global production and providing livelihood to about five million people in farming and trade industry.

Although, the domestic market continues to be the mainstay for jute sector, of late, our export market share is also showing an increasing trend. India exports about 7200 crores per annum through jute goods export because of biodegradability and eco-friendly nature of this fibre. However, to be suitable for high valued diversified products, the quality of fibre needs further

(NCBI) database of NIH, USA. These retting bacteria were already incorporated in the microbial consortium, called 'CRIJAF Sona', developed by ICAR-CRIJAF. Owing to its popularity in last three years alone, 1428 MT of CRIJAF-Sona worth ₹ 7.85 crore was sold to 16 lakh farmers covering more than 50,000 ha area in different pitee growing states of the country.


While congratulating the team of scientists, Dr Gouranga Kar expressed that such breakthrough is first of its kind in jute and is confident that these findings will help the scientists improve the microbial retting.

KOLKATA 17 July 2020

ICAR-CRIJAF achieves breakthrough in jute retting research

Covid-19 and cyclone Amphan wreaked havoc on standing jute crop this year. Yet there is a good standing crop in the field because of concerted efforts of ICAR-CRIJAF and other stakeholders like National Jute Board, Jute Corporation of India, etc. According to Dr Gouranga Kar, director of ICAR-CRIJAF, Barrackpore, a breakthrough in




दैनिक
बिह्वामित्र

दिल्ली का प्राचीनतम राष्ट्रीय दैनिक • KOLKATA 17 July 2020

भारत दुनिया में कच्चे पटसन और पटसन के सामान का सबसे बड़ा उत्पादक

बैरकपुर, 16 जुलाई (वि.प्र.) भारत दुनिया में कच्चे पटसन और पटसन के सामान का सबसे बड़ा उत्पादक है, जो वैश्विक उत्पादन में लगभग 60% का योगदान देता है और दुनिया का सबसे

अनुसंधान संस्थान (क्राइजैफ), बैरकपुर के निदेशक डॉ.गंगा कर ने बताया कि देश की गुणवत्ता, पटसन किस्मों की आनुवंशिक विविधता के अभाव, कृषि पर, कृषि विज्ञान की

विज्ञान विभाग ने कहा है कि अनुसंधान के माध्यम से पटसन के उत्पादन में सुधार किया जा सकता है और पटसन के उत्पादन में सुधार किया जा सकता है।



अखबार नहीं आंदोलन

प्रभात खबर

KOLKATA 17 July, 2020

पटसन सड़न अनुसंधान को मिली बड़ी सफलता

पटसन सड़न रोकने में नए तरीके खोजे जा रहे हैं।

पटसन सड़न रोकने में नए तरीके खोजे जा रहे हैं। पटसन सड़न रोकने में नए तरीके खोजे जा रहे हैं। पटसन सड़न रोकने में नए तरीके खोजे जा रहे हैं।




सबुज सोना

SABIRI SONA Ranaghat, 1st July, 2020 1382x900, 382x90

पाट चाँदियेर जना आशार आलो भारतीय कृषि अनुसंधान परिषद - क्राइजैफ द्वारा पाट पचाने के गवेषणार युगाङ्ककारी साफल्य अर्जन

पाट पचाने के गवेषणार युगाङ्ककारी साफल्य अर्जन



सबुज सोना

SABIRI SONA Ranaghat, 1st July, 2020 1382x900, 382x90

स्वाभाविक स्थाने पाट तडुवर भालो मान, उच्च आय क्राइजैफेर नतुन उद्योग

पटसन सड़न रोकने में नए तरीके खोजे जा रहे हैं।

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गडकाल

KOLKATA 12 August 2020

वृष्टि के जल धरे के कम समये पाट पचानो याय

पटसन सड़न रोकने में नए तरीके खोजे जा रहे हैं।

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KRISHI JAGRAN

KOLKATA 2 October 2020

पटसन सड़न रोकने में नए तरीके खोजे जा रहे हैं।

पटसन सड़न रोकने में नए तरीके खोजे जा रहे हैं। पटसन सड़न रोकने में नए तरीके खोजे जा रहे हैं।



ICAR NEWS

JAF-Safe: Mobile App for Insect Pest Management in Jute and Allied Fibre Crops

ICT based extension services have got a new thrust technologies for quicker and proper adoption.

BS Gotyal and S Satpathy

MEETINGS

IRC Meeting

The 2nd phase of Institute Research Council (2020) meeting of ICAR- CRIJAF was held during 20-22 July 2020 under the chairmanship of Director, ICAR- CRIJAF, Barrackpore. The meeting was conducted through both online and offline modes maintaining COVID-19 health protocols and guidelines of the Ministry of Health and Family Welfare, Govt. of India. In this meeting, 48 in-house and 15 external on-going research projects were reviewed.



Director, HODs, In-charge (PME Cell) and Member Secretary (IRC) of ICAR-CRIJAF during 2nd phase of IRC meeting

The chairman requested all the scientists to put sincere efforts on need-based and demand-driven technology oriented research for the stakeholders of jute and allied fibre sector. He also emphasized that publication of the institute's research output needs to be communicated in peer-review scientific journals with high impact factors.

Press Meet on Natural Fibre Production

A press meeting was held on 31st December 2020 to highlight the initiative taken by the institute on implementation of replacement of plastic with natural fibre, jute retting based eco-farming, conversion of agricultural waste to wealth, etc. ICAR-CRIJAF has been mandated to undertake research and developments on natural fibre crops like jute, mesta, flax, ramie, sisal, sunnhemp which are fully biodegradable and relatively inexpensive substitute for polythene, said Dr Gouranga Kar, director of the institute. The institute has developed high yielding varieties and suitable agro-technology to up-scale natural fibre production in the country which will not only help to meet domestic demand and to earn more foreign exchange. Altogether 10 members of press media were present in this press meet.

CELEBRATIONS

Independence Day

Amidst COVID-19 crisis, ICAR-CRIJAF celebrated 74th year of Indian Independence in the campus in the presence of limited gathering. All other Scientists and staffs were connected to celebrate this day virtually. Dr. Gouranga Kar, Director of the Institute hoisted national flag by remembering great freedom fighters of India who scarifies to make India an independent nation. He appealed all the staffs of the institute to work hard to make India 'Atmanirvar' through research and development of natural fibres in 'new normal' way during present and post COVID situation. Progressive farmers and farm workers were also facilitated on this occasion.



Director hoisted National Flag on occasion of 74th Independence Day at ICAR-CRIJAF, Barrackpore

150th Birth Anniversary celebration of the Father of Nation, Mahatma Gandhi

During the week-long celebration of Mahatma Gandhi's birth celebration, the Institute organized several activities including tree plantation, speech competition, swachha campaign, painting competition and special guest lecture on Gandhian philosophy of Gram Swaraj and its essence for sustainable agriculture, women empowerment, non-violence, Swadeshi and Atmanirbhar Bharat.



Director and Scientists of ICAR-CRIJAF celebrated 150th Birth Anniversary of Mahatma Gandhi

In the concluding session, Director of institute appealed all the staffs to inculcate principles and thoughts of Mahatma Gandhi in every sphere of life including agriculture with special reference to jute and allied fibre crops. He emphasized that proper technology development and extrapolation of the usefulness of natural fibres can fulfill Gandhi's dream of clean and green India.

Vigilance Awareness Week

Vigilance Awareness Week was celebrated by the Institute during 27th Oct to 2nd Nov 2020 by organizing activities like integrity pledge, sensitization lecture, debate competition, drawing competition and quiz competition. ICAR-CRIJAF employees and their family participated whole heartedly in all the programmes. On concluding session, Director of the institute stressed up on integrity, honesty and follow CCS rules of government of India. All programme were conducted through both online and offline modes.



Drawing competition held during Vigilance Awareness Week

Mahila Kisan Diwas

For recognizing the contribution of rural women in enhancing agricultural and rural development, Institute celebrated Mahila Kisan Diwas on 15th Oct 2020. The programmes of the celebration was on women empowerment, strengthening Self Help Group, drudgery reduction, mushroom cultivation for family income and food nutrition and COVID management. Altogether 14 women from different villages of North 24 Parganas District of West Bengal participated.



Women of West Bengal during Mahila Kisan Diwas

Observance of Constitution Day

Constitution Day was observed on 26th November 2020 to commemorate the adoption of Indian Constitution by our country. The program was started by reading of the Preamble of the Indian Constitution by the Director and all employee of ICAR-CRIJAF. On this occasion, lectures on “Preamble and fundamentals of constitution of India” and “Constitutional rights and government provisions for empowering women” was delivered by Dr. J.K. Meena and Dr. Debarati Datta, respectively, two young scientists of the institute. Dr. Gouranga Kar, Director of the institute highlighted the importance of Indian Constitution and the significance of Constitution Day. All the staff of the institute participated in this programme in offline and online mode.



Director and Scientists reading preamble of the Indian Constitution

World Soil Day

On 5th Dec 2020, Institute celebrated World Soil Day under the theme of “Keep soil alive, protect soil biodiversity” to promote the pivotal role of soil as a major component of natural ecosystem. On this occasion, Dr. Gouranga Kar, Director of the institute underlined the significance of soil health restoration and urged to maintain the soil fertility in all possible ways. Soil Health Card was distributed to all farmers participated in this programme. Dr. A. R. Saha, Principal Scientist (Soil Science) urged the participating farmers to use the Soil Health Card given by the institute and apply fertilizers as per recommendation for respective crops to control the excess use of chemical fertilizer without compromising the optimum crop yield.



Soil Health Card distribution to farmers on the occasion of World Soil Day 2020

Swachhta Pakhwada

ICAR-CRIJAF, Barrackpore with its Regional Stations and KVKs actively and effectively observed *Swachhta Pakhwada* (16-31 December, 2020) through various cleanliness oriented activities and awareness programs. It was started by taking Swachhta pledge followed by tree plantation. Programs like weeding out junk materials from offices, biodegradable and non-biodegradable waste disposal, promoting clean and green technology, campaign on cleaning and sewerage and waste lines, awareness on recycling of waste water, cleaning of public places and community market place, etc. were organized to propagate the message of Mahatma Gandhi on “total sanitation for all for the protection of environment and protection of our future”. All programs were conducted following the COVID-19 guidelines issued by the government to contain the pandemic.



Director addressing scientist and staff of ICAR-CRIJAF on occasion of Swachhata Pakhwada



Cleaning drive in Institute's compound

Seminar on Varietal Development and Status of Kenaf

A seminar on “Varietal Development and Status of Kenaf as a Natural Fibre in Global Scenario” was held on 28 November 2020 at ICAR-CRIJAF, Barrackpore. Dr. Pratik Satya, Pr. Scientist presented a detailed status and scope of varietal development of Kenaf in India and abroad. Dr. Gauranga Kar, Director of

ICAR-CRIJAF chaired the session and appreciated the presentation done by the speaker. All scientists and Head of Divisions attended the programme through both offline and online modes

Parthenium Awareness Week

Parthenium Awareness Week (16-22 August, 2020) organized by Ramie Research Station, Sorbhog, Assam. The programme organized to aware the farmers about the harmful effects of *Parthenium* and its management.



Parthenium awareness week celebration at Ramie Research Station, Sorbhog, Assam

World Food Day

World Food Day-2020 was celebrated through webcasting of the digital release of commemorative coin on the 75th anniversary of FAO and dedication of 17 biofortified varieties to the nation by Hon'ble Prime Minister of India for farm women and KVK personnel. During the occasion, a one day training programme on “Clean Milk in Child Health and Nutrition” was also organized by the KVK (North 24 Parganas-Addl) by maintaining the social distancing and other necessary protocol for COVID-19. Dr. Tanmay Samajdar, Head of the KVK briefed the farm women about importance of the day and urged the participants to promote nutritional garden in every household for nutritional security of their families.



Farm women participating during World Food Day-2020

SCIENTISTS & FARMERS LINKAGES

Soil Testing for Judicious Fertilizer Use

Training programme on “Soil Testing and Judicious Use of Fertilizer for Increased Crop Production” was organised by the team of Scientists of Crop Production Division for Scheduled Caste farmers of West Bengal under TSP-STCR programme during 19-21 November 2020. Participants were trained to use soil health card and application of soil test based fertilizer along with bio-fertilizers and other soil amendment, production of on-farm compost, etc. for enhancing soil fertility and crop productivity.



Director giving the certificate to trainees during TSP-STCR training on 21st November 2020

Skill Development on Jute Bag Making

Skill development training on “Jute bag making” for SC Farm Women was organized by the Agricultural Extension Section of the institute during 2-7 December 2020. Farm women from South Hansia village of North 24 Parganas participated in this programme. On last day of the training, all the products made by participating farm women were exhibited for the scientists and other stakeholder.



Director and scientists of ICAR-CRIJAF during valedictory function of Skill Development training

In-situ Jute Retting Tank based Self-reliant Eco-farming

Farmers of West Bengal interacted with Scientists of ICAR-CRIJAF and KVK on *In-situ* jute retting tank based self-reliant eco-farming for getting quality fibre through improved retting method of jute using CRIJAF-SONA and enhancing farm income by integrating cultivation of fruits, vegetables, vermicomposting, apiculture, fisheries, etc. A visit was also organized to *In-situ* jute retting tank based self-reliant eco-farming model developed by ICAR-CRIJAF. Programme were organized by KVK, North 24 Parganas (Additional) during August and September 2020 for the Community Resource Persons (CRPs) of WBSRLM project and SC farmers of the district.



Director and scientist of ICAR-CRIJAF interacting with participating farmers near *In-situ* jute retting tank

Agro-techniques for Enhancing Productivity and Profitability

The scientists of ICAR-CRIJAF and KVK interacted with the farmers on the agronomic practices including the integrated nutrient management with special emphasis on balanced fertilizer application, dose of different fertilizers in kharif rice and blackgram. The scientists discussed about the insects and diseases commonly damaging both the crops and the ways to get rid of the insects and the different lines of treatments with special emphasis on the balanced use of chemical and organic products to treat the pest and diseases. A visit was also organized to different demonstration plots including *In-situ* jute retting pond based farming system model developed by ICAR-CRIJAF. Altogether, 38 farmers from seven villages of North 24 Parganas participated in the programme during August to October 2020.



Farmers interacting with Scientist on various agro-techniques

Capacity Building of Farmers under SCSP

Amidst COVID-19, ICAR-CRIAF has conducted various capacity building programmes to develop knowledge and skill of SC farmers in the field of agriculture and allied field. This was done to augment crop yield, doubling farm income and to reduce drudgery. Critical agriculture inputs like CRIJAF SONA for jute retting, improved variety of seeds, vegetable kits, fruit planting materials and farm implements/tools were given to farmers 62 SC farmers of West Bengal under SCSP programmes of ICAR.



Director distributing plant saplings to SC Farmers

SCSP program conducted during Jul - Dec 2020

1. Use of CRIJAF Sona for enhancing yield and fibre quality in jute (24-25 Aug 2020)
2. Scope of jute-based cropping system for enhancing farm income and sustainable agriculture (25-27 Nov 2020)
3. Fibre quality improvement and doubling farmers' income through eco-friendly in-situ jute retting pond based farming system (31 Dec 2020)



Farmers interacting with Director and Scientists on *In-situ* jute retting tank based self-reliant eco-farming (vermicomposting)

Doubling Farmer's Income through Integrated Crop and Nutrient Management

Farmers of North 24 Parganas (W.B.) diversifying jute based cropping system by incorporating green gram and pumpkin as inter crop in jute and wet rice, and lentil as mixed crop in mustard through farmers' participatory experiment of integrated crop and nutrient management project (ICAR-CRIJAF). The system increases the cropping intensity, generates additional return, and reduces the water and nutrient requirement of each crop in the rotation. Jute intercropped with green gram provided the weed smothering efficiency (>50 %) along with protein food to farmers' family and plant nutrient to maintain soil health. Intercrop production alone meet about 85% of cost of cultivation and helped in doubling farm income as informed by Dr. A. K. Singh, Pr. Scientist & PI of the project. Such resource use efficiency brings long term positive transformation in farmers' income and the agricultural economy.

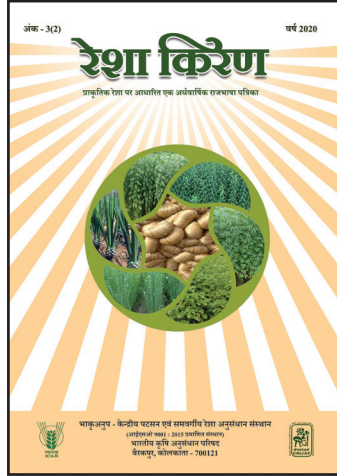


Jute-greengram and rice-pumpkin intercropping experiment in villages by farmers of North 24 Parganas (W.B.)

राजभाषा कार्यान्वयन

हिन्दी पखवाड़ा समारोह का आयोजन

भाकृअनुप-केन्द्रीय पटसन एवं समवर्गीय रेशा अनुसंधान संस्थान, नीलगंज, बैरकपुर, कोलकाता में दिनांक 14 से 28 सितम्बर, 2020 के दौरान हिन्दी पखवाड़ा का आयोजन किया गया। समारोह का अध्यक्षता संस्थान के निदेशक, डॉ. गौरांग कर जी ने किया। इस दौरान कुल सात प्रकार की प्रतियोगितायें आयोजित की गईं, जिसमें संस्थान के अधिकारियों/कर्मचारियों ने हिन्दी पखवाड़ा के कार्यक्रमों/प्रतियोगिताओं में बढ़-चढ़कर भाग लिया। हिन्दी पखवाड़ा के अवसर पर रेशा किरण पत्रिका का भी विमोचन किया गया। सात विभिन्न प्रतियोगिताओं में 24 विजेताओं को क्रमशः प्रथम, द्वितीय एवं तृतीय पुरस्कार देकर सम्मानित किया गया व अन्य प्रतियोगियों को भी प्रोत्साहन पुरस्कार देकर उनका मानवर्धन किया गया। हिन्दी प्रोत्साहन योजना के अन्तर्गत वित्तीय वर्ष 2019-20 के दौरान, हिन्दी में कार्यालयीन कार्य करने पर 7 अधिकारियों/कर्मचारियों को भी पुरस्कृत किया गया, जिनमें दो कर्मचारियों को प्रथम पुरस्कार, तीन कर्मचारियों को द्वितीय पुरस्कार एवं दो कर्मचारियों को तृतीय पुरस्कार से सम्मानित किया गया। पखवाड़ा समारोह ऑनलाइन तथा ऑफलाइन माध्यम से आयोजित किया गया था तथा भारत सरकार द्वारा जारी कोविड-19 दिशा-निर्देश का पूर्णरूपेण पालन किया गया।



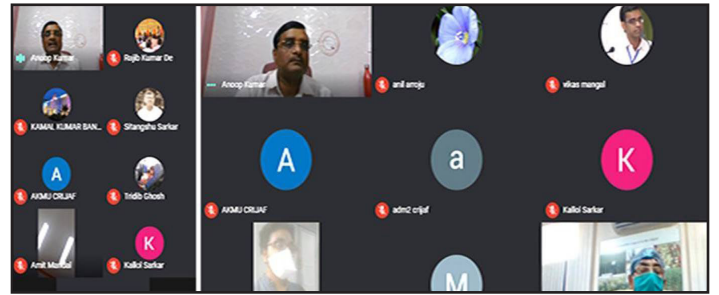
हिन्दी पखवाड़ा के अवसर पर रेशा किरण पत्रिका का विमोचन

हिन्दी कार्यशाला का आयोजन

संस्थान में दिनांक 25 सितम्बर, 2020 को ऑनलाइन माध्यम से एक दिवसीय हिन्दी कार्यशाला का आयोजन किया गया। इस कार्यशाला की अध्यक्षता संस्थान के माननीय निदेशक, डॉ. गौरांग कर जी ने की। निदेशक महोदय ने कार्यशाला के मुख्य वक्ता, श्री अनुप कुमार, सहायक निदेशक (आशुलिपिक एवं टंकण) तथा कार्यशाला में

ऑनलाइन माध्यम से भाग लेने वाले समस्त अधिकारियों एवं कर्मचारियों का स्वागत करते हुये अपने अभिभाषण में संस्थान के अधिकारियों एवं कर्मचारियों से कार्यालयीन कार्यों में राजभाषा हिन्दी का ज्यादा से ज्यादा प्रयोग करने पर बल दिया। साथ ही उन्होंने कार्यशाला में अर्जित ज्ञान को पूरी निष्ठा से कार्यालयीन काम-काज में यथोचित सदुपयोग करने की भी अपील की। कार्यशाला में कुल 39 प्रतिभागियों (17 अधिकारी और 22 कर्मचारी) ने ऑनलाइन माध्यम से भाग लिया।

संस्थान में दिनांक 22 दिसम्बर 2020 को संस्थान के अधिकारियों/ कर्मचारियों की हिन्दी में कार्य करने की झिझक को दूर करने के उद्देश्य से एक दिवसीय हिन्दी कार्यशाला का आयोजन किया गया। कार्यशाला की अध्यक्षता संस्थान के प्रभागाध्यक्ष, फसल सुरक्षा, डॉ. एस. सत्पथी ने की। इस अवसर पर श्रीमती रीता भट्टाचार्य, पूर्व मुख्य प्रबन्धक (राजभाषा), पंजाब नेशनल बैंक (पूर्व यूनाइटेड बैंक ऑफ इंडिया, प्रधान कार्यालय, कोलकाता ने संघ की राजभाषा नीति, नियम, राजभाषा का महत्व एवं राजभाषा अधिनियम/नियम आदि विषयों पर ऑनलाइन माध्यम के द्वारा व्याख्यान दिए तथा अधिकारियों/कर्मचारियों के शंका का समाधान किया। कार्यशाला में कुल 44 प्रतिभागियों ने ऑनलाइन माध्यम से भाग लिया।



ऑनलाइन माध्यम से एक दिवसीय हिन्दी कार्यशाला का आयोजन

राजभाषा कार्यान्वयन समिति की बैठकों का आयोजन

संस्थान की राजभाषा कार्यान्वयन समिति की बैठक क्रमशः दिनांक 29 सितम्बर, 2020 तथा दिनांक 23 दिसम्बर 2020 को माननीय निदेशक, डॉ. गौरांग कर जी की अध्यक्षता में आयोजित की गई।



हिन्दी राजभाषा कार्यान्वयन समिति को संबोधित करते हुये संस्थान के निदेशक

RESEARCH PUBLICATIONS

(NAAS rating ≥ 6.00)

South African Journal of Botany 135 (2000) 144-147

Contents lists available at ScienceDirect

South African Journal of Botany

journal homepage: www.elsevier.com/locate/sajb

Efficacy of scarification treatments on release of seed coat imposed dormancy in five wild species of genus *Corchorus*

Amit Bera¹, Elora Mukhopadhyay, C.S. Kar, Mukesh Kumar, H.R. Bhandari

ICAR-Central Research Institute for Jute and Allied Fibres (ICAR-CRIJAF), Barrackpore, Kolkata, West Bengal 700120, India

RESEARCH COMMUNICATIONS

Gunny bag based soil columns for crop diversification in rice field to enhance livelihood security of land scarce farmers

A. K. Ghorai, D. K. Kundu, Shailesh Kumar, A. Shanna and Debarati Datta

ICAR-Central Research Institute for Jute and Allied Fibres, Barrackpore 700 120, India

tion. In *robi* rice-vegetable relay system, rice yield was 4.5 to 5.4 t/ha and that of cucumber, it varied from 55 to 150 q/ha, ginger 600 q/ha, amorphophallus 120 q/ha, and colocasia 20-25 tonnes tuber/ha. These vegetable crops generated additional income of Rs 0.5-4.50 lakh/ha without hampering rice yield in between two rice crops, when this rice land usually remains fallow¹⁻³. Under irrigated condition, cropping intensity of the traditional rice-rice cropping system (200%) increased up to 400% rice-vegetable-rice-vegetable system. It has been recorded that to diversify rice low lands in an economic manner,

International Journal of Tropical Insect Science
<https://doi.org/10.1007/s42690-020-00319-0>

ORIGINAL RESEARCH ARTICLE

Mesta yellow vein mosaic virus: application of loop-mediated isothermal amplification method to study efficiency of acquisition, retention and transmission by *Bemisia tabaci* (Hemiptera: Aleyrodidae) in Kenaf

P. N. Meena^{1,2} · B. S. Gotyal² · S. Satpathy²

REVIEW ARTICLE

Conservation agriculture and resource management under jute (*Corchorus* spp.) based cropping systems in eastern India

Debarati Datta, R. Saha* and A. K. Ghorai

ICAR-Central Research Institute for Jute and Allied Fibres, Barrackpore, Kolkata 700 120, India

Plant Growth Regulation (2021) 93:131-147
<https://doi.org/10.1007/s10725-020-00673-6>

ORIGINAL PAPER

Pectin biosynthesis pathways are adapted to higher rhamnoglacturonan formation in lignocellulosic jute (*Corchorus* spp.)

Pratik Satya¹ · Debabrata Sarkar¹ · Joshitha Vijayan² · Soham Ray¹ · Deb Prasad Ray³ · Nur Alam Mandal¹ · Suman Roy¹ · Laxmi Sharma¹ · Amit Bera¹ · Chandan Sourav Kar¹ · Jiban Mitra¹ · Nagendra Kumar Singh⁴

Original Research

Journal Home page: www.jeb.co.in • E-mail: editor@jeb.co.in

Journal of Environmental Biology

JEB[®] p-ISSN: 0254-8704 e-ISSN: 2294-0379 CODEN: JEBIDP

DOI: <http://doi.org/10.22438/jeb/14/MRN-1252>

Studies on delignification in jute (*Corchorus* spp. L.) fibre with promising lignin degrading bacterial isolates

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Transfer

Name	Designation	Transferred to
Dr. Soham Ray	Scientist (Biotech.)	ICAR-IARI, New Delhi
Dr. A. K. Jha	Sr. Scientist (Plant Path.)	ICAR-RCER, Patna
Sh. S. P. Prajapati	Sr. Technical Assistant	ICAR-IISR, Lucknow
Sh. Gauranga Ghosh	Finance & Accounts Officer	ICAR-NEHR, Barapani

AWARD & RECOGNITIONS

- **Dr. B. S. Gotyal**, Sr. Scientist received Prof. T. N. Ananthkrishnan biennium 'Young Scientist Award 2020, for outstanding research contribution in jute entomology.
- **Dr Shamna A.** Sr. Scientist was conferred 'Best Oral Presentation Award' at International Extension Education Conference organised by BHU, Varanasi
- **Dr. Sonali Paul Mazumdar**, Sr. Scientist received STE 'Women Excellence Award 2020' for contributions in the field of Soil Science and Agriculture from Society for Research, Awareness and Social Development, Kolkata.
- **सुश्री शतरूपा रायचौधुरी** को नगर राजभाषा कार्यान्वयन समिति, कोलकाता द्वारा नरकास की प्रतियोगिता (काव्य आवृत्ति) में पुरस्कार प्राप्त हुआ।
- **Dr. R.K. Naik**, Senior Scientist as -
 - Fellow (F-1271462) in Agricultural Engineering Division of the Institution of Engineers (India), Kolkata
 - Examiner for evaluation of thesis of PG (FMP) students of IGKV, Raipur; and as Expert for evaluation of NRDC National Meritorious Invention Award, MoS&T, GoI.
- **Dr. Ritesh Saha**, Principal Scientist as external member of ITMC of ICAR-NINFET, Kolkata
- **Dr. M.L. Roy**, Scientist as convener for the Technical Session in International Extension Education Conference, BHU, Varanasi.

DISTINGUISHED VISITORS

Shri Arjun Singh, Hon'ble Member of Parliament (Barrackpore, West Bengal)	09.09.2020
Dr. B.K. Das, Director, ICAR-CIFRI, Barrackpore	07.11.2020
Dr. D.B. Shakyawar, Director, ICAR-NINFET, Kolkata	28.11.2020
Dr. Narendra Kumar, Directorate of Jute Development, MoAFW, Govt. of India	16.12.2020
Smt Rita Bhattacharya, Former Chief Manager (Rajbhasa), United Bank of India	22.12.2020

PERSONNEL

Promotion

Name	Designation	Promoted to	Date of promotion
Dr. S.P. Mazumdar	Scientist	Sr. Scientist	15.12.2018
Dr. Manik Lal Roy	Scientist	Sr. Scientist	04.11.2018
Dr. N. M. Alam	Scientist	Sr. Scientist	23.06.2018
Dr. Mukesh Kumar	Scientist	Sr. Scientist	15.12.2018
Smt. Kanti Meena	Scientist	Scientist (RGP 8000)	07.01.2019
Dr. Laxmi Sharma	Scientist	Scientist (RGP 7000)	01.07.2018
Dr. Suman Roy	Scientist	Scientist (RGP 7000)	01.07.2018
Sh. Bitan Das	Sr. Tech. Asstt.	Tech. Officer	29.05.2019
Sh. Uma Sankar Das	Sr. Technician	Tech. Asstt.	01.01.2020
Sh. Gopal Ch. Dey	Assistant	AAO	09.10.2020
Mr. Pankaj Kr. Das	Assistant	AAO	01.12.2020

Superannuation

Name	Designation	Date of Retirement	Place of Posting
Dr. A. B. Mandal	Pr. Scientist	30 th Sept. 20	CRIJAF, HQ
Sh S. K. Phiroz	Tech. Officer	31 st July 20	CRIJAF, HQ
Sh Samar Kr. Ghosh	AAO	30 th Sept. 20	CRIJAF, HQ
Sh S. Bhattacharya	AAO	30 th Nov. 20	CRIJAF, HQ
Sh. Abdul Merej	SSS	30 th Nov. 20	RRS, Sorbhog
Sh. N. Barman	SSS	30 th Nov. 20	RRS, Sorbhog

EDITORIAL

Natural Fibre Crop based Green Fuel for Clean and Green Environment

Fossil based fuels have been the primary source of energy in transport sector. These conventional fuels have high carbon content and their combustion leads to emission of greenhouse gases (GHGs). Alternate and renewable source of fuel from biomass is important to control the GHG emissions. Conventional biofuel from food crops raises the issue of food and fuel competition. Hence, biofuels from lignocellulosic biomass, also known as second generation or 2G biofuels are the prime focus of global biofuel market. The low carbon fuel produced from these crops are expected to reduce the emission of GHGs by cyclic flow of carbon i.e., the carbon emitted during combustion will be captured through photosynthesis in the biomass.

ICAR-CRIJAF has developed jute and kenaf (mesta) varieties with high biomass which are rich sources of bioethanol. Jute and kenaf, important lignocellulosic natural fibres in India, also has advantage of higher lignocellulosic biomass over widely used biofuel crops. Both have superior biomass quality in terms of higher cellulose and lower lignin content which is advantageous over biomass recalcitrance present in other feedstocks. The higher efficiency of jute and kenaf to capture carbon in biomass and their diversion towards bioenergy production will also prevent the wastage of jute biomass as a result of retting, save water requirement for retting and above all conserve fossil based fuel. This will in turn save the time and labour requirement of farmers and secure the livelihood of farmers in addition to generation of low carbon fuel.

Kenaf and hemp have been commercialized as biofuel feedstocks in USA, European countries, Malaysia, China

etc., jute is still at its infancy. Jute farmers and mills in India are facing multiple limiting factors due to which there is decline jute growing areas in past few years. The preliminary work of bioethanol production from whole jute biomass has been done at ICAR-CRIJAF. The protocol for bioethanol production has been standardized. However,

economizing the process through the use of cost intensive green technology is one of the major targets in view of climate change mitigation.

Mobilizing the jute and kenaf biomass towards bioethanol production will ensure socio-economic and environmental sustainability and will facilitate climate change mitigation. The commercial use of bioethanol as a source of

green energy from jute and kenaf will minimize the environmental pollution, add benefits of C sequestration by virtue of its high biomass, save the water requirement for retting and will help in phytoremediation of heavy metals if grown in contaminated site. The jute and kenaf plants harvested as biofuel crop will generate higher income in compared to traditional fibre crop. Again, farmers need not wait for post-harvest activities which requires additional labour, cost and time. Diversified use of jute and kenaf will generate additional employment and hence financial security to the farmers. The holistic view of dedicated jute and kenaf bioenergy crop will thus guarantee a sustainable environmental and socio-economic development.

During COVID-19 pandemic period, farmers are advised to follow social distancing, safety measures and maintain personal hygiene by washing of hands with soap, wearing of face mask, and protective clothing during field operations.

Energy indices in natural fibre production						
Crop	Dry biomass (q/ha)	Energy Input (MJ/ha)	Energy output (MJ/ha)	Energy ratio	Energy productivity (kg/MJ)	Net energy (MJ/ha)
Jute	77	10904	37760	3.46	10.89	26856
Kenaf	72	10811	23600	2.18	10.84	12789
Sunnhemp	52	8326	14160	1.70	10.35	5834

Source: Singh et al. (2018)



Trials of Jute and Kenaf cultivars at ICAR-CRIJAF, Barrackpore

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