Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, West Bengal, PIN - 741252

Technologies generated in the RRS/RRSS/ AICRPs for adoption in the farmers' fields

- Adoption of direct seeded rice cultivation: A method demonstration on direct seeded rice cultivation in low land situation covering an area of 0.5 acres of land was done with tractor-drawn fertilizer-cum-seed drill. It significantly reduces the cost of cultivation by reducing the cost for seedbed preparation and transplanting of seedlings. It accounts for 40% reduction of overall rice cultivation with an increase of 15-20% yield as compared to conventional practice.
- Production technology for good quality seed of paddy, pulses (green gram, lentil, black gram, lathyrus etc.) and oilseed crops (rapeseed-mustard) for farmers in the locality.
- Elite salt-tolerant germplasm of paddy and foundation seeds of paddy are available at the farm which is being sold. The farm is currently maintaining almost 65 paddy germplasms which are salt tolerant.
- Identified improved mustard cultivars namely TM 143 (Early) and TM 204 (Late) for medium land situation suitable for coastal ecosystem of West Bengal.
- The recommended fertilizer dose for modern cultivars of mustard cultivars has been standardized as 100:50:50 kg N, P and K/ha for coastal eco-system of West Bengal.
- The farm has already come out with standard agro-techniques for pyra cropping with lentil, lathyrus and mustard in rice-fallow system. These three crops are grown successfully on residual soil moisture after harvesting of *kharif* paddy.
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- Successful onion cultivation in *kharif* season was first done at this farm, which has now been popularized among the farmers in Akshaynagar, Namkhana, Sagar, Patharpratima areas under South 24 Parganas district with the technical support from the scientists of the RRS.
- This technology has now been popularized among the farmers in Akshaynagar, Namkhana, Sagar, Patharpratima areas under South 24 Parganas district with the technical support from the scientists of the RRS.
- Identified promising mungbean cultivars suitable for cultivation during summer season in coastal belt

- Identified promising blackgram cultivar suitable for cultivation during summer season in coastal belt
- Identified promising groundnut cultivars suitable for cultivation during summer season in coastal belt
- Identified promising rice hybrids suitable for cultivation during summer season in coastal belt
- Validation of the "Standardization of Seed production technology in Green Manure Crops of Daincha". Recommendation was "Foliar application of DAP (20gm/L of Water) + Zinc Sulphate (5gm/L of Water)+Boric acid (3gm/L of Water) (%) gave better seed yield over control."
- Validation of the "Standardization of Seed production technology in Green Manure Crops of Sunnhemp".: Foliar application of DAP (20gm/L of Water) +Zinc Sulphate (5gm/L of Water) +Boric acid (3gm/L of Water) (%) gave max yield.
- Adoption of direct seeded rice cultivation: A method demonstration on direct seeded rice cultivation in low land situation covering an area of 0.5 acres of land was done with tractor-drawn fertilizer-cum-seed drill. It significantly reduces the cost of cultivation by reducing the cost for seedbed preparation and transplanting of seedlings. It accounts for 40%reduction of overall rice cultivation with an increase of 15-20% yield as compared to conventional practice.
- Production technology for good quality seed of paddy, pulses (green gram, lentil, black gram, lathyrus etc.) and oilseed crops (rapeseed-mustard) for farmers in the locality.
- Elite salt-tolerant germplasm of paddy and foundation seeds of paddy have been developed and provided to the farmers
- Production technology for good quality seed of paddy, pulses (green gram, lentil, black gram, lathyrus etc.) and oilseed crops (rapeseed-mustard) for farmers in the locality.
- Identified promising mungbean cultivars i.e., 'PM 05, IPM 99-125, Sukumar, Samrat'; black gram cultivar i.e. 'Sarada, PANT U31'suitable for cultivation during summer season in coastal belt.
- Use of Jute Agro Textiles as soil conditioner towards improvement of soil health through the processes of increasing the organic carbon, moisture availability (50 % water saving) and stabilization of soil aggregation on vegetables crops has been recommended.
- Three bacterial strains, Bacillus clausii (AOB5), Achromobacterxylosoxidens (AOB7) and Aeromonas cavie (AOB8) were isolated from poultry-cum-fish and duck-cum-fish

farming homestead ponds and identified as potential nitrifiers in this organic manure treated ponds.

- Work has been done regarding validation of presence of genomic region coding serine/threonine proteinkinase controlling seed size in Medicago trancatula in lentil as well as detection of nucleotide polymorphism (SNP) between the microsperma (small seeded) andmacrosperma (large seeded) lentil regarding serine/threonine protein kinase sequence.
- Seven IC no. i.e., IC- 575540 to IC – 575546 have been obtained against seven promising Breeding lines of rice i.e CHR 1 to CHR 7 respectively during 2009. Eleven IC numbers are obtained from the NBPGR, New Delhi, against the eleven promising New Breeding Lines of rice, i.e., CHR 8 to CHR 18. The IC No. are IC- 0589904 to IC-0589914 for CHR 8 to CHR 18 respectively.
- Finding permissible limits of arsenic in soil and irrigation water with regard to accumulation in rice grain and dietary risk- permissible limit of available arsenic (As) in soil from North 24 Parganas, South 24Parganas, Nadia, Murshidabad and Malda districts and irrigation water against permissible limit of as in rice grain cv. IR-36 was computed using Tobit regression model considering 0.5 and 1.0 mg/kg As in rice grain as the threshold values as regard to human dietary consumption.
- Wheat cultivation has been promoted in this zone and few suitable varieties of wheat like, HD 3249, HD 3086, HD 2967, DBW187, HD 2733 K 0307, K 1006 and NW 5054 (32-40 q ha-1) are being cultivated in Birbhum and some other areas of this zone.
- Intercropping of jute in zero till green gram under deficit irrigation management
- Productivity of Indian mustard enhances 25to 42 % by improving water use efficiency of mustard under rainfed situation with the use of Hydrogel @ 2.5 kg ha-1 at the time of bed preparation and application of salicylic acid 200 ppm at flowering and siliqua formation stage. • Sub-Station, Sekhampur.
- Studies are going on after the introduction (six-month observation) of lac cultivation at new area.
- Enhancing pulsed production for food and nutritional security improved livelihoods and sustainable agriculture in West Bengal under ICARDA program.
- Finding permissible limits of arsenic in soil and irrigation water with regard to accumulation in rice grain and dietary risk- permissible limit of available arsenic (As) in soil.

- Breeding for yield, earliness and quality traits in Indian mustard under heat stress condition of red and laterite zone of West Bengal: Some of the Indian mustard has been screened for yield, earliness and quality traits under heat stress condition.
- Some of the genotypes have been identified as heat tolerant • Evaluation of varietal performance of Lentil varieties under red and laterite zone of W.B.
- Performance of mustard crops under various doses of SSP fertilizers in Raghunathpur under red & laterite zone of W.B. • Paddy seed production of the varieties like Lalat,Gobindobhog, CSR, Pratiksha, Rajendra bhagabati have been enhanced.
- 16 Pre breeding lines and one semi dwarf line of cashew have been developed and successfully established.
- Technology with bio-formulations was standardized for increasing yield of groundnut
- Seed inoculation with phosphorus build up strains of DGRC1 or DGRC2 is beneficial for enhancing the pod yield of groundnut and Some of the promising entries have been identified from initial and advanced varietal trial materials in terms of high pod yield.