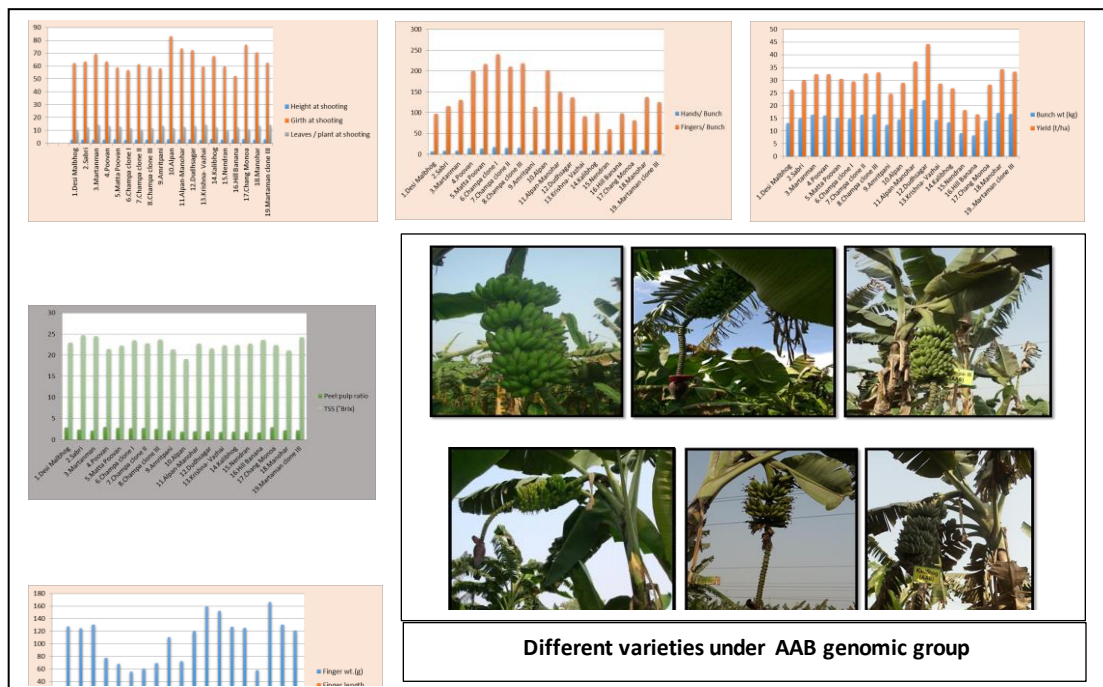


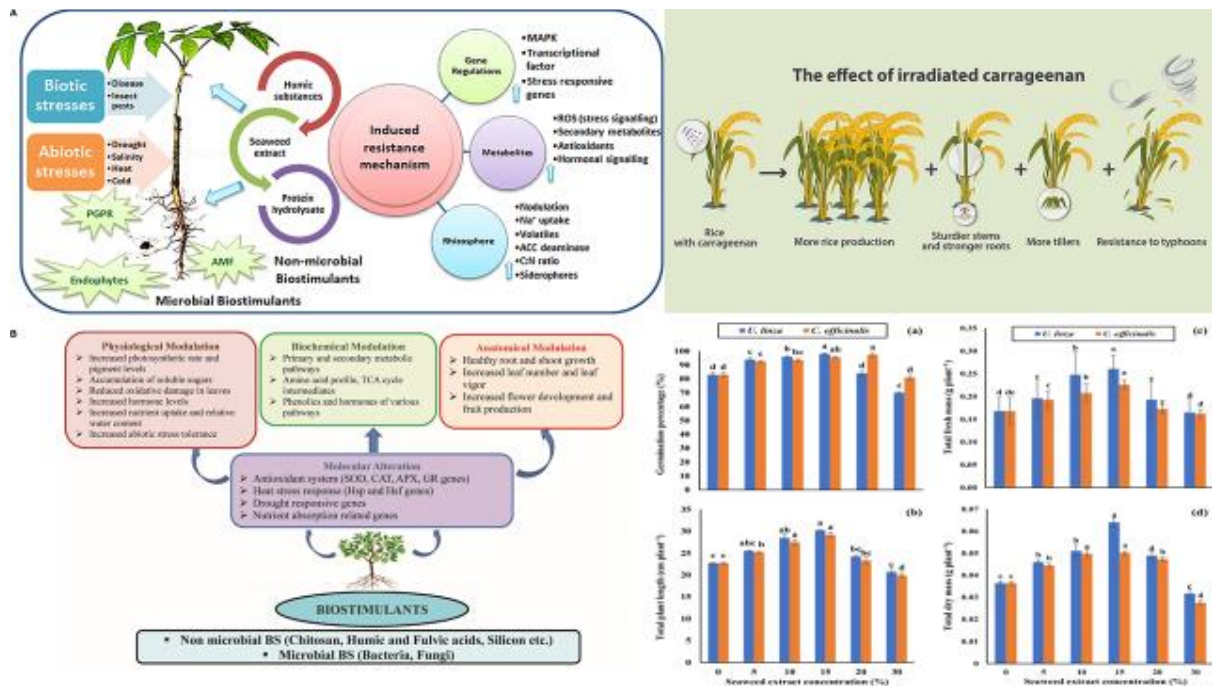
Natural Resource Management and Crop Production

1. Production of biodegradable polymers



The experiment was conducted to study the growth, yield and fruit characteristics of AAB genomic group of Banana under Gangetic Plain of West Bengal. The varieties under observation were Martaman, Martaman Clone, Dudhsagar, Champa Clones, Alpan, Alpan-Manohar, Poovan, Matta Poovan, Kalibhog, Manohar, Chang Monoa, Krishna Vazhai, Deshi, Malbhog. For evaluating the cultivars the following parameters were recorded Pseudostem height, Pseudostem girth, leaves / plant at shooting, Days to shooting, Days to bunch harvest, Crop duration, Bunch weight, Hands/bunch, Fingers/bunch, Yield, Finger weight, length, Girth and T.S.S. The study revealed that the growth as well as yield and fruit characteristics varied significantly among different varieties under observation

2. Effect of Bio-Stimulants on Growth and Yield of *Boro* Rice



Concerns about increasing rice productivity are more prevalent in rising food demand due to consistent population growth and agricultural land shrinkage. **Seaweed extract as a bio-stimulant is a promising alternative to chemical fertilizers that is currently gaining attraction.** Seaweeds are macroscopic, multicellular marine algae that have evolved naturally in coastal ecosystems. Using liquid seaweed fertilizers on some plant species has been shown to reduce nitrogen, phosphorus, and potassium application doses on some crop plants while also stimulating growth and production in many plants. Seaweed extracts are essential in sustainable agriculture because they are organic and biodegradable. **Seaweed extracts contain phytohormones such as auxins, gibberellins, cytokinins, and betaines, as well as enzymes, vitamins, hydrolyzed proteins, polysaccharides, nutrients, and trace elements (Fe, Cu, Zn, Co, Mo, Mn, and Ni)** which give a significant boost to crop yields by accelerating the plant's metabolic function.

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5. Karmakar, M., Mondal, T., Mohanta, R., Mandi, G., Mahato, S., & Bauri, F. K. (2024). Study on Rachis Characters of Different Cultivars of Banana. *Annual Research & Review in Biology*, 39(3), 29-33.
6. Paul, J., Mohanta, R., Roy, S., Layek, S., Mondal, T., & Bauri, F. K. (2023). Studies On Flowering, Fruiting And Yield Attributes Of Some Mango Cultivars. *Journal of Survey in Fisheries Sciences*, 10(1S), 7026-7030.
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Patent:

1. Dose Optimization Of Seaweed Extracts As Bio-Stimulant For Growth And Yield Augmentation Of Summer Rice, Application No.202331075373 A, ISSUE NO. 45/2023, Publication Date : 10/11/2023