

7a. Case study in India on the adoption of weather based crop production - crop management



Dr. T.N.Balasubramanian

Case study – Rice crop

- The observed weather during crop growing season, would affect rice grain yield both through direct and indirect processes
- Hence, the development and fine-tuning of agro met advisories for rice crop was introduced to minimize the impact or risk.
- Hence the study was undertaken to provide the Agro met Advisory Services through 54 selected weather window on the basis weather observed during past six days and weather forecast for next 6 days
- The study was conducted at Agro Climate Research Centre, Tamil Nadu Agricultural University, Coimbatore between 2013 and 2014
- With this effort, the risks could be reduced to a level of minimum with suitable intervention from introduction of weather based agro met advisories

Results - Agromet advisory during rice nursery establishment (two farmers)

- Weather situation "*anticipating wet spell of six days with rainfall of more than 10 mm day⁻¹*".
- The stage of the rice crop is one day nursery sown with pre-germinated seeds.
- The sensitiveness of the rice crop stage to rainy weather is anticipated to be 60 per cent in terms of failure of nursery establishment due to ***somersaulting of sown seeds*** under impact of raindrops.
- The proposed agro met advisory is to irrigate the nursery during evening hours of a day anticipating rainfall and drain it on next day morning and this be continued for two days till the rice plumule comes-up.
- Though, this may be small at individual farm level, but when considered over blocks in the State, the area would be quite significant.

Results - Agromet advisory during peak vegetative growth of rice (two farmers)

- Weather situation *"anticipating wet spell of six days with rainfall of more than 25 mm day⁻¹"* when crop had reached maximum tillering stage.
- The sensitiveness of the crop stage to rainy weather is that the number of tiller production would be less by 15 per cent with additional rainwater stagnation in case proper drainage is not provided.
- The proposed agro met advisory is to provide drainage to drain excess rainwater so as to ensure no water stagnation for proper tiller development.