



C9: Near-term crop yield forecasts to mitigate production risks

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Summary of themes covered in workshop

Exchange platform for yield forecasting ideas and current status

Where should stakeholders go when interested in global forecasting system (which is non-existent)

Forecast methods:

- Complex approaches with modeling-statistical assessments-analyst processing pipeline
- Process-model-based approaches
- Statistical-model-based approaches, including causal detection based on SST and teleconnections
- Remote sensing

methodological improvements

- Weather index insurance optimal threshold identification, number of warm spring days
- Field experiments
- Better understanding of weather phenomena (Indian monsoon)
- Crop phenology

Most controversial question that came up in this workshop?

Why was record low yield in 2016 in France not forecasted by MARS? Situation was obviously different from situations that can be traced

- Include more processes in models?
- But does adding more processes into the process and increasing complexity serve the purpose?

Models don't capture relevant processes for such catastrophic events. BUT: use model(s) (ensembles) to study effects in such exceptional years

Results of the discussion

Global yield forecasting is progressing, but results up to date are scattered
Crop models are an essential tool for yield forecasting
There is hope and loads of things to do.

Research gaps identified

Good reference data
Pest and diseases not modeled, but (if at all) added later on. Yet that information seems to be available from observations, so can we bring that into the modeling/forecasting system?

Next steps

Keep talking to each other
Contribute to AgMIP forecasting exercise

Other

NA

3-5 keywords that characterize the session

Crop yield forecasting, modelling, weather extremes, global