

Use of ORYZA 2000 Model to Study the Impact of Climate Change on Rice Production

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ABSTRACT

The study attempts to estimate the potential impact of climate change on rice production in Guntur district using ORYZA 2000 model. The simulation has been performed under potential production situation for variety BPT 5204. The results also showed that the increase in CO₂ concentration under future climate is conducive to raise the rice yield, but it still cannot compensate the negative effect of climate warming. The cultivar showed different reaction to temperature raise and CO₂ fertilization during model simulation, indicating that the difference of yield variation is affected not only by climatic factors, but also by the genetic characteristics of rice variety.

Key words : Climate change, Impact on rice production, ORYZA 2000 model.