

## 계절예측정보를 활용한 식물 병 위험관리 의사결정 지원

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## Use of Seasonal Climate Forecasts in Agricultural Decision-making for Crop Disease Management

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Recently, seasonal climate forecasts (SCFs) and their advances have gained increasing attention in agricultural communities; specifically because of their potential to improve climate risk management by increasing preparedness and thus enhance agricultural and economic outcomes. Seasonal predictions of crop diseases and insect pests that provide timely and accurate forecasts are especially valuable not only to farmers and extension workers (i.e., to inform their crop management decisions) but also to governments (i.e., to increase national-level disaster preparedness). In this study, we used a case study in Bicol, Philippines, to introduce an array of implementation strategies to facilitate the use of SCFs in the agricultural sector. To demonstrate the full potential of SCFs in the Bicol region, we developed and applied seasonal disease predictions for rice, with sequential activities that included a baseline study on disease epidemics in the target area, the examination of available SCFs, the development of a decision support system for seasonal disease predictions, and an evaluation of this system using SCF hindcasts. Finally, we disseminated the resulting seasonal disease predictions in the target area using an agro-met bulletin. The present study demonstrated a successful example of a developmental framework for the application of SCFs to agricultural decision-making with the support of relevant SCF-linked agricultural models. These implementation strategies, in combination with the lessons learned, can help guide prospective efforts of establishing similar climate services that utilize SCFs in developing countries to improve the outcomes and thus lead to enhanced and sustainable food security.

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