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PREMIUM-PRICING OF CROP REVENUE INSURANCE IN LAGUNA

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ABSTRACT – Traditional crop insurance provides protection against loss in crop yield. This insurance pays the benefit, which is the farmer's capital or cost of production, whenever the expected yield is not met. However, this insurance does not cover losses in expected revenue whenever the palay price drops. Thus, this study developed a pricing model for a revenue insurance product for rice. This insurance provides protection against losses in both yield and revenue. This was done by combining a traditional crop insurance and a European put option. This new insurance gives the benefit whenever the yield is below 4, 000 kg/ha, or a price lower than a chosen strike price from PhP 14 to PhP 20. The traditional crop insurance was priced using the Expected Value Principle, while the European put option was priced using the Black Scholes model. Results showed that traditional insurance has a premium price of PhP 1, 051.15 per hectare for a PhP 25, 000 benefit, while the European put option has a price of PhP 1.08 to PhP 4.09 per kg of palay depending on the strike price. The results of this study could be used by the government and the insurance providers in offering crop insurance.

Keywords: crop insurance, European option, put option, revenue insurance

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