

Application of Artificial Neural Network in Determining Premium Rate & Effective Factors in Adoption of Wheat Insurance

Case Study: Qaen City

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Abstract

The aim of this paper is to determine the factors that influence farmer's adoption of wheat insurance and determining the premium rate. Data used in the study were collected from farmers using random sampling method for years 2010-2011. The sample included wheat farmers in Qaen City. Two models, Artificial Neural Network and Logit model were used to investigate the determinants of agricultural insurance adoption and premium rate. The results show, premium rate is an effective factor in wheat insurance adoption. Therefore this paper first determines the premium rate and then study the importance coefficients of effective factors on wheat insurance adoption using Artificial Neural network. In the next stage, calculated marginal effect of different factors using on adoption are calculated Logit model. Besides the results show that different socio-Economic factors affect the insurance adoption and insurance demand. The job experiences and amount of land owned by the farmers have positive effects on adoption insurance where farmer's age has negative effect on adoption insurance and negative and signification of expectation price increasing premium rate (farmer share) insurance adoption will decrease.

Key Words:

Agricultural Insurance, Premium Rate, Artificial Neural Network, Logit Model, Wheat.

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