



Tropentag, October 11-13, 2006, Bonn

“Prosperity and Poverty in a Globalised World—
Challenges for Agricultural Research”

Why Do Farmers Adopt Alternative Vegetable Production Technologies? : Descriptive Analysis of Vegetable Farmers and Farmers’ Knowledge and Attitude

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Abstract

Much of commercial vegetable production in Thailand is monoculture with high use of agrochemical inputs particularly pesticides. These have become a main cause of health hazard and environmental degradation in agricultural systems. As a response to this problem, alternative vegetable production technologies have been developed. However, until now vegetable farmers adopted such technologies on a very low scale. One among several determinants for low adoption rate is riskiness of new technologies. Such technologies are often viewed as being more risky because they usually require restricted use of risk-reducing agrochemical inputs.

This paper shows the results of applying a comprehensive methodology to assess adoption of alternative agricultural production technologies in commercial vegetable production systems. Risk consideration were incorporated in the adoption model, to clarify to what extent differences exist in terms of preference and behaviour between adopters, non-adopters and disadopters. The study was carried out in four steps. In the first step, a workshop with academicians and experts experienced in vegetable production and marketing of vegetable products was conducted in order to provide background information for drawing the definition of alternative vegetable production technologies and the definition of an adoption threshold. Based on the workshop results, an adoption survey was conducted with 297 farmers in 2005 in selected districts of Northern Thailand. In the third step, a simultaneous multivariate choice model applying a Heckman procedure was developed to identify economic and behavioural factors affecting the adoption of the alternative vegetable production technologies. The adoption categories were established by following the results of the workshop, i.e. the adoption threshold based on farmers’ practices and knowledge of the alternative vegetable production technologies. As a final step, the farm level and the policy implications of the adoption factors identified are discussed.

Keywords: Adoption, farmers’ preferences, Thailand, vegetable