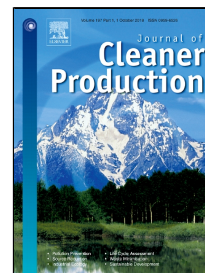


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What could promote farmers to replace chemical fertilizers with organic fertilizers?

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Abstract: To lessen the negative environmental impact of chemical fertilizers, replacing chemical fertilizers with more organic fertilizers for farmers is a good choice. However, most of the farmers would like to use chemical fertilizers instead of organic fertilizers in developing countries, mainly because they fear that they may lose income if they use organic fertilizers instead of chemical fertilizers. From this point, policy makers need to find strategies to incentivize farmers to use organic fertilizers instead of chemical fertilizers. Therefore, a randomly selected household survey on the use of chemical and organic fertilizers by apple growers in China was conducted from July 2016 to October 2016. Its aim is to find out what could promote farmers to replace chemical fertilizers with organic fertilizers partially or completely. We have analyzed farmers' choices involving prospect utility, risk, and environment based on Kahneman's prospect theory and Lewin's field theory. Twelve psychological and socio-economic variables were included in a tobit regression model to explain farmers' choice between organic fertilizers and chemical fertilizers. We find that membership in agriculture cooperatives, subsidies on organic fertilizers, and farm size play positive roles in influencing farmers' choice of organic fertilizers instead of chemical fertilizers. The results will be helpful to update extension policy of organic fertilizers.

Key words: chemical and organic fertilizers; apple growers; choice; tobit model regression; prospect theory; field theory

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