

Consumers' Perception of Novel Value Chain Practices: The Perceived Added Value of Green Disinfestation Methods - Abstract

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Summary

Pests in silos and warehouses are the main reason for the biggest losses in stored feed and food. These insects cause significant quantitative impairments and considerable quality degradations with significant sanitary and economic impact. The main trend for managing insect populations is based on chemical insecticides (i.e. phosphine), which are either applied directly to the product or indirectly into storage places. Misuse of these active ingredients increases production costs, product loses and gradually to decreased effectiveness of them on reducing pests' populations. In addition, phosphine is highly toxic and can be dangerous to human health if not all necessary precautionary measures are taken. Moreover, the type and composition of pesticides used for post-harvest treatment of stored products is constantly monitored and changed due to environmental and safety concerns and consumer demand for residue-free food (Phillips and Throne, 2010). Consumer perspective on this is of growing interest, motivating firms to use alternative, "green" disinfestation methods. This survey aims to identify and analyze consumers' awareness and perceptions on this topic, focusing on the use of alternative post-harvest disinfestation methods (i.e. precision applications with the use of phosphine, diatomaceous earth, and modified nitrogen atmosphere). For this survey a questionnaire was developed and answered on a national level in Greece of a sample of 1,000 interviewees. At the same time, the willingness to buy agricultural foods being treated with alternative disinfestation methods mentioned above was assessed. Principal Component Analysis results verify that application of "green" disinfestation methods in food and feed post-harvest protocols is a good practice, mitigating risks for human health. It is also noteworthy to be mentioned that the awareness level of consumers on disinfestation protocols is relatively low, as it was expected to be. More than 60% of participants would be willing to pay a premium price for consuming food, stored in a place where green disinfection methods are applied. However, more than half of consumers state that "food and feed stored in a place where 'green' disinfestation methods are used are more expensive". The intention of Greek consumers to buy food being disinfested without the use of chemicals is very high, while the vast majority of them claim that they would encourage their friends to follow the same practice.

Keywords

Food storage, Consumer behavior, Green disinfestation methods, Health Belief Model, Principal Component Analysis

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