Accepted Manuscript

Modeling a Government-Manufacturer-Farmer game for food supply chain risk management

Cen Song, Jun Zhuang

PII: S0956-7135(17)30093-2

DOI: 10.1016/j.foodcont.2017.02.047

Reference: JFCO 5482

To appear in: *Food Control*

Received Date: 29 September 2016

Revised Date: 15 February 2017

Accepted Date: 19 February 2017

Please cite this article as: Song C. & Zhuang J., Modeling a Government-Manufacturer-Farmer game for food supply chain risk management, *Food Control* (2017), doi: 10.1016/j.foodcont.2017.02.047.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

ACCEPTED MANUSCRIPT

Modeling A Government-Manufacturer-Farmer Game for Food Supply Chain Risk Management*

Cen Song and Jun Zhuang

Emails: songcen22@126.com, jzhuang@buffalo.edu

School of Business Administration, China University of Petroleum, Beijing

Department of Industrial and Systems Engineering, University at Buffalo, USA

February 13, 2017

Abstract: Farmers may add chemical additives to crops to enhance their appearances/tastes or decrease their costs, which may also increase the food demand and sales profits. Manufacturers buy products from farmers and sell them to consumers, where the government benefits from tax income based on sales revenues. However, once the contaminated food is consumed, customers could get sick. The government would, thus, be partially responsible for society's health risks from the chemical additives. The punishment policies are set up by the government to regulate and deter farmers' and manufacturers' risky behavior, balancing tax income, punishment income, and society's health risks. Based on the observation of government regulations, the farmers strategically choose the optimal level of

*This research was partially supported by the United States National Science Foundation (NSF) under award numbers 1200899 and 1334930. This research was also partially supported by the United States Department of Homeland Security (DHS) through the National Center for Risk and Economic Analysis of Terrorism Events (CREATE) under award number 2010-ST-061-RE0001. In addition, this research is partially supported by the Beijing Natural Science Foundation under award number 9174040, Beijing Social Science Foundation under award number 16GLC076 and Science Foundation of China University of Petroleum, Beijing under award numbers 2462014YJRC051 and 2462015YQ0722. However, any opinions, findings, conclusions, or recommendations in this document are those of the authors and do not necessarily reflect views of the NSF, DHS, or CREATE. We than anonymous reviewers for constructive comments.

دریافت فوری ← متن کامل مقاله

ISIArticles
مرجع مقالات تخصصی ایران

✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
✓ امکان دانلود نسخه ترجمه شده مقالات
✓ پذیرش سفارش ترجمه تخصصی
✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
✓ دانلود فوری مقاله پس از پرداخت آنلاین
✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات