



**Best CIHEAM Master Thesis**

**Academic year 2008/2009**

**Purity Standards in the Oligopolistic food industry**

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## **Abstract**

Recently, in the food industry, Genetically Modified (GM) food and its related topics have been heavily addressed by many studies. Among the increasingly raised topics are whether or not to accept GM foods, what are the best GM allowance or Purity thresholds, and how does this GM allowance affect the market outcome: i.e. prices and quantities, as well as consumer and producer welfare. These represent some of the economic policy issues for many countries within the European Union and elsewhere.

This research presents a model of heterogeneous consumer preferences and imperfectly competitive suppliers as a helpful tool toward analyzing the market and welfare effects of adventitious presence (AP) thresholds in non-GM foods. While several studies (Giannakas and Fulton, 2002; Fulton and Giannakas, 2004, Lapan and Moschini, 2006/ 2007, Giannakas and Yiannaka, 2008; Giannakas and Kalaitzandonakes, 2005) refer to the GM issue, few of them have addressed the issue of regulatory standards in oligopolistic suppliers, and to our knowledge, none have address vertical oligopoly. Hence, in this research, we consider the economic implications of AP thresholds of GM foods under various market structures of oligopoly and vertical oligopoly, where both processors and retailers have market power.

By comparing the equilibrium quantities and prices, as well as consumers' and producers' welfare before and after changing the purity standards, we determine the market and welfare effects of different purity thresholds. Our analysis indicates that a change in purity thresholds creates winners and losers among consumers and producers of both GM and non-GM products. Also, examined in this research is how, considering different model parameter scenarios, consumers and producers are affected differently by these purity thresholds. We establish parameters with respect to different levels of market power and simulate them with various values attributed to the parameters. What determines winners and losers is the degree to which the purity standards affect the production cost and consumers' preferences.

The research is considered to be useful for policy makers, academics, consumer organizations, firms and farmers of GM and non-GM products, by providing insights on the market and welfare impacts of the AP thresholds.