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# Market and Welfare Effects of the Introduction of Second-Generation, Consumer-Oriented Genetically Modified Products in the European Union

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**Abstract**

This study builds on the literature on the economic effects of the second-generation, consumer-oriented GM products by analyzing the market and welfare impacts of the introduction of these new products in markets that, like the EU, mandate the segregation and labeling of the first-generation, producer-oriented GM products. In particular, this study seeks to determine the effects of these consumer-oriented GM products on the markets of conventional, GM and organic products, and the welfare of consumers and agricultural producers.

To determine the market and welfare effects of the second-generation, consumer-oriented GM products, the study compares and contrasts the equilibrium quantities, prices, and (consumer and producer) welfare before and after the introduction of the new GMPs. In deriving the different equilibria, the thesis explicitly accounts for the empirically relevant differences in consumer preferences for conventional, GM and organic products as well as for differences in the returns associated with the production of these products. The models developed allow for both vertical and horizontal product differentiation and facilitate the estimation of consumer and producer welfare in a theory-consistent and tractable manner.

Our analysis indicates that the market effects of the introduction of the second-generation GMPs in countries that mandate the labeling of their first-generation counterparts are similar to the effects in markets that treat GM and conventional products as substantially equivalent and do not require the segregation and labeling of GM products. While a country's labeling policy on GMOs does not affect the market effects of the second-generation GM products, it *does* affect the effect of these products on producer and consumer welfare. In this context, the results of this thesis should be of interest to policy makers, academics, and all participants in the GM, conventional and organic food supply channels.

**Key words**: agricultural biotechnology, consumer-oriented genetically modified products, mandatory labeling, vertical and horizontal product differentiation.