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**“Social Welfare Impacts of Genetically Modified Food Products:  
the supply side meets the demand side”**

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**ABSTRACT**

The most commonly used theoretical framework to investigate social welfare impacts of genetically modified crops is the one developed in Moschini and Lapan's (1997) (see for example Moschini et al., 2000, Falck-Zepeda et al., 2000, Pray et al., 2001 and 2002, Frisvoldt et al., 2003, Qaim et al., 2003). Moschini and Lapan's framework expand the basic framework from Alston et al. (1998) allowing welfare of technology sellers as well as welfare of consumers and producers to be taken into consideration.

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Yet Moschini and Lapan (1997) assume in their model that GM foods are perfect substitutes of non-GM foods and the introduction of GM crops does not cause any shift in the demand function. This assumption seems not reasonable as several authors, using stated preference approaches, have found consumers to have different willingness to pay (WTP) for GM and non-GM products (see for example contingent valuation studies from Boccaletti and Moro, 2000; Chen and Chern, 2002; Kaneko and Chern, 2003; Chern et al., 2003).

Fulton and Giannakas (2004) address this issue extending MLs framework with an ideal variety approach to modeling consumer preferences. Lapan and Moschini (2004) present a two-country partial equilibrium theoretical model where some consumers perceive GM food to be inferior in quality to traditional food. The authors show that although GM innovations have the potential to improve efficiency, some groups of consumers may be made worse off. In the end social costs introduced by GM innovation might outweigh efficiency gains. Both approaches are suitable for theoretical work but do not easily allow for empirical applications. In this paper we investigate the role of consumer preferences in the original Moschini and Lapan's (1997) framework. Based on existing evidence from contingent valuation studies, we consider two cases: first, consumers perceive GM food to be inferior in quality to traditional food; second, consumers perceive GM food to be superior in quality to traditional food. Our simulation results are then compared to those from Moschini and Lapan's (1997).

In this paper we establish an explicit analytical linkage between contingent valuation studies and social welfare impact studies. Social welfare impact studies, in fact, rely heavily on results of farm level impact studies to predict shifts in the supply function. In this context we observe that social welfare impact studies often rule out, ex-ante, the possibility of shifts in the demand function and the results of contingent valuation studies remain unused.

This paper wants to be a contribution toward a more general understanding of market dynamics associated to the introduction of biotechnology and foster the use of the evidence

gathered by contingent valuation studies when constructing scenarios to predict social welfare impacts of biotechnology.