

1. Executive Summary

Regulations (EC) 1829/2003 and 1830/2003 came into force in April 2004 (the '2004 Regulations'). They introduce a harmonised EU framework for traceability and labelling of genetically modified organisms (GMOs). They cover labelling and traceability of products consisting of, containing or produced from GMOs.

The regulatory objective includes the aim of facilitating accurate labelling, monitoring of effects and risk management of GM products. In practical terms, the 2004 Regulations mean that no product containing an unapproved GMO, or an approved GMO presence above a 0.9% threshold, can enter the EU market unlabelled.

This paper aims to analyse how the 2004 EU Regulations requiring labelling and traceability of GMOs are affecting current European market trends regarding requirements for GMO-free producers, such as farmers of conventional or organic crops. A central issue for this paper addresses the effects of the 2004 labelling requirements on GMO-free producers in developing countries, identifying the main opportunities and challenges. The paper looks at the arguments for a 'positive' socio-economic impacts for GMO-free producers by providing GMO-free differentiation, such as new market opportunities and price premium. However, it also examines the adverse economic impacts, particularly the increased complexities and costs associated with Identity Preservation or segregation requirements deriving from the Regulations, as well as the social implications deriving from the distribution of costs and benefits along the value chain.

The findings of the paper aim to provide relevant information on the export opportunities and costs resulting from the 2004 Regulations for those GMO-free producers in developing countries that are exporting or aiming to export to the EU. In broader terms, the paper's findings are also relevant for those policy makers and donors designing or aiming to influence strategies to enhance the overall benefits of trade in GM-free products from developing countries.

The EU Context for GMO-Free Producers

- *The GMO-free Supply*

By January 2006, twenty GM food products had been approved to be sold in the EU. These include maize and soy derivatives, oilseed rape oil and cottonseed oil. The products that are most likely to be affected by the 2004 traceability and labelling requirements are those for which there is a significant EU market: soy, maize and their by-products such as lecithin and maize gluten feed.

The sourcing of GMO-free (ie conventional or organic) products for the EU focuses on producers in the EU or from countries that do not (legally) permit the planting of GMO varieties. In the case of soy, the EU has a very low degree of self-sufficiency and is the world's leading importer of soybeans and soy meals. Imports constitute about 94% of the EU domestic consumption. The focus of the GMO-free soy mainly comes from producers in Brazil and India.

In the case of maize, imports contribute only 4-8% of EU consumption, which means the vast majority of EU maize consumption is provided by EU producers, who are considered a reliable source of GMO-free maize (96%-98% of EU maize supply is GMO-free).

- *The GMO-free Demand*

The GMO-free market in the EU existed before the introduction of the 2004 Regulations. EU consumers' worries about the potential effects of GM products on health and the environment created a new and dynamic market for GMO-free products that began to develop in 1998. The spotlight initially fell on the use of soy-based ingredients in the manufacture of foods for human consumption and has extended to the animal feed sector since about 2000. Since then, the market has developed very fast. As such, it is estimated that the market share of the European soy meal market held by certified non-GM soy meal grew from virtually zero in 2000 to 25% one year later, with further increases expected. By 2003, it was estimated the EU market for GMO-free products accounted for about 27% of total soybean and soybean derivative use and about a third of total maize use.

Demand for GMO-free products in Europe is strong and is likely to remain so because of the demand on processors and retailers to meet consumers' expectations. The trend amongst European-based companies is clearly towards implementing GMO-free ingredients policies. Individual retailers have adopted different strategies on GMOs, but all major European retail chains have banned GM ingredients and derivatives from their own-brands, while labelling all GMO products in accordance with EU legislation. In several cases, the non-use of GMOs is being used as a marketable brand. In some cases, retail standards are tighter than the EU legislation. Moreover, several companies have established 'identity preserved' food chains in which the source of the raw materials is known, and they are tracked from field to supermarket shelf.

Given this trend on strict market requirements for the GMO-free market, it could be argued that the labelling and traceability requirements introduced by the 2004 Regulations could have little or no economic impact on the market. However, the Regulations help market consolidation in a number of ways:

- they increase product coverage;
- mandatory labelling of GM products sends a strong message to the public, which may affect consumers' preferences towards rejecting GM products and preferring the non-GM products;
- the stricter threshold introduced by the 2004 Regulations accentuates market requirements for strong Identity Preservation systems.

The Impacts of the 2004 EU Regulations on GMO-Free Producers

The 2004 regulation affects GMO-free producers in developing countries through different channels. First, there are new market opportunities in the EU GMO-free market mainly for soy producers in developing countries. These are being exploited by producers from the northern part of Brazil and to a lesser extent from India and by newcomers such as Zambia.

A second channel is through the existence of the price premiums usually associated with niche markets. However, though evidence on price premiums for GMO-free production exists, this is patchy and not very conclusive in terms of the value of premiums. It suggests the price differentials between GM and non-GM products are rather small and crucially differ depending on the mismatch between demand and supply, the availability of substitutes, the tolerance level applied to GMO presence, the country of origin and type of product.

A third channel by which the 2004 Regulations affects GMO-free producers in developing countries is through an accentuation on the existing trends on requirements to prove GMO-free production through 'harder' (formally documented) Identity Preservation systems. While some producers (especially from Brazil) have been able to supply the EU GMO-free market through 'soft' Identity Preservation systems (i.e. they benefited from market preference just because the product originated from a GMO-free country), the potential to supply the EU market now crucially depends on producers' ability to meet the formally documented 'hard' Identity Preservation systems. The use of hard Identity Preservation systems imposes additional costs on GMO-free producers, which varies according to the level of the GMO-free threshold. The EU Regulations tightened the GMO-free threshold from 1% to 0.9%.

Evidence on the costs of Identity Preservation systems in the context of developing countries is very limited. This is mainly focused on the case of Brazil and tends to suggest costs at the lower end of the whole range of costs for developed countries. This counterintuitive result might be explained by the fact that available estimations were provided on the basis of group certification. In general, there are several reasons to expect higher Identity Preservation costs in developing countries. Credible Identity Preservation systems involve complex procedures requiring stringent standardisation and certification systems, which are often lacking or less well implemented in developing countries. This means producers very often have to rely on foreign schemes or foreign consultants to grant their produce 'identity preserved' status. Costs may also increase because economic actors in the South are less well equipped to organise themselves into cooperatives, which means they are very often less able to reap economies of scale, a key factor affecting the cost per unit of certification.

Moreover, the available evidence also suggests that these additional costs might not be covered by the premium. This situation is especially worrying given that price differentials in favour of GMO-free products are mainly after they leave the farm ('post-farm gate'). This suggests that price premiums would not be reaching primary producers in developing countries, implying that the additional costs are not a only economic but also social. This situation might also be encouraging a wider spread of GMO planting. Overall, Identity Preservation requirements may constitute unintentional but very costly barriers, especially for small -producers in developing countries.

Future prospects for price premiums in the GMO-free market are more optimistic. In the medium term, an expansion in the global demand for GMO-free produce is expected. The enlarged demand will come not only by increased consumption in the EU but also by consumers in other parts of the world including South East Asia and North America. On the other hand, prospects for the global GMO-free supply availability indicate a substantial fall. These factors imply that the price premium for GMO-free products is set to widen significantly.

All of the above-mentioned elements point to the need for coherent policies to promote the exports of GMO-free products from developing countries so as to enhance socio-economic benefits and to minimise socio-economic risks. Such policies need to address issues such as: market information and intelligence on issues such as prices, production, trade, market trends, market requirements and regulations; information on the costs of GMO-free Identity Preservation systems for different types of products and thresholds; providing capacity building regarding the implementation of Identity Preservation systems and standardisation for developing

countries; education on the environmental, social and economic cost and benefits of GMO-free production as opposed to GMO production.

The design and implementation of suitable policies to promote production, trade and consumption of GMO-free products requires the active participation of the governments from producing and consuming countries in cooperation with a range of other stakeholders. Given that, on the one hand, retailers' standards on GMO-free products are in some respects stricter than government requirements and, on the other hand, a fairer distribution of costs and benefits along the values chain on GMO-free production is necessary, better cooperation between the different actors along the chain (including retailers, food processors, consumers and primary producers in developing countries) is paramount.