REVIEW ARTICLE

Spreading of quality systems in horticulture

Melinda Czeglédi

Corvinus University of Budapest, H-1118 Budapest, 31 Villányi St. Hungary, (e-mail: melinda.czegledi@uni-corvinus.hu)

Abstract

In the food producing sector – such as horticulture – consumers can hardly ascertain quality of goods until consumption in many cases and even after consumption it is not always possible to determine quality attributes. Standards, quality systems, in general, improve consumer’s information about product quality and decrease the information asymmetry between producer and consumer. Currently more and more quality standards are setting up partly governmental legislations partly private initiatives from business side. The aim of this paper to summarize and set in place the vast amount of quality schemes and standards operating in the fruit and vegetables’ sector and examine its aim and goals.

Key words: fruit and vegetables, quality, standard, horticulture

Introduction

In the food producing sector – such as horticulture and food industry – consumers can hardly ascertain quality of goods until consumption in many cases and even after consumption it is not always possible to determine quality attributes. Whilst in case of processed food characteristics must be shown on packaging which sometimes does not help a lot, but in case of fresh fruit and vegetables no reliable information on the spot of purchase. Therefore food is experimental furthermore fresh food is credence good. If an attribute can be ascertained only at some indefinite horizon after consumption then it is credence good, and fresh fruit and vegetables are especially like this, they have several features which can not be experienced or measured during purchase and consumption. While consumers are able to test and evaluate organoleptic (appearance, color, taste, freshness etc.) characteristics, the more important quality attributes remain hidden like inner value, safety of the product.

Economic dimension of quality

Standards, quality systems, in general, improve consumer’s information about product quality and decrease the information asymmetry between producer and consumer if the standard is known widely (and B2C).

In a world of imperfect markets and information firms endeavor to signal quality to the consumers to reduce this information gap. In general for experience and credence goods firms/producers invest in quality a lot so that consumers develop firm or brand loyalty through repeat purchases (OECD, Fulponi, 2006). The problem of increasing confidence in products is more difficult in the horticultural sector because,

- the producers and production are atomized, no homogenous and influencing amount of goods
- only a very few brand emerged and launched
- some steps of the production can not be standardized like in industrial processes
production depends from independent factors of the producer (weather, air-, soil-, water-pollution etc.)

In the overall market situation the role of information, quality and reputation provide the growing importance of quality standards in the food system especially nowadays.

**History of quality standards/schemes**

Evidence from the earliest historical writings indicates that governing authorities were concerned with codifying rules to protect consumers from fraud or bad produce. Egyptian scrolls prescribed the labelling to be applied to certain foods or he Romans had a well-organized state food control system to avoid dishonest practices concerning food. In Europe during the Middle Ages, individual countries passed laws concerning the quality and safety of eggs, sausages, cheese, beer, wine and bread.

The first general food laws adopted and basic food control systems put in place to monitor compliance in the second half of the nineteenth century. Codex Alimentarius was given its name from the *Codex Alimentarius Austriacus*, the food standard collection and descriptions of the Austro-Hungarian Empire done and used between 1897 and 1911.

After the World War II until the end of the ‘50s, quality as a main factor of production can not be evaluated. In shortage the fulfillment of demand is always elemental, quality features are not important. Due to the Common Agricultural Policy of European Community the production has been able to cover the demand furthermore in a decade overproduction has emerged in some fields of food production. Since then we can talk about the importance of quality of food.

The first steps were the setting up of national official legislation, the establishing of Codex Alimentarius of FAO from the beginning of the ‘60s as an international and country independent standard for acceptable food. The Codex Alimentarius can safely claim to be the most important international reference point in matters concerning food quality.

From now on more and more quality standards for horticulture and food production are setting up partly governmental legislations partly private initiatives from business side either from retailers or producers or kinds of coalitions.

Private voluntary standard schemes can be developed by anyone of the participants along the chain from horticultural farmers to retailers as well as co-operations between farmers, food industry, retailers or other participants such as governments, NGOs or consumer groups.

**Minimum Quality Standards**

Minimum quality standards can derive either from regulatory agencies or firms/group of firms. They can be obligatory or voluntary. Most often these standards are used to increase the quality of food produced and consumed though the final effect may be doubtful. When government sets them these are used for consumption externality reasons, but several authors argue that regulatory MQS are insufficient to raise the consumption quality due to many consumers have already consume on a higher standard and consumers with modest budget might not be afford the products on higher price anymore and might be driven out of the market (Saphiro, 1983). Food safety is the most important consumption externality which attracted the setting up of the most minimum quality standards. The maximum residue level of fresh fruit and vegetables or traceability can be considered as a governmental minimum quality standard.
Voluntary minimum standard also exists which at first sight is quite odd, but a private coalition of retailers (Eurep- Euro-Retailer Produce working group) established their own standard for good agricultural practices called Globalgap (former Eurepgap). Globalgap is a quality and safety management system providing tools for the best practice of primary food production at farm level.

When a government sets up a minimum quality standard first time this reduces the quality gap between the same category products on the market and increases the price competition. Producers or sellers may decide to set a higher quality level as the official minimum to maintain their reputation as a high quality seller and keep consumers’ loyalty and price premiums. A theory says this is a normal answer to that consumers’ demand that they are willing to pay higher price for higher quality (such as organic products) (Lutz et al, 2000).

**Higher quality standards**

**State-run standards**

There are many kinds of these standards with different aims. In general these schemes focus on features or characteristics of the product or the production which are somehow important to a community or a country and the state support the product or the manufacturer. The emphasized feature can be the origin, the way of manufacturing, the raw materials, the traditions, conformance to a stricter quality description etc.

The Geographical Indications of EU are typical samples of this type (Protected designation of origin (PDO) and Protected geographical indication (PGI) and Traditional Specialty Guaranteed (TSG)) or almost every country has a labeling system for its national quality food (Quality Food from Hungary etc.) In case of these standards in majority of the cases the trade name or a brand is supported and enhanced by the label of the standards.

Almost all branch of the organic production belongs to this group of standards in Europe, there is the official EU and national organic standards, and only a few like Demeter operates independently privately.

**Private standards**

Standards can vary from farmer self-imposed standards to co-operative schemes between farmers and food industry as farm assurance schemes (Gobalgap, BRC, IFS, SQF2000 etc.) and on to pure buyer schemes such as brand name manufacturers or retailers private label standards (Starbucks coffee, Tesco’s Nature Choice etc.). These standards may be either B2B (business to business) or B2C (business to consumer) standards. Standards with farmers’ co-operation are essential for product differentiation to buyers. Buyers’ run schemes have the same goal but with an additional objective: chain performance and governance. The buyer lead standards have the highest importance since the two third of consumed food passes through the retailer sector, (Raynaud et al, 2002, 2005) The increase of food safety incidents has provided an incentive to the private retail sector to develop supplier management systems which assure the integrity, traceability, safety and quality of food. The systems and their certifications can not offer 100% sure and safe goods, but demonstrate that the food they supply is safe and meets the consumers quality demands.

**Recent situation**

Unfortunately there are no real data on the usage of horticultural quality systems in Hungary. No research has been done on the fresh fruit and vegetables’ producers until
know. A trial research was formed in 2005, a questionnaire was inserted to the newspaper of the Interprofessional Organization of Fruit and Vegetables. The return ratio was about 10% which was not enough to draw a conclusion from the whole sector. The knowledge on quality systems is quite high among the producers as seen in Table 1., but the application was typical of the biggest Producers’ Organisations and exporting companies which represent less than 10% of the producers.

Table 1: Knowledge on quality schemes (2005)

<table>
<thead>
<tr>
<th>Systems/schemes</th>
<th>Never heard about it (answers %)</th>
<th>Heard about it</th>
<th>Know it</th>
</tr>
</thead>
<tbody>
<tr>
<td>HACCP</td>
<td>0</td>
<td>57,1</td>
<td>42,8</td>
</tr>
<tr>
<td>ISO 9000</td>
<td>0</td>
<td>72,3</td>
<td>27,6</td>
</tr>
<tr>
<td>Eurepgap/Gobalgap</td>
<td>24,1</td>
<td>25,8</td>
<td>50</td>
</tr>
<tr>
<td>QS</td>
<td>58,9</td>
<td>23,2</td>
<td>17,8</td>
</tr>
<tr>
<td>BRC</td>
<td>58,9</td>
<td>24,1</td>
<td>16,9</td>
</tr>
<tr>
<td>IFS</td>
<td>58</td>
<td>22,3</td>
<td>19,6</td>
</tr>
<tr>
<td>ISO 22000</td>
<td>48,2</td>
<td>50</td>
<td>1,7</td>
</tr>
</tbody>
</table>

The survey also asked about the usage of obligatory systems such as traceability and HACCP. As the answering was anonymous some producers admit the non-compliance as well.

Recent data is not available, but according to conservative valuations more than 50% of market oriented producers disposes with at least one of these schemes.

Conclusions
These agricultural production schemes have been formed as a response to consumer concerns for food safety and to their increasing awareness of the effect of agricultural production on the environment as well as social or labour conditions in this sector. The general and most important attributes of the standards are food safety and quality. Ensuring food safety is considered a basic requirement to doing business in this sector. The globalized markets and operating in global has increased the need for standards but also for their harmonization. Most retailers prefer to have one global standard for food safety. This would decrease certification cost for suppliers, relieving them of the need of having multiple and separate certifications for each buyer/retailer. Governments in local and international level should realize it and ease the process.

References
Lutz et al. (2000): Quality leadership when regulatory standards are forthcoming. The Journal of Industrial Economics. 48 (3):331-348