Food Safety Management for Primary Food Production

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Abstract: Food safety, as legislative demands are clearly ask, is not compulsory just for food industry but is regarding all entrepreneurs that are a part of food chain, from primary food producers like farms, to consumer as final step. The prerequisite programs for primary food producers are helping them to implement a simple and practical HACCP system and it will make them more competitive on the market.

Keywords: primary food, safety, HACCP, prerequisite program.

INTRODUCTION

The harmonized legislation will enhance the responsibility of food safety on the producers, doesn’t matter if it is small or large enterprise, if he produce all year long or just seasonally, if is feed produced of local agritouristical entrepreneur. The legislation specifies that if safety cannot be assured producer is forbidden to put under sell that food products (Legea 150/2004, Legea privind siguranţa alimentelor).

MATERIALS AND METHODS

First of all in has to be understood what does mean food by European Union legislation. The European Regulation understand by commodity food (or food) all substances produced or processed, partially processed or unprocessed intended to be ingested by humans. This includes drinks, chewing gum and all substances, including water, intentionally placed in foods during preparation or other treatments (Regulation (EC) N° 178/2002 on general Food Law).

There are four important elements to the EU’s food safety strategy:

- rules on the safety of food and animal feed, because this is the first step in food chain;
- independent and publicly available scientific advice to help producers and legislative bodies to evaluate risk in a correct manner;
- action to enforce the rules and control the processes but the full responsibility for food safety is entirely on the producers;
- recognition of the consumer’s right to make choices based on complete information about where food has come from and what it contains, a measure that can be easily put in practice through labelling (European Commission, p.4).

Another aspect that has to be defined is the group of consumers that will consume the final product, their special nutritional demands, and special groups like children, elderly people, possible allergens compounds and labelling requirements. Of course, label could be successfully used to educate and inform our consumers about food safety measures that were
taken. Food safety management ends at consumer level and our consumer has to be informed about storage and processing possibilities in order to keep the food safe.

Another principle that is not recognised yet but in practice is recommended is the traceability between business partners, an easy and fast exchange of information, about the feed for a farm, about the fruits and vegetables for a food industry company. This information exchange will make their own food safety management system function easily and will give them information for supplier selection.

A way through which information is transferred alongside food chain in revealed in the following picture (ISO 22000:2005, p.5):

Primary food production is that step in the food chain that is including, for example, harvesting slaughter, milking, fishing and all those activities are under food safety legislation.
Primary production should be managed in a way that ensures that food is safe and suitable for its intended use. In general terms this will include:
- avoiding the use of areas where the environment poses a threat to the safety of food;
- controlling contaminants, pests and diseases of animals and plants in such a way as not to pose a threat to food safety;
- adopting practices and measures to ensure food is produced under appropriately hygienic conditions.

Prior to application of HACCP (Hazard analyse and Critical Control Point) to any business the food business operator should have implemented the prerequisite food hygiene requirements that will take the form of Prerequisite Programmes (PRP’s) within ISO 22000 standard (ISO 22000:2005).

Prerequisite Programmes (PRP’s) will control hazard in a general way and is practically elaborated though specific guidelines for each type of enterprises, for example Good Agricultural Practices or Good Veterinary Practices. Where this legislation is fulfilled and/or specific guidelines are implemented that is no specific need for any other measures, excepting the situation where a cold chain has to be provided.

In Romania those guides could be elaborated by the Ministry of Agriculture and Rural Development, any specialised organisation but the documents have to be validated by the Sanitary – Veterinary and Food Safety National Agency.

A Prerequisite Programmes will refer to:
- Infrastructural and equipment requirements,
- Requirements for raw materials,
- The safe handling of food (including packaging and transport),
- Food waste handling,
- Pest and disease control procedures,
- Sanitation procedures (cleaning and disinfection),
- Water quality,
- Maintenance of the cold chain,
- The health of staff,
- Personal hygiene,
- Personal training.

Before implementing food safety management system, HACCP or/and ISO 22000 some elements should be revised, like food hygienic production, handling, storage, transport, cleaning, maintenance, personnel hygiene, facilities and storage for harvests, operational control where post harvesting procedures are taken.

Here are some recommendations that could be easily put into practice:
- Evaluate and avoid environmentally contaminated areas that can put some hazards on food products;
- Keep a very accurate control on plant pest control substance, lots that were under treatment, type of substances, quantities and remanance;
- Keep a accurate veterinary registration, any medical treatment that was taken into the farm and anything that could be a threat for food safety;
- Control possible contamination even from natural fertilisers, a audited or controlled source of fertilisers would be appropriate;
- Keep a separate waste circuit, plant or animal source, totally apart from primary produced food in order to cut down any possibility for contamination;
- Dispose any rejected food or material away from adequate food;
- Any water that will take a direct contact with food has to respond to hygienic demands, even if that water is used to clean the fruit or vegetable, to clean the transport machine or containers;
  - Minimize the contamination as much as is possibility, control visitors access into farm or other facilities that could be in contact with food, that is effective protection against pest access and harbourage;
  - Areas and equipments that are providing food preservation should be designed in conformity with food safety standards;
  - Areas and equipments that are controlling the possibility for food hazards to appear should be maintained through a planned maintenance program;
  - All equipments that are monitoring the temperature and humidity should be periodically checked that are functioning well;
  - If the farm is providing ecological food products a separate chain has to be designed in order to keep away any possibility for food contamination, separate storage and separate transportation equipments.

Where the prerequisite requirements (whether or not supplemented with guides to good practices) achieve the objective of controlling hazards in food, it should be considered that the obligations laid down under the food hygiene rules have been met and that there is no need to proceed with the obligation to put in place, implement and maintain a permanent procedure based on the HACCP principles.

For the operational PRP’s it has to be established of a monitoring system (procedures, responsibilities, corrective actions) for the (combinations of) control measures, those which are not controlled under HACCP plan, which are not critical but are ensuring a good working environment.

HACCP (Hazard Analyse and Critical Control Point) can be applied throughout the food chain from primary production to final consumption and its implementation should be guided by scientific evidence of risks to human health, hazard analysis, selection, validation and monitoring of adequate control measures. Where food safety is required it must be ensured that the necessary monitoring and verification are carried out, for example where the cold chain must be maintained.

A HACCP plan to manage those control measures that the hazard analysis identifies as necessary to control identified hazards to acceptable levels, and which are applied at critical control points (CCP’s). A critical Control Point is a level that will make the difference between and safe and unsafe food product.

According to Recommended international code of practice general principles of food hygiene (CAC/RCP 1-1969, Rev. 4-2003 p29), the following steps will help to develop a food safety program.
Another advantage for a rural food enterprise to take in consideration is that a food safety management system was created to be audited. There are three level of audit: internal audit very good to improve your own system and to get proofs that your system is working, second part audit from a client and valuable to enforce transparency and third part audit from an authorised organisation that will give you full recognition of you food safety management system value (ISO 19011:2002).

CONCLUSIONS

This management system will enhance consumers’ credibility even for small, local producers. That will sustain traditional products that are lightly scientifically approached. It will inform retailers on safety management measurements and monitoring and will answer to specified retailers safety standards. It will get used with intern and extern traceability and the
producers will be able to offer a fast and professional answer in susceptible situations like Rapid Alert System for Food and Feed. It is wrongly interpreted that EU through food safety management and legislation has something against traditional food product. The legislative requirements are the same for all, everything that an economic entrepreneur has to do, is to prove that the food product is safe. They have many instruments that could be used: information about suppliers, monitoring registration, tests results and so on.

This food safety management system should be seen by rural entrepreneurs like a possibility to adapt to the market, a instrument that offer all necessary information that a traditional food product can be safe, a valuable information for the consumer through labelling, a recognition possibility because this system could be audited by a third part and give an official recognition all over the world.

REFERENCES