

## FOOD SAFETY IN RABBIT MEAT PRODUCTION

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### ABSTRACT

The Food and Agriculture Organization of the United Nations (FAO) in collaboration with the World Health Organization (WHO) has worried about an integrative focus regarding innocuous food quality and management in all the productive chain in the countries belonging to it. Meat is exposed to different pollutants all along the production process until it reaches the final consumer. That is why it is necessary to establish a risk reduction system in its productive process to assure and certify the products. The problems regarding innocuous products originate from the fact that they should be capable of being traced or prevented from the very beginning of the productive chain by using Good Agriculture Practices (GAP), Good Manufacturing Practices (GMP), Standard Sanitization Operation Procedures (POES) and the Hazard Analysis of Critical Control Points (HACCP). All these elements are intimately related with the gradual implementation of the ISO 9000:2000 system. The successful application of the system requires management decisions and a multidisciplinary team highly committed to food safety. The Mexican Government within its regulation functions has to make up a series of rules regarding the regulation of the food production chain that guarantees it with a certified quality label. Rabbit meat production cannot escape this reality.

**Key words:** innocuous, meat, rabbit.

### INTRODUCTION

Total Quality Management can be defined as follows: a) as the systematic and continuous upgrade of the processes, products, services and life level using all human resources and available money; b) as a methodology oriented to improve the processes and to solve organization problems or c) as an economic production system and services directed to satisfy the consumer's requirements. These concepts have generated a way of thinking and doing in favor of quality in each of the productive chain processes and within them (SUAREZ, 2002).

A good quality product is the one who follows the legislation in effect, that has got all the demands and exigencies of the client and that incorporates through time all the new and changing ones (GUTIERREZ, 1997).

Within the characteristics related to the product, food safety, which is sometimes named as not perceived quality, is very important because of its guarantee directly related to the

product in terms of human health. Today, the safe production of rabbit meat for human consumption is urgent, and should not be considered as a quality factor, but as an obligation from the producer and an exigency from the client (Fundacion Chile, 2003).

All Quality Assurance proposals should be based on international recommended practices and on general hygiene principles from the Codex Alimentarius, Manufacture and Hygiene Practices, the Standard Sanitization Operation Principles (POES), the general principles of the Hazard Analysis of and Critical Control Points (HACCP) and the recommendations that apply within the International Standardization Organization (ISO), all of them adopted by the countries in which the agriculture and livestock products exchange is a necessity.

## **Regulations**

### International Context

The World Commerce Organization's agreement on sanitary and fitosanitary measures, demands that the member countries should establish zoosanitary measures to assure the protection of human and animal health based on international rules and recommendations, under the World Organization for Animal Health guidelines (OIE). Two new OIE activity fields were identified as priorities during the 2001-2005 periods: the first one on animal health and the second one regarding food safety in animal production to strengthen the regulations in the country as well as the food quality and innocuousness and the risk reduction to human health (OIE, 2002).

The OIE's International Animal Health Code has got the regulations and recommendations to avoid the introduction of animal and human diseases in the country that makes importations because of animal or animal products commerce.

The Food and Agriculture Organization of the United Nations (FAO) in collaboration with the World Health Organization (WHO), approved the foundation of the International Commission of the Codex Alimentarius to establish a joined program on Food regulation (FAO, 2003).

The Codex Alimentarius, has turned into the reference point for food businessmen, industrialists, traders and consumers; it is the guide for the national and international organisms in charge of the products' control for the elaboration of the internal quality regulations of food, for protecting the consumers' health at a local, regional, national and world scale (FAO, 2003).

The Codex Alimentarius includes codes, the majority of which are hygiene and practice codes for producing innocuous food suitable for consuming, in other words, its goal is to protect the consumers' health. The recommended International Code of general hygiene principles and practices apply to all food products. It is specially designed for the consumers' protection due to the establishment of a firm base for innocuous food all along the productive chain, from the primary production to the final consumer (FAO, 2003a; SECRETARIA DE ECONOMIA, 2003).

### National Context

The legal frame is represented by the Federal law on Animal Health, published on the Federation's Official Newspaper (June 18, 1993), the decree that reforms and adds

several dispositions published on June 12, 2000 and the National Regulation and Measurement Law published on July 1<sup>st</sup>, 1992, reformed on December 24, 1996 and its rules published on January 14, 1999. The Agriculture, Livestock, Rural Development, Fishery and Food Ministry (SAGARPA) through the Sanitary Innocuous Agricultural and Quality National Service (SENASICA) has got the responsibility of the elaboration of a preproject for the Mexican Official Regulations related to livestock and its product industrialization, to be considered on the National Consultative Regulation Committee (CONAPROZA) for its approval (SAGARPA, 2000).

The National program for Innocuous food (2002-2006) integrates all the main sectors in the productive chain to avoid duplicate functions in between the Health Ministry, the National Resource and Environmental Ministry, the Economy Ministry and the Industrial and Commerce Ministry, the academy and the consumers in coordination with the Federal Commission on the Prevention of Sanitary Risks (COFEPRIS) of the Health Ministry and SENASICA from the Agriculture Ministry (HINOJOSA *et al.*, 2003).

### **Good Agriculture Practices (GAP) In Rabbit Meat Production.**

Rabbit production in the world is mainly directed towards meat production. Mexico produces approximately 15, 000, 000 meat tons per year from Jalisco, Guanajuato, Michoacan, Hidalgo, Puebla, Tlaxcala, Mexico States as well as Distrito Federal (SAGARPA, 2003).

The international dispositions regarding quality and innocuous food recommend certain strategies directed towards the production of food quality without risks for the consumer's health to assure the food trace and track, the application of Good Agriculture and Management Practices (GAP and GMP) of food as well as HACCP establishment (SAGARPA, 2002).

The Good Agriculture Practices proposed by FAO consists on the “application of the available knowledge on the sustainable usage of basic natural resources for the production of innocuous plant and animal food that secures human health, nature's conservation, economic profitability and social stability”, good results will depend on the knowledge and ability of people and groups from each company in the chain and in the productive branch (OYARZUN *et al.*, 2002; FAO, 2003B).

Nowadays, rabbit welfare is very important. It has become a great interest for sanitary authorities from non government organizations as well as consumers, which consider it as a quality indicator for the product. The European Community considers: a) animal protection in farms, b) animal protection during transportation to slaughterhouse and c) animal protection during sacrifice (LOPEZ, 2002).

To improve the well-being and productivity it is necessary to have an environment, food and water physically, chemically and biologically pollution-free, to preserve animal health and to make sure that these pollutants will not enter the food chain (OYARZUN *et al.*, 2002).

### **Good Manufacturing Practices (GMP).**

Consumers demand more quality properties on the products they buy. As it has been said, innocuous food is an essential quality characteristic. Therefore, it is necessary to

establish national rules to make sure it has been accomplished (SECRETARIA DE SALUD, 1999).

Good Manufacturing Practices are the minimal necessary measures to avoid food pollution during the different stages of its industrialization and marketing to insure the product hygiene, the consumer's health and satisfaction. They are based on the Official Rules in the Codex Alimentarius (FAO-WHO) and the Mexican Official rules related to livestock production and the Health Ministry Sanitary Control Rules for Products and Services (MARTINEZ, 2002; FAO, 2003b).

GMP is a basic strategy for obtaining safe food for human consumption. They are centered on hygiene and their manipulation:

- They are useful for designing and making establishments work, for developing processes and food related products.
- They contribute to the safe, innocuous and healthy food production for human consumption.
- They are associated to control through the establishment of inspections.
- They are essential for HACCP and ISO-9000 Quality Control application.

The purposes for a GMP model in rabbit meat production are:

- To assure quality and innocuous products for the consumers
- To maintain a hygien control on areas related to meat processing.
- To gather competitive advantages
- To improve the products' image and its position in the market
- To improve the selling capacity in local, regional, national and international markets which are more demanding or well paid.
- To improve the profitability and feasibility of the company (MARTINEZ, 2002; FAO, 2003b).

Technical observations for GMPs.

The sacrifice and processing of rabbits has got an important delay in our country. It is obvious that slaughterhouses will have to progress to modern designs that will adhere to official rules as well as Good Manufacturing Practices (NOM-008-ZOO-1994; NOM-042-ZOO-1995; NOM-033-ZOO-1995): Health Ministry of Sanitary Control Rules), requiring specific areas for each part of the process (Martinez, 1993; AUS, 2001).

### **Standard Sanitization Operation Procedures (POES).**

POES is a cleaning and disinfection program whose objectives are to assure and guarantee an innocuous product. The POES application during a product process is divided into pre-operational and operational procedures; it will be necessary that slaughterhouses have a guide for the facilities characteristics, equipment and personnel. A person should be responsible in the slaughterhouses regarding quality control. He should carry out internal audits and evaluation of POES' application through inspection

and follow-up of preventive or corrective actions, to certify its correct execution (TRUJILLO, 2002).

### Meat Labelling

The meat final presentation and labeling has to follow to the Mexican Official Rules NOM-002-SCFI-1993 and NOM-051-SCFI-1994 regarding general specifications for food labeling.

### Health and security Recall

All the commercial establishments should have a Recall program that indicate the procedures that the company would use in case that the product needs to be efficiently and rapidly removed from the market, in which it is necessary to include the product's code, distribution registers, general phone directory of the wholesaler, retailer and clients to ensure the trace and product recovery (TRUJILLO, 2002).

### Capacitation

It is essential the implementation of courses whose content should be in compliance with the Good Manufacturing Practices Code and the Sanitization Operative Program.

### General Methodology for Audits in GMPs and POES.

The GMP audit's objective is to check the fulfillment and effectivity of the system. As other audits, it has three parts: preparation, execution and follow-up.

The Audit for POES will avoid failures that would turn into microbiological and chemical pollution of the facilities and the food. The Regulation and Sanitary Promotion Subministry, has edited an autoevaluation guide for good hygiene practices in the establishments, as a starting point to general audit, which will have to be designed in a specific manner (SSA, 1993).

### **Hazard Analysis Of Critical Control Points (HACCP).**

HACCP is one of the current instruments used in agriculture and livestock companies to carry out the quality control of innocuous food (JORDANA, 1999).

It is a system of principles, established to ensure animal or vegetable food production free of pollution risks (chemical, physical and microbiological ones). The system also applies to the identification of risks that endanger the production process, animal health, the company's economy and public health (CLAVIJO, 2002).

Its application also offers a guide to rabbit slaughterhouses and supermarket stores for the implementation of quality controls and autosurveillance, in which knowing the critical points in the process they are controlled. It also gives the public inspector guidance to make up more efficient checkings, to identify process areas or operations in which the control loss can result in a health risk (BELTRAN, 1996).

The implementation of a HACCP system offers a high sanitary quality to food, strengthening the company's image and credibility to consumers, as well as increasing

the competitiveness in the internal and external market. It reduces costs and diminishes destruction or product reprocessing, giving as a result an increase in productivity. The food production is made with a high security level. Actually the HACCP implementation is compulsory to fish product processing. Nevertheless, there is a tendency in which it will be a requirement for all food processing companies (CABALLERO, 2000; FAO, 2002; REINOSO, 2002; TAVERAS, 2002).

### **ISO 9000 Quality.**

ISO 9000 rules are made up of standards that guide us through settling an effective management system regarding quality assurance. There are auditable models that guarantee quality assurance.

ISO 9000 is a rule family that establishes quality assurance models. They are generic and applicable rules for all kinds of industries. The ISO 9001, 9002 and 9003 series are the only certification rules for processes and not for products. "Quality" in these rules means complying with the consumer's necessities and expectations (ISO.ORG, 2003).

## **CONCLUSIONS**

Rabbit meat quality must not only be judged by its appearance; an official model according to our national reality must have to be developed. The quality label will allow the consumers the recognition of meat produced under basic guarantee conditions on animal welfare, ensuring the quality and innocuous standards.

The productive chain is all the productive system, including the consumer. In a market economy it is the one that imposes its rhythm, the one who directs the business. The consumer with its necessity, capacity and expectations is the one by which services and goods are produced.

The Mexican Government's rules and regulations functions have to create a series of rules that regulate and guarantee food production with a certified quality label. Rabbit meat production cannot escape this reality.

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