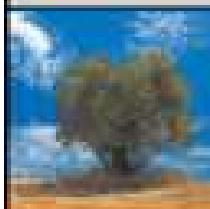


# OLIVES AND OLIVE OIL AS FUNCTIONAL FOODS

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## 8 Application of HACCP and traceability in olive oil mills and packaging units and their effect on quality and functionality

Athanasia M. Goula, Konstantinos Kiritsakis, and Apostolos Kiritsakis

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### 8.1 Introduction

In recent years, consumer demands for high-quality products, as well as the need to align business with standards, such as the European standards, and secure compliance with legislation in the production of quality products, have led organizations involved in the olive oil and olives industry to take measures in order to ensure the quality of their products. The certification of quality assurance and product safety is the companies' compliance to the requirements of some *standards* (ISO and HACCP) and the implementation of a *traceability* system.

HACCP (Hazard Analysis and Critical Control Points) is a quality control system, which specifies the rules to be followed by olive oil mills and packaging units concerning hygiene, occupational safety, environmental protection, hazard identification, and evaluation of critical control points (CCPs), among others. The proper implementation and application of these rules aim at achieving overall quality assurance and product safety and thus satisfy consumers' growing demand for virgin olive oil with exceptional quality and functionality.

Quality and safety are both linked to traceability, although safety is implicated by traceability more often. They are two very important elements of people's conceptions of food and associated decision making (i.e., food choice). Traceability is primarily viewed as a tool for determining the food safety by providing a means for recall as well as proof of the authenticity of food, but it is also related to food quality (Aung & Chang, 2014). Since both quality and safety were shown to be related to confidence, traceability may indeed boost consumer confidence through quality and safety assessments (Rijswijk & Frewer, 2006).

To foster continuous improvement in the quality of products and processes, firms use the Total Quality Management (TQM) system. Ho (1994) stated that ISO 9000 can be seen as a route to implementing TQM. Figure 8.1 shows the relationship of food safety, quality, and traceability systems from the management point of view.

### 8.2 The basic HACCP benefits and rules

The application of the HACCP program in an olive oil plant helps (Kiritsakis, 2007) several aspects:

- ♦ Trace and identify all possible risks (physical, chemical, and microbiological) in all processing steps.
- ♦ Analyze and estimate the size and severity of every risk and the possibility of this risk to appear.
- ♦ Control and solve the problems caused by each risk.
- ♦ Apply systems and procedures in order to prevent these risks.