

**Food hazard management in voluntary certification: hazard analysis  
of the olive oil commodity chain according to ISO 22000:2005  
methodology**

**Youness Belchen (Morocco)**

This thesis analyses the food hazards along the value chain for extra virgin olive oil according to the hazard analysis methodology recommended in the voluntary international food safety management standard ISO 22000:2005. By applying this methodology it has been possible to determine all the general requirements in the olive oil chain and to categorise control measures into operational requirements and critical points which must be implemented together in agricultural, processing, packing and distribution activities to prevent food safety hazards to human health.

The general requirements comprise procedures relating to hygiene (work environment, premises, equipment and staff), pest control, water safety, monitoring of toxic substances and waste and staff training in good hygiene practice. Operational requirements encompass irrigation water monitoring, staff training in the application of plant health products and olive transport vehicle hygiene, olive hygiene control upon delivery and verification of post-maintenance cleanliness of equipment prior to processing, packing and distribution operations. The procedures linked to critical control point management in the olive oil chain are herbicide and pesticide monitoring, lot management, olive storage management, load control and monitoring of rinse water cleanliness, monitoring of crushers and filters, verification of the cleanliness of bottling lines after accidental breakages and safety checking of road and/or maritime means of transport of bulk extra virgin olive oil.

As a companion measure to stimulate the worldwide commercial development of extra virgin olive oil and zero hazards in the olive oil chain, the International Olive Council should establish a certifiable olive oil safety standard for all commodity chain operators on the basis of the hazard analysis methodology specified in ISO 22000:2005.