

HACCP and its effects on aflatoxin contamination of pistachio in Yazd province

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Abstract

Aflatoxin contamination of pistachio nuts was investigated during production, processing, storage, transportation, and exposition stages. The aim of the hazard analysis and critical control point (HACCP) project is contamination elimination by detection and evaluation of critical control points (CCP). Accurate harvesting method, quick transfer to terminal by suitable vehicle, rapid peeling, short depot, sanitary and sufficient water usage for washing, correct drying by favorite dryer, sampling and checking during different steps and isolation of unclean fruits are critical points of aflatoxin contamination. This project is performed at Taft and Mehriz regions on 2003 and 2004 in two sites as pilots by the Agriculture Organization of Yazd province and the Pistachio Office of the Agriculture ministry. Aflatoxin contamination is reduced to acceptable standard level of Europe (2 ppb), based on previous research results of the HACCP project, CCP detection and their control in orchard, processing terminal and store and performing of good agriculture practice (GAP), good hygienic practice (GHP), good manufacturing practice (GMP) and good storage practice (GSP). After the pilot project performance, a work group on healthy pistachio production was constituted that consisted of agriculture, sanitary and standard office experts. They formed sub-committees in counties and accomplished in a widespread scale among Yazd province with training of all production agents such as experts, gardeners and exporters, publishing technical and primitive leaflets and manuals. One of the main activities was converting of a conventional to a modern processing system. More than 220 modern processing terminals were established during 2002-2010 moreover, pistachio export reached 53 million dollars to Japan and European countries in the year 2010.