ASTA Safety Guidelines for Spices Sold in the United States

ASTA has a long-standing commitment to ensuring that clean, safe spice is traded in the U.S. The association has taken a number of steps and implemented a wide range of programs to assist members in achieving this goal, including educational sessions, white papers, analytical methods and cleanliness specifications. In developing safety guidelines for spices, ASTA recognizes that the spice industry is global and that regulations and standards differ around the world. These safety guidelines are intended to meet the needs of the U.S. market and focus solely on U.S. regulations.

Definition of Spices

ASTA has established an official spice list. It details the specific berries, seeds, fruits, leaves, flowers, barks, roots, buds and dehydrated vegetables that are considered spices by ASTA. The ASTA Spice List can be found on the ASTA Web site.

The U.S. Food and Drug Administration (FDA) defines spices in the Federal Register in 21 CFR 101.22. Garlic, onion and several other items considered as spices by ASTA are defined by the FDA in 21 CFR 182 & 184.

Establishing Safety in the Growing and Manufacturing Processes

Steps need to be taken at every step throughout the process of growing, harvesting, drying, and processing spices to ensure that clean, safe spice is ultimately delivered to the consumer. There are a number of specific guidelines that should be followed.

Good Agricultural Practices: Steps should be taken during the growing and harvesting of spices to minimize the potential for contamination of spices by heavy metals, mycotoxins, pesticide residues, mammalian excreta, rodent hair, insect fragments and other foreign materials. Good agricultural practices should also provide guidelines on handling and storage of the materials to minimize the contamination risk.

Good Manufacturing Practices: Manufacturing facilities involved in the processing of spices need to manage their operations following the general requirements listed in 21 CFR part 110. These cover facility construction and design, maintenance of the grounds, equipment design and manufacturing, sanitation, production and processing controls of raw materials and pest control.

HACCP: HACCP is the acronym for Hazard Analysis Critical Control Point and a HACCP Plan is a key analytical tool to ensure food safety at all stages of the food chain. An effective HACCP study allows for the identification of physical, chemical and microbiological risks and the steps to prevent the resulting food safety concerns.

Microbial Reduction Techniques: The climatic conditions required to grow most spices means that they are typically grown in developing countries lacking the infrastructure for modern food production. As a result of conditions in the growing regions, spices are particularly susceptible to microbial contamination such as *Salmonella* and *E. coli*. A variety of microbial reduction

techniques, including fumigants, steam and irradiation should be applied to spices to ensure that they are free of pathogens. ASTA has worked with the FDA to validate these microbial reduction techniques and members can obtain details of these validation processes by contacting the ASTA office.

Supply Chain Management: Managing the supply chain is key to ensuring clean, safe spice. Suppliers should provide necessary documentation on traceability of product and on their implementation and use of GAP, GMP and HACCP programs. Overseas facilities should be audited on a routine basis to ensure compliance and prevent food safety problems.

U.S. Regulations for Importers of Spice

All spices imported into the U.S. are required to comply with U.S. regulations. Four government agencies have jurisdiction over food and imported food: the Food & Drug Administration (FDA), the U.S. Department of Agriculture (USDA), Customs and Border Protection (CBP), and the Environmental Protection Agency (EPA).

The FDA regulates the safety, identity and labeling of spices. CBP is tasked with clearing merchandise through Customs and determining appropriate duties. USDA oversees the Federal Noxious Weed Seed Program and National Organic Program. The EPA sets allowable tolerances for chemicals such as pesticides.

Adulteration

Adulteration can be defined as the inclusion in foods of constituents whose presence is prohibited by regulation, custom and practice or "making impure by adding inferior, alien or less desirable materials or elements."

The most common practice is the intentional addition of an adulterant to a food to increase the food's value through deception i.e. using an adulterant to make a food seem more valuable than it appears. Often, the adulterant is safe for human consumption although it may not be expressly permitted for addition to food. Adulteration may occasionally be a public health issue as when a toxic substance is added to food as an adulterant.

The addition of adulterants to food to increase attractiveness and value or decrease the cost to the producer is often referred to as "economic adulteration." Adulteration is a serious issue for the industry even when there are no safety risks because of the damage it causes to the spice industry's reputation and credibility. ASTA has developed methods specifically to look for materials of adulteration.

ASTA Resources

ASTA has developed a series of resources aimed at helping members develop programs to ensure they are importing clean, safe spice and to comply with U.S. regulations. Information on all programs can be found on the ASTA Web site at www.astaspice.org and includes the ASTA Cleanliness Specifications, the HACCP Guide for Spices and Seasoning Blends, the Clean Spices Handbook, ASTA's Official Analytical Methods, the ASTA Self Regulation Program, the

GMA SAFE Audit, and a series of white papers addressing specific issues in greater detail, such as the problem of adulteration.