
Raw Chocolate: Risks and Recommendations

Produced by the National Confectioners Association Chocolate Council
with Retail Confectioners International

Executive Summary Statement

Cocoa beans are a raw agricultural commodity with the potential to be contaminated with *Salmonella* as a result of the conditions under which beans are harvested and dried. A validated kill step is required to process cocoa beans in order to eliminate the potential food safety hazard associated with the presence of *Salmonella*. NCA is concerned that finished chocolate products sold as raw may present a health hazard to consumers if a validated process is not used to destroy *Salmonella*.

RAW CHOCOLATE: TRENDS AND DEFINITIONS

Raw foodism is a dietary style that encourages consumption of raw organic foods. Followers of this diet are motivated by both health and social reasons. Proponents of the raw diet believe all raw foods, but especially “superfoods” such as cocoa, are associated with extensive health benefits. It is not unusual to find claims on packaging or websites relating raw cocoa consumption to extended lifespan, improved neurological function, cardiovascular benefits and elevated mood.

While interest in raw food exists in the United States and is gaining attention in other geographical areas, raw chocolate remains a very small, niche market. NCA estimates that less than 1 percent of new products launched in 2010 were raw chocolate products. Most of these products, including finished chocolate, cocoa powder, cocoa butter, beans and nibs, are available for purchase by the consumer via the internet.

Although there is no legal definition or industry standard for “raw,” manufacturers of raw chocolate commonly report that their products are not exposed to temperatures that exceed 42°C [114°F]. Due to the heat restrictions, these chocolate products usually contain sweeteners other than refined sugar, such as agave nectar.

THE ORIGIN OF CONTAMINATION: THE COCOA FARM

There are several possible sources of environmental contamination with *Salmonella* and other bacteria during harvesting, pod breaking, fermentation and drying of cocoa beans. *Salmonella* is the primary pathogen of concern for cocoa, but contamination with other pathogenic bacteria such as *Listeria*, *E. Coli* and *Staphylococcus* is also possible. Additionally, contamination with excessive levels of some types of molds can lead to high mycotoxin levels, a naturally produced toxin.

Cocoa trees are grown in hot, humid climates near the equator in West Africa, South America and Asia. Cocoa trees bear a pod fruit which may contain 30 to 40 cocoa beans. Most cocoa trees are grown on small farms and the beans are harvested by hand by farmers, then fermented and dried on the farm prior to export.

Cocoa beans are removed from the pods by hand, put into boxes or formed into heaps, covered and allowed to ferment for several days. The fermentation serves to enhance the flavor of the cocoa beans. At no point during postharvest handling are the beans maintained under sterile conditions, and they may be exposed to pathogenic bacteria from the air, insects, birds, other animals