Dairy Ingredients in Chocolate and Compound Coatings

Selection of the appropriate dairy ingredients can help in producing a high-quality, economically viable product.

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Confectionery is the collective term applied to edible products usually compounded of sugar as a common ingredient. Candies are often combinations of several confections, with chocolate used as a coating on candy bars, ice cream, cookies and nuts.

Chocolate and chocolate confectionery together account for about 60 percent of sales of the confectionery industry worldwide. In most countries, there are legal requirements for the composition of chocolate in order for the product to be labeled as chocolate. If these requirements are not met, the product must be labeled using an alternate name such as chocolatey candy or chocolate-flavored candy. In the United States, chocolate and cocoa are foods standardized by the U.S. Food and Drug Administration, which prescribes the quantitative elements and some of the qualitative aspects as well. Internationally, the Codex Alimentarius provides standards for cocoa products and chocolate. Many European countries follow Codex standards for chocolate. Most other countries either follow Codex standards or have specific standards for their country, although these standards are often similar to either the Codex or U.S. standards.

Milk and other dairy ingredients are essential ingredients in chocolate and compound coatings in part because they help to provide the flavor and textural experience consumers expect, but if the correct dairy ingredients are present in the required amounts, they also allow a given product to meet local standards of identity.

CHOCOLATE CONFECTIONERY
The most popular chocolate consumed worldwide is milk chocolate, which contains at minimum cocoa mass, sugar, cocoa butter and milk. A typical formula for a milk chocolate is shown in Figure 1. The following section presents a brief description of a typical process for manufacture of milk chocolate. There are many excellent resources to which the interested reader can refer for more detailed descriptions of cocoa bean and chocolate processing.

Milk Chocolate Processing
The first step in chocolate manufacture is the mixing of cocoa butter, chocolate liquor (also known as cocoa mass), milk and sugar. It is important to note that in the production of milk chocolate, water must be removed from the milk at some point during the man-