

The Latest & Greatest on Cherries & Berries

Colorful fruits are packed with good-for-you components that also happen to be flavorful ingredients for dairy foods

Berries and cherries are popular fruits for inclusion in cottage cheese, cream cheese spread, cultured drinks, ice cream, smoothies and yogurt. They have even been included in some unlikely dairy foods such as white Cheddar cheese and butter spreads. These fruits not only contribute flavors that complement dairy, but they also provide a very appealing, all-natural color.



Berries and cherries come in many forms, making them suitable for most dairy applications.

In the past 10 years, researchers have identified an array of components in berries and cherries to position these fruits as nutraceutical ingredients. What many researchers emphasize is that it's the combination of phytochemicals (naturally occurring chemicals from plants) in these fruits that makes them powerful ingredients, nothing any individual phytochemical dietary supplement can even come close to providing.

The key functional components that all berries and cherries contain are anthocyanins, which act as pigments to give these tree fruits their deep color. Generally speaking, the darker the berry or cherry, the greater the anthocyanin content. Anthocyanins are a major component of the phenolic/flavonoid class. Research indicates that anthocyanins act as antioxidants, neutralizing the negative by-products of metabolism called free radicals. These free radicals can damage DNA molecules and lead to cancer. In addition, anthocyanin activity has been linked to enhancing vision, controlling diabetes, improving circulation and retarding the effects of aging, particularly loss of memory and motor skills.

Another phenolic compound found in many of these tree fruits is ellagic acid, which has been linked with blocking various hormone reactions and metabolic pathways associated with the development of cancer. The ellagic acid content of raspberries and blackberries is about five times greater than in other fruits.

Berries and cherries also contain salicylic acid, which has been shown to have similar protective effects against heart disease as aspirin.

Blueberries and cranberries have both been shown to be beneficial in treating and preventing urinary tract infections. A component only found in these two berries has been shown to inhibit bacteria from attaching to the bladder wall, thereby reducing infections.

Formulating with these powerful fruits

When formulating with berries and cherries, many product developers find it best to blend varieties of these fruits in order to develop a signature flavor, along with an appealing color. The cranberry, in particular, is seldom used alone in dairy products because of its distinct, tart taste. However, many manufacturers find that a bit of cranberry gives an ordinary fruit-flavored dairy product some pizzazz. Ingredients such as buffered cranberry concentrate are often used solely for its coloring properties, similar to how beet juice is used.



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Within the cherry family, a product developer can find a variety of flavors and colors.

Berry and cherry ingredients come in many forms, rendering these fruits suitable for almost all dairy applications. When it comes to yogurt, blended varieties typically use fruit preps made with purée, alone or sometimes with flavors. This is because consumers expect such products to be relatively smooth. However, with fruit-on-the-bottom yogurts, consumers want more identifiable pieces of fruit. And with side-by-side yogurts, fruit identity is even more important. Very "jammy" products convey a highly processed fruit, which most consumers find undesirable. With most yogurts, fruit prep is typically less than 50% fruit, with the rest being water and stabilizer. The most common stabilizers are starch and pectin.

Berry and cherry fruit preps have application opportunity in the new generation of flavored cottage cheeses in the marketplace. With cottage cheese, which inherently has texture due to the curd particles, fruit identity is desirable in both blended and fruit-on-the-bottom varieties. Fruit integrity is most important in side-by-side fruited cottage cheese, just like similar yogurts.

With ice cream, the type of berry or cherry ingredient varies by what the manufacturer is trying to achieve. If it's a smooth, thick gelato, low-particulate fruit variegates are used. If it's one of those jam-packed inclusion ice creams, fruit systems with particulates, along with identifiable berries and cherries add to the total package.

Whatever fruit form is used in frozen desserts, it's important that it have minimal free-flowing juice in order that the juice doesn't flow out of the fruit feeder into the ice cream stream. The fruit must be injected cleanly, without any excessive liquid run-off.

Also in frozen applications, the fruit ingredient must have its freezing characteristics controlled so that it will not freeze solid in ice cream. This is

accomplished by balancing total fruit content and degrees Brix for equilibrium of solids in the final fruit ingredient.

General fruit forms

Individually quick-frozen (IQF) berries and cherries are appropriate for premium dairy products such as refrigerated desserts, or wherever fruit identity is of utmost importance. These fruits typically contain no sugar or preservatives, but some processors offer IQF fruits infused with a sugar solution to prevent them from freezing solid in frozen applications. Either form separates easily when added to a mix, enabling even dispersion. Frozen sweetened and unsweetened fruits are also available; however, as the product thaws, traditionally frozen fruit loses its integrity, often breaking up.

Dried fruits are typically not used in dairy applications, however, finely chopped or diced versions can add a great deal of flavor to more unique applications such as cream cheese spreads, Cheddar cheese and butter, without adding any moisture. Dried berries and cherries can come sweetened or unsweetened.



Berry and cherry juice concentrates are viscous liquids that have had water removed to various degrees Brix. Juice concentrates are great all-natural colorants.

Anthocyanins in berries and cherries act as pigments, giving these fruits their deep color. The fruits in turn add color to dairy foods.

Pie fillings are best characterized as berries or cherries combined with thick, sweetened syrup. Many consumers perceive pie filling as highly processed, and as a result, it's not typically used in dairy products, except in sundae-type novelty cups.

Purée and purée concentrates are concentrated, lump-free slurries that have had water removed to various degrees Brix. Purée and purée concentrates are often sold aseptically, frozen or refrigerated in order to maintain quality.

Fruit preps, which are a combination of fruit, water and stabilizer, also come in a variety of forms. Aseptic fruit preps are growing in popularity because they do not require any preservatives. Aseptic processing typically results in fruit preps with good fruit identity, flavor and color. Aseptic fruit preps specifically for frozen desserts use berries and cherries that have been infused with sugar to reduce iciness of the fruit pieces.