

Peppermint's wintry chill explained by science

Natalie Jacewicz, For The Salinas Californian 2:53 p.m. PST December 22, 2015



(Photo: Getty Images/iStockphoto)

For many, the holidays mean consuming peppermint in all permutations: peppermint drinks, peppermint sticks, and the decadent flavor duo of peppermint-chocolate. But few people understand exactly what distinguishes peppermint from its kissing cousin, spearmint, or what gives mint its characteristic “chilly” taste.

Gold Leaf Spice and Teas in downtown Salinas offers several minty teas, like organic peppermint tea from Oregon and a mixed blend of peppermint and spearmint. The two have different tastes, according to store manager Anna Gularte.

“We only drink peppermint by itself,” she said, adding that spearmint has “a fresher taste.”

Spearmint and peppermint are both bright green, leafy herbs. Spearmint — *Mentha spicata* — grows lance-like, raggedly edged leaves. When shoppers reach for mint leaves at the grocery store, they're usually purchasing spearmint.

Mentha piperita, or “peppermint,” on the other hand, has more rounded leaves, and occurs when spearmint and aquatic mint pollinate each other. Peppermint, in other words, is a hybrid of two different mint varieties. In most mint-flavored drinks and candies, peppermint plays the starring role.

Peppermint's cool mint taste stems from a natural chemical called “menthol.” When people eat peppermint, its menthol floods their palates. Proteins called “receptors” line the human mouth and respond to different chemical cues. These proteins form channels that open and close, sending signals to the brain, according to Julie Yu, a staff scientist at San Francisco's Exploratorium and director of the Teacher Institute there.

Some receptors open in response to cold foods, triggering a chain reaction that tells the brain “This is cold.” The catch? In addition to cold foods, menthol can also unlock these receptors. When it does, the brain receives the same chill sensation.

“You perceive it as cold, even though the temperature hasn't changed,” Yu said. She said similar receptors dot the skin, so menthol can also feel cool to the touch. This kind of chemical reaction powers products like Icy Hot.

People love that chill, especially during the holidays. Seasonal peppermint squares are the number one holiday seller at the Ghirardelli chocolate store in Monterey, said Lupe Perez, a store assistant.

She described the chocolate in mouth-watering detail. “It's really rich and melt in your mouth...it has crunchies of peppermint and white chocolate.” And human receptors are tuned perfectly to appreciate that.

Natalie Jacewicz was a fall intern at The Salinas Californian studying science reporting at the University of California, Santa Cruz.

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