



Eggs make frozen custard smoother

What's the difference between frozen custard and soft-serve ice cream?

The official difference is egg: By law, frozen custard must have at least 1.4 percent egg yolk solids, while "ice cream" contains less than that (typically, none at all). That amount — 1.4 percent — might not sound like a lot, but to frozen-treat lovers everywhere, it makes a huge difference.

Not only does egg yolk give a richer flavor to the whipped concoction, it also makes it more smooth and creamy. Lecithin (from the egg) partners with casein (from the cream) as an additional emulsifier to produce a smoother product. At the risk of getting too technical, emulsifiers work by modifying the surface of fat globule membranes. That weakens the surface of the fat globules and allows them to stick together during freezing, improving the smoothness of the final product.

Since the fat is more evenly spread throughout the mixture, it's more easily whipped. And that, combined with a lot less air being beaten into a custard mixture than in regular ice cream, produces a smooth, rich, dense, delightful concoction.

Custard is also known as french ice cream — the added egg is why french vanilla ice cream is a creamy yellow compared with regular vanilla's milky white color. But if you ask frozen custard aficionados, really the only way to truly appreciate frozen custard is when it's freshly made, either at home

or at the corner ice-cream store.

If you like frozen custard, you'll probably also enjoy gelato — Italian for "ice cream." Like frozen custard, gelato doesn't have as much air whipped into it. Gelato may or may not contain egg yolk; unlike ice cream and custard, the Food and Drug Administration has no set standard for it in its code of federal regulations.

The calories in freshly prepared custard can be difficult for consumers to determine. "Frozen custard" isn't listed in the the U.S. Department of Agriculture's Standard Nutrient Database. The database does list "soft-serve french vanilla ice cream," which contains 190 calories and 11 grams of fat in a half-cup, but it's hard to say how well that reflects what you get at your favorite custard place. National chains often have nutrition information online, and it wouldn't be a bad idea to take a peek at that information if you find yourself indulging more than once in a while.

According to the International Ice Cream Association, total U.S. sales of ice cream and frozen desserts reached nearly \$23 billion in 2006. Of that total, \$8.9 billion was spent on products for consumption at home, while \$13.9 billion was spent on "away from home" purchases at scoop shops and other retail sales outlets.

Chow Line is a service of Ohio State University Extension and the Ohio Agricultural Research and Development Center. Send questions to Chow Line, c/o Martha Filipic, 2021 Coffey Road, Columbus, OH, 43210-1044, or filipic.3@cfaes.osu.edu.



THE OHIO STATE UNIVERSITY
OHIO STATE UNIVERSITY
EXTENSION

OHIO AGRICULTURAL RESEARCH
AND DEVELOPMENT CENTER

For the week of
July 27, 2008

By Martha Filipic

(614) 292-9833

filipic.3@cfaes.osu.edu

Editor:

This column was reviewed by Jim Harper, professor of food science and technology, the holder of the J. T. "Stubby" Parker Endowed Chair in Dairy Foods, and dairy specialist for OSU Extension.

To receive Chow Line by e-mail, send a message to filipic.3@cfaes.osu.edu or sign up at <http://www.ag.ohio-state.edu/~news/subscribe.php>.

Section of Communications
and Technology
News and Media Relations
2021 Coffey Road
Columbus, OH 43210-1044
(614) 292-2011

208 Research Services
Building
1680 Madison Ave.
Wooster, OH 44691-4096
(330) 263-3780

Ohio State University Extension embraces human diversity and is committed to ensuring that all research and related educational programs are available to clientele on a nondiscriminatory basis without regard to race, color, religion, sex, age, national origin, sexual orientation, gender identity or expression, disability, or veteran status. This statement is in accordance with United States Civil Rights Laws and the USDA. Keith L. Smith, Ph.D., Associate Vice President for Agricultural Administration and Director, Ohio State University Extension
TDD No. 800-589-8292 (Ohio only) or 614-292-1868