



Hi Valerie,

Behold! Our brand-new [Ice Cream Parametric Analysis!](#)

Just like with our other parametric analyses—[pie dough!](#) [brownies!](#) [melty cheese!](#) [custards!](#) [pizza dough!](#) [pancakes!](#) [skewers!](#) [cheesecakes!](#) [chocolate chip cookies!](#)—we put together a list of ice cream recipes, some from our recipe library, some from trusted sources (like a little old restaurant you may have heard of called The French Laundry), and we compared them, teasing out the many subtleties and nuances between ice cream varieties.

We broke the recipes down and mapped out their formulas, and we made them all using a range of churning techniques and recorded our thoughts. Then we put it all together in a single page! It's got graphics! It's got charts! It's got charts *within* charts! And it's got a whole lot of in-depth information about how to make great ice cream.

And just like all our other parametrics, this page is **free for everyone!** (Ditto for a lot of the ChefSteps recipes it contains!) Check it out, tell your friends, print out copies of the pdf and hand them out like flyers on your way into work—spread the ice cream-knowledge love!

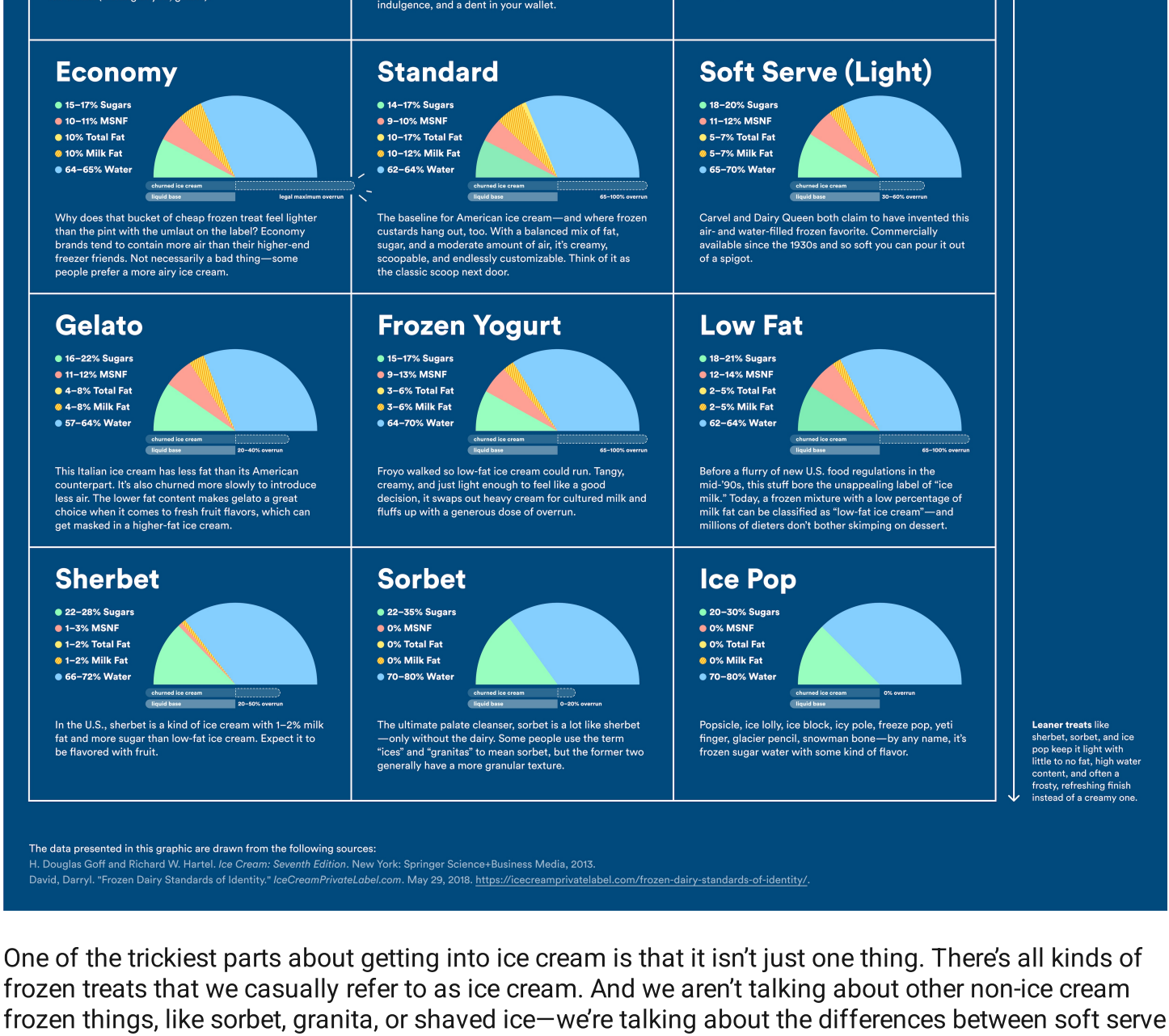
(We also published a brand-new recipe for [Yogurt Ice Cream](#), but you'll need a Studio Pass membership to access that one.)

Click on through for the whole experience or just check out our richer, creamier take on fro-yo, or you can hang with us for just a moment as we give you a preview!

Ice Cream: A Parametric Analysis

Yogurt Ice Cream

Sign up for Studio Pass!



One of the trickiest parts about getting into ice cream is that it isn't just one thing. There's all kinds of frozen treats that we casually refer to as ice cream. And we aren't talking about other non-ice cream frozen things, like sorbet, granita, or shaved ice—we're talking about the differences between soft serve and frozen custard, between the pricey pints and the inexpensive 48-ounce tubs at the store.

Thankfully, the ice cream biz is regulated by the FDA, which dictates how frozen treats can be marketed by setting up parameters for ingredient ratios and production processes. In addition, the ice cream biz uses quality labeling that makes further distinctions between products.

So we created the chart above to make it as clear as possible. Since we include a lot of this information in the parametric itself, we thought it would be useful to quickly run through some of the ingredients used in ice cream to explain what they do and how they affect the quality of ice cream.

Water (ice): It's right there in the name, but ice is a key component of ice cream. Frozen water forms the bulk of the treat, and the $\langle \text{size} \rangle$ of those ice crystals determines how good it is, specifically its smoothness and creaminess. Teeny, tiny ice crystals? Super-smooth and creamy ice cream. Large ice crystals? Icy, grainy, and hard ice cream.

Milkfat: You can't have ice cream without fat; you'd just have ice. Fat in ice cream is what gives it flavor, richness, and allows it to be aerated, as tiny globules of fat freeze and stick together, forming networks that can trap air that's incorporated into the base as it's churned.

"Milk solids not-fat" (MSNF): This ungainly term is what's used in the industry to denote everything that dairy provides that isn't fat—sugar (lactose), proteins (casein and whey), and salts.

Sugar: Ice cream has a lot of sugar! And it's not just for sweetness! Sugar lowers the freezing point of water (this is called "freezing point depression")—without it, ice cream base would freeze up hard as an ice cube—and the more sugar that's dissolved in water, the lower the freezing point will be. Sugar is what makes ice cream soft and scoopable.

And not all sugars affect the freezing point in the same way. Lactose (the sugar in milk) depresses the freezing point by the same amount as granulated sugar (sucrose), but other sugars, like invert sugar, glucose syrup, corn syrup, and dextrose, depress the freezing point further. These sugars also have varying effects on perceived sweetness, so the kind of sugar used in ice cream formulas is super important, so we specifically call them out in the parametric.

Overrun (air): Ice cream is a foam, so air is a big part of it. The amount of air incorporated into an ice cream is referred to as "overrun," and it is determinative of its quality (and price point), which should make intuitive sense. Add just enough air to make it creamy and soft and delicious? You've got great ice cream that you pay a premium for at the store. Add so much air that a pint is about 50% air (which is 100% overrun)? You've got "economy" ice cream that's sold in large tubs at the supermarket.

That's just a taste of all the ice cream geekery we put into the page! We hope you check the whole thing out!

Ice Cream: A Parametric Analysis



We also put a video—a (long) excerpt from the much longer, more comprehensive video demo for how to make our [Ultimate Texas-Style Barbecue Brisket](#)—of [pitmaster Joe Yim demonstrating how to trim brisket like a pro pitmaster on YouTube](#), if you like to watch your videos that way.

Trimming brisket is one of the most important steps in preparing Texas-style barbecue brisket. A properly trimmed brisket is a thing of beauty and a study in aerodynamics. It will cook evenly, without any charred edges or dry bits. It will have even bark, and every inch of it will be delicious when it comes time to slice and serve.

[The guide for trimming brisket](#) and the accompanying video are accessible on our site for free ChefSteps members (**no paid Studio Pass subscription required**). The same goes for our guides to [slicing brisket](#), [wrapping brisket](#), and [plotting out a barbecue timeline](#). The [recipe itself](#) requires a Studio Pass subscription.

If you check out the video on YouTube, please remember to smash that "like" button and subscribe—it really helps us out!

Watch the video!

Ultimate Texas-Style Barbecue Brisket

How to Trim Brisket Like a Pro

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