Napa Valley Register Wednesday, January 30, 2008

I'm gellin'

By Betty Teller

When I was growing up, boys got chemistry sets to play with. Girls got E-Z-Bake Ovens.

So it's not entirely my own fault that I was science-phobic in high school — so much so that I signed up for two languages in order to avoid having room in my schedule to take chemistry.

I've never been particularly troubled that I missed out on memorizing the periodic table and making strips turn pink (or is it blue?) to indicate acid. I've gotten a lot of use out of French and Spanish.

And I didn't end up completely ignorant about science — I've managed to pick up a smattering of basic chemistry over the years, and I can generally grasp most everyday applications. But I admit I was feeling a bit anxious last month, when I attended what actually proved to be a fascinating session at the CIA in St. Helena. It was presented by Ted Russin, a food scientist from CPKelco, a San Diego company that makes a lot of those multisyllabic scary-sounding ingredients that show up in the fine print on food labels.

The point of the seminar was to demystify some of those ingredients — which, by the way, you're already eating, whether you know it or not — and free chefs up to express their creativity.

In particular, Ted and his colleagues were showing off the properties of hydrocolloids like gellan and xanthan gum.

Admit it. If you're like me, you hit the word "hydrocolloid" and your eyes started to glaze over. At the same time, you began bristling at the idea of weird new additives from the test tube messing up perfectly good food. But stick with me.

First of all, it turns out hydrocolloid is just a fancy word for thickener. Like when you use cornstarch or flour to make gravy. And second, it turns out these ingredients are natural — and not all that scary. Some of them are even up for certification as organic.

Have you ever made (or eaten) jelly? It's thickened with a hydrocolloid — pectin, which is derived from

citrus peels. You'll find carrageenan — made from sea algae — in Philly cream cheese, toothpaste and soy milk, among other places. Another seaweed derivative, agar, shows up a lot as well.

When you get to the newer thickeners, the sources are admittedly a little more esoteric. For 25 years, scientists have been scouring the globe for specimens, creating a library of freeze-dried organisms from everywhere imaginable.

Xanthan gum —used in pie fillings, ice cream and pet food, among other places — is produced by the bacteria that turn cauliflower black. Not too appetizing a source, but not too exotic either. Gellan, the newest wonder gel, took more scientific sleuthing. It's produced by bacteria found growing on a lily pad in Pennsylvania.

OK, I agree, at first glance, bacteria don't sound like the food crop you'd most want to cultivate — or eat. But what do you think causes fermentation? Do you like cheese and wine? Bacteria turn out to be a pretty important part of our diet.

It's worth getting over any lingering prejudices — because these new hydrocolloids are cool! Imagine liquids that look like Jell-O — and slide down your throat like water. Vinegar as thick and intense as reduced balsamic — but with a fresh flavor unaltered by cooking. Fruit sorbets that don't get icy or break down. The possibilities are amazing.

Chefs are already using them in astonishing dishes. The next time you're out to eat, you may encounter deep-fried mayonnaise, or a soup that is half hot and half cold in the same bowl, or something that looks like noodles, or caviar — but tastes like something else entirely. It's not all weird, experimental foods, either. Hydrocolloids could revolutionize dieting, replacing starches with no-cal thickeners that feel luxuriously rich. These gels are the next frontier.

And they're getting closer and closer to the home kitchen. While you won't find gellan at the supermarket — yet — you can get it online from a small San Francisco restaurant supply company called Le Sanctuaire (www.lesanctuaire.com), and it's starting to show up as an ingredient in recipes.

Not quite ready to turn your kitchen into a laboratory? Be open-minded. Remember, even such old stand-bys as baking powder and instant cocoa were once new-fangled inventions. I'm getting over my science phobia, and you can too.

In any case, the good news is, we don't have to worry anymore about damaging our children with gender-stereotyped toys. Before long, an E-Z-Bake oven will actually BE a chemistry set.

During his talk, Ted kept slipping and referring to recipes as "formulations" — and I figured out why when I surfed the web looking for gellan recipes. This is not yet a convenience product, sold in premeasured packets like Knox's gelatin. The existing recipes do read a bit like formulas, and they require scientific-type measurement. I don't currently own an accurate scale that can measure in grams, or a good instant-read thermometer, though both are on my list of needed upgrades. So I haven't actually made the following recipe. I'm providing it in the hope that one of you will try it and let us know how it is. You can't really go wrong — whether or not it gels, it sounds like the basis of a delicious cocktail!

Pomegranate and Vodka Fluid Gel

1 g low acyl gellan (0.5%)

90 g pomegranate juice (about 3 ounces)

6 g water (about 1 1/4 tsp.)

100 g vodka (about 3 1/2 ounces)

Heat pomegranate juice and water to 65 C (149 F.).

Add gellan, blend with an immersion blender, then continue mixing with a spoon until cool and partially set. Add vodka and blend with an immersion blender.

Betty Teller is a serious foodie who tries not to take food too seriously. If you'd like to adopt a cat (Eddie Haskell is still homeless) or tell her how this recipe turned out, she can be reached at amuse-bouche@sbcglobal.net.
