Flavor-Forward Fruit

With Boiron and Baldor Specialty Foods

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The Sweetest Things
31 January 2012

Composition, Structure, and Function

Thoughtful cooks should recognize the relationship between the structural aspects of food and the transformations that foods undergo during preparation

Spherification

Alginate-Calcium Primer

A cooking technique which consists of the controlled gelling of a liquid. When one liquid submerged in a bath, the reaction forms spheres, ‘ravioli’, ‘caviar’, etc.

Two primary methods: **Basic** Spherification (submerging a liquid with alginate into a bath of calcium) and **Reverse** Spherification (submerging a liquid with calcium into a bath of alginate).

Sodium Alginate

Extracted from brown algae

Not thermo-reversable

Tolerates large range of pH (2.8-10)

Hydrates in cold or warm water, allow several hours

*Gellan, Iota/Kappa Carrageenan Low-Methoxyl Pectin also promoted by calcium

Reverse Spherification
Alginate Bath

Dosage of sodium alginate/water .5-1.0% (**7%)**

Buffer/Sequestrant*

Sodium Citrate +/- 0.1% (adjust higher for hard water/ <3.5 pH)

*Binds to calcium ions that may inhibit hydration; dissolved solids, acidity (Sodium hexametaphosphate)

Bath temperature for best results >20°C

Calcium

Calcium necessary to gel .04%

Calcium Sources

Calcium chloride: 36.11% calcium (dosage 0.11%)
Calcium lactate: 18.4% calcium (dosage 0.22%)
Calcium gluconate: 9.3% calcium (dosage 0.43%)
Tricalcium citrate: 21% calcium (dosage 0.19%)
Calcium sulfate: 29.4% calcium (dosage 0.14%)

*Commercial calcium lactate is a white crystalline salt made by the action of lactic acid on calcium carbonate.

Boiron Apricot Purée

10% Sugar
pH 3.2-3.7
Brix 20˚

*May be necessary to thicken liquid or purée with modified starch (0.2% Ultratex) or xanthan gum (+/-0.4%)

*Permeable membrane; possible adjustment of storage syrup (<50% sugar)

*Carbonation

Whip It

Versawhip

Hydrolyzed soy protein with subsequent enzyme treatment

Yields two separate proteins, one emulsifier, and **one with excellent foam-forming abilities**

Replacement for animal-derived products (egg, gelatin)

Rapid aeration, fine air cell matrix, high-stability; non-fat foams

Dosage: **1-1.25% Versawhip + 0.15-0.25% Xanthan gum**
vs. Dry Egg Whites (14-17%) + sugar

Conclusion