Working with Natural High Potency Sweeteners in New Product Development

Alex Woo, Ph.D.
VP, Product Innovation & Application
Sweet Green Fields
awoo@sweetgreenfields.com
425-985-8168
“Naturally Sweetened” and “Reduced Calorie” are strong consumer drivers in recent years

- Health & Wellness
- Obesity & Weight Management

“Naturally Sweetened” is the best of both worlds which previously was not technically feasible with artificial high potency sweeteners

- Sugar: Great taste but caloric
- High Potency Sweeteners (HPS): Non caloric, but artificial
Start formulating “naturally sweetened” foods and beverages with high purity stevia extract which is currently the best natural HPS.

Sugar Equivalence (SE)

Naturally Sweetened

Natural HPS: Stevia Extract

1% SE

12% SE+
Rebaudioside A (Reb A, Stevia Extract):
We can achieve moderate level of sweetness with high purity Reb A 97

- Natural
- GRAS: FDA No Objection Letter 2008
- Up to 300X as sweet as sugar
- Non caloric
- Low Glycemic Index
- Heat Stable
- pH Stable above 3
- Licorice and bitter when too much used
- Non GMO
- Kosher & Halal Certified
- Exceeds FDA GRAS Specifications (SGF Reb A97, >97% RA)
Lou Han Guo (Monk Fruit Concentrate) was GRAS approved in 2010 as a natural sweetener

- Natural
- GRAS FDA No Objection Letter
- Up to 150X as sweet as sugar
- Non caloric
- Low Glycemic Index
- Heat Stable
- Non GMO
- Kosher Certified
- Licorice and ginger-ale like when too much used
- Biovittoria Fruit Sweet: Mogroside V 50%
It is possible to create great tasting naturally sweetened reduced sugar and sugar free products with SGF’s Reb A 97

- **Beverage**
  - Enhanced Water and Fitness water
  - Juices
  - Coffee and teas
  - Carbonated soft drinks
  - Milk drinks
- **Dairy**
  - Ice cream and soft serve
  - Frozen novelties
  - Yogurt
- **Confections**
  - Chocolate
  - Chewing gum
  - Hard candies and mints
- **Bakeries**
  - Muffin
  - Cookie
  - Popcorn
50% Sugar Reduction Lemon Iced Tea

- Naturally sweetened
- 50% sugar reduction: 11 g vs. 22 g per 8 oz serving
- 40% calorie reduction: 45 cal vs. 80 cal/8 oz serving
- Taste: Lemon, tart, sweet, black tea

Ingredients:
- Water
- Sugar
- Tea powder
- Citric acid
- Lemon Lime Extract
- SGF Reb A 97%
Diet Lemon Lime Carbonated Soft Drink

- Water
- Citric acid
- Lemon Lime Flavor, NAT WONF
- Potassium citrate
- Potassium benzoate
- SGF Reb A 97%
- Lou Han Guo

- Naturally sweetened
- Sugar free: 0 g vs. 26 g per 8 oz serving
- Zero calorie: 0 cal vs. 100 cal per 8 oz serving
- Taste: Sweet, tart, lemon, lime, refreshing
Sugar Free Peppermint Chewing Gum

- Sugar free
- 5 calorie per stick or 2.7 g serving
- Naturally sweetened
- Taste: Sweet, minty, cooling

Erythritol
Chewing gum base
Flavors, NAT WONF
Glycerin
SGF Reb A 97%
Soy lecithin
Plasticizer
Menthol
Blue #1,Colorcon Lake