Taking the Sugar Out

By David Busken, Principal, Bakery Development, Ltd

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WE ARE WHAT WE EAT

• FATS
  • Made of 3 Fatty Acids of varying lengths and Saturation

• PROTEINS
  • All made of 20 different Amino Acids

• CARBOHYDRATES
  • All made from combinations of $\text{C}_6\text{H}_{12}\text{O}_6$
### Some common sugar sources and how much sugar is in them

- Fructose: 100%
- Dextrose: 91.5%
- Sucrose: 100%
- Brown Sugar: 92.2%
- 42DE Corn Syrup: 26.6%
- Tapioca Syrup 42DE: 27.0%
- HFCS -Sweet Corn Syrup: 78.0%
- Invert Sugar / syrup: 76.5%
- L90 Inulin Syrup: 9.5%
- Honey: 76.0%
- Molasses: 67.0%
- Corn Syrup Solids 42DE: 38.4%
The type of sugar you use matters

- To help counteract lower sugar effects
  - For soft cookies use Fructose or Corn Syrup or Inulin syrup
  - For crisp or dry cookies use a 42DE Corn Syrup

- Lowering the sugar to meet a particular market desire
  - To keep up the quality add more fat than flour
    - Keeps it rich, preserves the rich eating quality
- Use a high intensity sweetener
Why do we want to take out sugar?

- To make the product less sweet, plain and simple
- Must be for another market besides the US
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• To get a lower sugar number on the label?
  • For a more appealing label
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• To make it a healthier product overall?
  • Raising the fiber, more whole grains, more protein
To make the product less sweet, plain and simple

• It’s simple take some sugar out and split it between the flour, fat and water.
• This is a way to make something less expensive
• Less shelf life too for some products

<table>
<thead>
<tr>
<th>INGREDIENT</th>
<th>ORIGINAL</th>
<th>REDUCED SUGAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUGAR</td>
<td>20%</td>
<td>12%</td>
</tr>
<tr>
<td>FLOUR</td>
<td>30%</td>
<td>34%</td>
</tr>
<tr>
<td>FAT</td>
<td>10%</td>
<td>13%</td>
</tr>
<tr>
<td>WATER</td>
<td>10%</td>
<td>11%</td>
</tr>
</tbody>
</table>
To get a lower sugar number on the label?

• What do you replace the sugar with and keep the quality?
  • What is the expected quality?

• Probably don’t want to raise the fat to maintain quality.
IMPROVING THE BITE

• Raise the volume to open up the grain
  • Change the type of flour – Cake Flour or flour with more bleach on it
    • No bleach allowed – a better quality of pastry flour – has better protein

• Add egg or egg white to give it the structure to keep the grain open
  • May have to increase your leavening.
To get a lower sugar number on the label?

- Do the same things as making a product less sweet.
- Replace the sugar with fat and flour
- Replace the sugars with corn syrup as in a baked bar
  - Watch your bake
    - Too much bake will make it hard
  - Use a blend of HFCS and regular Corn Syrup
To make it a healthier product overall?

• Doing it for health
  • Help play a part in lowering ones A1C
  • Lower the glycemic index of the food

• Challenge of lowering calories
  • Make them better Calories
Whole grains work

- Addition of wholes benefits
  - Lowers GI with complex carbs
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• **Contributes to tenderness**
Whole grains to try

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• Buckwheat Groats – soften and add texture
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• Lentils? –Texture, Protein and Fiber
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• Lentils? – Texture, Protein and Fiber
• And many others
Sample: High end Crisp Chocolate Chip Cookie

• Facts Panel says 10g on 26g serving – almost 40% sugar

• Ingredient Declaration is
  • Flour 28%
  • Milk Chocolate –c50% Sugar 27% = 13.5%
  • SUGAR 15%
  • Fat 12%
  • Nuts 6%
  • BROWN SUGAR 5%
    • (sugar, invert sugar, molasses)
  • Minor ingredients and water 7%
• Questions