

How Sweet It Is!!!!

Natural and Alternative Sweeteners

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How Sweet It Is!—Alternative Sweeteners

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Description:

As Americans we should reduce the amounts of high sugar containing foods in our diets. Use of alternative sweeteners will allow consumers to enjoy some of our favorite foods and beverages without all the extra calories. This lesson includes recipes for reduced sugar and or sweeteners without extra calories.

Objectives:

Participants will strive to enjoy foods with less sugar and empty calories.
Participants will prepare foods with less sugar.

Optional Activities for the program:

1. Someone in the group could prepare a recipe of banana bread (for example) made with sugar, and second recipe with Truvia, and a third with Splenda.
2. Have a tasting a tasting party to compare the tastes. (The banana bread recipe included is very good.)
3. Some could also do a sugar demonstration by showing how much sugar is in cans and bottles of soda. (This always an eye opener).
4. Use 12 oz. can (39 grams of sugar), 20 oz bottle (77 grams of sugar), liter bottle, (124 grams of sugar.)

Materials needed:

Handouts with recipes and information.
Recipes and baked product for sampling.

How Sweet It Is!—Alternative Sweeteners

Over the last 100 years there has been a shift in consumption of complex sugars such as starch and fiber to simple sugars such as sugar and syrups.

The per capita consumption in 1910 was starch—68%, and sugar—32%.

In 1980 consumption of starch was 47% and 53% sugar. Numbers continue to rise.



The per capita consumption of Soft Drinks—12 oz servings.

1909—11 cans

1950—105 cans

1960—128 cans

1970—242 cans

1980—410 cans

Production of soft drinks has increased every decade along with other sugar containing foods such as snack foods, sweet foods like cookies, candy and other beverages.

As Americans we should reduce the amounts of high sugar containing foods in our diets. Use of alternative sweeteners will allow us to enjoy some of our favorite foods and beverages without all the extra calories.



What are alternative sweeteners?

Alternative sweeteners are generally considered any sweetener that one may use in the place of regular table sugar (sucrose). They are compounds that may be derived from naturally occurring substances (including herbs or sugar itself) and offer the sweetness of sugar with fewer calories. Sweeteners that are currently approved by the Food and Drug Administration (FDA) include:

- Acesulfame potassium (Sunett, Sweet One)
- Aspartame (Equal or Nutrasweet)
- Saccharin (Sweet N Low)
- Sucralose (Splenda)
- Stevia (Truvia/PureVia)

Sweetener requirements: they must be safe for human consumption, have a sucrose-like taste, be water soluble, fairly stable (to heat, light and pH), and be at least equal to sucrose on a cost per sweetness basis.

Alternative sweeteners are basically considered non-caloric. Some may have a few calories but the number of calories is so small that it doesn't matter. They offer a great trade-off for diabetic or individuals trying to reduce sugar and/or calories in their diet by giving the sweetness without the carbohydrates or calories.

Uses for alternative sweeteners: widely used in baked goods, soft drinks, powdered drink mixes, candy, puddings, canned foods, jams and jellies, dairy products and numerous other foods and beverages. Check food labels to determine if alternative sweeteners have been used.

Guidelines for using alternative sweeteners: it is important to note that each sweetener acts differently when heated and some leave an aftertaste when used in large amounts. The best way to begin using alternative sweeteners in home cooking is to read label directions carefully. Sending for recipe booklets from manufacturers or looking for recipes that manufacturers place on Internet websites or in magazines are also good ways to begin. It is important to note that, unlike sugar, alternative sweeteners provide no bulk or volume, so recipes (especially for baked goods, which may be flatter and tougher with sugar substitutes) need to be modified. Some may also leave an aftertaste, so you may need to experiment to find one or a combination that you enjoy most or would fit your needs best.



Alternative sweetener uses:

- **Acesulfame potassium (Sunett, Sweet One)** is approximately 200 times sweeter than sugar. Acesulfame K is not metabolized by the body and is excreted unchanged. Sweet One is ideal for tabletop use and is soluble in hot and cold beverages. Since it remains stable when heated, Sweet One can also be used in cooking and baking.
- **Aspartame (Equal or Nutrasweet)** is 80 to 200 times sweeter than sucrose but with the sugar taste. It is digested as a protein. The components are metabolized normally. Aspartame has very little aftertaste but it tends to lose its sweet taste when it is heated. It is approved for use in any category of food or beverage, including tabletop sweeteners, carbonated soft drinks, refrigerated and non-refrigerated ready-to-drink beverages, frozen desserts and novelties, puddings and fillings, yogurt-type products, baked goods and candies.
- **Saccharin (Sweet N Low)** has been used as a non-caloric sweetener in foods and beverages for more than 100 years. Saccharin is not metabolized (it passes through the body unchanged). It is used in such products as soft drinks, tabletop sweeteners, baked goods, jams, chewing gum, canned fruit, candy, dessert toppings and salad dressings. There is also a brown sugar substitute - both saccharin and brown sugar substitute saccharin are very stable for baking, but have a noticeable aftertaste when used in large amounts. Saccharin also is used in cosmetic products, vitamins and pharmaceuticals.
- **Sucralose (Splenda)** is a non-caloric sweetener made from sugar to produce a sweetener that has no calories, yet is 600 times sweeter and tastes like sugar. It passes rapidly through the body virtually unchanged. Because of its stability, it is used in a range of products such as carbonated soft drinks, low-calorie fruit drinks, maple syrup, canned fruit, low-calorie fruit drinks, baked goods, sauces and syrups. It pours, measures, cooks and bakes like sugar. Sucralose is also used as a sweetener in nutritional supplements, medical foods, and vitamin/mineral supplements.
- **Stevia (Stevia Sweeteners - Enliten, PureVia, Rebiana, Stevia, Stevioside, Stevia in the Raw, Sun Crystals, Sweetleaf, Truvia)** The word "stevia" refers to the entire plant and its components, only some of which are sweet. The sweet tasting components of the stevia plant are called steviol glycosides. Approximately 250 to 300 times sweeter than sugar. Steviol glycosides can be isolated and purified from the leaves of the stevia plant and are now added to some foods, beverages and tabletop sweeteners. In the US, stevia sweeteners are primarily found in tabletop products and reduced calorie beverages. Store brands of some of sweeteners are available.



- **Diabetics Beware:** While some foods containing alternative sweeteners may be sugar-free, they may not be carbohydrate-free and can affect your blood sugar. Please check the nutrition facts label! (*Remember when sugar is reduced, manufacturers add extra fat and sodium and when sodium is reduced manufacturers add extra sugar and fat and when fat is reduced more sodium and sugar are added, so the guideline of smaller portions of the regular food may be more acceptable.*)

Are alternative sweeteners safe?

The FDA regulates alternative sweeteners are recognized as GRAS (Generally Recognized as Safe) or approved food additives. Sweeteners considered unsafe would not be approved for use in foods. There is no scientific proof that any alternative sweeteners approved for use in the U.S. causes cancer. Aspartame should not be consumed by those people with a rare disorder known as phenylketonuria (PKU), who are unable to metabolize phenylalanine.

Can I prepare foods or beverages with alternative sweeteners?

Alternative sweeteners yield the best results when used in beverages, puddings, salad dressings, sauces, pies, and frozen desserts. They can be used when preparing baked goods, but do not replace more than $\frac{1}{2}$ the amount of required sugar. Other considerations when baking include:

- Sugar contributes to structure and texture so cakes and quick breads may not rise as high as with regular sugar.
- When mixing, artificial sweeteners do not make the mixture as smooth and can sometimes separate when adding eggs.
- Alternative sweeteners will not activate yeast.
- Baked goods without sugar may not brown as much since sugar contributes to caramelization.
- They do not need to be cooked as long generally.
- Sugar is a preservative but alternative sweeteners are not. Your product may not taste as good for as long and may need to be stored in the refrigerator.



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Using alternative sweeteners to cut back on calories

An easy way to cut back on calories without feeling deprived is to cook or bake with alternative sweeteners. You can't always replace **all** the sugar with an alternative sweetener and expect the same results. Start by replacing half, and if the food doesn't brown correctly or is too heavy in texture, increase the sugar-to-sweetener ratio. Not all alternative sweeteners will do for baking. Refer to the chart on the next page and/or access individual websites for more information or recipes.

Alternative Sweeteners and Sugar Alcohol Products for Cooking and Baking				
<i>Product</i>	<i>Calories</i>	<i>Equivalence to sugar</i>	<i>Uses/Properties</i>	<i>Product website</i>
Sweet One (acesulfame potassium)	4 per packet	12 packets = 1 c. 1 packet = 2 tsp.	Use for cooking and baking without losing sweetness	www.sweetone.com
Equal (aspartame)	4 per packet	24 packets = 1 c. 1 packet = 2 tsp.	Best in beverages and items that do not require baking at high temperatures for a long time.	www.equal.com
Sweet 'N Low (saccharin)	4 per packet	12 packets = 1 c. 1 packet = 1 tsp.	Use for cooking and baking without losing sweetness	www.sweetnlow.com
Splenda (sucralose)	0 per packet	24 packets = 1 c. 1 packet = 2 tsp.	Stays sweet at high temperatures	www.splenda.com
Truvia (stevia)	0 per packet	24 packets = 1 c. 1 packet = 2 tsp.	Use for cooking and baking without losing sweetness	www.truvia.com
Ideal (xylitol)	0 per packet	24 packets = 1 c. 1 packet = 1 tsp.	Use for cooking and baking without losing sweetness	www.idealsweet.com



Recipes for using Truvia/Splenda

Remember to follow package directions for sweetener amounts and combinations of sugar and sweetener.

Reduced Sugar Fudgy Brownies with Stevia (Truvia)

Moist and chewy brownies with rich chocolate goodness. 70% less sugar and 20% less calories than regular sugar sweetened brownies.

3 oz unsweetened baking chocolate

1/4 cup unsalted butter

1/4 cup canola oil

2 large eggs

3 1/2 Tablespoons stevia (truvia), spoonable (or 12 Pkts)

1/4 cup sugar

1/2 tsp salt

1 tsp vanilla

2 TBS skim Milk

3/4 cup all purpose flour

1/2 tsp baking powder

Assemble ingredients

Preheat oven to 325 degrees

Place baking chocolate, butter and canola oil in large microwaveable bowl. Heat for 30 seconds, stir, Repeat and stir to melt chocolate.

Whisk together eggs, truvia, sugar, salt, vanilla, and milk in a separate small bowl.

Add the egg mixture and stir until well combined. Sift flour and baking powder together.

Fold flour mixture into the chocolate mixture using a rubber scraper, until combined, do not over mix.

Pour batter into an 8x8 square pan.

Bake for 22-25 minutes. Do not over bake.

Remove from oven and place on a cooling rack for at least 20 minutes.

Cut into 16 squares.

Nutrition Info: Calories—130; Fat—9 g; Cholesterol—45 mg; Sodium—85 mg; Total CHO—13 g; Protein—2g;



Apple Crisp

Delicious hot or cold. Try apples, pears, peaches, blueberries, cranberries, your choice or combination of fruit. 60% less sugar and 30% fewer calories when made with Truvia.

4 Cups apples, sliced

$\frac{1}{2}$ cup water

1 TBS + 2 $\frac{1}{4}$ tsp stevia (truvia) or 6 pkts.

2 TBS flour

1 $\frac{1}{2}$ tsp ground cinnamon

$\frac{1}{2}$ tsp nutmeg

Non cooking spray

Crisp topping

1 cup rolled oats

1 TBS + 2 $\frac{1}{4}$ tsp stevia (truvia)

$\frac{1}{4}$ cup flour

1 $\frac{1}{2}$ tsp cinnamon

$\frac{1}{4}$ cup melted butter

1 $\frac{1}{2}$ TBS brown sugar

$\frac{1}{8}$ tsp salt

Assemble ingredients. Preheat oven to 375 degrees

Place apples in large bowl, toss with water, stevia (truvia), flour, cinnamon, nutmeg, to coat the fruit.

Spray a 9x9 baking dish with cooking spray. Place apple mixture in dish.

In a small bowl, combine oats, truvia, flour, cinnamon, melted butter, brown sugar and salt to form a crumbly topping.

Sprinkle topping over apples. Bake 35-40 minutes until apples are tender.

Nutrition Info: Calories—180; Fat—7 g; Cholesterol—15 mg; CHO—33 g; Protein—3 g;

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Reduced Sugar Banana Bread with Stevia (truvia)

- 1 $\frac{1}{4}$ cup flour
- 3 $\frac{1}{2}$ Tbsp stevia (truvia) natural sweetener spoonable*
- 4 Tbsp sugar
- $\frac{1}{2}$ tsp baking powder
- $\frac{1}{2}$ tsp baking soda
- $\frac{1}{2}$ tsp salt
- $\frac{3}{4}$ cup (about 2 medium) very ripe bananas; mashed
- $\frac{1}{3}$ cup buttermilk
- 1 large egg
- $\frac{1}{3}$ cup butter; melted and cooled
- $\frac{1}{2}$ tsp vanilla extract
- Non-stick cooking spray

* or 12 packets stevia (truvia) natural sweetener

1. Preheat oven to 350°F. Spray 9x5x3 inch loaf pan with non-stick spray.
2. Whisk together the flour, truvia™ natural sweetener, sugar, baking powder, baking soda and salt in a large bowl. Set aside.
3. Mix the mashed bananas, buttermilk, egg, butter and vanilla in a medium bowl.
4. Lightly fold the banana mixture into the dry ingredients until just combined. The batter will be thick and chunky. Don't over-mix or your loaf will be small and tough.
5. Scrape the batter into the loaf pan. Bake about 55 minutes until golden brown and a toothpick inserted in the center comes out clean.
6. Cool in pan for 10 minutes; transfer to wire rack.





Easy Chocolate Pudding with stevia (Truvia)

Creamy, rich, chocolate decadence-just 6 minutes to prepare! Made with stevia (truvia) natural sweetener this pudding has no added sugar and contains 30% fewer calories* than a full sugar pudding. Enjoy this easy family treat any time.

3 Tbsp cornstarch

$\frac{1}{4}$ tsp salt, kosher

8 packets Truvia™ natural sweetener

2 $\frac{1}{2}$ cups milk, skim

2 oz baker's chocolate

1 tsp vanilla extract

1. Assemble ingredients

2. In a large microwaveable bowl, place corn starch, salt and stevia (truvia) sweetener

3. Whisk to combine thoroughly

4. While whisking, add milk to dry ingredients and mix until no lumps or dry spots

5. Add chocolate pieces to milk mixture

6. Place in microwave and heat for 1 minute, stir well

7. Repeat step 6

8. Heat mixture in microwave for 2 minutes, stir well, and heat for 2 minutes again until thickened

9. Add vanilla and stir

10. Allow to cool at room temperature for 5 minutes

11. Portion into individual serving dishes and cover with plastic touching pudding to prevent skin from forming.

12. Chill in the refrigerator

Optional Portion into graham cracker crust, top with stevia (truvia) sweetened whipped cream, or serve with stevia (truvia) sweetened shortbread.

Reduced Sugar Shortbread Cookies

Makes 36 cookies (2 cookies per serving)

The delicate flavors of these shortbread cookies melt in your mouth with sweet buttery goodness. You'll enjoy every bite knowing they are made with stevia (Truvia) natural sweetener allowing only 3 grams of sugar per serving.

1 cup unsalted butter, room temperature

3 1/2 Tbsp stevia (truvia) natural sweetener spoonable*

$\frac{1}{4}$ cup sugar

- 1 large egg
- 1 tsp vanilla extract
- 1½ cups all purpose flour
- 2 Tbsp cornstarch
- ¼ tsp salt
- * or 12 packets truvia™ natural sweetener

Note: Cookies may be rolled into a round stick or rectangle, wrapped in wax paper, refrigerated, sliced, then baked

1. Assemble all ingredients; preheat oven to 350°F.
2. Place butter, truvia™ natural sweetener, sugar, egg and vanilla extract in a large mixing bowl with paddle attachment.
3. Cream together ingredients for 1½ minutes, set aside.
4. Blend flour, cornstarch and salt together in a medium bowl.
5. Fold dry ingredient mixture into the creamed mixture.
6. Roll tablespoons of dough into 1-inch balls and place on cookie sheet approximately 2 inches apart.
7. Flatten cookies gently with the bottom of a glass dipped into cornstarch.
8. Bake in oven for 16-18 minutes or until edges of cookies are light golden brown.
9. Place cookie sheet on cooling rack for 20- 30 minutes before removing cookies.

Nutrition Facts per serving (2 cookies; 30 grams)Calories 160; Total Fat, 10g; Saturated Fat, 6g; Trans Fat, 0g; Cholesterol, 40mg; Sodium, 20mg; Total Carbohydrate, 16g; Dietary Fiber, 0g; Sugars, 3g; Erythritol, 2g; Protein, 2g; Vitamin A, 8% DV; Vitamin C, 0% DV; Calcium, 0% DV; Iron, 4% DV.

* This cookie has 160 calories and 3 grams of sugar per serving, compared to a sugar-sweetened cookie that has 170 calories and 5 grams of sugar per serving.

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Thanks to Dr. Jim McDaniels

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Fact sheet sources:

- <http://www.caloriecontrol.org/sweeteners-and-lite>
- <http://www.sweetone.com/faq/index.html>
- http://www.aspartame.org/aspartame_factsheet.html
- <http://www.diabetes.org/food-and-fitness/food/what-can-i-eat/sugar-alcohols.html>
- <http://www.stevia.net>
- <http://www.idealsweet.com>
- <http://www.equal.com>
- <http://www.splenda.com>
- <http://www.sweetnlow.com>
- <http://www.MayoClinic.com>