

**November is:**

- National Georgia Pecan Month
- Peanut Butter Lovers Month
- Native American Heritage Month
- National Diabetes Month
- Vegan Awareness Month

**November, 2001**

- National Fig Week – 11/1-11/7
- National Split Pea Soup Week – 11/4-11/10
- National Sandwich day – 11/3

## Myth or Fact about Sugar???

Almost everyone likes the taste of sugar. We have fond memories of sweet foods related to family gatherings and holidays such as birthday cakes, cool ice cream during the hot summers, pumpkin pie for Thanksgiving, and fruit cake for Christmas.

Many people have questions about sugars' impact on

health. Can you answer the following?

- Are "naturally occurring" sugars like honey better for you than table sugar?
- Do children who eat foods high in sugar become hyperactive?
- Does high sugar intake cause diabetes?

- Can eating sugar cause you to gain weight?
- Does sugar cause cavities?

This issue of Nourishing News will address these questions and issues related to sugar along with information about the role of sugar in foods and safety of artificial sweeteners.

## Sugar's Function in Recipes

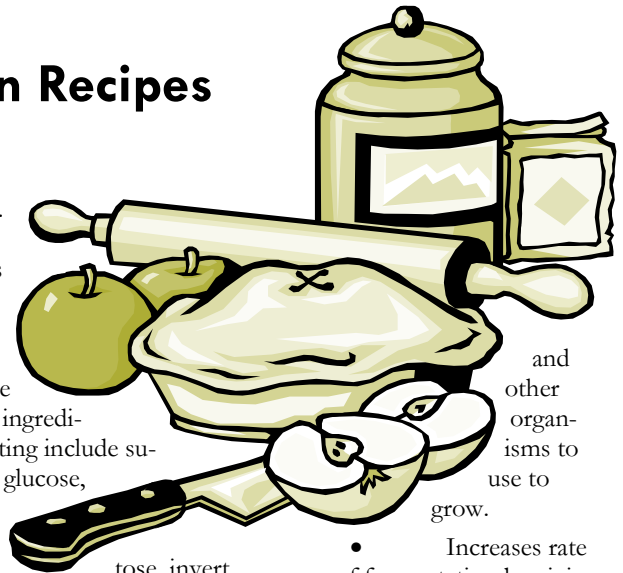
It is difficult to find someone who does not like sweet tastes. In fact, when presented with the basic tastes of sweet, salty, bitter and sour, infants choose the sweet taste over the others. Some researchers believe this preference may be evolutionary to ensure that infants accept the taste of milk sugar (lactose) that is present in breast milk.

Sugars are common food ingredients that exist in many

forms. Other names for sugar that may be in the ingredient listing include sucrose, glucose, fructose, lactose, invert sugar, honey, and high fructose corn syrup. Sugars are used as an ingredient for many reasons other than the sweet taste they impart. Sugar may affect texture, flavor and browning of outer surfaces.

Some of sugar's major functions include:

- Acts as a preservative in foods such as jams and jellies. The sugar binds the water and makes it unavailable for bacteria



and other organisms to use to grow.

- Increases rate of fermentation by giving yeast mixtures readily available food so the bread will rise quicker. Thus it leads to incorporation, retention and stabilization of air in baked products.
- Tenderizes the crumb in baked goods by interfering with the development of gluten.
- Elevates temperature at which eggs coagulate or

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## Sugar's Function in Recipes (continued)

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- harden.
- Reacts with amino acids contributing to brown color and flavor or baked goods.
- Reduces water activity so foods with little water such as cookies, stay crisp.
- Increases boiling point of

foods such as candies or reduces the freezing point of foods such as ice cream, and adds bulk and density to foods.

As a result of sugar's effect on the other ingredients of a recipe, using artificial sweeteners or sugar substitutes in place of sugar in a recipe will usually alter the final

product. The recipe has to be kitchen tested using the sugar substitute to see if it will result in an acceptable end product.

### References

1. *Sweet Facts about Sugars and Health*, International Food Information Council Foundation, August 1995. Available on website: [www.ific.org](http://www.ific.org)

## Sweet Facts about Sugar

There are many myths about sugar that still exist in many people's minds. To set the record straight, several are listed below with the facts.

**Myth: "Naturally occurring" sugars like honey are better for you than table sugar**

**Fact:** There are no nutritional differences among sugars. Our bodies use all types of sugars in the same way. During digestion, sugars such as sucrose and starches are broken down to glucose. The glucose then travels through the blood stream to the cells to provide energy or be stored for future use. Sugars like honey have no significant nutritional differences in comparison to table sugar.

**Myth: Children who eat foods high in sugar become hyperactive**

**Fact:** Many well-controlled studies involving behavior and sugar intake consistently have shown that sugar intake neither causes aggressive or disruptive behavior in children nor negatively affects mental performance. These studies actually sug-

gest sugars tend to calm both children and adults. This effect could go unnoticed due to other variables. For example, the environment where such foods are served such as birthday parties and Halloween could override the calming effects of sugar.

**Myth: Eating too much sugar can cause diabetes**

**Fact:** Diabetes Mellitus is a metabolic disorder, which causes a person to have difficulty regulating his/her blood glucose level. Persons with diabetes either do not produce enough insulin, a hormone needed to allow glucose to enter the cell, or their bodies do not recognize the insulin their bodies produce. Treatment of diabetes includes diet, exercise and in some cases medication to control the blood glucose levels. Most persons with diabetes can enjoy sugars in controlled amounts as part of a balanced diet. Eating too much sugar cannot cause diabetes. A risk factor for diabetes, especially Type 2 diabetes, is obesity.

**Myth: Eating sugars can cause you to gain weight**

**Fact:** Sugars themselves do not cause weight gain. Gaining excess body fat occurs when a person consumes more calories than are



expended. Extra calories can come from an excess of any of the calorie-containing nutrients – proteins, fats, alcohol or carbohydrates. Lack of physical activity also plays a significant role in the development of obesity.

**Myth: Sugars are responsible for dental caries**

**Fact:** Dental decay occurs when bacteria in dental plaque utilize the starches and sugars from food and produce acids as a by-product. It is the acids that erode the tooth surface not the sugars. Factors that impact the likelihood of dental decay include concentration of sugars in a food, adherence of the carbohydrate to the tooth surface, and how frequently starches and sugars are eaten. Good oral hygiene, eating a diet containing nutrients important to tooth development, and appropriate use of fluoride and sealants contribute to reducing dental caries.

"Extra calories can come from any excess of any of the calorie-containing nutrients—proteins, fats, alcohol or carbohydrates."



## Short Course on Carbohydrates

Over the past several years there has been increased attention on the health benefits and risks of carbohydrates in the diet. The basic nutrition recommendation still holds true – the majority of our energy intake – 55 to 65 percent of our calorie intake – should come from a variety of carbohydrates. Major sources of carbohydrate include grains, fruits, vegetables, legumes, and sugars. There are three main categories of carbohydrates: simple, complex and fiber. The majority of carbohydrates consumed – 45 to 55 percent – should be complex carbohydrates such as starches and the remainder – up to 10 percent of calories – can come from simple carbohydrates such as

added sugars and natural sugars found in fruit and milk. Even though the body does not have the ability to digest dietary fiber, it is a necessary part of the diet. The diet should contain at least 25 grams/day for adults and 10 to 25 grams/day for school age children and teens. To obtain this much fiber, select whole

grains and breads, at least five fruit and vegetable servings and include dried beans and peas often.

Carbohydrates are the preferred fuel for most functions within the body. The body uses both simple and complex carbohydrates in the same way and does not differentiate between them. They are all converted to glucose, which is then transported to the cells to be burned or stored as energy. The amount of carbohydrates present in a bowl of pasta may be similar to

the amount present in a candy bar. But the nutrients present in the pasta would be far greater, especially for B-complex vitamins and iron, than would be present in the candy bar. So eating mainly simple sugars may lead to missing out on many necessary nutrients.

The recommended carbohydrate intake is around 300 grams/day for adults and older children. This is the amount used on the Nutrition Facts labels to calculate the percentage of carbohydrate contained in a serving. A carbohydrate intake that is much below this is neither recommended nor healthy. With inadequate carbohydrate intake, the body would have to use protein to generate the necessary glucose for cell use. The article on Low Carbohydrate Diets in this issue has more information on this topic. Thus carbohydrates are a necessary component of a healthy diet and contribute to the overall vitamin and mineral content of the diet.

Amount Per Serving		% Daily Value*	
Serving Size 1/2 cup (114g) Servings Per Container 4			
Calories 90		Calories from Fat 30	
<b>Total Fat</b> 3g			
Saturated Fat 0g		0%	
<b>Cholesterol</b> 0mg			
Sodium 300mg		12%	
<b>Total Carbohydrate</b> 13g			
Dietary Fiber 3g		12%	
<b>Sugars</b> 3g			
<b>Protein</b> 3g			
Vitamin A 50%		Vitamin C 50%	
Calcium 4%		Iron 4%	
*Percent Daily Values are based on a diet of 2,000 calories. Your daily needs may be higher or lower depending on your calorie needs.			
Total Fat	Less Than 5g	5g	10%
Sat Fat	Less Than 2g	2g	4%
Cholesterol	Less Than 30mg	30mg	60%
Sodium	Less Than 2,400mg	2,400mg	48%
Total Carbohydrate	30g	30g	60%
Dietary Fiber	5g	5g	10%
Calories per gram: Fat 9 • Carbohydrate 4 • Protein 4			

**“Physical activity along with proper eating behavior is the key to preventing and treating obesity.”**

## Curriculum Feature: Foods Around the World

Foods Around the World is designed to increase awareness, respect, and acceptance of different cultural groups. The resource packet will help students understand the similarities and differences in food choices around the world. Materials are provided for

15 countries; three lesson plans have been developed that can be applied to each of those countries. Resources included include a reproducible map, reference sheet, food list and flag for each country, 150 food picture cards and bulletin board suggestions.

This curriculum was developed by the Dairy Council of Wisconsin and may be purchased by contacting them at 1-800-993-2479 or it may be borrowed from the NIRC through the web site at [www.clemson.edu/NIRC](http://www.clemson.edu/NIRC)

## Low Carbohydrate Diets

Many of the most popular weight loss diets right now are low-carbohydrate, high-protein and high-fat diets. Some claim that you can eat what you want of such high fat foods as bacon, that you can lose up to 10 pounds in a week, and that you can lower your risk of cardiovascular and other chronic diseases. The weight loss that results from following these diets is sometimes dramatic—but is largely water. Metabolism of the fat and protein in these diets increases the output of urine which leads to dehydration. When normal eating patterns are resumed, that water will be regained in a short time. In addition to the stress on the kidneys that results from metabolizing the fats and proteins, the liver must also work harder; and the brain and central nervous system may lack the adequate supply of glucose necessary to function properly.

The USDA recently published the results of a study of the various types of weight loss diets used by Americans. The executive summary of the report can be accessed at <http://www.usda.gov/news/releases/2001/01/whitepaperexe.htm>

In the report, they acknowledge that any diet that is low-calorie will result in weight loss, regardless of the source of those calories. Many times, a high-fat, high-protein diet will be low calorie because of the limited choices of foods allowed on the diet. So, it is possible to lose weight with these regimens. However, the USDA considers the total nutrient composition of the diet to be a bigger issue. The report states,

“Proper food choices are always important when considering the nutritional quality of a diet. When individuals consume foods

from all food groups, it is more likely that their diet will be nutritionally adequate. The moderate-fat reduction diet is optimal for ensuring adequate nutritional intake. However, poor food choices may result in inadequate levels of nutrients (e.g. calcium, iron, zinc), regardless of overall macronutrient composition. High-fat, low-carbohydrate diets are nutritionally inadequate. They are low in vitamins E, A, thiamin,

tables along with regular physical activity can help most people manage and maintain weight loss for both cardiovascular health and appearance. The American Heart Association urges people to take a safe and proven route to losing and maintaining weight. By paying attention to portion size and calories and following our guidelines, you can enjoy healthy, nutritionally balanced weight loss for a lifetime of good health.”

The key



**“When individuals consume foods from all food groups, it is more likely that their diet will be nutritionally adequate.”**

B<sub>6</sub>, folate, calcium, magnesium, iron, zinc, potassium, and dietary fiber, and require supplementation. These diets are high in saturated fat and cholesterol. Very-low-fat diets are deficient in vitamin B<sub>12</sub> because meat intake is low.”

The American Heart Association published an on-line position on use of high-protein diets, which may be accessed at [http://www.americanheart.org/Heart\\_and\\_Stroke\\_A\\_Z\\_Guide/hiprodiets.html](http://www.americanheart.org/Heart_and_Stroke_A_Z_Guide/hiprodiets.html)

They concluded, “A healthy diet that includes a variety of foods and is rich in fresh fruits and vege-

points to remember about weight loss are

- To lose weight, you must consume fewer calories than you use.
- Eating fewer calories and exercising more will result in weight loss
- Adopting healthy eating patterns based on the Food Guide Pyramid and the Dietary Guidelines for Americans can help with weight control and eliminate the need for “Dieting” to lose weight

## Top Ten Trends in Consumer Food Demands

There's more selection, more flavors and more fun to be enjoyed by consumers making daily choices of the foods they eat; and age, economics, ethnicity, and convenience are just some of the factors affecting their decisions at the check-out lane, the drive-thru lane, the coffeehouse and the chop house, according to the April issue of Food Technology magazine, a monthly publication of the Institute of Food Technologists.

According to the article, the Top Ten Trends show that creative convenience, freshness and sophistication are among the critical criteria leading the choices consumers make. As the population ages, health and weight will play a major factor in food selection, but so will building a sense of nutritional balance combined with simple fun. Fulfilled, these ten trends will lead to the most diverse and sophisticated food market in history, the article predicts.

**1. Do-it-for me foods**—Pre-made meals and take-out rule the roost with more than half of all meals in mid-scale casual restaurants taken off the premises last, and up-scale restaurants are reporting more take-out activity. Pizza and hamburger chains dominate but Asian and Mexican outlets are climbing.

**2. Super savory and sophisticated**—Aging baby boomers are well-traveled, technology-savvy and have increasing amounts of disposable income. It means a bigger market for provocative, flavorful and healthier restaurant fare. Italian, Mexican and Chinese cuisine is so mainstream it's no longer considered ethnic food, and "Fresh-Mex" is making a move as second-most popular restaurant ethnic cuisine.

**3. Balance**—As Americans strive to simplify their lives, expect them to seek overall balance and moderation in their diet. Gone are the days of all-out avoidance of red

meat, or obsessing over fat-free, and overdoing it on fiber. Most consumers have a little of each characteristic they try to feed, leading us toward new products and portions.

**4. Form follows function**—bits, bites, and bags—Appetizers are one of the most versatile forms of food in the decade ahead, as Americans often juggle two things at once. They provide a vehicle for socializing and sharing, an economical means to try new tastes, and most important, provide an excuse to eat with our hands, especially during the ever-expanding daily commute.

**5. A new kind of home-spun**—Home is still the preferred place to eat, but fewer consumers know how to cook and fewer still want to clean-up afterward. So, it's time for family-sized portions perfect for sharing, one-dish meals that go from the oven to the dinner table to the sink or dishwasher. Plus, having friends over to watch the "Big Game" or a movie means a growing demand for finger foods and party-sized portions with upscale desserts and gourmet alcoholic beverages.

**6. Kid-influenced**—With nearly 40 million children between the ages of 5-14 and another 14 million in high school, American kids help shape food-buying practices. An emerging market will be the youth health category, and more health-directed products should develop. One in four kids is overweight; 27 million teenagers and younger have high cholesterol; 2.2 million have high blood pressure; and 85% of children don't get 5 servings a day of fruit and vegetables. And with mom, dad, and the kids eating out more, restaurant brand retail products should have an impact at the check-out line.

**7. Light and lively**—There's an increasing demand for products and ingredients to present a fresher and more natural image.

Watch for a layered look to meat, poultry and seafood, as accompanied by fruits and vegetables. Even fried foods will reside on the same plate with fresh items or topped with veggies to achieve freshness appeal. Far Eastern cooking and Asian vegetables will top the list of attractive new signature ingredients, such as water spinach, snow pea shoots and Chinese mustard cabbage.

**8. Crossover meal patterns**—Nowadays, mealtime is anytime. With more frequent snacking new eating venues will spur new products, priorities, profits and problems. Staples like chicken, pork, seafood, and beef still reign, but side dishes are served less. Sandwiches top the list of in-home dinner items, and soup has cracked the top 10. More snacks and carbonated beverages are served at mealtime, while coffee, desserts and breads are declining.

**9. Do-it-yourself health**—Americans are taking more responsibility for their health and are sending fortified, functional, and performance-enhancing food sales soaring. Many shoppers are now seeking out foods to help reduce their risk of an adverse health condition. Fat, energy and weight control will continue to play a major influence on purchases.

**10. Clean, pure, natural and safe**—Call them what you want, but *all-natural*, *free-range*, even *kosher* foods represent a strong and sustainable market for years to come. A third of grocery shoppers say they purchase organic foods to maintain health and one in four seek out information on specific health benefits of food while shopping. A majority of mainstream shoppers also find acceptable the use of biotechnology in growing foods that include substances that may help prevent disease, lower fat content, and keeps foods fresher longer.

"Creative convenience, freshness and sophistication are among the critical criteria leading the choices consumers make."

## This Month's Recipe Feature:

### Gingersnaps

The recipe for this month is from the American Heart Association Kids' Cookbook, published by Random House, Inc.

Kids love to cook, and with this colorful cookbook they can whip up favorites –without all the fat and cholesterol. More than 30 recipes – geared to eight- to twelve-year-olds – include pizza, chicken nuggets, pasta, microwave foods, and snacks. Recipes are American Heart Association approved and kid-tested, and include safety and nutrition basics. This cookbook is fun for kids and adults and offers an experience everyone can share.

*Yields* About 5 dozen cookies

*Serves* 30, 2 cookies per serving

Many cookie recipes begin by "creaming" together sugar and shortening. Here, margarine is used instead of shortening. If you choose a stick margarine, it can easily be measured by looking at the tablespoon markings on the wrapper and cutting off the amount you need. Each stick equals 8 tablespoons. The margarine and sugar are then combined in a mixing bowl and beaten until a light, fluffy mixture forms. Creaming helps make the cookies moist and delicious.

#### Ingredients

- 1-1/4 sticks (10 tablespoons) margarine, at room temperature
- 1 cup sugar
- 1 egg
- 1/4 cup molasses
- 1 teaspoon butter-flavored extract
- 2 cups sifted all-purpose flour
- 1-1/4 to 1-1/2 teaspoons ground ginger
- 1 teaspoon ground cinnamon
- 1 teaspoon ground cloves
- 1/4 teaspoon baking soda
- 1/4 cup sugar

#### Equipment

- Measuring cups
- Large mixing bowl

- Electric mixer
- Rubber spatula
- Measuring spoons
- Small bowl
- 2-cup glass measuring cup
- Small, metal spatula
- Strainer, sieve, or flour sifter
- Medium bowl
- Plastic wrap
- Small, shallow bowl
- Cookie sheet
- Oven mitts
- Pancake turner
- Wire cooling rack
- Airtight container

#### Instructions

1. Put margarine and 1 cup sugar in large mixing bowl. Place bowl under beaters of electric mixer. Turn mixer on to medium speed. Beat ingredients until light and fluffy, about 4 to 5 minutes. Stop mixer every now and then and use a rubber spatula to scrape sides of bowl.
2. Break egg into small bowl. Add egg to margarine and sugar mixture. Turn mixer on to low or medium speed. Beat ingredients until well blended. Turn mixer off.
3. Combine molasses and butter-flavored extract in measuring cup; set aside.
4. Place strainer, sieve, or flour sifter over empty medium bowl. Measure flour, ginger, cinnamon, cloves, and baking soda into strainer, sieve, or flour sifter. Sift ingredients into bowl.
5. Add half of flour mixture to margarine mixture. Turn mixer on to low speed. Mix ingredients until blended. Turn mixer off.
6. Add molasses mixture; beat on low speed to blend. Turn mixer off.
7. Add remaining flour mixture. Beat on low speed until blended.
8. Cover mixing bowl with plastic wrap and refrigerate dough for 1 hour.
9. Preheat oven to 375° F.
10. Place 1/4 cup sugar in small, shallow bowl.
11. Lightly flour hands. With palms of hands, roll dough into 1-inch balls. Roll each ball in sugar. Place 12 balls 2 inches apart on ungreased cookie sheet. Wash and dry hands.
12. Place cookie sheet in oven. Bake cookies for 8 to 10 minutes, or until golden brown.
13. Using oven mitts, remove cookie sheets from oven. Cookies will have cracked tops. Let cookies cool on cookie sheet for 1 minute.
14. Using pancake turner, remove cookies from cookie sheet to wire cooling rack.
15. Allow cookie sheet to cool 15 minutes. Place 12 more balls 2 inches apart on cooled cookie sheet. Bake as instructed in steps 12-14.
16. Repeat step 15 until all dough has been used.
17. Let cookies cool completely. Store in an airtight container.



"Creaming helps make the cookies moist and delicious."

#### Cook's Note:

For this recipe, measure the flour after it is has been sifted. Then sift the flour again with the spices and baking soda as directed in step 4.



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## Did You Know?

*Long ago, sugar was considered a luxury item. It was a rare and costly product used mostly by the rich. Less wealthy cooks sweetened their baked goods and desserts with molasses or honey. These days, sugar is used by everybody, but a hint of molasses gives gingersnap cookies their unique flavor.*