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Introduction

There’s no doubt about it – people are passionate when it comes to food.

In today's world, many people take a special interest in how and where their food is produced. Terms that were little-known a few years ago, such as “sustainable,” “organic,” and “locally grown,” are now common parts of the food lexicon.

In addition, some people express concern about certain food processing methods and technologies, as well as processed foods themselves. However, some views result from lack of awareness about these processes and foods.

Research shows that 18 percent of grocery shoppers are “somewhat favorable” or “very favorable” about processed foods; 40 percent are “neither favorable nor unfavorable;” and 43 percent are “somewhat unfavorable” or “very unfavorable” toward these foods. However, further research indicates that consumers generally view processed foods more favorably once they understand what foods they include and the benefits they provide in our daily lives.

In reality, the era of food processing began about 2 million years ago when our distant ancestors put flame to food and “discovered” cooking. After that came fermenting, drying, preserving with salt, and other primitive forms of food processing. This ultimately led to the modern food processing methods of today, which give us an abundant, safe, convenient, affordable and nutritious food supply.
Tool Kit Components

This Leader Guide includes the following information:
- Widely accepted definitions of processed foods.
- A look at the broad range of processed foods available today.
- Information about how farmers, manufacturers and the modern food system help feed the world.
- An examination of the benefits brought to us by modern large-scale food production systems.
- An overview of the five reproducible informational handouts included in this Tool Kit and tips for using them to communicate to consumers and other audiences about food production and processing.
- Additional resources for more information.

The five reproducible handouts found on the International Food Information Council Foundation Website – www.FoodInsight.org – include:
- What is a Processed Food? You Might be Surprised!
- From the Farm to Your Fork – What the Food System Brings to Your Plate
- Your Food … Your Choice
- Foods to Fit Your Busy Lifestyle
- Adding Variety to Your Table Throughout the Seasons
What are Processed Foods?

Many opinion leaders, the media, and in turn, consumers, use the term “processed foods” as shorthand for foods to avoid, because they perceive these foods as less wholesome and nutritious than other foods. The term “processed foods” brings to mind a single category of items such as snack foods, sweets and carbonated beverages.

But do these negative views accurately portray all food processing and processed foods? No—widely accepted definitions of these terms demonstrate that plenty of healthful and nutritious foods are processed.

Generally, “food processing” is any deliberate change in a food occurring between the point of origin and availability for consumption. The degree of food processing can range from canning or freezing produce (to preserve nutrients and extend freshness) to formulating a product (to deliver a specific health benefit or other attribute).

In the 2010 Dietary Guidelines Advisory Committee Report, processed food is defined, in part, as “any food other than a raw agricultural commodity.” Following are the Committee’s recommended full definitions of processed food and minimally processed food:

**Processed food**
Any food other than a raw agricultural commodity, including any raw agricultural commodity that has been subject to washing, cleaning, milling, cutting, chopping, heating, pasteurizing, blanching, cooking, canning, freezing, drying, dehydrating, mixing, packaging, or other procedures that alter the food from its natural state. Processing also may include the addition of other ingredients to the food, such as preservatives, flavors, nutrients, and other food additives or substances approved for use in food products, such as salt, sugars, and fats. Processing of foods, including the addition of ingredients, may reduce, increase, or leave unaffected the nutritional characteristics of raw agricultural commodities.

**Minimally processed food**
Food that is processed but retains most of its inherent physical, chemical, sensory and nutritional properties. Many minimally processed foods are as nutritious as the food in its unprocessed form.

While processed foods do include foods that are meant only as occasional treats, they also include many other foods we regularly buy at the grocery store and eat in restaurants. In reality, most foods we eat have undergone some degree of processing. A few examples include:

- Canned and frozen fruits and vegetables
- Packaged foods labeled “natural” or “organic,” such as cereals, meat and poultry, and jarred baby foods
- Foods with health and nutrition claims on the label, such as “may reduce risk of heart disease,” “low-fat” or “high in calcium”
- Foods fortified with nutrients such as fiber, vitamin D, and omega-3 fatty acids
- Foods prepared in quick-service and fine-dining restaurants, cafeterias and food courts, sports arenas, coffee shops and other locations
The Continuum of Processed Foods

Processed foods can be placed on a continuum that ranges from minimally processed items to more complex preparations that combine ingredients such as sweeteners, spices, oils, flavors, colors, and preservatives, with many variations in between. The chart below gives some common examples.

<table>
<thead>
<tr>
<th>Type of Food</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foods that require little processing or production (also called “minimally processed”).</td>
<td>Washed and packaged fruits and vegetables; bagged salads; roasted and ground nuts and coffee beans</td>
</tr>
<tr>
<td>Foods processed to help preserve and enhance nutrients and freshness of foods at their peak.</td>
<td>Canned tuna, beans and tomatoes; frozen fruits and vegetables; pureed and jarred baby foods</td>
</tr>
<tr>
<td>Foods that combine ingredients such as sweeteners, spices, oils, flavors, colors, and preservatives to improve safety and taste and/or add visual appeal. (Does not include “ready-to-eat” foods listed below.)</td>
<td>Some packaged foods, such as instant potato mix, rice, cake mix, jarred tomato sauce, spice mixes, dressings and sauces, and gelatin</td>
</tr>
<tr>
<td>“Ready-to-eat” foods needing minimal or no preparation.</td>
<td>Breakfast cereal, flavored oatmeal, crackers, jams and jellies, nut butters, ice cream, yogurt, garlic bread, granola bars, cookies, fruit chews, rotisserie chicken, luncheon meats, honey-baked ham, cheese spreads, fruit drinks and carbonated beverages</td>
</tr>
<tr>
<td>Foods packaged to stay fresh and save time</td>
<td>Prepared deli foods and frozen meals, entrées, pot pies and pizzas</td>
</tr>
</tbody>
</table>

From Farm to Fork: How One Food Provides Many Options

In this example, corn can be processed to create many different foods and ingredients that consumers enjoy. Certain types of corn grown in a field can be picked and eaten off the cob. Or, corn kernels can be removed from the cob and preserved in cans or jars for enjoyment later. Popcorn is a special type of corn that is grown to pop! Popcorn kernels are dried on the cob, removed, popped and packaged as popcorn snacks or as kernels that can be popped at home. To make tortilla chips, manufacturers mix ground corn and water to form a dough (masa) which is then baked or fried into a chip. Corn syrup is made from refined corn starch and is used as an ingredient in making desserts, in sauces and relishes, and to sweeten certain foods and beverages.
Farmers around the world cultivate the food we consume and enjoy every day. Envisioning rows of waving corn stalks, groves bursting with orange trees or pastures filled with roaming livestock evoke our appreciation for the earth, farmers and ranchers – and the bounty they produce for our tables. That appreciation has sparked a renewed interest in the origin of our food, gratitude for Mother Nature, and in some cases, a desire to cultivate, grow and harvest our own food.

However, it is not practical for most people in the United States to prepare meals for themselves and/or their families only from food grown in their own garden, or to ensure the safety and quality of that food. Nor do we all live in climates that allow us to grow many types of foods year-round – for example, seasonal fruits and vegetables. We must rely on farmers to produce much of our food.

In addition, we cannot rely on locally grown and/or organic foods alone to feed the world – the yields from these production methods are currently much lower than yields achieved from conventional food production. The global population is expected to reach more than nine billion by the year 2050, making it necessary to use all available food production methods and innovations to efficiently supply the abundance of safe, high-quality foods we need and expect. Farmers, both large and small, must increase production to meet that demand. At the same time, the food and agricultural production system, which includes farmers, ranchers and other members of the supply chain such as manufacturers, distributors, and retailers, must conserve and protect our limited natural resources and continue to offer both affordable and sustainable food options.
The Benefits of Our Modern Food System

Today's food production and processing techniques provide many consumer benefits, including the following:

**Availability**
Most grain crops, or commodities, such as wheat, soybeans or corn, are inedible in their raw or unrefined state. Food processing techniques such as milling, grinding, canning, preserving, freezing and drying are required to make these foods edible. In addition, manufacturers are continually innovating and responding to new research on the relationship between food and health to make products available that meet new consumer demands to improve the overall food safety, quality, taste and nutrition of foods.

**Safety and Freshness**
Modern food production and processing improves food safety (for example, the pasteurization of milk) and helps food stay fresher longer through air-tight packaging and the use of preservatives (as in nut butters, jams and jellies). Food packaging also provides important safety information, such as the expiration date, to help consumers avoid eating foods that may no longer be fresh. In addition, packaged and boxed foods must also include information about the nutritional content and ingredients in the food on the Nutrition Facts Panel and in the ingredients list on the food label, which can help consumers make healthful food choices.

**Convenience and Affordability**
Processing and packaging technologies enable manufacturers to offer more convenient and often more affordable options compared to fresh foods. Some examples of these foods are canned tomatoes, mashed potato mix, frozen seafood, pre-packaged refrigerated snacks and meals, 100-calorie snack packs, and bagged sliced apples and baby carrots.

**Variety and Choice**
Today's modern food and agricultural system produces a wide variety of food choices so we can select what's best for our eating enjoyment, nutritional needs, time constraints and budget. For example, we can choose from different levels of fat content in our milk and dairy products; reduced- or low-sodium canned soups and vegetables; frozen, canned or fresh fruit; and numerous reduced-calorie items.

**Improved Nutrition**
Food processing makes it possible to improve the nutritional value of some foods through adding or removing nutrients or other food components. Less abundant nutrients can be added to more common foods through fortification. For example, vitamin D, an important nutrient for bone health that is not naturally abundant in foods, is added to common food staples such as milk and orange juice to help consumers meet recommended intake levels. In addition, innovations in food science have made it possible to develop products that contain fewer calories and lower fat, sodium, and/or sugar contents. People on restricted diets who must watch their intake of these components now have palatable food choices to help them adhere to their diets.
In May 2010, an online quantitative survey was conducted among 644 primary grocery shoppers to assess their attitudes toward processed foods and information about their benefits. The results showed that these consumers generally view processed foods more favorably once they understand how food processing is defined, why foods are processed, the wide range of foods included on the continuum of processed foods, and the benefits they can provide.

Specifically, the survey gauged respondents’ attitudes toward a consumer-friendly definition of processed foods based on the definitions that appear on page 12 of this Leader Guide, and four message concepts explaining different key aspects of food processing that directly or indirectly affect consumers. The respondents’ favorable reactions to these messages suggest that the concepts are effective ways to communicate with consumers about these positive attributes of processed foods.

This Tool Kit contains five reproducible handouts based on the definitions and message concepts used in the survey. Below are brief descriptions of each handout, as well as tips and ideas for using the handouts in your interactions with consumers, clients, the media, students, and other health professionals and colleagues.

**Handout 1: What is a Processed Food? You Might be Surprised!**
- Defines food processing and processed foods.
- Describes the continuum of processed foods and gives examples of different degrees of processed foods.
- Provides answers to common questions about processed foods.

**Handout 2: From the Farm to Your Fork — What the Food System Brings to Your Plate**
- Describes the food production system that supplies our food: farmers in partnership with food manufacturers, distributors, retailers, foodservice establishments, and others.
- Lists key benefits provided by our food production system including improved safety, nutrition, taste, convenience and affordability.
- Encourages readers to talk with a local farmer to learn more about the farm-to-fork process.

**Handout 3: Your Food…Your Choice**
- Describes the many food choices provided by today’s food processing systems and how consumers can select foods to fit their lifestyles, personal preferences and dietary needs.
- Gives tips to illustrate how processed foods offer flexibility in food choices.

**Handout 4: Foods to Fit Your Busy Lifestyle**
- Lists several ways that food processing provides options that make modern living easier for today’s busy consumer.
- Gives “around-the-clock” time-saving tips to make nutritious meals and snacks from foods found throughout the aisles of today’s grocery stores.

**Handout 5: Adding Variety to Your Table Throughout the Seasons**
- Describes advancements in food processing that make a variety of foods available throughout the year.
- Provides examples of ways people enjoy these foods every day.
Tips and Ideas for Using the Reproducible Handouts

Build an Information Foundation
Distribute the handouts during appointments with clients or classes with students. First, provide the “What is a Processed Food? You Might be Surprised!” handout to help the audience understand the definition of processed foods. Build on that foundation by providing the handouts that cover the modern food and agricultural production system and benefits of food processing.

Pitch the Media
Use an angle such as “Myths and Facts about Processed Foods” to encourage local reporters, writers and bloggers who write about health and nutrition to seek out both sides of the story. During radio and TV interviews, offer relevant examples and fun facts that people will remember (many are provided in this Tool Kit). Give them copies of the reproducible handouts to use as background information for the interview.

Use Visual Aids
During TV interviews, use props to show the “continuum” of processed foods. For example, show a fresh apple, bagged sliced apples, dried apples slices, apple sauce and apple pie. Discuss the processing methods used for each and differences in their nutritional value.

Write or Blog About It
Write an editorial article, letter to the editor, or blog post about topics such as “the surprising benefits of processed foods,” “not all processed foods are created equal,” or “busting myths about processed foods.”

Teach it Forward
For example, if you teach dietetics or food science students, create a presentation and follow-up quiz based on the information in the handouts. Ask students to use the handouts to create their own presentations for other students, family members and friends.

Connect to the Culinary World
Distribute the handouts to culinary students for a reading assignment. Assign each student a food, such as a potato, tomato, corn or rice, and ask them to describe common processed forms of each item (with tomatoes, for example, they could list canned tomatoes and tomato sauce). If possible, ask them to form teams to prepare items using different methods (for example, fermenting, drying, pickling, and canning).

Customize for Different Cultures
Use examples of foods and processing methods that are culturally relevant to your audience. For instance, you might use canned nopalitos (prickly pear cactus) as an example for a Hispanic audience or dried shiitake mushrooms as an example for an Asian audience.
Resources for More Information

The following resources are available on the International Food Information Council Foundation Website, www.foodinsight.org:

- Feeding the World Today and Tomorrow: The Importance of Food Science and Technology: An IFT Scientific Review.
- Know Your Farmer, Know Your Food, U.S. Department of Agriculture.

Modern Food Production Resources:
Print Materials:
- Questions and Answers About Modern Food Production
- What the Experts Say About Modern Food Production
- What the Farmers Say About Modern Food Production

Video Series:
- Part One: Food Safety
- Part Two: Modern Food Production
- Part Three: Growing Our Own Foods
- Part Four: The Business of Farming

Food Technology Resources
- Sustainable Agriculture: Can Biotechnology Play A Role?
- Questions and Answers About Food Biotechnology
- Background on Agricultural Practices and Food Technologies.

Fortification Resources
Food Insight Fortification Series:
- Is Food Fortification Necessary? A Historical Perspective
- Food Fortification in Today’s World
- An Eye Toward Personal Nutrition and the Future of Food Fortification

Food Ingredient and Component Resources
- IFIC Foundation and FDA Food Ingredients & Colors brochure
- Facts about Low-Calorie Sweeteners
- High Fructose Corn Syrup: Consumer Communications
- IFIC Review: The Science of Sugars
- Consumer Sodium Research: Concern, Perceptions and Action
- Background on Dietary Fats and Fat Replacers

Food Safety Resources
- Questions and Answers about Processing Aids, Used in Modern Food Production
- A Consumer’s Guide to Food Safety Risks
- Fish and Your Health

References


Appendix: Glossary of Food Production, Processing and Technology Terms

**Agriculture**
The science, art and business of cultivating soil, producing crops and raising livestock; farming.

**Commodity**
Any product manufactured or grown. Examples of food commodities include wheat, oats, corn, beef, milk and coffee.

**Enrichment**
The process of restoring nutrients lost during handling, processing or storage of foods. Levels are generally based on U.S. Food and Drug Administration (FDA) standards of identity. For example, refined bread, flour and rice are “enriched” with B vitamins and iron.

**Fermentation**
The process in which micro-organisms (bacteria, fungi or yeasts) act on an organic substance to promote a change in its chemical composition. Fermentation is commonly used to produce alcohol and carbon dioxide from sugar, in the absence of oxygen. Examples of fermented foods include yogurt and sauerkraut.

**Food Additive**
A substance added to food to improve its safety, color, and/or flavor. Defined by FDA as any substance used in a product that may become a component or otherwise affect the characteristic of any food.

**Food Biotechnology**
Scientific techniques used to enhance attributes of plants, animals or microorganisms through the selection and blending of optimal genetic traits. Biotechnology has been utilized to develop new tools for improving crop yield, reducing the impact of certain crops on the environment, and improving the nutritional profile of crops such as soybeans, corn, cotton, canola, papaya and squash.

**Food Irradiation**
The process of exposing food to an ionizing energy to kill harmful bacteria and other organisms in order to extend shelf-life and improve the safety of food. Approved irradiated foods include fruits, vegetables, meat, poultry, fish and seafood, roots and tubers, cereals, legumes, spices and dried vegetable seasonings.

**Food Processing**
Any deliberate change in a food occurring between the point of origin and availability for consumption.

**Fortification**
The voluntary addition of nutrients at levels beyond those that would occur naturally in the food; historically used to address public health concerns (e.g., fortifying salt with iodine to reduce the incidence of goiter or fortifying certain grain products with folic acid to reduce the risk of neural tube defects).

**“Local” Foods**
The term does not have a regulatory definition. It is generally understood to mean foods grown or produced within close proximity to where they’re purchased, although the proximity used may differ. Examples of definitions adopted in the retail environment include: foods grown in the same state, within a specific mile radius, or no more than a certain number of hours away from the retail location.

**Minimally Processed Food**
Food that is processed but retains most of its inherent physical, chemical, sensory and nutritional properties. Many minimally processed foods are as nutritious as the food in its unprocessed form.

**“Natural” Foods**
The term does not have a regulatory definition. The FDA informally defines “natural” foods as foods without anything artificial or synthetic included or added, including color additives. The U.S. Department of Agriculture (USDA) policy is that a natural product should not contain any artificial flavor or color, chemical preservative, or any other artificial or synthetic ingredient, and the product and its ingredients are not more than minimally processed.

**Organic Foods**
The USDA regulates use of the term “organic.” Organic foods are those grown without synthetic pesticides and fertilizers, antibiotics or growth hormones. Products labeled “100% Organic” or “Organic” (i.e., containing 95 percent or more organic ingredients) may display the USDA Organic seal. Products may also be labeled “Made with Organic Ingredients” (i.e., containing at least 70 percent organic ingredients) but may not display the seal. Products that contain less than 70 percent organic ingredients may denote organic ingredients in the ingredients list only and may not display the seal.

**Pasteurization**
The process by which harmful organisms, pathogenic bacteria and viruses in liquids are eliminated by heating to a critical temperature for a specified amount of time.
Appendix: Glossary of Food Production, Processing and Technology Terms

Preservation
To prepare foods to last for long periods of time without spoiling or deteriorating. Preservation methods include refrigeration, freezing, canning, salting, smoking, freeze-drying, dehydrating and pickling. Also includes added preservatives. See “Food additive” definition.

Processed Food
Any food other than a raw agricultural commodity, including any raw agricultural commodity that has been subject to washing, cleaning, milling, cutting, chopping, heating, pasteurizing, blanching, cooking, canning, freezing, drying, dehydrating, mixing, packaging, or other procedures that alter the food from its natural state. Processing also may include the addition of other ingredients to the food, such as preservatives, flavors, nutrients, and other food additives or substances approved for use in food products, such as salt, sugars, and fats. Processing of foods, including the addition of ingredients, may reduce, increase, or leave unaffected the nutritional characteristics of raw agricultural commodities.*

Selective Crop Breeding
The use of traditional techniques such as cross-breeding, or modern biotechnology techniques such as genetic engineering to produce higher-yielding, hardier crops with the highest possible quality and nutritional value.

Sustainable Agriculture
According to the USDA, an integrated system of plant and animal production practices having a site-specific application that will, over the long term: satisfy human food and fiber needs; enhance environmental quality and the natural resource base upon which the agricultural economy depends; make the most efficient use of nonrenewable (and on-farm) resources and integrate, where appropriate, natural biological cycles and controls; sustain the economic viability of farm operations; and enhance the quality of life for farmers and society as a whole.

Vacuum Packing
A process in which appropriate types of food are stored in an airless environment, usually in an air-tight pack or bottle, to prevent the growth of microorganisms. The vacuum environment removes atmospheric oxygen, protecting the food from spoiling by limiting the growth of aerobic bacteria or fungi, and preventing the evaporation of volatile components. Vacuum packing is commonly used for long-term storage of dry foods such as cereals, nuts, cured meats, cheeses, smoked fish, coffee and chips.

Yield
The amount of an agricultural crop, such as such as a grain, fruit or vegetable, produced in a season.

What comes to mind when you think of a processed food? You’re right if you think of items such as cookies, snack chips and carbonated drinks. But you might be surprised to learn that most foods we eat are processed.

Read on to get the facts about processed foods – and answers to some common questions about them.

**Processed Foods Defined**
*Food processing is any deliberate change in a food that occurs before it's available for us to eat. It can be as simple as freezing or drying food to preserve nutrients and freshness, or as complex as formulating a frozen meal with the right balance of nutrients and ingredients.*

**The Prehistoric Origins of Food Processing**
The era of food processing began about 2 million years ago when our distant ancestors put flame to food and “discovered” cooking. After that came fermenting, drying, preserving with salt, and other primitive forms of food processing. This ultimately led to the modern food processing methods of today, which give us an abundant, safe, convenient, affordable and nutritious food supply.

A few examples of processed foods include:
- Canned and frozen fruits and vegetables
- Packaged foods labeled “natural” or “organic,” such as cereals, fresh meat and poultry, and jarred baby foods
- Foods with health and nutrition claims on the label, such as “may reduce risk of heart disease,” “low in fat” or “high in calcium”
- Foods fortified with nutrients such as fiber, vitamin D and omega-3 fatty acids
- Foods prepared in quick-service and fine-dining restaurants, cafeterias and food courts, sports arenas, coffee shops and other locations
What is a Processed Food? You Might Be Surprised!

The Continuum of Processed Foods
Processed foods can be placed on a continuum that ranges from minimally processed items to more complex preparations that combine ingredients such as sweeteners, spices, oils, flavors, colors, and preservatives, with many variations in between. The chart below gives some common examples.

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<th>Type of Food</th>
<th>Examples</th>
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</thead>
<tbody>
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<td>Foods that require little processing or production (also called “minimally processed”).</td>
<td>Washed and packaged fruits and vegetables; bagged salads; roasted and ground nuts and coffee beans</td>
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<tr>
<td>Foods processed to help preserve and enhance nutrients and freshness of foods at their peak.</td>
<td>Canned tuna, beans and tomatoes; frozen fruits and vegetables; pureed and jarred baby foods</td>
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<td>Foods that combine ingredients such as sweeteners, spices, oils, flavors, colors, and preservatives to improve safety and taste and/or add visual appeal. (Does not include “ready-to-eat” foods listed below.)</td>
<td>Some packaged foods, such as instant potato mix, rice, cake mix, jarred tomato sauce, spice mixes, dressings and sauces, and gelatin</td>
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<td>“Ready-to-eat” foods needing minimal or no preparation.</td>
<td>Breakfast cereal, flavored oatmeal, crackers, jams and jellies, nut butters, ice cream, yogurt, garlic bread, granola bars, cookies, fruit chews, rotisserie chicken, luncheon meats, honey-baked ham, cheese spreads, fruit drinks and carbonated beverages</td>
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<td>Prepared deli foods and frozen meals, entrées, pot pies and pizzas</td>
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</tbody>
</table>

From Farm to Fork: How One Food Provides Many Options

In this example, corn can be processed to create many different foods and ingredients that consumers enjoy. Certain types of corn grown in a field can be picked and eaten off the cob. Or, corn kernels can be removed from the cob and preserved in cans or jars for enjoyment later. Popcorn is a special type of corn that is grown to pop! Popcorn kernels are dried on the cob, removed, popped and packaged as popcorn snacks or as kernels that can be popped at home. To make tortilla chips, manufacturers mix ground corn and water to form a dough (masa) which is then baked or fried into a chip. Corn syrup is made from refined corn starch and is used as an ingredient in making desserts, in sauces and relishes, and to sweeten certain foods and beverages.
Five Common Questions about Processed Foods

Q: Are processed foods safe?
A: Yes, in fact processing foods often makes them safer. For example, heating foods helps remove harmful bacteria. Pasteurization is a common heating process applied to milk to kill harmful organisms. Canning and freezing foods such as meats, fruits and vegetables helps them to stay fresher longer.

Q: Do processed foods cause obesity?
A: Most nutrition experts agree that no one type of food causes obesity – obesity results from consuming more calories than the body uses, regardless of where the calories come from. To maintain a healthy weight, it’s important to balance calories consumed with regular physical activity and to only occasionally enjoy single portions of treats such as fried foods, snack chips, desserts, candy, fruit drinks and soft drinks. Some processed foods may actually aid with weight management because they include ingredients that reduce the calorie content of foods, such as low-calorie sweeteners.

Q: Do processed foods lack nutrition?
A: Because processed foods include such a wide range of products, their nutritional values vary widely, too. For instance, frozen vegetables can be more nutrient-rich than fresh because they are picked and frozen at their nutritional peak. Furthermore, processed foods that are fortified with vitamins, minerals or other nutrients can help people reach the recommended intake levels for those nutrients. An example is orange juice fortified with calcium and vitamin D. Some processed foods, such as fried foods, desserts and candy, supply calories but few other nutrients.

Q: Are processed foods expensive?
A: Again, the wide range of choices means a wide range of prices. For instance, buying frozen strawberries might be less expensive than buying fresh strawberries out of season, but preparing tomato sauce with home-grown tomatoes in season might be less expensive than buying jarred tomato sauce.

Q: Are any processed foods natural?
A: The U.S. Food and Drug Administration (FDA) doesn’t define the term “natural” on food labels, but generally allows the term if the food doesn’t contain added colors, artificial flavors, or other synthetic substances. According to that definition, numerous processed foods could be considered “natural.” These include many fruit and vegetable products, grain and dairy products, and meat, poultry and fish products. A few examples are packaged cooked and uncooked chicken, potato chips, rice, frozen spinach and jarred applesauce.

For more information about modern food production and processing, please visit:
http://www.foodinsight.org/understandingourfood.aspx
If you poured a bowl of cereal this morning for breakfast, stopped at a deli for a sandwich at lunch, had a cup of yogurt for a snack, or heated up a frozen meal for dinner, then you enjoyed some of the many conveniences of our readily-available food supply.

But did you ever wonder just how those foods made it to your plate?

Our food production system – including farmers, food manufacturers, distributors, grocers, foodservice establishments, and others – brings us a variety of safe, high-quality foods that also are tasty, convenient, nutritious, fresh and affordable. Centuries ago, farmers began using selective crop breeding techniques to produce higher-yielding, hardier crops with the highest possible quality and nutritional value. Today, food technologies such as biotechnology imitate this process more accurately and efficiently. The result is a more abundant and nutrient-rich food supply to feed the world using fewer precious natural resources.

Did You Know?

**Biotechnology** uses various scientific techniques to take the best traits from plants, animals or microorganisms and integrate them into an enhanced food that is more sustainable and nutritious than the original food.
A Closer Look at the Benefits of Our Food Production System

Food production and technology is constantly evolving to meet consumer demand for new and improved products. Below are examples of benefits our food production system provides:

High Quality
Products such as salad greens, deli meat and fruit juices maintain their quality longer thanks to innovations in packaging.

Convenience
Foods such as soups and yogurts now come in convenient “to-go” containers.

Safety
Processes such as pasteurizing milk, canning fruits and vegetables, and vacuum-packing meats help prevent spoilage and the growth of harmful bacteria.

Freshness
Freezing fruits and vegetables helps retain their just-picked freshness.

Great taste
Thanks to flavorings, spices and other ingredients, foods such as frozen dinners, veggie burgers and packaged desserts are appealing and delicious.

Affordability
Many processed foods are good values. For instance, canned peaches, frozen broccoli and canned seafood are often more affordable than fresh versions. Many cereals, breads and nut butters are good bargains per serving, too.

Variety and Value
Varieties of whole-grain cereals, breads, nut butters, and frozen and canned fruits, vegetables and seafood are nutritious, affordable and available all year long.

Are You Prepared for an Emergency?

There may be times when the electricity in your home goes out or you are prevented from getting to the grocery store or quick-service restaurant due to a natural disaster or other emergency. When that happens, you’ll need foods on hand that won’t spoil. Foods such as canned fruit, meat and beans; peanut butter and crackers; and bottled water and juice come in handy during emergencies.
Added Nutrition
Farmers and manufacturers continuously work to develop foods with better nutritional content. For example, fortifying foods with vitamins, minerals and other nutrients helps people to meet their recommended daily nutrient intakes and may support good health in several ways. Examples include adding fiber to foods to help promote digestive health; calcium and vitamin D to help promote bone health; omega-3 fatty acids to help support heart health.

Options for People with Special Dietary Needs
Product developers use innovative ingredients such as approved low-calorie sweeteners and thickeners to provide flavorful options for people who must control their fat, carbohydrate, sugar, and/or cholesterol intakes. Examples are no-added sugar yogurt, light salad dressing, fat-free ice cream, and diet beverages. In addition, foods that use flavorings such as glutamate (or MSG, which can be naturally-occurring or added to foods) can help reduce the sodium content of foods.

Calorie-Saving Ingredients – Sweet!
Many of your favorite foods, such as low-fat flavored yogurt and iced tea, come in light or reduced-calorie versions that can save up to 100 calories per serving compared to the regular version.

Farmers: Information from the Source
Do you want to know more about the farm-to-fork process? Talk with a farmer at a local farm or farmers’ market to get information right from the source.

Did You Know?
Fortification is the process of adding vitamins or minerals to a food to make it more healthful and to help you meet the recommended daily intake of different nutrients.

For more information about modern food production and processing, please visit: http://www.foodinsight.org/understandingourfood.aspx
Every day, we make dozens of choices – and that goes for the food we eat, too.

These choices are possible because the modern food system offers options to satisfy many different preferences. Whether you’re selecting a snack or planning your menu for the week, you can choose foods and ingredients that are right for your busy schedule, personal preferences and dietary needs.

Our Food Supply Offers Flexibility

Our food supply offers flexibility in our food choices in several ways. For instance:

• When you have the time, you may prefer to prepare a meal from scratch. But when time is tight, you can maximize convenience with a fully prepared frozen or take-out meal. Or you might opt for a middle ground by combining fresh and “ready-to-eat” foods and ingredients. For example, packaged dinner rolls are quicker and easier than baking bread from scratch.

• Prepared and packaged foods are available in different sizes to feed the number of people you’re serving. You can easily double or halve the amount to feed more or fewer people.

• Nutrition and ingredient information listed on packaged foods helps you to make the best food choices and keep tabs on serving sizes.

• Food processing techniques are utilized to develop foods that provide options for people with various health conditions such as heart disease, food allergies and diabetes. For example, people with a history of heart disease who must limit fat and cholesterol intake may choose from a variety of reduced-fat, fat-free, and cholesterol-free products.
What’s On Your Menu?
Food processing gives us so many choices; it’s enough to make your mouth water! At each meal or snack, you can choose from a variety of options:

• For breakfast, you can top a bowl of cereal with dried cranberries and fat-free milk. Or, make scrambled eggs with fat-free milk and canned mushrooms, served with toasted pre-sliced whole-wheat bread with butter and frozen sausage sautéed with fresh onion. Either way, your day is off to a great start!

• It’s spaghetti night! Will you heat up zesty jarred tomato sauce or make your own long-simmering version? Add precooked turkey or vegetarian meatballs, or make your own from ground beef.

• Fixing a salad? You can choose lettuce that’s conventionally grown or organically grown; buy a whole head of lettuce, or get it pre-washed, chopped and bagged.

Looking to Cut Back?
Following a special diet used to mean having limited food choices. However, today’s food production system makes it possible for almost anyone to enjoy a version of their favorite food. Whether you’re on a special diet or simply striving to eat well, innovations like these can help:

• **Sweet taste with fewer calories.** Low-calorie sweeteners used in yogurts, beverages, desserts – or simply stirred into coffee or tea – can help trim calories when replacing higher-calorie versions. These sweeteners can also help people with diabetes to budget their carbohydrate intake.

• **Foods without trans fat.** Food manufacturers have made great strides in removing trans fats from many products, including biscuits, margarine, cookies, doughnuts – even vegetable shortenings. Look for “0 grams trans fat” on the Nutrition Facts panel.

• **Lower-sodium foods.** Many food manufacturers have developed reduced-sodium or “no added salt” versions of products such as soups, chips, instant rice and potato mixes, taco and chili spice mixes, and canned vegetables.
What’s On Your Menu? (continued)

• Use a packet of blended spices to enhance the flavor of meat, poultry or fish – or mix your own special spice rub from bottled spices from the grocery store.

• Pick up a nutritious, delicious container of fruit salad from the grocery store or chop and mix your own fruit. A bowl of vanilla-flavored yogurt on the side offers a fun dip for kids.

• Planning a movie night? You can buy a bag of flavored popped popcorn at the grocery store, make instant popcorn in the microwave, or pop whole kernels in a hot air popper or on the stove.

• In the mood for ice cream? Choose from light, sugar-free or fat-free ice cream, frozen yogurt, sorbet, or popsicles – all available in a variety of flavors.

Options for People who are Gluten Intolerant

In recent years, there’s been an explosion of gluten-free foods such as cereals, breads, baking mixes, snacks and prepared meals. Now, people who must avoid gluten due to Celiac disease (i.e., gluten intolerance) can enjoy many more food choices.

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http://www.foodinsight.org/understandingourfood.aspx
Foods to Fit Your Busy Lifestyle

With today’s busy lifestyles, who couldn’t use a hand getting a healthful meal on the table?

Thanks to modern food production and processing, many fast, affordable and flavorful options are as close as your local grocer.

Four Ways Food Processing Makes Fast-Paced Living Easier

Food processing brings us convenient and nutritious options to make meal preparation quick and easy for individuals or families of any size. Here are four ways processed foods can help:

1. When time is short, you can put a "ready-to-eat" or heat-and-serve meal on the table in minutes.

2. Stocking up on frozen, canned and packaged foods means they’re fresh and ready when you need them (such as on a night when you get home from work late or have to pick up the kids from soccer practice). These foods are often more affordable, too. Examples include frozen vegetables, canned beans and soups, and instant rice.

3. You can buy the package size that suits you – from those that provide multiple servings to single servings that cut down on food waste.

4. Food packaging innovations such as bagged fruits and vegetables and heat-and-eat soup cups help make nutritious foods more convenient.
Foods to Fit Your Busy Lifestyle

Trim Prep Time Around-the-Clock
Food processing helps you shave precious minutes – and sometimes hours – from meal and snack preparation time.

For instance, the ingredients for a stir-fry (broccoli, carrots, onions, fresh herbs, etc.) can take a long time to slice and chop, but you can get the job done in less than 30 minutes – including the cooking. How? Use ingredients such as packaged chicken breast strips, bagged precut broccoli florets, canned baby corn and sliced water chestnuts, bottled low-sodium soy sauce, and microwavable instant brown rice. Or, simply buy a bag of frozen stir-fry with sauce, empty into a pan, and read your mail or quiz the kids on their homework while your meal heats.

Check out these other time-saving ideas:

Breakfast is a Breeze
• Instead of cooking, dig into a bowl of ready-to-eat cereal or instant oatmeal topped with fat-free milk and chopped dried apricots.
• Layer peanut butter and sliced banana on toasted frozen waffles for a hearty and nutritious morning meal. Drizzle with maple syrup for a special treat.
• As you head out the door, grab a container of low-fat yogurt and a 100% fruit juice box for breakfast at your desk.

Lunch is in the Bag
• Sandwiches are fast and can be different every day thanks the variety of sliced breads (white, whole-wheat, rye, sourdough, etc.), meats (turkey, ham, roast beef, etc.), and cheeses (Cheddar, Swiss, Muenster, provolone, etc.). Layer on pre-washed bagged lettuce, fresh tomato slices and jarred pickle slices. Mix up your condiments, too – use low-fat mayo one day, spiced mustard the next.
• Single-serving bags of sliced apples, baby carrots and baked potato or corn chips are handy for lunches.
• Tote a meal kit containing hummus, crackers and dried fruit, along with a diet beverage.

Dinner in a Dash
• Swing by the supermarket for prepared and easy-to-make foods: Make an easy, nutritious meal from Rotisserie chicken, instant rice or potatoes, canned green beans, crusty bread, and angel food cake with frozen strawberries.
• Heat up hearty canned soup or chili in minutes. Round out the meal with a salad using bagged spinach tossed with bottled light salad dressing plus packaged whole-wheat rolls.
• To trim time, toss diced canned tomatoes, canned beans or frozen veggies into soups, stews, casseroles and pasta sauces instead of fresh.

Speedy Snacks
• Stash items such as cereal or granola bars, boxes of raisins or dried cranberries, and single-serving bags of roasted nuts or pretzels in your backpack, purse or desk drawer.
• Stock the home or office fridge with reduced-fat string cheese, fruit cups, low-fat yogurt and sugar-free pudding.

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Adding Variety to Your Table Throughout the Seasons

Do you enjoy cranberries in May and asparagus in December?

Because of advancements in farming and processing techniques, and the ability to import foods from around the world, a variety of your favorite foods are available each and every day – no matter where you live. Without these advancements, most of us could only buy these foods for a short time each year.

Food processing methods such as canning, heating, drying and freezing help preserve foods, so they stay fresh and great-tasting for a longer time. Some foods are processed within hours of harvesting. This quickly seals in optimum flavors and nutrients that can otherwise decrease over time.

Advances in food production techniques such as biotechnology also contribute to a more sustainable food supply by helping farmers use fewer resources to grow more food on less land, even during unfavorable conditions such as drought.

Adding Variety Every Day
Thanks to innovations in food production, many foods that used to be “out of season” are now available and affordable all year long. Below are some ways to enjoy today’s abundance of foods.

• The end of summer no longer means the end of fresh tomatoes. They’re delivered from around the world to your grocery store – even in the middle of winter. Or, if you prefer, you can use canned or sun-dried tomatoes in a favorite recipe.

• Savor your favorite meat, fish or seafood any time of year. Frozen, canned, vacuum-packed, and fresh versions (ex. crab, tuna, and salmon; chicken, turkey, and ham) make for easy main dishes or recipe ingredients.

• Got the winter blues without your favorite berries? Enjoy frozen berries – they’re as nutritious and delicious as fresh.

• Create an easy Asian stir-fry with ingredients such as frozen shrimp and snow peas and canned water chestnuts and bamboo shoots.

• Cherry season is sweet but short. Frozen cherries are delicious in a pie or crumble, and dried cherries are tasty in oatmeal, muffins and quick breads.

• Frozen pineapple, mango and papaya are easy to add to smoothies or salads – tropical treats to enjoy wherever you live, whenever you want them.

• Wishing for fresh peaches in the middle of winter? With modern large-scale food production, fresh fruit grown in other locations can be packaged, canned or frozen at the peak of ripeness and shipped to your grocer to be purchased by you and enjoyed with a scoop of low-fat French vanilla ice cream for dessert.

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