

Nutrition & Costs Comparisons of Select Canned, Frozen and Fresh Fruits and Vegetables

Executive Summary



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Introduction

Over the last decade the United States has struggled with a paradox: we are overweight – many of us obese – yet undernourished. Sixty-eight percent of Americans are overweight or obese, however, 15 percent of Americans received 2011 aid from a Supplemental Nutrition Assistance Program, and 23.5 million people live in areas known as “food deserts” with little or no accessibility to nutritious foods. Added to this bleak nutrition environment, a turbulent economy has driven up food prices and unemployment.

Health and nutrition advocates, public policy leaders and even the food industry have made commitments to combat the burgeoning obesity crisis, which is posing one of the greatest threats to public health. From the USDA’s MyPlate to the food industry’s Healthy Weight Commitment Foundation, the prescription is the same: reduce calories and increase consumption of nutritious foods like fruits and vegetables. To make things more challenging, there is increasing pressure for consumers to select fresh fruits and vegetables, which are often more costly.

Recently, the canned food industry sought to determine how canned fruits and vegetables fit into the equation for solving the obesity/hunger dilemma. The Can Manufacturer’s Institute commissioned researchers at Michigan State University to conduct a comprehensive review of scientific literature comparing canned fruits and vegetables to fresh and frozen based on nutrition and cost. Through an analysis and review of more than 40 source materials, including scientific journal studies and nutrition data, the researchers revealed that despite long-held misconceptions about canned fruits and vegetables, they can be an excellent way for Americans to affordably meet their dietary needs.

The study results, released in May 2012, clearly outline how canned fruits and vegetables uniquely address obesity and hunger by combining affordability, nutrition and convenience.

Good Nutrition for All

The Michigan State University study refuted the long-held myth that canned fruits and vegetables are less nutritious than fresh and frozen counterparts. Acknowledging the challenges in determining nutrient value across fresh, frozen and canned fruits and vegetables, including the impact that preparation and shelf-life can have on nutritional value, (fresh produce loses nutrient value day by day), researchers concluded that generally speaking, canned, fresh and frozen vegetables and fruits are comparable nutritionally, and in some instances, canned fruits and vegetables bring a nutritional advantage to the table.

For instance, canning actually improves the B vitamins, vitamin E and carotenoids content of tomatoes, compared to fresh. B vitamins, such as thiamine, riboflavin and folic acid, are essential in maintaining heart and brain health while vitamin E is a potent antioxidant that combats free radicals, the unstable oxygen molecules that come from things like exposure to air pollution and cigarette smoke.

Fiber, a nutrient of concern in the 2010 Dietary Guidelines for Americans, becomes more soluble and therefore more useful in the human body, in the canning process. Fiber-rich foods help prevent chronic ailments such as heart disease, cancer and type 2 diabetes.

In addition, the nutrient value of canned fruits and vegetables remains stable over time, unlike the nutritional profile of fresh vegetables and even frozen vegetables, which experience nutrient loss over time. Canned fruits and vegetables provide a consistent, nutritious option to ensure that essential nutrients are always on hand to put on the table.

The literature and data prove that canned fruits and vegetables are equal to fresh and frozen in playing a vital role to deliver nutritious and wholesome food to an American population that is overweight, yet undernourished when it comes to essential nutrients.

Affordability: The Economics of Canned Fruits and Vegetables

Given today's economic conditions, it's more important than ever to find ways to prepare affordable meals that taste good and satisfy the nutritional requirements recommended by health and nutrition experts. New research shows that it's actually easier than many might think. Michigan State University researchers looked at eight commonly consumed vegetables across three packaging options: fresh, frozen and canned, and they found that grocery bills can be significantly reduced without impairing the overall nutritional profile of the foods purchased by simply including canned foods on the menu. Researchers found that the cost of canned vegetables can be as low as 50 percent of the costs of frozen alternatives and 20 percent of the cost of fresh, with virtually no sacrifices in nutritional quality. This is important for cost-conscious consumers, particularly the growing number of Americans – now 15 percent – who receive aid from Supplemental Nutrition Assistance Programs. From families on a budget to non-commercial food service professionals like school food service directors, consumers are seeking ways to get more out of their food dollars, and canned foods represent a value proposition that's difficult to beat.

For example, the study found that relative to canned green beans, once accounting for removal of non-edible tips and stems, fresh green beans are nearly 500 percent more costly, and provide lower nutritional content. Additionally, compared to fresh cob-corn, canned corn shrinks corn expenditure by 50 percent. Especially for low-income families, such savings can make significant contributions toward meeting dietary needs by expanding the effective food budgets of American households.

Researchers also looked at canned fruits versus frozen and fresh. Canned tomatoes are significantly less expensive than fresh. And while savings weren't as dramatic across all 10 fruits that were compared, the study concluded that canned fruits solve the consumption barrier presented by the seasonality of fresh fruit – making canned more convenient and cost-effective for families to eat fruit all year-round.

The bottom line: when seasonality, availability and shelf life of canned fruits and vegetables are weighed against fresh and frozen, the economic scales are tipped in favor of canned foods.

Convenience for All

After a thorough review of existing data, researchers note that canned fruits and vegetables provide convenience to consumers on many levels through accessibility, storage and food safety. From busy families looking for quick, nutritious meals to underserved populations living in "food deserts," canned foods provide a solution to the problems of practicality and availability presented by fresh and frozen fruits and vegetables.

Researchers noted that for those with limited access and storage for fresh fruits and vegetables, canned “may be a better option.” Indeed, for many in the social safety net, who are most at risk for food-related health problems, canned is sometimes the only option for healthful and safe food.

Recent examples of food safety recalls among fresh products serve to highlight another benefit of canned fruits and vegetables. According to the Centers for Disease Control and Prevention, at least 128,000 Americans are hospitalized every year with foodborne illnesses. According to the Michigan State University study, canned foods are the safer option for produce because the canning process creates barriers to microbiological contamination.

Conclusion

Increasingly reflected in government mandates, public policies and non-profit initiatives, addressing the nation’s hunger and obesity crises is a major public health concern. Despite public and private sector efforts, a majority of Americans are overweight or obese (68 percent), and more than 48 million Americans live in “food insecure” households. Nearly half of households seeking emergency food assistance reported having to choose between paying for utilities or food.

The Michigan State University study points to a much more palatable alternative: a healthier future for all Americans through affordable and nutritious canned foods.