POTATOES GOODNESS® UNEARTHED

45% Daily Supply of Vitamin C | Naturally Fat Free | Full of Vitamins and Minerals

POTATO NUTRITION HANDBOOK

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INTRODUCTION

The United States Potato Board (USPB) was established in 1971 by a group of potato growers to promote **the many benefits of eating potatoes.** The USPB was one of the first commodity groups to develop and use an FDA-approved nutrition label and has long since promoted positive nutrition messages. As a result of these efforts, consumer attitudes toward potatoes remained mostly positive for over 30 years. Then, the low-carbohydrate diet craze swept the nation beginning in the early 2000s and took a toll on the relationship between America and its beloved potato, as indicated by a slight, yet noticeable, decrease in potato consumption. This caused the potato industry to ramp up its consumer marketing efforts, focusing on dispelling the myth that potatoes are fattening and educating the public about the inherent goodness of America's Favorite Vegetable.

In 2004, the USPB began a formal Nutrition Science Program which compiled key potato research studies and began funding university research projects to protect the reputation of the potato. The USPB positions itself at the forefront of potato nutrition research and monitors research and trends in the U.S. and overseas that could impact potato consumption in America.

In 2007, the USPB adopted an industry-wide signature, "Potatoes...Goodness Unearthed®," to promote the nutritional benefits of the potato. It's the first unified endeavor by the entire U.S. potato industry to clearly identify the U.S. potato as a nutrition powerhouse.

This handbook is a compilation of all-things-potato as it relates to nutrition research and more. Beginning with potato nutrition facts and ending with a monthly calendar of ideas for news features, newsletters and blog posts, these pages are brimming with historical potato facts, techniques for cooking the potato in today's "30-minute meal" mentality, and healthy recipes to keep the potato naturally nutritious and delicious.

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40% Daily Sugars of Vitamin C | Naturally Fat Free | Full of Vitamins and Minerals

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PEEL BACK THE TRUTH: POTATO NUTRITION FACTS

It's a surprise for many to discover that one medium potato (5.3 oz) with the skin contains 45 percent of the daily value for vitamin C; as much or more potassium (620 mg) than either bananas, spinach, or broccoli; 10 percent of the daily value of B6; and trace amounts of thiamin, riboflavin, folate, magnesium, phosphorous, iron, and zinc — all for only 110 calories and no fat (Table 1).

Table 1: FDA Data for a 5.3 oz Potato with the Skin*

Calories (kcal)	110	% Daily Value
Fat (g)	0	-
Cholesterol (mg)	0	-
Sodium (mg)	0	-
Potassium (mg)	620	18%
Vitamin C (mg)	27	45%
Vitamin B6 (mg)	0.2	10%
Fiber (g)	2	8%

*It should be noted that the FDA label represents a composite of various ("market basket approach") based on type of U.S. consumption patterns (i.e., 1% percent russet, 30 percent white, and 15 percent red).

Based on the FDA label (Table 1), the following claims can be made for the potato:

- **An excellent source (≥ 20 percent of the DV) of vitamin C**
- **A good source (≥ 10 percent of the DV) of potassium**
- **A good source (≥ 10 percent of the DV) of vitamin B6**
- **Low (≤ 140 mg/serving) in sodium and cholesterol**
- **Fat-free (≤ 0.5 g fat/serving)**

Gluten-Free

According to the 2011 USPB Attitudes & Usage Study, only 19% of Americans rate potatoes as excellent for being gluten-free. In fact, potatoes are 100% gluten-free! According to the National Foundation for Celiac Awareness, an estimated 3 million Americans suffer from side effects associated with eating foods that contain gluten. To make it easier for those who suffer from this disease to find delicious, gluten-free recipes, the USPB has created a gluten-free recipe collection on their website www.potatogoodness.com, which includes more than 80 gluten-free recipes from several ethnic cuisines, many of which can be prepared in 30 minutes or less.

Vitamin C

Potatoes provide 27 mg of vitamin C (45 percent of the current daily value), which can contribute to total daily requirements. This water-soluble vitamin acts as an antioxidant, stabilizing or eliminating free radicals, thus helping to prevent cellular damage. Vitamin C also aids in collagen production, a process that helps to maintain healthy gums and is important in healing wounds. Finally, vitamin C assists with the absorption of iron and may help support the body's immune system (Grosser 2008). Although potatoes do not rival the vitamin C content of citrus fruits and peppers, they do contribute significantly to daily vitamin C requirements. In fact, data from the most recent *Continuing Survey of Food Intakes by Individuals* (1994-1996) indicates that potatoes rank in the top 5 of dietary sources of vitamin C for Americans (Cotton et al. 2004).

Potassium

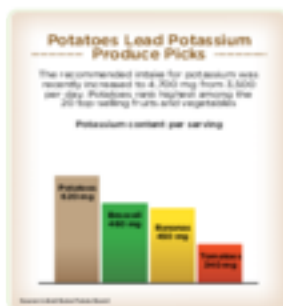
It is estimated that less than 3% of Americans are meeting the current adequate intake (AI) for potassium (4700 mg/d) (USDA). Potatoes provide one of the most concentrated and affordable sources of potassium (Table 2) — significantly more than those foods commonly associated with being high in potassium (e.g., bananas, oranges, mushrooms, etc.) (Drewnowski et al. 2011). Research suggests that diets rich in potassium and low in sodium reduce the risk of hypertension and stroke (Appel et al. 1997, FDA, Food & Nutrition Board 2004). Accumulating evidence also suggests that increasing dietary potassium can negate some of the negative effects of dietary sodium on blood pressure (Geleijnse et al. 2008), and reducing sodium along with increasing potassium provides greater heart disease protection than intervention alone (Cook et al. 2009, Nowson et al. 2004).

Table 2: Potassium Content of Selected "High" Potassium Foods*

Food Source	Potassium (mg)
Potato (1, 5.3 oz)	620
Broccoli (1 med stalk)	460
Banana (1 med)	450
Sweet Potato (1 med)	440
Tomato (1 med)	360
Mushrooms (5 med)	300
Orange (1 med)	250
Cantaloupe (1/4 med)	240
Grapefruit (1/2 med)	160

*www.fda.gov/food/labelingnutrition

Given their high potassium content, potatoes may contribute to a heart healthy diet. Nowson et al. (2004) examined the effect on blood pressure of two different self-selected diets: (1) a low-sodium, high-potassium diet rich in fruit and vegetables (LNAHK) and (2) a high-sodium diet rich in low-fat dairy foods (HC) with a (3) moderate-sodium, high-potassium, high-calcium DASH-type diet high in fruits, vegetables and low-fat dairy foods (OD) for four weeks. In order to achieve a higher potassium intake, the subjects on the LNAHK diet and OD diets were given a list of potassium rich foods and instructed to eat a potato a day. The results indicated that both the LNAHK and OD produced decreases in blood pressure (compared to the HC diet); however the decrease was greatest in the LNAHK diet. With the speculation that the blood pressure lowering effects of the LNAHK and OD diets were due to an increase in dietary potassium as a direct result of including a daily potato dish, Nowson and colleagues recently re-examined the data. The results confirmed that there was an inverse relationship between potato consumption and blood pressure. Specifically, it was demonstrated that a 100 g/d higher intake of potatoes (an average potato is approx. 150 grams) was associated with a 2.6 mm Hg lower diastolic blood pressure (Nowson et al. 2008).



The health benefits of potassium go beyond cardiovascular health. Research indicates that diets high in potassium-rich fruits and vegetables may help maintain lean body mass and bone mineral density as we age (Dawson-Hughes et al. 2008, Tucker et al. 1999).

Vitamin B6

Potatoes are a good source of vitamin B6, a water soluble vitamin that is often low in the diets of certain groups of women (DRIs 1997). Vitamin B6 plays important roles in carbohydrate and protein metabolism. It helps the body make nonessential amino acids needed to make various body proteins. It is also a cofactor for several enzymes involved in energy metabolism, and it is required for the synthesis of hemoglobin – an essential component of red blood cells (DRIs 1997).

Fiber

One medium potato with the skin contributes two grams of fiber or eight percent of the daily value. Dietary fiber is a complex carbohydrate and is the part of the plant material that cannot be digested and absorbed into the bloodstream. Dietary fiber has been shown to have numerous health benefits, including improving blood lipid levels, regulating blood glucose, and increasing satiety, which may help with weight loss (Food and Nutrition Board 2002).

Resistant Starch

Resistant starch is the starch that is 'resistant' to enzymatic digestion in the small intestine. Resistant starch is found naturally in foods such as legumes, bananas (especially underripe, slightly green bananas), potatoes, and some unprocessed whole grains. Natural resistant starch is insoluble, fermented in the large intestine and a prebiotic fiber (i.e., it may stimulate the growth of beneficial bacteria in the colon). Other types of resistant starch may be soluble or insoluble, and may or may not have prebiotic properties (Higgins 2004).

The physiological effects and potential health benefits of resistant starch have been studied in animals and humans for over 30 years (Murphy et al. 2008). Resistant starch appears to exert beneficial effects within the colon as well as body wide. Health benefits in the colon include enhanced fecal bulk, extensive fermentation and the production of important short chain fatty acids and increased synthesis of a variety of "good" bacteria (Murphy et al. 2008, Cummings et al. 1996, Nofrarias et al. 2007) both of which are believed to protect the colon from harmful microorganisms and even cancer (Hylla et al. 1998). Systemic effects include improvements in glucose tolerance and insulin sensitivity, reductions in blood lipid levels, increases in satiety and potential uses in weight management (Higgins 2004, Bodinham et al. 2010).

In fact, the potential health benefits are so promising that the Joint Food and Agriculture Organization of the United Nations/World Health Organization Expert Consultation on Human Nutrition concluded that resistant starch is "...one of the major developments in our understanding of the importance of carbohydrates for health in the past twenty years." (FAO 1998)

The amount of resistant starch found in potatoes is highly dependent upon processing and preparation methods. For example, cooking and then cooling potatoes leads to nearly a two-fold increase in resistant starch—Table 3 (Englyst et al. 1992, Murphy et al. 2008). Even processed potatoes (e.g., potato flakes) appear to retain a significant amount of resistant starch with the potential to confer health benefits.

Table 3: Resistant Starch Content of Various Foods*

Food	RS (g/100g food)
Puffed Wheat	6.2
White Beans (cooked)	4.2
Banana (raw)	4.0
Potato Chips	3.5
Lentils (cooked)	3.4
Corn Flakes	3.2
Potato (cooked & cooled)	3.2
Rye Bread	3.2
Potato (fried)	2.8
Chickpeas (cooked)	2.6
Peas	1.9
Potato (boiled)	1.3
Wheat Bread	1.2
Potato (baked)	1.0

*Adapted from Murphy 2008

Antioxidants

In addition to vitamins and minerals, potatoes also contain an assortment of phytochemicals with antioxidant potential, most notably carotenoids and anthocyanins (Brown et al. 2003, 2004). Anthocyanins are found in the greatest quantities in purple and red potatoes while carotenoids are found largely in yellow and red potatoes, although small amounts are also found in white potatoes (Brown et al. 2004).

Wu and colleagues (2006a) examined total antioxidant capacity (TAC) in more than 100 different foods, including fruits, vegetables, nuts, dried fruits, spices, cereals, and other foods. In addition, the researchers measured total phenolic content of these foods to evaluate their contribution to total antioxidant capacity. Out of the 42 vegetables that were tested, beans (including small red, kidney, and pinto) and artichokes ranked highest in total antioxidant capacity, while russet potatoes ranked fifth, coming in ahead of vegetables that are more commonly known for their antioxidant potential, such as broccoli, cabbage, and tomatoes.

Potato Nutrition: More than skin deep

A common misconception is that all of the potato's nutrients are found in the skin. While the skin does contain approximately half of the total dietary fiber, the majority (> 60 percent) of the nutrients are found within the potato itself. As is true for most vegetables, cooking does impact the bioavailability of certain nutrients, particularly water-soluble vitamins and minerals, and nutrient loss is greatest when cooking involves water (boiling) and/or extended periods of time (baking). To maintain the most nutrition in a cooked potato, steaming and microwaving are best.

A number of scientists have developed specific research programs to examine the antioxidant content of different varieties of potatoes with the ultimate goal of developing new potato varieties that maximize antioxidant potential. Dr. Cecil Stushnoff and his team at Colorado State University have examined nearly 100 different selections and varieties of potatoes for antioxidant content and free radical scavenging capacity and have found that pigmented potatoes contain a variety of substances with antioxidant potential (Stushnoff et al. 2007). Potato cultivars with particularly high phenolic contents include:

- **Purple Majesty**
  (recently released purple-skinned variety)
- **Mountain Rose**
  (not yet released red-skinned variety)
- **Rio Grande**
  (not widely available russet variety)

Researchers are also focusing on breeding species of potatoes that have improved antioxidant capacity and have successfully developed potato tubers with increased levels of flavonoids and carotenoids (Lukaszewicz et al. 2004, Brown 2004, Navarre 2007).

The potential role of potato antioxidants in immune function and disease prevention have also been studied. For example, Reddivari et al. (2007) examined the effects of a purple potato anthocyanin fraction on prostate cancer cell proliferation and apoptosis (i.e., cancer cell death) *in vitro*. The results indicated that cancer cell proliferation was decreased by the anthocyanin fraction, and apoptosis was increased. Current studies are focusing on identifying the individual components of the anthocyanin fraction responsible for the induction of apoptosis in prostate cancer cells and on developing potato cultivars that overexpress these bioactive compounds.

CAROTENOIDS	ANTHOCYANINS
Comprise a large group of compounds produced by plants	Are a class of plant pigments that can be classified chemically as both flavonoids and phenolics
Impart yellow/orange/red hues to various plants, including fruits, tubers and roots	Widely distributed among flowers, fruits, and vegetables and contribute to every color but green (Hou 2003)
Play a function in plants as accessory pigments, photosynthesis and protect against photooxidation; in plants and animals, in humans, carotenoids are thought to have a variety of function including antioxidant activity, immune enhancement and perhaps protection against some forms of cancer (Ziffa 2000)	Play several major roles in plants, including attracting insects for pollination, acting as a UV screen to protect the plant's DNA from damage by sunlight, and acting as feeding deterrents

The effects of pigmented potato consumption on biomarkers of oxidative stress, inflammation and immune response were recently studied in a sample of healthy adult males who received daily doses (350 grams) of either white, yellow or purple-fleshed potatoes daily (Kasper 2011). The results indicated that consuming pigmented potatoes can reduce inflammation and DNA damage as well as modulate immune cell phenotype in healthy adult males.

Dr. Roy Navarre and researchers from Washington State University recently began using a technique known as "metabolic profiling." They examine genetic variations in potatoes and then use this information to maximize their nutritional potential. In his lab, metabolic profiling is being used to screen potatoes for genotypes with elevated amounts of vitamins and phytonutrients. Substantial differences in phytonutrients among different genotypes were observed for some phenolic compounds, including flavonol, differing in concentration by well more than tenfold. More modest differences were found in folate, with about a threefold difference between high and low folate genotypes. Comparisons have also been made between wild species and cultivars, and marked differences were found in a variety of compounds, including glycoalkaloid composition (Navarre et al. 2007).

Does cooking potatoes impact antioxidant content?

What is the impact of cooking and other forms of processing on the phenolic content and antioxidant activity of potato varieties? There is no clear-cut answer as the current data are conflicting. Results from Dr. Brown's lab indicate that boiling increases the extractable total carotenoids and the accompanying antioxidant values (Brown 2007). On the other hand, data from Dr. Miller's lab indicates that boiling is the only cooking method that severely negatively

impacts antioxidant content. Microwaving and baking appear to cause minimal destruction/reduction in antioxidant content. Dr. Miller hypothesizes that the boiling causes a loss of the water-soluble antioxidants in the water. Wu and colleagues (2004b) found that cooking had a variable effect on the hydrophilic antioxidant capacity of the four different vegetables tested (russet potato, broccoli, carrots and tomato). Specifically, potatoes and tomatoes had significant increases in antioxidant content after cooking, while carrots had a significant decrease, and broccoli was unchanged.

Glycemic Index

If low-carbohydrate was the diet trend at the start of the decade, then low glycemic index (GI) has certainly been the trend to round it out. The GI is defined as "the incremental area under the blood glucose response curve of 50 grams available carbohydrate portion of a test food relative to 50 grams of a reference food (e.g., glucose or white bread)" (Jenkins et al. 1981). Potatoes have been unfairly criticized for their ranking on the GI. In fact, there are a number of complexities in the measure and methodological weaknesses inherent in the determination of GI, which severely limits the simple classification of a given food as high, medium or low on the GI, as well as the application of the GI for the purpose of food selection (Franz 2004). First and foremost, it must be emphasized that the GI is not an inherent property of a food but, rather, the metabolic response of an individual to a food (Pi-Sunyer 2002). Thus, the GI of a carbohydrate-rich food can vary greatly depending on a number of factors, including:

Variety: Different varieties of a given carbohydrate-rich food (e.g., short-grain vs. long-grain rice, linguini pasta vs. rotini pasta, red potatoes vs. russet potatoes) can produce significantly different GIs. According to the most recently published international table of GI values (Atkinson et al. 2008), the GIs for potato varieties range from a low of 58 for a boiled Portlac potato from Australia to a high of 111 for a baked U.S. Russet Burbank.

Origin: Ironically, even for presumably the same variety, the GI value can vary widely depending on where it was grown. For example, russet potatoes grown in Australia have a GI ranging from 87-101, placing them in the high category, whereas russets grown in the U.S. and Canada have GIs ranging from 56-77, placing them in the more moderate category (Foster-Powell et al. 2009; Fernandes 2005).

Processing: Grinding, rolling, pressing, mashing, and even thoroughly chewing a starch-rich carbohydrate will disrupt the amylase and/or amylopectin molecules, making them more available for hydrolysis and thereby increasing the GI (Collier & O'Dea 1982, Pi-Sunyer 2002, Wolever et al. 2003). For example, Wolever and colleagues showed that the GI of a one-inch cube of potato could increase by almost 25 percent simply by mashing the cube. Chemically modifying a carbohydrate-rich food can also

affect its GI. Decreasing the pH of a starch (e.g., by adding acid) can lower the GI, thus, adding vinegar to potatoes (such as when making potato salad) will lower the GI of the potatoes. Similarly, acetylation or the addition of beta-cyclodextrin has been shown to decrease the GI of potato starch (Reuber et al. 1997).

Preparation: Cooking has been shown to exert a differential effect on GI of a carbohydrate-rich food, particularly one that is high in starch. For example, a recent study by Fernandes et al. (2005) examined the effect of cooking on the GI of potatoes prepared in a variety of different ways including: mashed; baked; reheated; boiled; boiled and cooled; and fried. The results indicated that the GI values of potatoes varied significantly depending on both the variety and cooking method used, ranging from intermediate (boiled red potatoes consumed cold: 56) to moderately high (roasted white potatoes: 73; baked russet potatoes: 72). Similarly, Kinnear et al. (2011) investigated the effects of cooking and cooling on the GI of four novel potato varieties and found significant variability in the effects. Specifically, cooking and cooling reduced the GI of two potato varieties by 40-50%, while it produced only a 8-10% reduction in the other two varieties.

Between-Subject Variability: Research clearly shows that individuals can vary significantly in their glycemic responses to the same food (Wolever 2003). Nonetheless, in laboratory studies, this source of variation is reduced to the point where it is no longer statistically significant by expressing an individual's glycemic response to the food of interest relative to that of a reference food (e.g. white bread or glucose). For example, Wolever and colleagues (1990) examined the glycemic responses (AUC) and GI (i.e., the AUC of the test food expressed relative to white bread) of three different foods (white bread, rice, and spaghetti) in 12 subjects with diabetes. The average coefficient of variation (a representation of the variability in responses between subjects) for the AUC (for the same food) was 45 percent, whereas for the GI it was only 10 percent. While mathematically correcting for differences in glycemic responses makes for a nice, consistent GI, it is artificial and masks a very important and practical consideration — individuals differ significantly in their blood glucose responses to the same food.

Within-Subject Variability: Not only do blood glucose responses to similar foods differ between individuals, they can vary significantly in the same person on different occasions. In fact, the within-subject variation can sometimes be greater than the between-subject variation. Wolever et al. (1985) showed that for repeated tests of 50 grams of carbohydrate from glucose or bread, the coefficient of variation of AUC was approximately 15 percent in subjects with Type 2 Diabetes, 23-25 percent in nondiabetic subjects, and 50 percent in subjects with Type 1 Diabetes. Similarly, Vega-Lopez et al. (2006) examined the inter-individual variability and intra-individual reproducibility of GI values for commercial white bread among 23 healthy adults (aged 20-70 years) and found that the inter-individual coefficient of variation (CV) was 17.8 percent, while the intra-individual CV was 42.8 percent. In a study recently published in the British Journal of Nutrition, Williams (2008) examined the reliability of the GI among four different foods (white bread, glucose, chickpeas and mashed potatoes) using the intra-class coefficient (ICC), a measure having values between zero and one, with values closer to one indicating a better reliability and values closer to zero indicating poor reliability. The ICC for white bread, glucose, and chickpeas were 0.50, 0.49, and 0.28, respectively, while the ICC for mashed potatoes was significantly lower at 0.02, indicating a very poor repeatability. It bears noting that these studies were all done in a laboratory under highly controlled conditions (i.e., using 50 grams of a single food at the same time of day, etc.). The variation would likely be much greater under less controlled or more "real life" conditions.

Time of Day: The time of day during which glycemic response is measured may impact not only the absolute glycemic response (i.e., the AUC) but also the relative glycemic response (i.e., the GI) (Salmeron et al. 1998, Wolever 1998). For example, Wolever and Bolognesi (1996) compared the glycemic responses to two different breakfast cereals under two conditions: after a 12-hour fast and at midday, four hours after consuming a standard breakfast. The AUCs at midday were significantly less than those after the 12-hour fast, despite the fact that the subjects consumed the exact same foods. More specifically, the mean AUC response to the high-fiber cereal was 50 percent lower than that of the low-fiber cereal after the 12-hour fast, while this difference shrank to just 10 percent at midday.

For the GI to be considered a useful dietary planning tool, it must have a predictable effect on blood glucose; it must not only be valid but reliable. As the research described above documents, for many foods, this is clearly not the case.

Satiety and Weight Management

Given the ever increasing prevalence of obesity in the U.S. (68 percent of Americans are overweight or obese) (Flegal 2010), it is not surprising that weight management is top of mind among consumers and health professionals alike. One of the most highly researched factors believed to impact weight management is satiety. Satiety is generally defined as the physiological and psychological experience of "fullness" that comes after eating and/or drinking. A number of factors have been shown to influence the experience of satiety, including gastric distention, elevations in blood glucose, and alterations in circulating hormones (e.g., increased insulin and cholecystokinin and decreased glucagon). The GI of a food has also been hypothesized to influence satiety, despite a paucity of valid research to support the connection. Due to potatoes' supposed high GI, they have been accused of not being satiating and, thus, have been pegged as fattening. However, available research does not support this contention.

A frequently cited study by Holt and colleagues (1995) examined the satiating effects of 38 commonly eaten foods grouped into six different categories (fruits, bakery products, cereals, snack foods, protein-rich foods, and carbohydrate-rich foods). Subjects consumed 240 kcal (1,000 kJ) portions of each food item, and their feelings of hunger/satiety were assessed every 15 minutes for a total of 120 minutes using an equidistant seven-point rating scale that ranged from "extremely hungry" to "extremely full." The subjects were then allowed to eat ad libitum from a standard range of foods and drinks. A Satiety Index (SI) score was calculated for each food by dividing the area under the satiety response curve (AUC) for the given food by the group mean satiety AUC for white bread and multiplying by 100. The results indicated that there were significant differences in satiety scores not only between but also within food groups. The food that scored highest on the satiety index was, in fact, boiled potatoes, with a score seven times greater than croissants, which had the lowest SI score. The authors also found no significant relationships between satiety, plasma glucose, or glycemic responses among the 38 test foods. However, a negative correlation was found between insulin responses and ad libitum food intake at 120 minutes, which suggests that test foods producing a higher insulin response were associated with less food intake and thus, indirectly, greater satiety.

The Holt et al. (1995) study has been criticized for not controlling for macronutrient and water content of the test foods (i.e., not selecting foods with similar amounts of protein, fat, fiber and water content). It has been argued that these factors may have overshadowed the effect of the GI on satiety. In an attempt to address this methodological shortcoming, Dr. Alan Gelissen and colleagues (2008) investigated the satiety of common carbohydrate-rich side dishes with varying GIs. Twelve subjects consumed five test meals with similar calorie and macronutrient contents (baked potato, mashed potato, pasta, brown rice, white bread) in randomized order followed by an *ad libitum* lunch meal two hours later. Appetite ratings were taken prior to the test meal and at 0, 15, 30, 60, 90, and 120 minutes. Subjects reported a lower desire to eat following the potato meals compared with the pasta meal. Similarly, at 120 minutes, the subjects reported being able to eat less food following the potato meal compared with the brown rice meal. Nonetheless, despite differences in some of the appetite ratings, total energy intake at the subsequent lunch meal did not differ between the test meals and was not correlated with fullness. Subjective experience of fullness was not significantly correlated to GI.

From an obesity perspective, it is important to determine if differences in short-term satiety as a result of different GI actually have an impact on body weight regulation. Unfortunately, much of the currently existing research examining the impact of GI on weight loss is hampered by methodological shortcomings, including small sample sizes, inadequate controls, and insufficient duration. Nonetheless, after a critical examination of the available data, the 2010 Dietary Guidelines Advisory Committee concluded that, "*Strong and consistent evidence shows that glycemic index and/or glycemic load are not associated with body weight and do not lead to greater weight loss or better weight maintenance*" (DGAC).

Indeed, a number of recent studies have failed to find a weight loss advantage from low GI diets. (Aston et al. 2008, Das et al. 2007, Rebello et al. 2010, 2011). For example, Aston and colleagues (2008) examined the effect of diets differing in GI on satiety and weight loss in overweight women (n=118) over a 12-week period. Lower or higher GI versions of key carbohydrate-rich foods (breads, breakfast cereals, rice and pasta/potatoes) were provided to subjects to be incorporated into habitual diets in *ad libitum* quantities. The results indicated no differences in energy intake, body weight, or body composition between treatments. On laboratory investigation days, there were no differences in subjective ratings of hunger or fullness, or in energy intake at the snack or lunch meal.

The effects of calorie-restricted diets (30 percent calorie reduction) differing in GI on body weight and body fat losses was examined by Das et al. (2007). Subjects included overweight but otherwise healthy men and women (n=54) who were part of a larger, multicenter trial known as "CALERIE" (Comprehensive Assessment of the Long-term Effects of Restricting Intake of Energy), designed to examine the effects of calorie restriction on human health and aging.

The twelve week study was conducted in three phases. Phase 1 consisted of a seven-week baseline period during which subjects were instructed to maintain a stable weight and continue eating their usual diet so as to assess baseline energy requirements (using a technique known as "doubly labeled water," which is considered the "gold standard" in assessing free-living energy expenditure). Following Phase 1, subjects were randomly assigned to either a high- or low-GL calorie-restricted diet for 24 weeks.

All food was provided to the subjects at 70 percent of individual baseline weight-maintenance energy requirements (i.e., a 30 percent calorie reduction). The third and final phase of the study consisted of a 24-week calorie-restricted period, during which subjects were instructed to follow the dietary patterns they had in Phase 2 but were no longer provided with the foods (i.e., "self-selected food" period). The results indicated that both groups reduced their energy intake during the calorie-restriction periods, although neither achieved the 30 percent reduction prescribed, and adherence decreased with time. Both groups lost weight (approximately 8 percent of initial body weight), and there was no significant difference in weight loss between the groups. In addition, there were no significant differences between the low-GL and high-GL diet groups in terms of body fat percentage, hunger, satiety, or satisfaction with the amount and type of foods provided.

Potatoes have been unjustly singled out as a food to avoid when attempting to manage body weight due to their supposedly high GI and GL. A study presented at the 2010 Obesity Society meeting assessed the role of GI and potatoes in weight loss (Rebello, et al. 2010). In a 12-week, 3-arm, randomized control trial, 86 overweight men and women were randomly assigned to one of three dietary interventions: (1) low GI, calorie reduced diet (500 kcal/d); (2) high GI, calorie reduced diet (500 kcal/d); (3) control group (counseled to follow basic dietary guidance including the Dietary Guidelines for America and the Food Guide Pyramid). All three groups were instructed to consume five to seven servings of potatoes per week and were provided with a variety of recipes for potato dishes. Modest weight loss was observed in all three groups (-2% of initial body weight) with no significant difference in weight loss between the groups.

The results of these studies clearly show what nutrition professionals have always known: when it comes to weight loss it is calories that count—i.e., if you consume more calories than you expend you will gain weight. Conversely, if you consume fewer calories than you expend, you will lose weight.

Diabetes

Largely because of their supposed high glycemic index, potatoes have been implicated in the development of type 2 diabetes and are often one of the first foods to be eliminated from the diabetic diet. Nonetheless, existing research examining the role of GI in the genesis and/or management of type 2 diabetes is controversial, rendering definitive conclusions of the subject difficult. Indeed, there are equally as many studies showing a beneficial role of GI for type 2 diabetes as those showing no benefit (van Woudenbergh 2011, Marsh et al. 2011, Hosodi et al. 2007).

Moreover, many of the studies implicating GI and, more specifically potatoes, in the development of type 2 diabetes have been epidemiological in nature (demonstrating only an association and not causation), have not differentiated between potato products (i.e., highly processed potatoes vs. fresh potatoes) and/or have not adequately controlled for potential confounding dietary and other lifestyle factors (e.g., fat intake, fruit and vegetable intake, red meat intake, fiber intake, physical activity, socioeconomic status, etc.) (Halton et al. 2006, Drewnowski 2011).

Indeed, when these confounding factors are controlled, any relationship between potatoes and type 2 diabetes seems to disappear. In a recent study Drewnowski (2011) used data from two cycles of NHANES (2005-6 and 2007-8) to evaluate the association between potato consumption frequency and incidence of type 2 diabetes. Statistical adjustment was made for potential confounding factors including race/ethnicity, education, diet quality, and physical activity. The results indicated that, after adjusting for potential confounding demographic and lifestyle factors, there was no observed association between the frequency of potato (baked, boiled and mashed) consumption and the prevalence of type 2 diabetes.

The American Dietetic Association does not endorse the elimination of any food or food groups, but rather supports a "total diet approach" where "all foods can fit if consumed in moderation with the appropriate portions size" (Freeland-Graves et al. 2007). Likewise, the American Diabetes Association conducted an extensive review of scientific studies and concluded that, for people with type 2 diabetes monitoring carbohydrate intake, whether by carbohydrate counting or exchange-based estimation, remains a key strategy in achieving glycemic control (American Diabetes Association).

Determining how much carbohydrate you need each day depends on many things including how active you are and what, if any, medicines you take.

A good place to start is to aim for about 45-60 grams of carbohydrate at a meal (American Diabetes Association). You may need more or less carbohydrate at meals depending on how you manage your type 2 diabetes. Once you know how much carbohydrate to eat at a meal, choose your food and the portion size to match. And don't shy away from potatoes; they can make a significant contribution to your daily vitamin and mineral requirements. A 5.3 oz potato, eaten with the skin, delivers 45% of the Daily Value for vitamin C, 2 grams of fiber and more potassium than a banana (620 mg). The following potato servings provide about 15 grams of carbohydrate:

- Potato, boiled, 1/2 cup or 1/2 medium (3 oz.)
- Potato, baked with skin, 1/4 large (3 oz.)
- Potato, mashed, 1/2 cup

Potatoes in the American Diet

In early 2011, the Department of Health and Human Services and the United States Department of Agriculture (USDA) released the 2010 Dietary Guidelines for Americans. A strong emphasis was made on reducing calorie consumption and increasing physical activity. The other two areas of strong focus were consuming more "healthy foods" like fruits and vegetables, as well as consuming less sodium, saturated and trans fats, added sugars and refined grains. Potatoes fit squarely among all the recommendations.

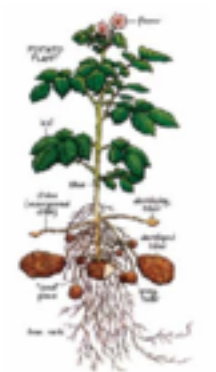
Overweight and obesity in the U.S. exceeds two-thirds of the population, so it's no surprise the 2010 Dietary Guidelines for Americans also highlight the importance of weight management. As described previously, potatoes can be a part of a weight loss program. Moreover, potatoes also provide two of the key "shortfall" nutrients identified by the 2010 Dietary Guidelines Advisory Committee — potassium and fiber — which are nutrients currently consumed in inadequate amounts by Americans. The number one listed food source for potassium is potatoes, with 738 mg for a standard portion. (Note: USDA and FDA use different potato portions in their databases).

To further illustrate the 2010 Dietary Guidelines for Americans, the USDA replaced the multicolored pyramid with MyPlate. This icon provides a visual representation of the food groups that should make up a meal (i.e., a plate) and places a strong emphasis on fruits and vegetables by filling half the plate with these two important food groups. Research indicates that putting potatoes on the plate can improve the overall diet quality of both adults and children. Using dietary intake data from the NHANES database, Dr. Adam Drewnowski and colleagues (Drewnowski et al. 2011, Drewnowski and Rehm 2011) from the University of Washington examined the nutrient intakes and diet quality of adults and children classified by the frequency of potato consumption. The results indicated those who consumed baked, boiled and roasted potatoes had higher intakes of potassium and vitamin C and consumed more total vegetables in a day compared to those who did not consume potatoes.


POTATOES 101
POTATO'S
GOODNESS
UNEARTHED

HISTORY OF THE POTATO

The cultivation of potatoes is believed to date back 10,000 years around Lake Titicaca (in modern-day Peru and Bolivia), when the first inhabitants of this region began selecting edible forms of wild potato species. However, the earliest farming of the modern potato (Solanum tuberosum) began in about 1400 BC with the emergence of agricultural communities in this and other areas of South America. The hardiness of potatoes rendered them the ideal crop for the mountainous regions of Peru, where fluctuating temperatures, poor soil conditions, and thin air made it nearly impossible to harvest wheat or corn. Potatoes made their way to Europe in the early 1500s. Spanish conquistadors invaded South America in search of gold and silver and began carrying the potatoes back to their homeland aboard their ships. The Spanish sailors appreciated the "tartuffos" (as they were called) for the protection they offered from scurvy (later found to be due to their significant vitamin C content).



Today, roots and tubers are the third largest carbohydrate food source, representing nearly half of all root crops consumed (FAO/WHO report 1998). Potatoes are grown in all 50 states of the U.S. and in about 125 countries throughout the world, and they continue to be valued for their durability and the fact that they are nutrient rich. Potatoes have long held the prominent position of being America's favorite vegetable...and are also considered America's favorite side dish (vs. rice and pasta), according to the USPB's annual Attitude & Usage Study. In 2010, 80% of American's consumed potatoes in-home 3.8 times in the average two-week period, according to National Eating Trends®, a service of the NPD Group. In October 1995, the potato became the first vegetable to be grown in space. That collaborative project between the National Aeronautics and Space Administration (NASA) and the University of Wisconsin, Madison was conducted with the goal of feeding astronauts on long space voyages and, perhaps, eventually feeding future colonies in space.

HOW TO BUY AND STORE POTATOES

How to Select the Best Potatoes

Look for clean, smooth, firm-textured potatoes with no cuts, bruises or discoloration.

Store Properly to Keep Potatoes Fresh

- Store potatoes in a well-ventilated place, optimally at a temperature between 45°F and 55°F.
- Colder temperatures (as in a refrigerator) cause a potato's starch to convert to sugar, resulting in a sweet taste and discoloration when cooked. If you do refrigerate, letting the potato warm gradually to room temperature before cooking can reduce the discoloration.
- Avoid areas that reach high temperatures (beneath the sink or beside large appliances) or receive too much sunlight (on the countertop near a window).
- Perforated plastic bags and paper bags offer the best environment for extending shelf-life.
- Keep potatoes out of the light.
- Don't wash potatoes (or any produce for that matter) before storing. Dampness promotes early spoilage.

"Green" Potatoes or Sprouting Potatoes

- Green on the skin of a potato is the build-up of a chemical called Solanine. It is a natural reaction to the potato being exposed to too much light. Solanine produces a bitter taste and if eaten in large quantity can cause illness.
- If there is slight greening, cut away the green portions of the potato skin before cooking and eating.
- Sprouts are a sign that the potato is trying to grow. Storing potatoes in a cool, dry, dark location that is well ventilated will reduce sprouting.
- Cut the sprouts away before cooking or eating the potato.

There are hundreds of potato varieties planted around the world today. The seven main potato types consumers most often see at the store today are:

Russets

Russets are the most widely used potato type in the United States, characterized by a brown, netted skin and white flesh. One favored use for russets is **baking**. The delicious result has a light and fluffy center, surrounded by a tasty, robust and crispy roasted skin. The delicate potato flavor and grainy texture of a baked russet makes it the ideal partner for a variety of toppings, as flavor infusion is so natural to this type. Russets also create light and fluffy **mashed** potatoes and traditional crispy, **pan-fried** potatoes.

Reds

This variety, once only available in late summer and early fall, is widely known for its rosy red skin and white flesh. One of its favored uses is in **soups and stews**. Its moist, waxy flesh stays firm throughout the cooking process and the vibrant red skin adds an appealing color to enhance the presentation of any dish. The slightly sweet and always-tender texture also absorbs the hearty flavors of the stock. In addition to savory soups and stews, reds are frequently used to make tender, yet firm **potato salad** or creamy **mashed potatoes**.

Whites

This all-purpose potato type has a white flesh and white (sometimes light tan) skin. **Mashing** is one favored use. These slightly dense and creamy potatoes have a subtly sweet flavor. Their delicate, thin skins add just the right amount of texture to a mashed potato dish without the need for peeling. Also, try **grilling** whites to bring out a more full-bodied flavor, or use them in **soups and stews** as they become tender, yet hold their shape well.

Yellows

This type, well-known throughout Europe and fast gaining popularity in the U.S., boasts golden skin and golden flesh. One favored use is **grilling**. Its crispy skin enhances the dense and buttery texture of the flesh. Grilling brings out this quality best, dazzling the palate with its slightly sweet, caramelized flavor. Their naturally smooth and buttery texture also lends itself well to lighter versions of **baked** or **roasted** potatoes.

Purples/Blues

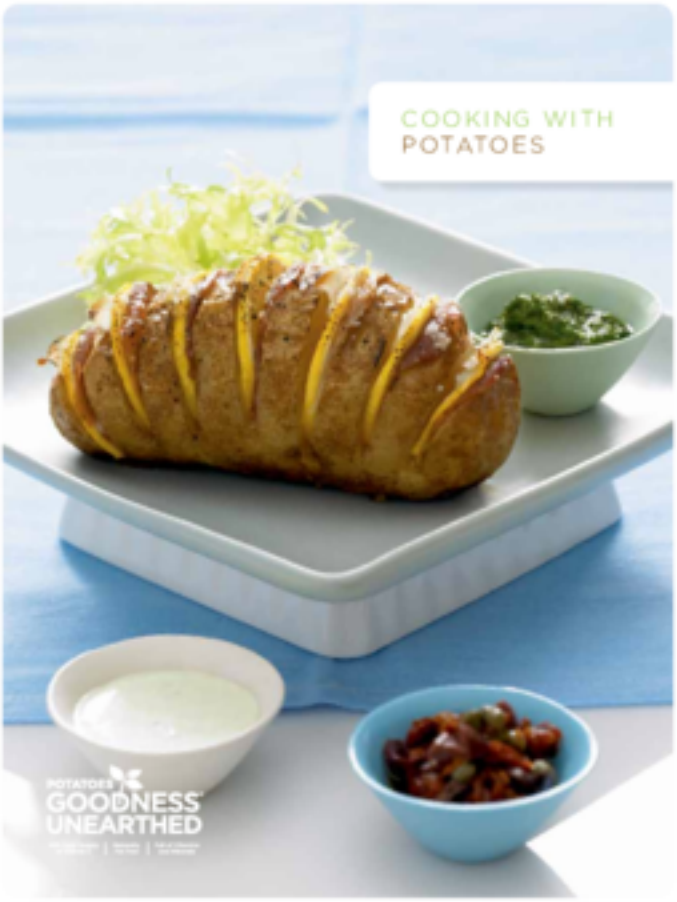
Relative newcomers to the produce department, purple potatoes have a deep purple skin with flesh that ranges from purple to lavender to almost white. The rich, vibrant color and luscious taste make **tossed salads** a favored use for this type. The moist, firm flesh retains its shape while adding rich colors to any salad. Because of their mild, yet distinctly nutty flavor, purple potatoes naturally complement green salad flavors. Purple potatoes are also sensational **roasted** – or try combining purples with fingerlings or reds to instantly create a colorful side dish bursting with flavor!

Fingerlings

This category of potatoes encompasses a wide variety of small, slender "finger-sized" potatoes, typically ranging from 2 to 4 inches in length. These varieties come in a wide range of skin and flesh colors – red, orange, purple, yellow and white – and most possess a firm, waxy texture. **Pan-frying**, one favored use, enhances their robust flavor and showcases their wonderful nutty or buttery tastes. **Roasting** creates a similarly delightful flavor sensation. Even consider fingerlings as a change-of-pace foundation for a truly unique **potato salad**.

Petites

Petites are small, even "bite-sized" potatoes and share the same characteristics – color, flavor and texture – as their full-sized cousins. Petites can be found in red, white, yellow, brown and purple. Don't let their size fool you, because their flavors are actually more concentrated and they cook more quickly, which makes **potato salads** a favored use for these types. Petites also make colorful, delicious and fun **roasted potatoes**.


COOKING WITH
POTATOES
POTATOES
GOODNESS
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MEET OUR POTATO EXPERT

Creating a potato recipe is part art, part science... and all Patty. A home economist since 1981, Patty has developed and tested nearly all the healthy potato recipes in the USPB's database.

In 2003 Patty took over as the Food Editor for Something Extra *magazine, a struggling quarterly publication of the Raley's supermarket chain. Buoyed in large measure by the force of Patty's creative will,* Something Extra *has become something special, and she now creates nearly 50 recipes per issue for the magazine. Additionally,* Something Extra *now publishes four times per year with a circulation approaching one million copies per issue, making Patty's recipes more popular than many national cookbook authors.*

Patty is the mom to Bernard Abbey and lives in Folsom, Calif., with her husband Vince. Her potato tips and ideas are woven throughout this section.

Preparing to Cook

- Gently scrub potatoes with a vegetable brush under cool running water. The maximum nutrients are preserved when potatoes are cooked and eaten with the skin on.
- If peeling, use a vegetable peeler or sharp paring knife and keep the peeling very thin, since many of the nutrients are found close to the skin.
- Chop or handle potatoes on a clean cutting board and be sure to use proper safety techniques with all ingredients in a given potato dish to avoid cross-contamination with other foods.
- Sometimes potatoes that are cut and uncooled take on a pinkish or brownish discoloration. It's due to the carbohydrate in the food reacting with oxygen in the air. Potatoes that become discolored are safe to eat and do not need to be thrown out. The color usually disappears with cooking.
- Preserve the color of cut potatoes by storing them in cold water and add lemon juice or a little vinegar. Limit water soaking to two hours to retain water-soluble vitamins.

Cooking Potatoes

- Keep in mind, to preserve the abundance of nutrients in your potato, cook it in its skin. Steam or microwave your potatoes instead of boiling, as water naturally leaches some of the nutrients.
- If you do boil, consider using that water to moisten your mashed potatoes or in soup.
- For every taste bud there is a unique and special dish! Visit www.potatogoodness.com to find the potato dish suited for your needs.

Leftovers

- Refrigerate any leftovers within two hours of serving to prevent food-borne illnesses. Any meal leftovers should be consumed within a few days.
- The USPB does not recommend freezing cooked potatoes at home as they become watery upon reheating. The potato is 80 percent water and when frozen, this water separates from the starch and nutrients.

How to Bake a Potato

It's the most common potato search term on the Internet! How do you bake a potato? Let us count the ways!

Basic cooking instructions for baked potatoes to serve four: With fork, pierce skin of four medium (5 to 6-ounce) potatoes in several places. Bake in preheated 400-degree oven 40 to 50 minutes, or until tender when tested with fork. The skin will be crispy and the pulp dry and fluffy.

If you need to get dinner on the table in minutes, try baking potatoes in the microwave. The key to great microwave baked potatoes is cutting a thin wedge, lengthwise, approximately 1/8-inch wide and 1/2-inch deep. This is done so the steam can fully escape from the potato, resulting in a dry and fluffy spud.

Microwave cooking instructions for baked potatoes to serve four: Cut a wedge (1/8-inch wide and 1/2-inch deep) out of four medium (5 to 6-ounce) potatoes. Place in a microwave-safe dish. Microwave on HIGH, uncovered, for 10 to 12 minutes depending on strength of microwave. Use oven mitts to remove dish from microwave.

Patty tip: Whether it's part of a larger meal or the culinary centerpiece, everyone loves a potato. Of course, what you top your potato with determines how healthy it is for you. So why not substitute your normal toppings with some delicious alternatives. Consider spruicing up your spuds with:

- Broccoli spears and low-fat Cheddar
- Salsa, nonfat yogurt and cilantro
- Vegetarian chili
- Marinara sauce and parmesan cheese
- Wasabi paste
- Bacon bits
- Grilled veggies
- Healthy buttery spread and sea salt

How to Make Perfect Mashed Potatoes

What else do we get asked? How to make perfect mashed potatoes, of course! With skins or without? Russets, Yukon Golds, reds, or whites? It's the great potato debate and everyone seems to have a personal favorite.

Basic cooking instructions for mashed potatoes to serve four: Leave skin on or peel three medium (5 to 6-ounce) potatoes. Cut into 1-inch chunks. Place potato pieces in medium pot and pour over enough water (or reduced-sodium broth) to cover. Set pan over high heat and bring to a boil. Boil 10 minutes, or until tender. Drain, then shake potatoes over low heat 1 minute to dry. Mash with potato masher or fork.

Microwave cooking instructions for mashed potatoes to serve four: Place four medium (5 to 6-ounce) whole potatoes (do not poke) into microwave-safe dish. Cover dish. (If covering dish with plastic wrap, poke small hole in plastic.) Microwave on HIGH for 10 to 12 minutes depending on strength of microwave. Use oven mitts to remove dish from microwave; carefully remove cover and mash well.

Patty tip: My favorite way to prepare mashed potatoes is in the microwave. Not only does it save time and the extra mess, I find the potatoes preserve the most moisture with this technique. To keep the potatoes healthy, use a healthy spread, fat-free plain yogurt or low-fat milk. Try stirring in fresh spinach, salsa, low-fat sour cream and low-fat cheddar or sautéed onions, carrots and zucchini for additional flavor.

How to Bake Fries

Retain all the healthy goodness of the potato's nutritious profile while creating a family favorite by baking potato wedges in the oven with vegetable oil and Italian herb seasoning. Serve with a fresh salsa for healthy dipping.

Basic cooking instructions for baked fries to serve four: Heat oven to 450 degrees. Slice 3 medium potatoes (5 to 6 ounces each) lengthwise 3/4-inch thick, then cut each slice into 3/4-inch long sticks. Place in large bowl. Drizzle with 1 tablespoon canola or other vegetable oil and sprinkle with 1 teaspoon dried Italian herb seasoning and 1/4 teaspoon salt (or to taste); toss to coat evenly. Arrange potato pieces in a single layer on nonstick baking sheet or baking sheet coated with vegetable cooking spray. Bake 20 to 25 minutes until potatoes are golden brown, turning once after 15 minutes. Serve immediately.

Patty tip: Mash together rosemary, salt and pepper in a small bowl with the back of a spoon; sprinkle over cooked potatoes and toss well to coat. Healthy and delicious fries are quick, easy and full of flavor!

Don't be afraid to use the microwave for speeding up all your potato recipes.

Potato Salad Possibilities

Grandma's potato salad is a cherished recipe. But if you're looking for a new side dish the whole family will love, try these 20 twists on classic potato salad.

Creamy Potato Salad with Chives and Gherkins

Jicama and Baby Potato Salad

Loaded Baked Potato Salad

Roasted Fingerling Potato Salad with Lemon & Thyme

Potato Salad with Pomegranate and Avocado Dressing

Cajun Potato Salad

Beet and Purple Potato Salad

Grilled Pesto Potato Salad

Lightened Fingerling Potato Salad with Caramelized Onion, Bacon and Blue Cheese

Truffled Potato Salad with Garlic Roasted Mushrooms

Mexican Potato Salad

Potato Salad with Mackerel and Water Cress

Tzatziki Potato Salad

German Potato Salad with a Kick

Roasted Potato and Radish Salad

Minted Avocado Potato Salad

Indian Potato Samosa Salad

Baked Potato with Pineapple Salsa

Southwestern Potato Salad

Potato Salad with Mozzarella and Tomato

Above recipes available at www.potatogoodness.com/recipes

Grilling With Potatoes

Grill, barbecue, cookout – no matter what you call it, nothing beats outdoor cooking, and not just during the warm summer months. Potatoes are the second most popular vegetable to grill, according to the Hearth, Patio and Barbecue Association. They are the perfect accompaniment to all meats, and no matter what the spice, they are the ideal canvas for a variety of flavor. By using a microwave to par-cook your potatoes, actual cook time is reduced dramatically.

Add grilled potatoes before mixing in your salad for a unique twist on a summertime staple (see Grilled Pesto Potato Salad recipe on page 34). For a patio party, serve potato wedges from the grill, and pass around flavorful dipping sauces (see Potato Dippers with a Trio of Sauces on page 38). Encourage kids to play with their food by serving up kabobs – everyone's favorite (see Grilled Potato Kabobs with Lemon Herb Drizzle on page 33).

RESTAURANT CHEFS LOVE POTATOES

Year after year, potatoes remain the best-selling side dish in foodservice. They're familiar and satisfying, easy to eat and easy to love. Even the simplest side of creamy mashed or crispy roasted potatoes has the power to upstage any entrée paired with it. Chefs continue to find innovative potato preparations that please the palates of customers from coast-to-coast. Here are some hot, new potato trends happening in restaurants.

Focusing on Side Dishes

Side dishes are the top culinary trend for 2011 according to Flavor & the Menu. This leading trade reports that the top culinary trend for 2011 is "Sides Take the Lead". As America's favorite side dish, potatoes are one side that's already a center-stage favorite. The magazine says, "Inspired by flavor-discerning and health-conscious public, along with year-round accessibility to top-quality produce, chefs are giving veggies the attention typically reserved for protein." The magazine recommends applying center of the plate cooking methods like roasting and charring to vegetable sides. We're seeing this idea pop up in hot restaurants across the country like in Cafe Gibraltar in Half Moon Bay, California where Chef Jose Luis Ugalde serves braised potatoes with his calamari and as a key flavor in his lamb stew. Braised potatoes also appear as a hash served at Angèle Restaurant in downtown Napa.

Potatoes in Restaurants: The Facts

Potato sides on the menu increased four percent over the course of 2010. In fact, 1,440 new potato mentions were added to chain restaurant menus.

- Three of the top 10 side dishes at chain restaurants are potato-based.
- French fries, baked potatoes and mashed potatoes continued to be the most popular potato items.
- Seasoned, garlic and white cheddar continued to dominate the top potato side dish flavors. Cajun, chile and parmesan cheese were also popular side dish flavors.
- The top four potato preparations were fried, French-cut, mashed and baked.
- Crispy, Golden and Homestyle were the top marketing claims used on menus to describe potato side dishes.
- The "Fat-Free" claim continued to be the most widely used nutritional claim describing potatoes on the menu.

Source: Mintel Menu Insights

On the Menu

Potatoes are showing up in surprising places on American menus; they're topping salads, taking over for meat and adding flavor wow in restaurants from coast-to-coast:

- Chain restaurant Chevy's Fresh Mex is serving a Mesquite-Grilled Steak and Potato Salad with chipotle roasted potatoes on hearts of romaine and baby greens.
- Mimi's Cafe is serving Salmon Provence Salad with mixed greens, feta, cucumber, artichokes and red potatoes.
- Pizza Luce, with six locations in Minnesota, serves two popular pizzas topped with potatoes: The Baked Potato Pizza is topped with potatoes, broccoli and fresh tomatoes and the Garlic Mashed Potato Pizza is paired with feta cheese.
- Potbelly in San Diego offers potatoes in place of meat in almost all of their entrees including enchiladas, tacos, flautas and quesadillas.


POTATO
STORY IDEAS
POTATOES
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January

This year, resolve to skip the fad diets and focus on real nutrition. Discover the healthy potato and the nutrition packed inside. With just 110 calories and no fat in a medium-size potato, spuds are a nutritious and flavorful way to start the New Year.

Please your guests' palettes with a healthy and trendy potato recipe for your New Year's Eve gathering. The USPB's recipe for *Potato Dippers with a Trio of Dipping Sauces* will amaze guests when they learn that these delicious fries are not only naturally nutritious, but the dipping sauces are low-fat, too!

February

It's no coincidence that February is Potato Lovers' Month and American Heart Month. Did you know potassium can reduce your risk for heart disease? What many Americans don't realize is that potatoes are a good source of potassium. Consuming more potassium can help reduce the risk of high blood pressure. So show your heart a little love by incorporating potatoes into your diet.

Amaze football fans and foodies alike by serving traditional snacks with a healthy twist. The USPB's recipes for *Cheesy Potato Skins with Sun-Dried Tomatoes* will leave your party guests happy even if their team doesn't win the big game! Guests won't even realize they're saving on calories and fat as they enjoy these satisfying game-day snacks.

March

Perhaps the potato is America's Favorite Vegetable because so many Americans claim Irish blood. According to History.com, there are 34.7 million U.S. residents who claim Irish ancestry - almost nine times the population of Ireland itself! Irish or not, everyone loves potatoes, so consider serving the USPB's healthy but traditional *Colcannon Chowder* on St. Patrick's Day.

Peel back the truth during National Nutrition Month and discover a seriously healthy vegetable - one medium-size potato has just 110 calories, is fat-free, provides 45 percent of your daily value of vitamin C and, when eaten with the skin, has more potassium than a banana!

April

Whether you're attending an Easter Brunch gathering or hosting your own, our *Potato and Egg Bake* recipe is a sure-fire hit that everyone will love. Packed with vegetables, it's easy to make ahead of time. Consider doubling the recipe because we can guarantee guests will be looking for seconds!

The USPB's makeover series of classic potato recipes, including mashed and baked, as well as fries, casseroles, soups and salads, will have families tricked into believing that mom slaved in the kitchen for hours to make something so delicious. Contrary to popular belief, potatoes can be quick and healthy, providing a side dish or main course in under 20 minutes.

May

Grill, barbecue, cookout - no matter what you call it, nothing beats outdoor cooking in the warm summer months. The potato is not only a family favorite, but is also the second most popular vegetable to cook on the outdoor grill, according to the Hearth, Patio and Barbecue Association. This summer, treat BBQ party attendees with the USPB's *Grilled Potato Kabobs with Lemon Herb Drizzle*.

Cinco de Mayo is a great excuse to celebrate with pepas (Spanish for "potatoes")! Potatoes have long since been a staple in Latino cooking, so spruce up your fiesta spread with *Potato Nachos* or individual helpings of *Mexican Chicken Potato Sous*.

June

The USPB boasts a wide range of potato salad recipes with everything from *Spicy Roasted Potato Salad* to a *Caesar Potato Salad* that incorporates fingerling potatoes. Each of these recipes is as healthy as it is convenient and delicious.

June is National Fruit and Vegetable Month, and the potato just so happens to be America's Favorite Vegetable. Celebrate with a different potato dish every day of the month - or at least once a week! With potato recipes that are perfect for breakfast, lunch and dinner, the USPB has plenty of vegetarian recipes ideal for increasing your family's veggie consumption - and kids won't turn up their noses at these spuds!

July

There's no need to heat up your kitchen during the dog-days of summer. Next time you're invited to a summer potluck, try *Cookout Potatoes*, a delicious grill-top "au gratin" sure to be a hit served alongside any meat. The bacon and bell pepper add great color and texture, but the minimal prep, and "to go" container might be the best part.

Consider this: Potatoes come in red, white and blue. Call it serendipity or, perhaps, patriotic planters, but put these tubers together into a vibrantly-colored *Red, White and Blue Potato Salad* and you're guaranteed to add festivity to Fourth of July gatherings.

August

Summer savings to: Healthy eating and budget cutting can go hand-in-hand. Contrary to popular belief, you don't have to sacrifice nutrition when eating on a budget. Pound for pound, potatoes are one of the best values in the produce department. Averaging 25 cents per serving, you can't afford NOT to include potatoes in your diet.

What's your potato IQ? Contact the USPB for a potato nutrition quiz to celebrate the back to school season. Find out if you've got a PhD in Potatoes, Bachelor of Tates, need to hit the books and eat potatoes as a study snack, or if you're a Tater Tot and should go back to preschool.

September

Cool weather + comfort food cravings. But those cravings don't have to mean extra calories. Potatoes are the ultimate comfort food and there are many ways to keep them naturally nutritious and delicious. Try the USPB's *Potato Tomato Soup* for a recipe that warms the body and the soul.

Heat and potatoes is so yesterday. Chicken and potatoes are the new perfect pairing. Celebrate National Chicken Month with this budget-friendly dynamic duo. Try the USPB's *Mediterranean Lemon Chicken and Potato Packets* on the grill or in the oven.

October

Celebrate potato harvest morning, noon or night with the USPB's Vegedators. Served with a simple egg white omelet, the potatoes are accompanied by broccoli florets and red and green peppers for an added dose of vitamin C. One serving of this dish provides a whopping 92 percent of the recommended daily value for vitamin C!

There's nothing scary about potato nutrition! Potatoes are a great canvas for a Halloween night dinner to get the little goblins out the door satiated and satisfied. The USPB's *Pork and Potato Verde* is the perfect one-pot wonder to kick off a spooktacular evening.

November

Give thanks to America's Favorite Vegetable! An astounding 104 million medium-size (5.3 ounce) potatoes are consumed on Thanksgiving Day, according to The NPD Group's National Eating Trends® data. From *Browned Butter with Butternut Squash Mashed Potatoes* to *White Chocolate Mashed Potatoes*, the USPB is the #1 resource for all of your Thanksgiving potato needs and inspiration.

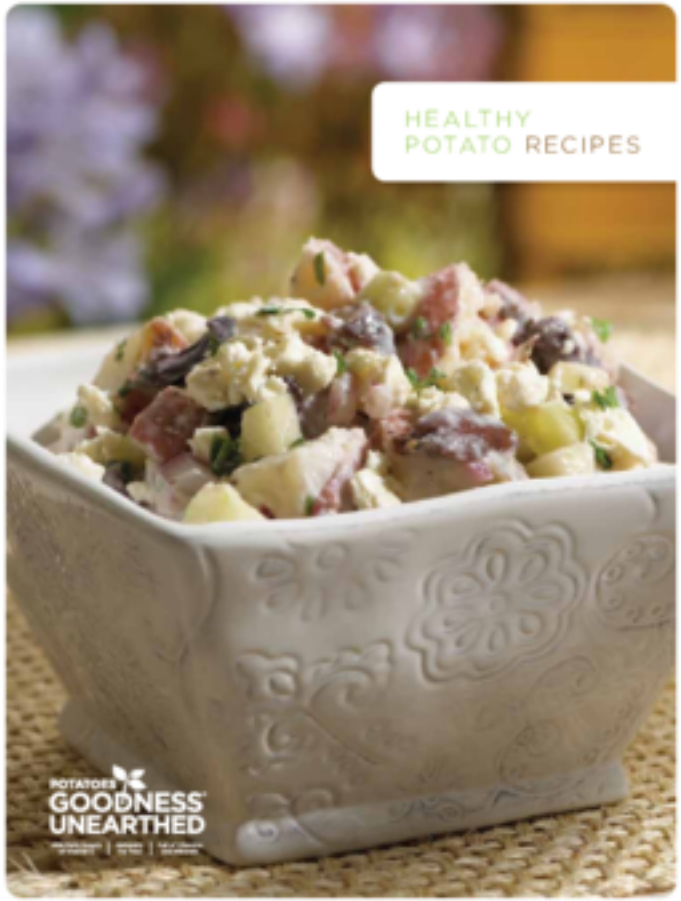
Cook once, eat twice. Leftovers are common during the holidays but you don't have to eat the same meal over and over. Serve a *Tex Mex Shepherd's Pie* using leftover turkey and mashed potatoes – so good it's great to serve to lingering company, too!

December

'Tis the season for indulging, but save breaking the bank and busting the waistline for special holiday parties and celebrations on the weekends. The perfect weeknight meal is *Pennywise Potato Turkey Wraps* – they're good for the wallet and the waistline. Bonus: the recipe represents all sections of the food pyramid!

Potatoes fit any holiday occasion. Need a festive appetizer that's gorgeous, delicious and healthy to boot? *Red Potato and Cucumber Bites* are a party show-stopper. For Hanukkah menu planning, try *Lightened-Up Latkes* for a healthy twist on a holiday classic.

Recipes highlighted above can be found on pages 36 – 42 or at www.potatogoodness.com/recipes.



Cheesy Potato Skins with Sundried Tomatoes

Makes 16 stuffed potato skins

- 4 medium russet potatoes (about 1 1/2 pounds)
- 1/4 cup fat free sour cream
- 2 ounces shredded Parmesan cheese
- 2 ounces shredded Mozzarella cheese
- 1/3 cup finely chopped sun-dried tomatoes
- 1/4 cup sliced green onion tops
- 2 tablespoons chopped fresh parsley
- Pepper, to taste

Preheat oven to 375 degrees. Bake potatoes 50 minutes, or until tender. Let cool. Cut each potato in half. With a spoon, scoop out pulp leaving 1/4-inch of potato in each half. Cut each half to form quarters. Season with salt and pepper. Bake potato quarters for 15 minutes. *(This will crisp them so that they can be packed up easily.)*

Mash 1 cup potato pulp with a potato masher (save remaining pulp for a later use). Stir in the sour cream, cheeses, tomatoes, green onions and parsley. Mixture will be sticky and hold together. With your hands, divide the mixture evenly between the potato skins, pressing the mixture into the skins. Sprinkle with fresh ground black pepper and bake for 15 minutes. Serve warm.

Nutritional analysis per serving: 70 calories, 1.5g fat, 1g saturated fat, 0g trans fat, 5mg cholesterol, 75mg sodium, 3mg potassium, 7g carbohydrate, 1g fiber, 0g sugar, 4g protein, 4% DV vitamin A, 10% DV vitamin C, 4% DV calcium, 4% DV iron.

Colcannon Chowder

Makes 4 main-dish servings (about 8 cups)

- 1 1/2 pounds (4 medium) russet potatoes, peeled and cut into 3/4-inch chunks
- 1 (14 ounce) can fat-free, reduced-sodium chicken broth
- 1 cup water
- Salt
- 2 tablespoons canola oil
- 3 cups coarsely chopped green cabbage
- 3/4 cup finely chopped onion
- 8 ounces smoked chicken or turkey sausage, sliced 1/4-inch thick
- 1 medium carrot, shredded
- 1/2 cup 1 percent milk (about)
- Pepper, to taste

In 3-quart saucepan, cover potatoes with broth and water; add 1 teaspoon salt. Bring to boil over high heat; reduce heat, cover and cook until potatoes are tender, 12 to 15 minutes. Set aside.

Meanwhile, heat oil in 10-inch nonstick skillet over medium-high heat; add cabbage and onion. Sauté 10 minutes, tossing occasionally. Add sausage; continue to sauté, about 10 minutes, tossing occasionally, until vegetables and sausage begin to brown. Add carrot; set aside.

With slotted spoon, remove about 3/4 cup potato pieces and add to skillet. In electric blender, blend remaining potatoes and liquid until smooth, being careful to hold blender lid down with kitchen towel; return to saucepan. Add contents of skillet; mix in enough milk for consistency desired. Heat to simmering. Season with salt and pepper.

Nutritional analysis per serving: 320 calories, 10g fat, 2.5g saturated fat, 0g trans fat, 40mg cholesterol, 780mg sodium, 1020mg potassium, 36g carbohydrate, 4g fiber, 8g sugar, 16g protein, 60% DV vitamin A, 80% DV vitamin C, 15% DV calcium, 15% DV iron.

Grilled Potato Kabobs with Lemon-Herb Drizzle

Makes 4 to 6 servings

Potato Kabobs

- 1 pound russet potatoes
- 1 (10 ounce) package precooked chicken sausage, sliced 1/4-inch thick on the diagonal
- 2 ears fresh corn, cut into 1-inch pieces
- 2 bell peppers (any color), cubed
- 1 zucchini, sliced 1/4-inch thick on the diagonal

Lemon-Herb Drizzle

- 1/4 cup extra virgin olive oil
- 3 cloves garlic, minced
- 2 tablespoons chopped fresh herbs (such as basil, rosemary, marjoram and sage)
- 1/2 teaspoon sea salt, or to taste
- 1 fresh lemon juice
- Freshly ground pepper to taste

Heat olive oil in a small saucepan until very hot; remove from heat and stir in garlic. Let cool, then stir in herbs, salt, lemon juice and pepper; set aside. Place potatoes in a medium-size microwave-safe bowl and cover with a lid or plastic wrap. *Note: If using plastic wrap, make sure plastic wrap is not touching any ingredients and poke one small hole in cover to vent.* Microwave on high for 10 to 12 minutes or until potatoes are tender (cooking time may vary depending on microwave). Use oven mitts to carefully remove from microwave. When cool enough to handle, cut into large chunks. Thread potatoes, sausage and vegetables onto skewers. Grill over medium-high heat for about 10 minutes, turning frequently and brushing with a little of the herb mixture during the last few minutes of cooking. Remove from grill and place on a platter; drizzle with remaining herb mixture.

Nutritional analysis per serving: 340 calories, 16g fat, 2.5g saturated fat, 0g trans fat, 30mg cholesterol, 690mg sodium, 681mg potassium, 51g carbohydrate, 4g fiber, 8g sugar, 10g protein, 20% DV vitamin A, 200% DV vitamin C, 10% DV calcium, 15% DV iron.

Cookout Potatoes

Makes 4 to 6 servings

- Nonstick cooking spray
- 1 medium onion, halved and thinly sliced
- 1 1/2 pounds Yukon Gold potatoes, very thinly sliced
- 1 1/2 cups shredded low-fat sharp Cheddar cheese
- 1/3 cup real bacon bits
- 1/3 cup chopped bell pepper (any color)
- 1/2 teaspoon garlic salt

Spray a 9 x 9 x 2-inch foil pan liberally with nonstick cooking spray. Place half the onions, potatoes, cheese, bacon bits, bell pepper and garlic salt in pan. Repeat layers. Cover tightly with foil and grill over medium heat for 1 hour, rotating pan occasionally to avoid hot spots.

Nutritional analysis per serving: 340 calories, 2.5g fat, 1.5g saturated fat, 0g trans fat, 10mg cholesterol, 370mg sodium, 720mg potassium, 60g carbohydrate, 6g fiber, 1g sugar, 15g protein, 2% DV vitamin A, 40% DV vitamin C, 10% DV calcium, 6% DV iron.

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Grilled Pesto Potato Salad

Makes 8 servings

- 3 pounds medium-size red potatoes
- Olive oil cooking spray
- 1/3 cup white or golden balsamic vinegar
- 1/4 cup extra-virgin olive oil
- 1/2 teaspoon sea salt
- 3 cloves garlic, minced
- Freshly ground pepper to taste
- 1/3 cup shredded Parmesan cheese
- 1/4 cup finely minced fresh basil
- 1/4 cup toasted pine nuts (optional)

Place potatoes in a large microwave-safe bowl, cover with lid or plastic wrap. *Note: If using plastic wrap, make sure plastic wrap is not touching any ingredients and poke one small hole in cover to vent.* Microwave on high for 10 to 12 minutes or until potatoes are tender (cooking time may vary depending on microwave). Use oven mitts to carefully remove from microwave. When cool enough to handle, cut potatoes in halves or quarters and spray liberally with olive oil spray. Grill over high heat for 5 to 7 minutes, turning occasionally, until grill lines are apparent. Remove from grill and let cool. Cut into bite-sized pieces and place in a large bowl. Whisk together vinegar, oil, salt and garlic; pour over potatoes and toss lightly to coat. Season with pepper, then cover and refrigerate until ready to serve. Just before serving, toss with Parmesan cheese and basil, then sprinkle with pine nuts.

Nutritional analysis per serving: 210 calories, 8g fat, 1.5g saturated fat, 0g trans fat, 0mg cholesterol, 200mg sodium, 28g total carbohydrate, 3g fiber, 2g sugar, 5g protein, 2% DV vitamin A, 60% DV vitamin C, 8% DV calcium, 8% DV iron.

Lightened Up Latkes

Makes 4 servings

- 2 1/2 cups shredded, unpeeled russet potatoes (about 1 pound)
- 1/2 cup grated onion
- 1/3 cup peeled shredded carrot
- 1/3 cup flour
- 2 tablespoons snipped fresh chives
- 1 teaspoon kosher salt
- 1/4 teaspoon freshly ground pepper
- 1 egg + 1 egg white
- 2 tablespoons vegetable oil, divided

Scrub potatoes and coarsely grate. Immediately place in a bowl of ice water to keep potatoes from discoloring; let stand for 5 minutes. Meanwhile, place the onion, carrot, flour, chives, salt, pepper and eggs in a medium bowl and stir well. Drain the potatoes and squeeze out moisture; stir into egg mixture. Heat 1 tablespoon oil in a large non-stick skillet over medium-high heat until very hot. Spoon about 1/4 cup of potato mixture for each pancake into skillet, cooking four at a time. Cook for 3 to 4 minutes per side, flattening with the back of a spatula and cooking until golden brown and crisp on both sides. Drain on paper towels. Repeat with remaining oil and potatoes. Serve immediately with chunky apple sauce and low-fat sour cream.

Nutritional analysis per serving: 220 calories, 8g fat, 1g saturated fat, 0g trans fat, 55mg cholesterol, 620mg sodium, 35g total carbohydrate, 4g fiber, 4g sugar, 4g protein, 15% DV vitamin A, 40% DV vitamin C, 4% DV calcium, 10% DV iron.

Mediterranean Lemon Chicken and Potato Packets

Makes 4 servings

- 1 1/2 pounds boneless skinless chicken breasts, cut into 1-inch cubes
- 1 pound Yukon Gold potatoes, cut into 3/4-inch cubes
- 1 medium onion, coarsely chopped
- 1/2 cup reduced-fat Greek or olive oil vinaigrette
- 1/3 cup quartered Kalamata olives (optional)
- 1/4 cup lemon juice
- 1 teaspoon dry oregano
- 1 teaspoon garlic salt
- 1/2 cup chopped tomato

Mix all ingredients except tomatoes in a large bowl. Place equal amounts onto four large squares of heavy-duty foil. Fold in top and sides of each to enclose filling, leaving room for air to circulate. Grill over medium heat for about 25 to 30 minutes or until chicken is cooked all through and potatoes are soft. Carefully open packets and sprinkle equal amounts of tomato over each.

Note: Packets may also be baked at 400 degrees for 30 minutes instead of grilling.

Nutritional analysis per serving: 230 calories, 10g fat, 1.5g saturated fat, 0g trans fat, 115mg cholesterol, 400mg sodium, 10g total carbohydrate, 2g fiber, 3g sugar, 6g protein, 10% DV vitamin A, 60% DV vitamin C, 2% DV calcium, 8% DV iron.

Pork and Potato Verde

Makes 4 servings

- 1 tablespoon vegetable oil
- 1 1/2 pounds pork tenderloin, cut into 1-inch cubes
- 1 (16 ounce) jar salsa verde
- 1 (4 ounce) can sliced green chiles
- 1 cup reduced-sodium chicken broth
- 1 teaspoon Mexican seasoning (such as McCormick)
- 1 pound russet potatoes, peeled and cubed
- 2 green onions, sliced
- 1 cup rinsed and drained black beans

Heat oil in a large sauce pan; add pork and brown on all sides. Add salsa, chiles, broth and seasoning to pan. Bring to a boil, reduce heat and simmer, covered, for 30 minutes. Add potatoes; cook for 30 minutes more or until pork is very tender. Uncover; add green onions and beans and cook for about 5 minutes more or until sauce has thickened.

Nutritional analysis per serving: 380 calories, 10g fat, 4g saturated fat, 0g trans fat, 80mg cholesterol, 1300mg sodium, 40g carbohydrate, 8g fiber, 6g sugar, 34g protein, 4% DV vitamin A, 40% DV vitamin C, 8% DV calcium, 20% DV iron.

Potato Dippers with a Trio of Sauces

Makes 6 to 8 servings

- 2 pounds russet potatoes, cut into wedges
- 1 tablespoon olive oil
- Sea salt, to taste
- Sauces (see below)

Place potato wedges in a large bowl with olive oil; toss well to coat. Grill over medium-high heat for 10 minutes, turning once or twice, until cooked through and grill marks appear. Season with salt and serve immediately with dippers.

Nutritional per serving (potatoes only): 140 calories, 2g fat, 0g saturated fat, 0g trans fat, 0mg cholesterol, 85mg sodium, 29g carbohydrate, 2g fiber, 1g sugar, 3g protein, 0% DV vitamin A, 30% DV vitamin C, 2% DV calcium, 8% DV iron.

Red Pepper Basil Dipping Sauce

- 1/2 cup fat-free Greek yogurt
- 1/2 cup roasted red peppers, drained and patted dry
- 2 cloves garlic
- 1/4 cup each: sliced green onions and basil leaves
- Sea salt and freshly ground pepper to taste

Puree yogurt, peppers and garlic in a blender or small food processor. Add onions and basil and pulse on and off until finely chopped. Season to taste with salt and pepper.

Caramelized Onion and Chive Dipping Sauce

- 1 tablespoon extra virgin olive oil
- 1 medium onion, quartered and thinly sliced
- 1 cup fat-free Greek yogurt
- 1/4 cup sliced chives or green onion tops
- 2 tablespoons fresh rosemary leaves
- Sea salt and freshly ground pepper to taste

Heat oil in a medium skillet. Add onion and cook over low heat for 20 minutes, stirring frequently; let cool. Puree onion and yogurt in a blender or small food processor until smooth. Add chives and rosemary and pulse on and off until finely chopped. Season to taste with salt and pepper.

Avocado Cilantro Dipping Sauce

- 1/4 cup fat-free Greek yogurt
- 1 ripe avocado, peeled and pitted
- 2 cloves garlic
- 1/4 cup lightly packed fresh cilantro leaves
- 1/2 tablespoon lime juice
- Sea salt and freshly ground pepper to taste

Puree yogurt, avocado and garlic in a blender or small food processor until smooth. Add cilantro and lime juice and pulse on and off until finely chopped. Season to taste with salt and pepper.

Serve these potato dippers as a side dish or a fun appetizer at your next gathering!

The dipping sauces all use fat-free Greek yogurt as a base and can be made up to 24 hours ahead and stored tightly covered in the refrigerator.

Potato Nachos

Makes 4 servings

- 1 1/2 pounds russet potatoes
- 1 1/2 tablespoons vegetable oil
- 1/2 teaspoon garlic salt
- 1 teaspoon Mexican seasoning blend
- 1 cup Mexican blend shredded reduced fat cheese
- 1/4 cup rinsed and drained canned black beans
- 1/4 cup diced tomatoes
- 1/4 cup sliced black olives
- 1/4 cup sliced green onions
- 2 tablespoons canned sliced green chilies
- Salsa, guacamole and sour cream (optional)

Preheat oven to 425 degrees. Scrub potatoes and cut into 1/2-inch thick wedges. Place potatoes into a medium size bowl with the oil, garlic salt and Mexican seasoning. Stir well to coat potatoes with oil and seasonings. Transfer to a large baking sheet and spread into a single layer. Bake for 25 to 30 minutes, stirring several times, until crisp and golden brown. Top with cheese, beans, tomatoes, olives, onions and chiles. Bake for 5 minutes more to melt cheese. Serve with salsa, guacamole and sour cream.

Nutritional analysis per serving: 280 calories, 12g fat, 3.5g saturated fat, 0g trans fat, 20mg cholesterol, 380mg sodium, 35mg potassium, 28g carbohydrate, 3g fiber, 2g sugar, 8g protein, 8% DV vitamin A, 50% DV vitamin C, 20% DV calcium, 10% DV iron.

Potato & Egg Bake

Makes 6 servings

- 3/4 pound red potatoes, cut into 1/2-inch cubes
- 1/2 cup each: chopped red bell pepper and zucchini
- 1/4 cup sliced green onions
- 2 cups coarsely shredded 2 percent or regular sharp Cheddar cheese
- 6 eggs
- 2 tablespoons flour
- 1/4 teaspoon baking powder
- 1 teaspoon garlic salt
- 1 cup low-fat cottage cheese

Preheat oven to 350 degrees and spray an 11 X 7-inch casserole dish with nonstick cooking spray. Spread potatoes, pepper, zucchini, green onions and cheddar cheese into prepared pan. Whisk together eggs, flour, baking powder and garlic salt. Stir in cottage cheese and pour into prepared dish; stir lightly. Bake for 45 minutes or until eggs are puffed, golden brown and set in the center.

Nutritional analysis per serving: 310 calories, 16g fat, 7g saturated fat, 0g trans fat, 210mg cholesterol, 800mg sodium, 21g carbohydrate, 2g fiber, 4g sugar, 27.5mg potassium, 20g protein, 20% DV vitamin A, 60% DV vitamin C, 40% DV calcium, 10% DV iron.

Potato Tomato Soup

Makes 4 to 6 servings

- 1 tablespoon extra-virgin olive oil
- 1 medium onion, chopped
- 2 stalks celery, sliced
- 1 pound russet potatoes, peeled and cubed
- 1 (32-ounce) container chicken broth
- 1 (28-ounce) can crushed tomatoes
- 2 teaspoons dry basil
  Garlic salt and freshly ground pepper to taste
- 3 cups lightly packed fresh spinach, coarsely chopped

Heat oil in a large saucepan; add onion and cook over medium heat for 5 minutes to lightly brown. Stir in celery, potatoes, broth and tomatoes. Bring to a boil; reduce heat and simmer, covered, for 30 minutes. Let cool slightly, then purée in a blender or food processor until smooth. Pour back into saucepan and stir in basil, garlic salt and pepper; cook for 5 minutes. Check seasonings. Then add spinach and cook a minute or two more to wilt spinach.

Serving suggestion: Add a small swirl of basil pesto and a sprinkle of Parmesan cheese to each bowl for added Italian flavor.

Nutritional analysis per serving: 180 calories, 4g fat, .7g saturated fat, 0g trans fat, 0mg cholesterol, 1070mg sodium, 33g carbohydrate, 6g fiber, 6g sugar, 7g protein, 18.4mg ascorbic acid, 460% DV vitamin A, 43% DV vitamin C, 10% DV calcium, 20% DV iron.

Red Potato and Cucumber Bites

Makes 10 to 12 appetizer servings

- 1/3 pound (about 12) small red potatoes, uniform in size
- 1/2 teaspoon salt
- 4 ounces reduced-fat cream cheese, at room temperature
- 3 ounces sliced smoked salmon, finely chopped
- 2 teaspoons fresh lemon juice
- 1/4 teaspoon coarsely ground black pepper
- 10 slices (1/2 inch thick) English cucumber
  Snipped chives, dried dill weed and/or desired capers, for garnish

Halve potatoes; cut and discard a very thin slice from skin side of each half. In 2-quart saucepan, cover potatoes with water; add salt. Bring to boil over high heat. Reduce heat, cover and cook until tender, 10 to 15 minutes, depending on size of potatoes. Drain; cool to room temperature. Meanwhile, in small bowl, mix cheese, salmon, lemon juice and pepper to blend thoroughly. With small spoon, mound salmon mixture onto potato halves and cucumber slices, dividing equally (1½ to 1¾ teaspoons each). Arrange on serving plate and add your choice of garnishes.

If not served immediately, these can be prepared several hours in advance; cover and refrigerate. For best flavor, return to room temperature just before serving.

Nutritional Analysis Per Serving (1/10 of Recipe): 70 calories, 3.5g fat, 2g saturated fat, 0g trans fat, 10mg cholesterol, 230mg sodium, 8g carbohydrate, 1g fiber, 1g sugar, 3g protein, 140mg potassium, 4% DV vitamin A, 10% DV vitamin C, 10% DV calcium, 2% DV iron.

POTATOES AND ANTIOXIDANTS
USPB-FUNDED RESEARCH:

Title	Effects of Potato Consumption on Oxidative Stress, Inflammatory Damage and Immune Response in Humans
Author(s)	Kaspar KL, Park JS, Brown CR, Mathison BD, Navarre DA, Chew BP.
Journal/Citation	Journal of Nutrition. 2011;141(1):108-11
Study Design	The purpose of this study was to assess the effects of pigmented potato consumption on oxidative stress biomarkers, inflammation and immune response in healthy adult males. Free living healthy male participants (18-40 yr; n=12/group) were given 150 g of cooked white- (WP), yellow- (YP) or purple flesh potatoes (PP) once a day for 6 wk in a double-blinded study. Blood was collected at baseline and wk 6 to analyze total antioxidant capacity, DNA damage (8-OHdG), protein oxidation, lipid peroxidation, C-reactive protein (CRP), inflammatory cytokines, lymphoproliferation, NK cytotoxicity and phenotypes. Potatoes were analyzed for total antioxidant capacity, phenolic acids, anthocyanins and carotenoids.
Results	Participants fed YP and PP had lower (P < 0.08) plasma IL-6 compared to those fed WP. A concurrent decrease (P < 0.08) in CRP concentration was observed in the PP group. Lower concentrations of 8-OHdG were observed in subjects fed either YP (P < 0.01) or PP (P < 0.08) compared to those fed WP. Total Tc cells were lower while B cells were higher in PP compared to the WP group (P < 0.05). Compared to WP, YP had high concentrations of phenolic acids (P < 0.001) and carotenoids (P < 0.001), while purple potatoes had high concentrations of phenolic acids (P < 0.002) and anthocyanins (P < 0.001).
Conclusion	Pigmented potato consumption reduced inflammation and DNA damage, and modulates immune cell phenotype in healthy adult males.

POTATOES AND ANTIOXIDANTS
NON-FUNDED RESEARCH:

Title	Lipophilic and hydrophilic antioxidant capacities of common foods in the United States
Author(s)	Wu X, Beecher GR, Holden JM, et al.
Journal/Citation	Journal of Agricultural and Food Chemistry. 2004; 52:4026-4037
Study Design	Both lipophilic and hydrophilic antioxidant capacities were determined using the oxygen radical absorbance capacity (ORAC(FL)) assay with fluorescein as the fluorescent probe and 2,2′-azobis(2-amidinopropane) dihydrochloride as a peroxyl radical generator on more than 100 different kinds of foods, including fruits, vegetables, nuts, dried fruits, spices, cereals, infant, and other foods. Most of the foods were collected from four different regions and during two different seasons in U.S. markets. Total phenolics of each sample were also measured using the Folin-Ciocalteu reagent.
Results	Hydrophilic ORAC(FL) values (H-ORAC(FL)) ranged from 0.87 to 2,641 micromol of Trolox equivalents (TE)/g among all of the foods, whereas lipophilic ORAC(FL) values (L-ORAC(FL)) ranged from 0.07 to 958 micromol of TE/g. Generally, L-ORAC(FL) values were <10 percent of the H-ORAC(FL) values, except for a very few samples. Total antioxidant capacity was calculated by combining L-ORAC(FL) and H-ORAC(FL). Differences of ORAC(FL) values in fruits and vegetables from different seasons and regions were relatively large for some foods but could not be analyzed in detail because of the sampling scheme. Two different processing methods, cooking and peeling, were used on selected foods to evaluate the impact of processing on ORAC(FL).
Conclusion	The data demonstrated that processing can have significant effects on ORAC(FL). Considering all of the foods analyzed, the relationship between TP and H-ORAC(FL) showed a very weak correlation. Total hydrophilic and lipophilic antioxidant capacity intakes were calculated to be 5,308 and 166 micromol of TE/day, respectively, on the basis of data from the USDA Continuing Survey of Food Intakes by Individuals (1994-1996).

Title	Anthocyanin fraction from potato extract is cytotoxic to prostate cancer cells through activation of caspase-dependent and caspase-independent pathways
Author(s)	Reddivari L, Vanamala J, Chintharlapalli S, et al.
Journal/Citation	Carcinogenesis. 2007 28:2227-2235
Study Design	This study investigated the effects of specialty potato phenolics and their fractions on LNCaP (androgen dependent) and PC-3 (androgen independent) prostate cancer cells. Phenolic extracts from four specialty potato cultivars — CO02F2-2, PATX99F102-2, ATTX98461-3, and ATTX98491-3 — and organic acid, phenolic acid and anthocyanin fractions were used.
Results	CO02F2-2 cultivar extracts and their AF at 5 mg chlorogenic acid eq/ml were more active and inhibited cell proliferation and increased the cyclin-dependent kinase inhibitor p27 levels in both LNCaP and PC-3 cells. Potato extract and anthocyanin fractions induced apoptosis in both the cells, however, the effects were cell-context dependent.
Conclusion	This is the first report showing that the cytotoxic activities of potato extract/anthocyanin fractions in cancer cells were due to activation of caspase-independent apoptosis.

Title	Antioxidant capacity manipulation in transgenic potato tuber by changes in phenolic compounds content
Author(s)	Lukaszewicz M, Matysiak-Kata I, Skala J, et al.
Journal/Citation	Journal of Agricultural and Food Chemistry. 2004; 52:1526-1533
Study Design	The purpose of this study was to generate potato tubers with increased levels of flavonoids and thus modified antioxidant capacities. To accomplish this, the vector carrying multigene construct was prepared, and several transgenic plants were generated, all overexpressing key biosynthesis pathway enzymes.
Results	The single-gene overexpression or simultaneous expression of genes encoding chalcone synthase (CHS), chalcone isomerase (CHI), and dihydroflavonol reductase (DFR) resulted in a significant increase of measured phenolic acids and anthocyanins. The increase in phenolic compounds synthesis is accompanied by decreases in starch and glucose levels in transgenic plants.
Conclusion	The flavonoid-enriched plants showed improved antioxidant capacity; however, there is a complex relationship between antioxidant capacity and flavonoids content, suggesting the participation of other compounds in the antioxidant potential of the plants. These other compounds are not yet recognized.

POTATOES AND GLYCEMIC INDEX
USPB-FUNDED RESEARCH:

Title	Glycemic index of potatoes commonly consumed in North America
Author(s)	Fernandes G, Velangi A, Wolever TMS
Journal/Citation	Journal of the American Dietetic Association. 2005;105:557-562
Study Design	In study one, subjects (four men and six women) consumed 200 g russet or white potatoes that were either (1) precooked, refrigerated and reheated (precooked) or (2) cooked and consumed immediately (day-cooked). Incremental area under the curve (AUC) was determined. In study two, subjects (7 men and one woman) consumed 50 g white bread or potatoes (six different varieties and two different cooking methods). GI values were calculated. In both studies meals were consumed after a 10- 12 hour overnight fast, and finger-prick capillary blood glucose was measured before and at intervals for 2 hours after consumption.
Results	The results of study one indicated that precooked russet potatoes elicited lower AUC than day-cooked (p < 0.05), while precooking had no effect on boiled white potatoes. The results of study two indicated that the GI values of potatoes varied significantly depending on the variety and cooking method used (p = 0.002), ranging from intermediate (boiled red potatoes consumed cold: 56) to moderately high (roasted California white potatoes: 72, boiled U.S. russet potatoes: 77) to high (instant mashed potatoes: 88, boiled red potatoes: 89).
Conclusion	The GI of potatoes is influenced by variety and method of cooking, and U.S. russet potatoes have only a moderately high GI. Individuals wishing to minimize dietary GI can be advised to precook potatoes and consume them cold or reheated.

POTATOES AND GLYCEMIC INDEX
NON-FUNDED RESEARCH:

Title	Inter-individual variability and intra-individual reproducibility of GI values for commercial white bread
Author(s)	Vega Lopez S, Ausman LM, Griffith JL
Journal/Citation	Diabetes Care. 2007;30(6):1442-1447
Study Design	Twenty-three healthy adults (aged 20-70 years) completed up to three sets of two visits. Each pair of visits assessed the glycemic response to 50 grams of available carbohydrates from commercial white bread and 50 grams of glucose, administered in random order. The mean +/- SE ratio of the area under the curve (AUC) after white bread intake to the AUC after glucose intake for the first set of determinations was 78 +/- 15 (n = 23, coefficient of variation (CV) 94 percent).
Results	When using glycemic index values calculated with the subset of participants who completed three sets of tests (n = 16), glycemic index values for each of the three sets of determinations were 78 +/- 10, 80 +/- 9, and 75 +/- 10, respectively. CVs were 50 percent, 28 percent, and 50 percent, respectively. The mean glycemic index value of these three sets was 71 +/- 6, with a CV of 30 percent. When an analysis of variance (ANOVA) approach was applied to these data, the inter-individual CV was 17.8 percent, and the intra-individual variation was 42.8 percent.
Conclusion	These data suggest that in response to a challenge of white bread relative to glucose, within-individual variability is a greater contributor to overall variability than among-individual variability. Further understanding of all the sources of variability would be helpful in better defining the utility of glycemic index values.

Title	Another approach to estimating the reliability of glycaemic index
Author(s)	Williams SM
Journal/Citation	British Journal of Nutrition. 2008;100:1364-1370
Study Design	Incremental area under the blood glucose curve (IAUC) values were determined in 29 healthy individuals on three and four occasions for white bread and glucose, respectively, and for mashed potatoes and chickpeas on a single occasion. Reliability of repeated measurements of the same food was estimated by intra-class coefficient (ICC), a measure having values between 0 and 1, with values closer to 1 indicating better reliability.
Results	The ICC of the IAUC for white bread and glucose were 0.50 and 0.49, respectively. The mean GI of white bread was 81 with a reliability of 0.27, indicating substantial within-person variability. The GI of mashed potatoes and chickpeas were 87 and 28, respectively, with an ICC of 0.02 and 0.40, again indicating substantial within-person variability, especially for potatoes.
Conclusion	The unpredictability of individual responses, even if they are the result of day-to-day variation, places significant limitations on the clinical usefulness of GI.

POTATOES AND SATIETY/WEIGHT MANAGEMENT
USPB-FUNDED RESEARCH:

Title	Satiety and glycemic index of potatoes in relation to other carbohydrate test meals
Author(s)	Gelsleichter A, Lee IC, Abdillahi M, Jones J
Journal/Citation	Submitted for presentation, FASEB April 2008
Study Design	After an overnight fast, 12 healthy, normal-weight participants (six male and six female) aged 22-30 consumed five different test meals (baked potato, mashed potato, pasta, brown rice, white bread) in random order followed by an ad libitum lunch meal (two hours after the test meal). All test meals contained 240 calories, 50 grams of available carbohydrate and were statistically similar in protein, fat, and fiber content. Appetite ratings preceded blood draws at 10 minutes prior to the test meal and then 0, 15, 30, 60, 90, and 120 minutes after the test meal. White bread served as the reference food for determining GI.
Results	There were no significant differences in "hunger" or "fullness" AUC (area under curve) following the test meals. However, there was a lower "desire to eat" AUC and lower "desire to eat" at 15 minutes (p < 0.04) as well as lower nadir values (p = 0.002) following the potato meals than the pasta meals. At 120 minutes, "how much food could you eat" was lower following baked potato meals than brown rice meals (p = 0.04). However, total lunch energy intake did not differ following the test meals and was not correlated with "fullness" AUC (r = -0.23). There was no significant correlation between GI of the test meals and any of the hunger or appetite ratings.
Conclusion	Overall there was no correlation between the GI of the particular side dish and satiety. With respect to specific foods, the data provide some evidence for greater short-term satiety after consuming potatoes, particularly baked potatoes, compared with pasta and brown rice. However, these short-term effects on feelings of satiety did not directly translate into differences in subsequent food intake.

POTATOES AND SATIETY/WEIGHT MANAGEMENT USPB-FUNDED RESEARCH:

Title	Assessing the Role of Potatoes and Glycemic Index in Body Weight Management and Glucose Tolerance
Author(s)	Randolph J, Chawla S, Kappagoda CT, Edmonghe I, Burton-Freeman B.
Journal/Citation	FASEB 2009
Study Design	Hypothesizing that energy intake control is more important for weight loss than glycemic index, we expect no difference in body weight (BW) changes between low glycemic index (LGI) vs HGI hypocaloric diets. We also expect metabolic and body composition related effects to follow weight loss changes vs diet type. In this randomized control trial, overweight (BMI 29.0 ± 3.8) adult (40.9 ± 15.5 yrs) men and women participants (n=) of 3 potato-containing dietary interventions for 12 weeks. Two diets require a daily reduction of 500 kcals; subjects are counseled to follow diets comprised of LGI (n=30) or HGI (n=30) foods. The 3rd diet, a control group (CD, n=30), is advised on general healthy eating patterns. Endpoints compare results from 0 and 12 weeks: BW, body composition (via dual-energy x-ray absorptiometry (DEXA)), and glucose tolerance (via oral glucose tolerance test (OGTT)).
Results	Preliminary data indicates no significant treatment effect on body weight or composition, glucose tolerance, or insulin response after 12 weeks LGI vs HGI diets. Triglycerides (TG) after 12 weeks were higher in HGI vs LGI group (110 ± 8.5 mg/dL vs 81.1.8 ± 9.8 mg/dL, p=0.04).
Conclusion	These data suggest that regular consumption of a HGI diet, even for BW loss, promotes increased TG formation or decreased TG clearance, independent of potato intake.

Title	Glycemic Index and Potato Consumption Effects on Glucose Metabolism and Body Composition
Author(s)	Randolph J, Kappagoda CT, Edmonghe I, Burton-Freeman B.
Journal/Citation	Obesity Society 2010
Study Design	The purpose of this study was to examine the effect of glycemic index and potato consumption on weight loss and weight-related effects on glucose metabolism (GEM/DI). In a 12-week, 3 arm, randomized controlled trial, 88 overweight (BMI 28.8 ± 3.2) men and women (48.4 ± 14.2 yr) were counseled to follow one of three dietary interventions each of which included five to seven servings of potatoes per week: (1) Low GI (LGI) instructed to consume low GI foods, (2) High GI (HGI) instructed to consume high GI foods and reduce energy intake by 500 kcal/day, (3) Control group counseled to follow the Dietary Guidelines and MyPyramid. Diets were monitored via 3-day food records. Changes in weight, body composition (by DEXA), glucose tolerance (by OGTT), and triglycerides were determined at wks 0 and 12.
Results	Modest weight loss was observed in all three groups (-2% of initial body weight) with no significant difference in weight loss between the groups. Fasting levels of triglycerides, glucose, insulin and measures of insulin resistance were not different between the groups.
Conclusion	LGI diets are not superior to HGI diets for weight loss. Potatoes were consumed by all three groups suggesting that the total profile of the diet vs. one food drives weight and metabolic outcomes.

POTATOES AND SATIETY/WEIGHT MANAGEMENT NON-FUNDED RESEARCH:

Title	A satiety index of common foods
Author(s)	Holt SH, Miller JC, Petocz P, Farmakalidis E
Journal/Citation	European Journal of Clinical Nutrition. 1995;49:675-690
Study Design	Two hundred forty calorie servings of 38 foods separated into six food categories (fruits, bakery products, snack foods, carbohydrate-rich foods, protein-rich foods, breakfast cereals) were fed to groups of 11-13 subjects. Satiety ratings were obtained every 15 minutes over 120 minutes, after which subjects were free to eat ad libitum from a standard range of foods and drinks. A satiety index (SI) score was calculated by dividing the area under the satiety response curve (AUC) for the test food by the group mean satiety AUC for white bread and multiplying by 100. Thus, white bread had an SI score of 100 percent, and the SI scores of the other foods were expressed as a percentage of white bread.
Results	Significant differences in satiety scores were found both between and within food categories. Of the food groups, fruits had the highest mean satiety score. For individual foods, boiled potatoes had the highest, which was seven times greater than that of white bread. The number of calories consumed during the ad libitum meal correlated negatively with the meal satiety score.
Conclusion	The results show that isoenergetic servings of different foods differ greatly in their satiating capacities.

Title	No effect of a diet with a reduced glycemic index on satiety, energy intake and body weight in overweight and obese women
Author(s)	Aston LM, Stokes CS, Jebb SA
Journal/Citation	International Journal of Obesity. 2008; 32:1160-165
Study Design	Nineteen overweight/obese women were studied in a randomized crossover intervention study for two consecutive 12-week periods. Lower or higher GI versions of key carbohydrate-rich foods (breads, breakfast cereals, rice and pasta/potatoes) were provided to subjects to be incorporated into habitual diets in ad libitum quantities.
Results	The results indicated no differences in energy intake, body weight or body composition between treatments. On laboratory investigation days, there were no differences in subjective ratings of hunger or fullness, or in energy intake at the snack or lunch meal.
Conclusion	This study provides no evidence to support an effect of a reduced GI diet on satiety, energy intake or body weight in overweight/obese women. Claims that the GI of a diet may have specific effects on body weight may therefore be misleading.

POTATOES AND SATIETY/WEIGHT MANAGEMENT NON-FUNDED RESEARCH:

Title	Long-term effects of two energy-restricted diets differing in glycemic load on dietary adherence, body composition, and metabolism in CALERIE: a one-year randomized controlled trial
Author(s)	Das SK, Gilhooly CH, Golden JK, et al.
Journal/Citation	American Journal of Clinical Nutrition. 2007;85:1023-1030
Study Design	The 34 subjects were overweight (BMI: 25-30 kg/m2) but otherwise healthy men and women aged 24-42 who were part of a larger, multicenter trial known as "CALERIE" (Comprehensive Assessment of the Long-term Effects of Restricting Intake of Energy), designed to examine the effect of calorie restriction on human health and aging. The 12 month study was separated into three phases. Phase 1 consisted of a seven-week baseline period during which subjects were instructed to maintain a stable weight and continue eating their usual diet so as to assess baseline energy requirements. Following Phase 1, subjects were randomly assigned to either a high- or low-GL calorie-restricted diet for 24 weeks. All food was provided to the subjects at 70 percent of individual baseline weight maintenance energy requirements (i.e., a 30 percent calorie reduction). The third and final phase of the study consisted of a 24 week calorie-restricted period, during which subjects were instructed to follow the dietary patterns they had in Phase 2 but were no longer provided with the foods (i.e., "self-selected food" period).
Results	Both groups reduced their energy intake during the calorie restriction periods, although neither achieved the 30 percent reduction prescribed, and adherence decreased with time (e.g., 21 percent and 28 percent calorie restriction at three months, and 16 percent and 17 percent calorie restriction at six months for high-GL and low-GL diets, respectively.) Both groups lost weight (approximately 8 percent of initial body weight), and there was no significant difference in weight loss between the groups. In addition, there were no significant differences between the low-GL and high-GL diet groups in terms of body fat percentage, hunger, satiety, or satisfaction with the amount and type of foods provided.
Conclusion	This study provides some of the most convincing evidence yet that diets differing substantially in glycemic load induce comparable long-term weight loss.

Title	An 18-month randomized trial of a low glycemic index diet and weight change in Brazilian women
Author(s)	Sichieri R, Moura AS, Genelhu V, et al.
Journal/Citation	American Journal of Clinical Nutrition. 2007 Sep;86(3):707-13.
Study Design	Two hundred and three healthy women (BMI: 23-30 kg/m2) aged 25-45 were randomly assigned to a low-GI or high-GI diet with a small energy restriction (approx 300 kcal/d) for 18 months. Only 60 percent of the subjects completed the 18-month study. The difference in glycemic index between the diets was approximately 35-40 units (45 compared with 76) during all 18 months of follow-up, and the carbohydrate intake from energy remained approximately 60 percent in both groups.
Results	The low-GI group had a slightly greater weight loss in the first two months of follow-up (-0.72 compared with -0.31 kg), but after 12 months of follow-up, both groups began to regain weight. After 18 months, the weight change was not significantly different (p = 0.90) between groups (low GI: -0.40 kg; high GI: -0.28 kg). A greater reduction was observed in the low-GI diet group for triacylglycerol (difference = -16.4 mg/dL; p = 0.01) and VLDL cholesterol (difference = -3.7 mg/dL; p = 0.03).
Conclusion	This study demonstrates that long-term weight changes are not significantly affected by glycemic levels.

POTATOES AND POTASSIUM USPB-FUNDED RESEARCH:

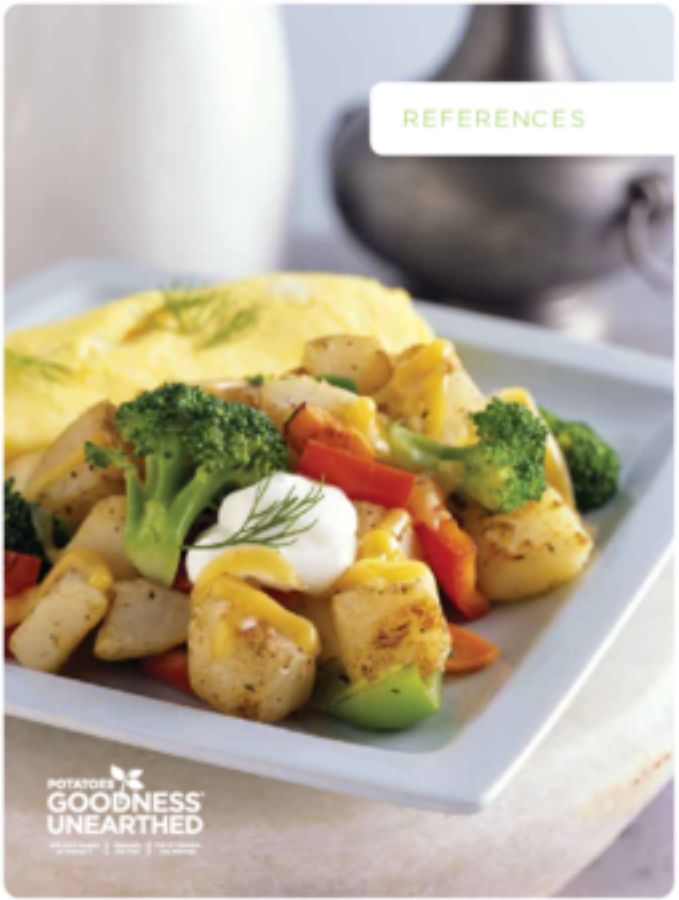
Title	The role of potatoes in increasing potassium intake and blood pressure reduction in free-living individuals who select and prepare their own food
Author(s)	Noreen C, Watsneyengaldoon N, Margetts C
Journal/Citation	Unpublished manuscript (2008)
Summary	This study evaluated the relationship between potato consumption and blood pressure (BP) among 91 men and women recruited to participate in a dietary intervention study designed to examine the effect of various dietary modifications on blood pressure. Usual dietary intake (including consumption of potatoes) was assessed via 24 hour recall. Home BP measures were taken daily for two weeks and averaged. The results indicated that total potato intake was positively and significantly correlated with urinary potassium excretion. In addition, there was an inverse association of usual potato intake with usual diastolic BP levels. Linear regression analyses, with an inclusion of confounders (age, gender, BMI and use of anti-hypertensive medications), showed that about 6% and 4% of the variance in the diastolic BP was explained by total potato and non-fried potato intakes respectively. A 100-g/d higher intake of total potato was associated with a 2.6 mm Hg lower diastolic BP and non-fried potato with a 2.5 mm Hg lower diastolic BP.
Conclusion	In this study an increase in potato consumption was associated with lower diastolic blood pressure.

Title	White Potatoes are Among the Most Affordable Sources of Potassium in the American Diet
Author(s)	Drewnowski A and Rehm C
Journal/Citation	To be presented at FNCE 2011
Summary	The 2010 Dietary Guidelines identified potassium as a shortfall nutrient in the US diet. Identifying affordable food sources of this shortfall nutrient is a priority. Analyses were undertaken using the USDA Food and Nutrition Database for Dietary Studies (FNDDS 2.0); the Center for Nutrition Policy and Promotion (CNPP) food prices database; the USDA produce prices, and MyPyramid equivalents database. Nutrient composition and price data were linked with dietary intakes data from the National Health and Nutrition Examination Survey (NHANES 2003-4). Nutrient density of foods was assessed using the Nutrient Rich Foods (NRF) index, based on the food's content of 9 nutrients to encourage (protein, fiber, vitamins A, C, E, calcium, iron, magnesium and potassium) and 3 nutrients to limit (saturated fat, added sugar and sodium). The cost per each additional 10% daily value (DV) for each of the nutrients to encourage was calculated as well. Frequency of vegetables consumption was obtained from NHANES data.
Results	The cost per serving of white potatoes, non-fried, was approximately half the cost of many vegetables. In the fruit and vegetables groups, white potatoes, carrots, and sweet potatoes had the highest NRF index values per dollar. White potatoes were among the lowest-cost sources of potassium.
Conclusion	The merging of federal data sets on nutrient composition, food costs, and dietary intakes can help identify nutritious and affordable foods and provide a useful practice tool for dietitians.

POTATOES AND THE AMERICAN DIET
USPB-FUNDED RESEARCH:

Title	White Potatoes, Non-Fried, Do Not Displace Other Vegetables in Meals Consumed by American Children and Adolescents (14-18 yr)
Author(s)	Drewnowski A, Rehm C, Beals K
Journal/Citation	FASEB 2011
Study Design	Using data from 4 cycles (2001-08) of the National Health and Nutrition Examination Survey (NHANES), we evaluated whether consumption of white potatoes, (baked, roasted, or boiled), displaced other vegetables from the meals of children and adolescents aged 4-18 y. Approximately 10,600 lunches and 11,500 dinners were characterized by place (at home or away from home) and by source of food (e.g., store or school cafeteria). Children and adolescents consuming white potatoes, baked, roasted, or boiled were identified using the individual food records. The median, interquartile range and survey-weighted mean number of other vegetable servings per 1000 calories were estimated for each meal.
Results	Children who ate weekday lunches included non-fried white potatoes consumed a median of 0.37 servings of other vegetables at lunch as compared to only 0.19 servings for children whose lunches did not include potatoes. There was no evidence that white potatoes displaced other vegetables in school lunches. Meals containing potatoes had significantly higher amounts of vitamin C, potassium and fiber per 1000 calories than meals that did not contain potatoes. There were no significant differences in BMIs of children or adolescents who consumed potatoes in those who did not consume potatoes.
Conclusion	Consumption of white potatoes (non-fried) among children and adolescents is associated with higher vegetable and nutrient intakes and does not promote overweight or obesity.

Title	Potatoes are not Associated with Obesity or Type II Diabetes when Potential Confounders are Controlled.
Author(s)	Drewnowski A
Journal/Citation	Recently completed, Not Yet Submitted for Presentation
Study Design	Studies that have examined the association between disease states and intakes of certain foods (e.g., potatoes) often do not control for potential confounding variables (e.g., SES, education, diet quality, physical activity). In this study data from two cycles of the National Health and Nutrition Examination Survey (NHANES) 2003-2004 and 2005-2006 were used to evaluate the association between potato (baked, boiled and mashed) consumption frequency, BMI and Type II Diabetes. Three models were used to analyze the above listed associations. Model 1 adjusted for age, gender, race/ethnicity and education. Model 2 adjusted for factors in model 1 as well as diet quality, fried potato consumption and physical activity. Model 3 adjusted for factors in models 1 and 2 along with smoking. The habitual frequency of potato consumption from the FFQ was broken into four categories: <monthly, 1-3 times per month, 1-2 times per week and greater than 3 times per week. The sample consisted of 5,882 adults over the age of 20.
Results/ Conclusion	After adjustment for demographic variables (model 1) and lifestyle factors (model 2) there was no significant association between potato consumption and either obesity or diabetes. Failure to adequately control for confounding variables may bias associations between selected dietary factors and health status.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