

# SOY and CHILD NUTRITION GUIDE



Moms, Dietitians  
Offer the  
**INSIDE SCOOP**

Delicious,  
**KID-FRIENDLY**  
Recipes

Breaking Down the  
**BASICS OF SOY**



**SoyConnection**



**SOY** and **CHILD**  
NUTRITION GUIDE



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# The Scoop on Soy

By Melissa Halas, MA, RDN, CDE

Soybeans, or soy, come from the legume family and offer a strong profile of health benefits. Soy is unique from other legume family members, like lentils and beans, because it is much higher in protein and fat (the good kind!), and lower in carbohydrates.<sup>1</sup> It is a unique plant food as it's a source of complete plant-based protein, meaning it contains all nine of the essential amino acids our bodies need to get from food since we can't make them on our own. The fat in soybeans provides an ample source of omega-6 and omega-3 fatty acids, both of which are essential in our diet and can help to improve cholesterol levels and reduce the risk of coronary heart disease.<sup>2</sup>

Soy is often a popular choice for vegetarians since it has a surprising amount of protein per serving. But omnivores can also enjoy the benefits by subbing some soy for meat. Just take a look at how much protein is in these popular soyfoods:

- 8 ounces of shelled edamame provides 18 grams of protein
- 8 ounces of silken tofu provides 10 grams of protein
- 8 ounces of pressed tofu provides 37 grams of protein
- 8 ounces of unsweetened soymilk provides 9 grams of protein

Aside from the beneficial high-quality protein and fat, soy is also packed with other nutrients, including B vitamins, fiber, iron, calcium, and phytonutrients.<sup>2</sup> Phytonutrients have many health promoting properties. They are what give plants their color.

## The Colors of Soy

Soybeans come in a variety of colors, including yellow (the most common), black, brown, and green. Compared to the most common, commercially grown yellow soybeans, colored soybeans, particularly the black variety, have been found to be higher in flavonoids.<sup>3</sup> Flavonoids are a chemical compound found in fruits, vegetables, grains and other plant sources that have a number of beneficial health effects, like antioxidant and antimicrobial properties.

## Types of Soy

There are endless options when it comes to picking a soy-based product that you can enjoy! Some popular soy products include soymilk, tofu, tempeh, miso, soy sauce, soynuts, edamame, and soy flour. It's important to note that not all soy products are created equal. Soy based "meat" products such as soy bacon, soy burgers and soy protein powder are generally more processed with added ingredients that may include salt, food stabilizers, or sugar. They can still be part of a healthy diet, but your best bet is to choose soyfoods that most closely resemble their natural state to reap the full nutritional benefits. It's all about balance!

## Confused About Soy's Health Properties?

You may have heard that soy sometimes gets a bad rap because it contains something called phytoestrogen. Even though phytoestrogen sounds like a hormone, it is really another form of the flavonoids, a type of phytonutrient called isoflavones. Here's what you should know:

- Phytoestrogen, because of its structure, can bind to estrogen receptors in our bodies. This initially caused some to think it could play a role in hormone-related cancers like breast cancer.
- BUT, what researchers have more recently discovered is that these compounds don't act the same way in humans as they do in rats and mice (where these misconceptions originally come from).
- Soy may actually protect against cancer! In humans, these soy isoflavones (AKA phytoestrogen) are more likely to bind to a type of estrogen receptor found throughout the body that may actually act as a tumor suppressor. Go soy!<sup>4</sup>

# Benefits of Soy for All Ages

## Soy's isoflavones' benefits

- *Protection against cardiovascular disease:* Isoflavones can help lower total and “bad” LDL cholesterol.<sup>5</sup>
- *Cognitive function:* Soy isoflavones have anti-inflammatory and antioxidant properties that may help prevent dementia and cognitive decline later in life.<sup>5</sup>
- *Bone health:* Isoflavones have been shown to increase bone calcium content in postmenopausal women to maintain stronger bones.<sup>2</sup>
- *Cancer prevention:* Studies have shown that dietary soy isoflavones are associated with a reduction of the risk of various cancers, including breast, endometrial, and lung cancer.<sup>2</sup>

## Soy's healthy protein benefits

- Soy is high in protein, and is one of the few plant-based proteins with a high amount of the amino acid leucine. Amino acids are the building blocks of protein. Leucine has shown to increase muscle protein synthesis, and building muscle is important for a strong, healthy body. Lean body mass also activates that metabolic furnace to burn more calories, and can protect kids' and adults' bones in fitness and other activities.
- A dose of 1-3 grams of leucine appears to be the optimal amount to trigger muscle protein synthesis. So adding soy into a meal after hitting the gym, or after one of your kids' big games is a good investment in building muscle.<sup>7</sup>
- The leucine content of soy is high compared to other protein sources. For example:
  - 1/4 cups of tempeh has 2.97 grams of leucine
  - 3/4 cup of firm tofu has 1.49 grams of leucine
  - 1 cup of skim milk has only 0.78 grams of leucine

## Soy's healthy fat benefits

- Soy is high in polyunsaturated fats, which help our hearts stay healthy by keeping “bad” LDL cholesterol low.
- Because soyfoods provide a substantial amount of protein, they can be used to consumed several times a week in place of other protein sources that are higher in saturated fat. This can lower your overall weekly saturated fat intake and help reduce the risk of coronary heart disease.<sup>2</sup>
- Soy provides a considerable amount of ALA (alpha-linolenic acid), a type of omega-3 fatty acid, which is an essential and health-promoting fat that should be incorporated into everyone's diet!<sup>2</sup>

## Fermented soy's benefits

- You may have heard of probiotics that are naturally found in yogurt and fermented foods. These play a role in a healthy gut, can be easier to digest, are higher in antioxidants, and may help to prevent type 2 diabetes by reducing insulin resistance.<sup>6</sup> Fermented soy contains helpful probiotics too. Fermented soyfoods include soy sauce, tempeh, natto, and miso. Next time you're cooking, experiment with soy sauce to incorporate that umami flavor, which greatly enhances the taste of savory dishes.

It's never too early to start preventing heart disease and cancer. Soy can be a healthy and flavorful part of your diet! Healthy habits start in childhood. Read our other article, *Tasty Ways to Eat Soy with Kids*, to learn easy and delicious ways to incorporate soy into your family's diet.

References available on pg. 33

### ABOUT THE AUTHOR

Melissa Halas, MA, RDN, CDE, is founder of SuperKidsNutrition.com, the first mega kids and family nutrition website. She is the creator of the Super Crew,<sup>®</sup> a group of multi-cultural characters who get their powers from healthy, colorful plant-based foods featured in books and nutrition curriculum in schools nationwide. Melissa is author of *The Plant-Based Boost: Nutrition Solutions for Athletes and Exercise Enthusiasts* and its companion recipe book with 100 plus plant-boost recipes. She blogs regularly at [MelissasHealthyLiving](http://MelissasHealthyLiving.com), inspiring people to live healthier lives!

# Asian Chicken Edamame Pizza

Makes 8 servings

## Ingredients

3 Tablespoons Peanut butter  
2 Tablespoons Water  
1½ teaspoons Soy sauce  
1½ teaspoons White rice vinegar  
1½ teaspoons Fresh ginger, minced

1 - 12" pre-baked Pizza crust  
½ cup Reduced-fat mozzarella cheese, shredded  
1 cup Cooked chicken breast, diced  
½ cup **Edamame**, shelled, cooked according to package directions  
½ cup Red bell pepper, sliced  
¼ cup Chow mein noodles

## Directions

1

Preheat oven to 450°F.  
Combine peanut butter, water, soy sauce, vinegar, and ginger in small bowl; stir until smooth.

2

Place pizza crust on foil-lined baking sheet. Spread peanut butter mixture evenly over pizza crust. Sprinkle cheese, chicken, edamame, bell peppers, and chow mein noodles evenly over crust.

3

Bake 8 to 10 minutes until cheese is melted. Cut into 8 slices and serve.



### Nutritional Information (1 slice)

Calories 160; Fat 6g; Sat Fat 1g; Trans Fat 0g; Cholesterol 10mg; Sodium 400mg; Total Carbs 19g; Protein 10g; Fiber 2g

### GREEN VEGETABLE SOYBEANS (EDAMAME)

These large soybeans, harvested when the beans are green, are sweet tasting. Edamame can be served as a snack or a main vegetable dish after boiling in slightly salted water. They are high in protein and fiber and contain no cholesterol.

For more soy recipes, visit [SoyConnection.com](http://SoyConnection.com).

# Jumping for Soy

## 6 Reasons Soy is Super for Kids

By Sally Kuzemchak, MS, RD

### 1. Provides high-quality protein

Soy has all the essential amino acids (the building blocks of protein) that the body needs to get from food, just like meat does.<sup>1</sup> But unlike meat, soy is free from cholesterol and low in saturated fat.

### 2. Contains iron

Iron is key for kids during growth and development—especially toddlers, who are at risk for iron deficiency.<sup>2</sup> Tofu offers a good source of iron, supplying about a third of the daily needs of kids ages 4–8.<sup>3</sup> Soymilk and edamame also contain this vital mineral.<sup>4</sup>

### 3. Delivers fiber

Soyfoods like edamame, tempeh, and soynuts, are good sources of fiber.<sup>5</sup> Research shows that most children (and adults!) don't get enough fiber every day.<sup>6</sup> Fiber can help ease constipation,<sup>7</sup> which is a common digestive complaint among kids.<sup>8</sup>

### 4. Lowers cholesterol levels

Soyfoods can help lower total cholesterol, LDL (“bad”) cholesterol, and triglyceride levels.<sup>9</sup> Kids with high cholesterol are more likely to become adults with high cholesterol,<sup>10</sup> which is a risk factor for developing heart disease.

### 5. May reduce cancer risk later

There's evidence that consuming one serving of soy a day during childhood may lower the risk of developing breast cancer later in life.<sup>11</sup>

### 6. Offers allergy-safe alternatives

For kids who can't have peanut butter (or attend a school that doesn't allow it) soynut butter can be packed and served instead. And soymilk is ideal for children with milk allergies or lactose intolerance because unlike some nondairy milks, one eight-ounce glass has the same amount of protein as cow's milk.

References available on pg. 33



# Soyfoods in Schools

By Dayle Hayes, MS, RD

Depending on your geographic location, you may—or may not—already be including soyfoods on your school or child-care menu. If your customers include families that traditionally enjoy soy products, such as Japanese or Chinese populations, or you serve many vegetarian families, you probably already know how to credit soy yogurt, tofu, or even tempeh. If you aren't offering soyfoods regularly, there are some good reasons to take a closer look at the wide array of soy-based foods available to schools and childcare centers.



- **Plants are IN:** Nearly every food or culinary magazine and website featured stories like this in 2019—with an emphasis on plant proteins like soy: “For many, embracing the plant-based trend is filled with aspiration—the embrace of personal health and wellness as well as that of the planet. For chefs, plant-forward menuing is . . . a significant mega-trend that’s catching on with diners.”<sup>1</sup>
- **Students are ready to veg-out:** While customer preferences may vary depending on the region of the country, today’s children and families are interested in everything from Meatless Mondays to vegan lifestyles. While they may be less than rigid about dietary definitions, they are certainly into more options. The January 2018 School Nutrition Association magazine has an article that can help you understand the motives and menu needs of everyone from vegans to flexitarians.<sup>2</sup>
- **Availability of soy options:** Soyfoods used to be mostly niche, health-food-store products like veggie burgers—but not anymore! Nearly every supermarket, many restaurants, and most broad line food distributors offer both vegetarian and vegan options. School and childcare food operators can easily purchase traditional soy products like tempeh, as well as protein mixes, ready-to-eat foods, and soup bases.

The best news for school and childcare foodservice programs is that USDA has clarified the crediting of many soyfoods that can be served in the National School Lunch Program (NSLP), National School Breakfast (NSB), and Child and Adult Care Food Program (CACFP). Like other legumes, soyfoods can be credited in both the meat/meat alternate and vegetable components of school and childcare meals, while soy beverages may also be served as milk substitutes. While the versatility of various soy products makes them especially helpful for vegetarian and vegan meals, they can also be delicious options for all your customers.

Here are a few highlights of crediting soy products in your meal program, along with links to USDA guidelines for more details. The searchable USDA Food Buying Guide has been updated with details on all soy-based foods and is a great go-to resource for all your crediting questions.

## Vegetables

Fresh (edamame), canned or dried soybeans can all be credited as a vegetable in the legume subgroup. School meal standards require that ½ cup per week be offered to students at all grade levels. (NOTE: As of January 2020, legumes can be credited as vegetable OR a meat/meat alternate [M/MA] in a meal—but not both at the same time. A USDA proposed rule would allow them to credit as both a vegetable and M/MA in the same meal.)



While the versatility of various soy products makes them especially helpful for vegetarian and vegan meals, they can also be delicious options for all your customers.

## Meat/meat alternates (M/MA)

Fresh (edamame), canned or dried soybeans can be credited as a meat alternate with  $\frac{1}{4}$  cup cooked beans being the equivalent of 1 ounce M/MA.

Tofu, soy yogurt, and meat substitutes may also be credited as meat alternates in the following amounts:

- **Tofu:** Commercially-prepared firm or extra firm tofu credits as  $\frac{1}{4}$  cup (or 2.2 ounces by weight) equivalent to 1-ounce meat alternate. Soft or silken tofu that is incorporated into other dishes may not be credited.
- **Soy yogurt:** One-half cup ( $\frac{1}{2}$  cup or 4.0 fluid ounces) of soy yogurt is creditable as 1-ounce equivalent meat alternate.
- **Meat substitutes:** Processed products, such as sausages and links made from tofu and other soyfoods, must contain the required 5 grams of protein per ounce. The most appropriate way to ensure that the product meets USDA requirements is to request a Child Nutrition (CN) Label. (NOTE: Meat substitutes or analogs are becoming more popular in retail and foodservice channels, including fast food channels. Some of these may contain certain forms of soy. Always check with the manufacturer if you have questions about ingredients.)

If you have questions about including any of these soyfoods, check with your state Child Nutrition Office.

Tempeh is a fermented soybean cake made from whole soybeans and other ingredients. In 2019 USDA clarified the crediting of 1 ounce of tempeh (with certain limited ingredients) as 1 ounce equivalent of meat alternate. Other types of tempeh may require a Child Nutrition (CN) Label or a Product Formulation Statement (PFS) from the manufacturer. For further clarification, check with your state Child Nutrition Office.

## Soy beverages:

USDA regulations on milk substitutions in child nutrition programs are long-standing. The 2008 final rule establishes nutrient standards for nondairy beverage alternatives (including soy beverages) to fluid milk, allows schools to accept a written substitution request from a parent or legal guardian, and grants schools discretion to select the acceptable nondairy beverages.

For further clarification, check with your state child nutrition office. Thinking about adding more soyfood options to your menu? Here are some tips to get you started:

- **Connect with your customers.** Formally or informally survey families and older students about their interest in soyfoods, both traditional and new to the marketplace.
- **Learn about new products.** Talk with food manufacturers at food shows and with your food distributor about new products that they have for childcare programs and schools.
- **Look for community partners.** Plant-based menu items, including those with tofu and tempeh, may not be as familiar to students as more common foods. Working with others, like local Extension or farm to school programs, can help market unfamiliar items to your customers.<sup>3</sup> Recipes are always top of mind for foodservice professionals in schools and childcare programs. Fortunately, the interest in plant-forward meals, as well as the needs of vegetarian and vegan customers, means that many more standardized recipes for soy are becoming available. Check out the additional resources on pages 31–32 for a variety of helpful information.

References available on pg. 33

### ABOUT THE AUTHOR

Dayle Hayes, MS, RD, is an award-winning author and educator. As a parent and member of the School Nutrition Association (SNA), Dayle has dedicated decades to making school environments healthy for students and staff. She co-authored the 2014 *Position of the Academy of Nutrition and Dietetics: Nutrition Guidance for Healthy Children Ages 2 to 11 Years*; and was lead author for the 2018 Joint Position (Academy, SNA and Society for Nutrition Education and Behavior) and Practice Papers: *Comprehensive Nutrition Programs and Services in Schools*. Through *School Meals That Rock*, she is a cheerleader for excellence in school nutrition on Facebook, Instagram, Twitter, and Pinterest.

# Allergens

By Dayle Hayes, MS, RD



Soy makes a great addition to school menus because it's versatile and provides plant-based protein, but school nutrition professionals are legitimately concerned about allergies. No one wants to have a student suffer even a mild allergic reaction as a result of consuming a school meal.

Soy is one of the eight major food allergens that requires labeling by the Food and Drug Administration. The onset of a soy allergy is often during infancy when soy-based formula feedings are introduced. The peak incidence is around two years of age—with many children outgrowing a soy allergy by the age of six.<sup>1</sup>

Allergic reactions to soyfoods are typically mild, exhibiting as eczema, hives, or itching around the mouth. Although rare, potentially life-threatening reactions to consuming soyfoods can occur.

Like all students with allergies, those with confirmed or suspected reactions to soy should have a clear and comprehensive school management plan. Check with your school nurse if you have concerns about a specific student.<sup>2</sup>

As one of the major allergens, soy ingredients are required by law to be listed on food packages sold through both retail and wholesale channels. Food companies are not required to label for cross-contamination risk, though some voluntarily do with advisory statements such as: *May contain soy or processed in a facility that also processes soy.*

Some forms of soy in food are easily identified, such as edamame and tofu. Others may be less easy to spot, like hydrolyzed vegetable protein (HVP), natto, and broths and flavorings (natural and artificial) that contain soy. It is important for school nutrition programs to identify potentially allergenic soy products.

Soybean oils and vegetable oils “derived from soy” should be safe for most soy-allergic individuals because they are highly refined and contain extremely small levels of allergenic protein. Soy-allergic individuals should, however, avoid cold pressed, expeller pressed, or extruded soybean oil.

For a more extensive list of soy ingredients, visit: Kids With Food Allergies (KFA), a division of the Asthma and Allergy Foundation of America (AAFA), <https://www.kidswithfoodallergies.org/soy-allergy>.

There is no reason to let concerns about allergies keep soy products off your school menus. With a proper management plan for students with allergies and careful label reading, soy can be a delicious, nutritious part of any school menu.

Reference available on pg. 33

# Kung Pao Stir-Fry

Makes 12 servings

## Ingredients

3 lbs. + 10<sup>2</sup>/<sub>3</sub> ozs. Firm tofu, diced  
 2<sup>1</sup>/<sub>8</sub> lbs. Yellow onion, 1/4" dice  
 1 lb. + 2<sup>1</sup>/<sub>2</sub> cups Green bell pepper, julienned  
 1<sup>2</sup>/<sub>3</sub> lbs. Red bell pepper, julienned  
 1<sup>1</sup>/<sub>3</sub> lbs. Celery

2 Tablespoons + 2 teaspoons Vegetable oil  
 2 Tablespoons Toasted sesame oil  
 1 Tablespoon + 1/3 teaspoon Garlic powder  
 1<sup>1</sup>/<sub>8</sub> Tablespoons Ground ginger  
 1<sup>1</sup>/<sub>3</sub> teaspoons Crushed red pepper flakes

1 oz. Thai chili sauce  
 1<sup>1</sup>/<sub>3</sub> Tablespoons Soy sauce



## Directions

Preheat oven to 350°F.  
 Combine the diced tofu, onion, bell peppers, and celery.

Mix together the vegetable oil, toasted sesame oil, garlic powder, ground ginger, and red chili flakes. Pour over the tofu and vegetables and mix to coat.  
 Spray 2" hotel pans with pan release spray. Pour 10 cups tofu and vegetable mixture into prepared pans. Bake, uncovered, in the preheated 350°F. oven for about 15 to 20 minutes, or until tofu begins to brown and vegetables are tender-crisp.

Mix together the Thai chili sauce and soy sauce.

Remove tofu and vegetables from oven. For each pan, distribute 1 cup sauce evenly over each pan. Stir to coat vegetables and tofu.  
 Place back into oven and bake, uncovered, for an additional 3 minutes to help sauce adhere.

### Nutritional Information (1 cup serving)

Calories 230; Total Fat 12g; Sat Fat 2g; Cholesterol 0.01mg; Sodium 313mg; Total Carbs 21g; Protein 14g; Fiber 5g

# Curried Tempeh

Makes 12 servings

## Ingredients

1 pint + 1<sup>1</sup>/<sub>2</sub> cups Water, boiling  
 2 lbs. + 11<sup>1</sup>/<sub>2</sub> ozs. Tempeh

Pan coating spray  
 2<sup>3</sup>/<sub>4</sub> teaspoons Curry powder  
 2<sup>3</sup>/<sub>4</sub> teaspoons Chili powder

## Directions

Cover tempeh with boiling water and cover for 30 minutes to soften.

Drain water completely and crumble onto a sheet pan that has been coated with pan coating spray. Add curry and chili powders toss to evenly coat. Bake at 350°F for 20 minutes

### Serving Instructions

Minimum internal temperature should be 140°F. or above.

### Nutritional Information (1/2 cup serving)

Calories 199; Total Fat 11g; Sat Fat 3g; Cholesterol 0mg; Sodium 35mg; Total Carbs 8g; Protein 21g; Fiber 0.2g

These and other school-tested recipes are available on [TheLunchbox.org](http://TheLunchbox.org) and can be easily scaled online.

# Soy Gives Chicken Nuggets a Boost

Across the food service and retail industry, soy protein—with all its added benefits—is found in chicken nuggets. Soy is a natural, plant-based protein that is used to increase protein (particularly to meet school lunch requirements), improve texture and moisture, and reduce cost, among other reasons.

“Soy is not used as a filler in our K-12 products. Soy is much more than that. It is a complete protein that helps us deliver on desired product attributes, like protein amount, while maintaining a reasonable cost that our customers are looking for,” said Niki Mann, RD, LD, SNS, CCS, who is the associate director of research and development for Tyson Foods.

A variety of registered dietitians, health professionals, and researchers echo that reasoning.

Mark Messina, PhD, executive director of the Soy Nutrition Institute, wrote that soy components enhance the nutrient quality of products. He went on to add that concentrated sources of soy protein are commonly used to increase the protein content of a wide variety of products across multiple categories and proteins.

“Soy as an ingredient in foods adds nutrition like protein, healthy polyunsaturated fat, phytonutrients, and dietary fiber,” Christine Werner, PhD, a professor at Saint Louis University, wrote in the *Soy Connection* newsletter. “Soy protein is a sustainable protein when incorporated into various food products. It is a high-quality protein containing all of the essential amino acids.”

In its many forms, soy takes a variety of roles within the food formula that companies use to develop products. Not all forms of soy have the

same effect on nutrition, texture, and taste, leading companies to use a combination of items to deliver standards.

“For items that we develop for school breakfast and lunch, we typically use a combination of soy items to deliver the protein amount we need while delivering on taste and texture that kids will love,” Mann said. “Textured and powdered [forms of soy protein] impact texture and taste differently. We tend to use a combination of both textured and powdered depending on the product we are developing.”

Soy’s role in chicken nuggets goes beyond just adding protein: It improves product attributes while reducing cost. Werner noted that, in general, soy helps products retain moisture, flavor, aroma, and shape and improves texture.

“We use soy to help reduce the cost of the product and deliver protein to meet Child Nutrition requirements for products that are going into school lunchrooms,” Mann said. “Soy is not just less expensive, but it also delivers the same amount of protein [as a meat source] by using less—depending on the type of soy product used.”

The USDA lists 100 grams of boneless, skinless chicken breast as having 20.5 grams of protein, whereas the same amount of soy protein isolate has 88 grams of protein.

Soy enters the equation as the sole plant protein to be considered complete, meaning it contains each of the nine essential amino acids in the amounts necessary for humans. A high-quality protein, soy also delivers potassium, zinc, iron, phosphorous, and more.



*Soy's role in chicken nuggets goes beyond just adding protein: It improves product attributes while reducing cost. In general, soy helps products retain moisture, flavor, aroma, and shape and improves texture.*



# Edgy Veggies

*Trained as a biologist at Ohio Wesleyan University, Dr. Brad Turnwald has done research on everything from yeast to nematodes to human cells. He eventually decided that humans were the most interesting creature, and is now a postdoc in the Psychology Department at Stanford.*

*Turnwald has published multiple studies on the relationship between food labels and human consumption. That research led to the creation of the Edgy Veggie toolkit.*

*In a Q&A, Turnwald gives readers an inside look into his research and what it means.*

**Q:** You have been part of several research teams investigating how labeling affects food decisions. What spurred your interest in the field?

**TURNWALD:** For several decades now, psychology and consumer science studies have shown that the way food is labeled can impact so many parts of the consumption experience—our food choices, how good we think food tastes, how much we’re willing to pay, and even how our bodies respond. But despite these findings, it seemed to me like we weren’t putting these insights to work for good in research, public health campaigns, or the commercial space to promote a positive experience with the foods that we really want people to choose and enjoy, like fruits and vegetables. Instead, while unhealthy foods have been using labeling to entice customers for decades, healthy foods have not yet been promoted on tasty and enticing qualities, which is a potentially huge missed opportunity for getting people to choose and enjoy healthy foods. In my research, I wanted to ask whether we could first quantify the disparities in how American culture describes healthy foods versus unhealthy foods, and second whether we can flip the script and describe healthy foods using the enticing flavor-focused language that unhealthy foods have benefited from for decades.

**Q:** What have you discovered?

**TURNWALD:** Through multiple large studies over the last four years, we consistently see that when we describe vegetable dishes with an emphasis on tasty and enjoyable attributes (e.g., “Twisted Citrus Glazed Carrots”), more people choose and consume them compared to when we describe the same dishes with an emphasis on health qualities (e.g., “Heart Healthy Carrots”). In our largest study where we partnered with the Menus of Change University Research Collaborative, quantifying 138,000

diner decisions from 185 days across five research sites nationwide for 71 different vegetable dishes, we found that taste-focused labels increased vegetable selection by an average of 29% compared to health-focused labels.

**Q:** What are the implications of the studies?

**TURNWALD:** This means that emphasizing tasty and enjoyable attributes of healthy foods is not only possible, but it’s more effective than the recent increase we’ve seen in focusing only on the health attributes and nutritional properties of healthy foods. Using labels to highlight tasty and enjoyable attributes of vegetables fundamentally changes how people think about them—as something they want to eat because it tastes good instead of as something that they know they “should” eat for better health. Promoting healthy foods based on their flavor is more motivating to most people than touting health benefits, suggesting a change in emphasis in how healthy foods are marketed and promoted in commercial spaces and public health campaigns.

**Q:** What is the “Edgy Veggies” toolkit, and how can it be used?

**TURNWALD:** Created in an effort to share our findings with the world, the Edgy Veggies toolkit is a step-by-step set of instructions and activities for implementing taste-focused labels for healthy foods in your setting. It’s easy to use and meant for anyone who makes food decisions for others, whether you’re a restaurant manager, chef, marketing team, menu designer, school cafeteria, university or corporate dining facility, or parent. The full toolkit is freely available online (<http://sparqtools.org/edgyveggies/>), and includes tons of scientifically-backed examples from our research studies as well as fun group brainstorming activities, created in partnership with

Stanford SPARQ, Stanford Dining, the Menus of Change University Research Collaborative, the Culinary Institute of America, and the World Resources Institute.

**Q:** Why does describing sweet potatoes as “zesty ginger-turmeric” compared to “cholesterol-free” increase consumption?

**TURNWALD:** Taste-focused labels are not a trick. They work because they shift peoples’ focus away from the default of eating vegetables for health to instead eating vegetables for a flavorful experience. In our research, we used statistical models to find that the focus on the flavor and positive experience led people to expect them to be more delicious than when they were labeled “cholesterol-free sweet potatoes,” and this aligns with people’s goal of choosing something that tastes good.

**Q:** Can the information in the toolkit be applied to other healthy foods that aren’t necessarily vegetables, for example tofu?

**TURNWALD:** Yes! Much of our research has focused on vegetables, but in one study we also found some evidence that taste-focused labels are more effective than health-focused labels for other plant-forward dishes, such as tofu-based dishes, at a 2-month follow-up. Just as is the case for vegetables, many of these healthy foods, like tofu, can be described by highlighting desirable flavors, seasonings, textures, or referencing other innovative cultural cuisines or traditions.

**Q:** Are there limitations to how much labeling effects decisions?

**TURNWALD:** Of course, labels matter, but they are only one part of the story. People’s prior experiences with food matter, and in our research we’ve also seen that the flavor of the dish matters a lot too. What’s important for making the labels work best is that the dish is prepared flavorfully, beyond just boiled broccoli or steamed brussels sprouts.

**Q:** Step 2 in the “Edgy Veggies” toolkit is ensuring the dish tastes good. How important is this?

**TURNWALD:** This step is critical for two reasons. First, the dish must taste good or else it may not live up to tasty expectations set by the label. To ensure this, the Edgy Veggies toolkit includes great flavor combinations such as spices, herbs, and small amounts of flavorful fats (olive oil, butter) to highlight the flavors of vegetables. Second, if the dish is not prepared flavorfully, then there are few taste-focused words to draw from. For example, it’s difficult to create a taste-focused label for steamed brussels

sprouts, but roasting brussels sprouts with olive oil, sea salt, pepper, and sun-dried tomatoes lends itself to many more descriptive words that could give diners an idea of the exciting flavors of the dish.

**Q:** Most of your investigations are focused in university cafeterias, how would the research translate to elementary, middle, and high school lunchrooms?

**TURNWALD:** Most of our research has focused on university dining halls, so we haven’t directly tested taste-focused labeling in school lunch rooms. Since taste-focused labels work by enhancing diners’ flavor expectations and most people, especially children, are motivated by taste when making food decisions, we expect taste-focused labels to be effective in school lunch rooms as well. Research is needed to know for sure though, as well as whether any adjustments need to be made for younger age groups, such as using more familiar ingredients or shorter descriptive words.

**Q:** How could these studies be translated into the home? (i.e., parents getting children to eat veggies.)

**TURNWALD:** While parents aren’t sticking labels on their foods at home, what they can do is change the way they talk about healthy foods, especially vegetables, at home. Instead of portraying eating vegetables as a chore or punishment before getting to eat dessert, parents can talk about the tasty and exciting ingredients or flavors of their vegetable dishes, give them taste-focused names when telling the kids what’s for dinner, and preparing vegetable dishes flavorfully.

**Q:** What advice would you give to those seeking to implement your research?

**TURNWALD:** Use the Edgy Veggies toolkit! It’s loaded with examples, brainstorming activities, recipe suggestions, further research, and advice for when this works best.

**Q:** How has this research altered your perception of food decisions?

**TURNWALD:** Much research and policy has justifiably called for limiting the public’s exposure to appealing advertising of unhealthy foods, using calorie labels, red “traffic light” labels, and graphic warning labels to discourage unhealthy choices.

But few approaches leverage tasty and enjoyable components of healthier foods. Our research and the Edgy Veggies toolkit demonstrate the possibility and critical importance of intervening on the problem from the other direction—increasing the lure of healthy foods.

Basic Label: *Edamame*

Edgy Label: *Sesame-glazed Edamame*

# Overnight Egg Casserole with Soy Chorizo Crumbles

Makes 6–8 servings

## Ingredients

1 Tablespoon	Soybean oil
1 medium	Yellow onion, chopped
8 ozs.	Frozen chopped spinach, defrosted
1½ cups	<b>Soy chorizo</b> (or soy sausage crumbles)
2 cups	Crusty bread, such as baguette or Italian bread, ½" cubes
7	Large eggs
1½ cups	Plain <b>soymilk</b> (not sweetened)
½ teaspoon	Kosher salt
	Freshly ground black pepper
¾ cup	Grated, lightly packed sharp cheddar cheese

### Nutritional Information (1 wedge)

Calories 393; Total Fat 27.4g; Sat Fat 5.4g; Cholesterol 199mg; Sodium 1134mg; Total Carbs 16.6g; Protein 24.2g; Fiber 6.6g

Recipe created by Katie Morford, available at [SoyConnection.com](http://SoyConnection.com).

## Directions

1

Heat oil over medium-high in a 10" cast iron or non-stick, oven-proof skillet. Add the onion and sauté until tender, 6 minutes. Meanwhile use your hands to squeeze the liquid from the spinach.

2

When the onion is tender, add the spinach and soy chorizo and sauté until the liquid evaporates from the spinach, a few minutes more. Add the bread cubes and stir.

3

In a large bowl, whisk the eggs, milk, salt, and a light shower of black pepper. Pour into the skillet to cover the other ingredients.

4

Cover the pan with foil and refrigerate overnight (or bake immediately as directed below).

In the morning, preheat oven to 350°F. Remove the foil and scatter the cheese over the eggs. Bake until the eggs are just set with no obvious raw egg, 30 minutes. Cut into wedges and serve warm.



# Tofu Fingers

Makes 4 servings

## Ingredients

1 - 12 oz. package	Tofu, extra firm
½ cup	Bread crumbs, dried
½ teaspoon	Garlic powder
½ teaspoon	Salt
⅛ teaspoon	Black pepper, ground
1	Egg, beaten
2 Tablespoons	Milk
2 Tablespoons	Soybean oil
	Assorted dipping sauces

### Nutritional Information (1 wedge)

Calories 393; Total Fat 27.4g; Sat Fat 5.4g; Cholesterol 199mg; Sodium 1134mg; Total Carbs 16.6g; Protein 24.2g; Fiber 6.6g

## Directions

1

Cut tofu into 12, 1 x 1 x 3" pieces. Place pieces on paper towel to drain.

2

Mix bread crumbs, garlic powder, salt and pepper in medium bowl.

3

Beat egg and milk together in small bowl. Dip tofu in egg mixture. Place tofu in bread crumb mixture, turning to coat all sides.

4

Heat oil in large frying pan over medium high heat. Add tofu, reduce heat and cook 1½ to 2 minutes on each side until golden brown. Serve with dipping sauces.



# Chik'n Parmesan Sub

Makes 50 servings

## Ingredients

3 each (150 total)  
(or 9 lbs. 6 oz.) **Morningstar Farms® CN  
Chick'n Nuggets (#97762)**

3 qts. + 1/2 cup  
(or 7 lbs. 1 oz.) Marinara sauce, low sodium

2 qts. + 1 1/2 cups  
(or 2 lbs. 6 oz.) Mozzarella cheese, shredded,  
low sodium

50 each (2 ozs.) Hoagie rolls, whole wheat or  
whole grain

## Directions

1

Heat nuggets according to manufacturer's instructions. CCP: Heat to 165°F for 15 seconds.

2

Heat marinara sauce to a simmer and portion 1/8 cup of sauce (1 oz. ladle) onto bottom of sub roll.

3

Place three nuggets on top of marinara sauce, onto bottom of sub roll.

4

Top nuggets with an additional 1/8 cup of sauce (1 oz. ladle) and 3/4 oz. (1 1/2 Tablespoons) of shredded cheese

5

Toast sub at 350°F for 5 minutes. Serve warm  
CCP: Hold at 135°F or higher



### Nutritional Information (1 sub)

Calories 350; Total Fat 9.7g; Sat Fat 4.1g; Cholesterol 13mg;  
Sodium 955mg; Total Carbs 53g; Protein 18g; Fiber 8g

Recipe available at  
[KelloggsSpecialtyChannels.com](http://KelloggsSpecialtyChannels.com).

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### MEAT ALTERNATIVES OR ANALOGUES

Meat alternatives are typically frozen or refrigerated products, often made with soy protein ingredients that resemble meat or meat-like products but are vegetarian or meat-free. These products can be made to resemble any meat species, such as pork, chicken, or beef.

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### SOYMILK

Soybeans soaked, ground fine, and strained to produce a fluid called soymilk. Plain, unfortified soymilk is an excellent source of high-quality protein and B vitamins.

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# YES, Soy IS Kid-Friendly!

By Sally Kuzemchak, MS, RD

When I tell parents that they should try serving tofu to their kids, some of them give me that look—like I’m crazy. I get it: Tofu doesn’t seem like an easy sell to kids. It’s bland and a little rubbery straight out of the package. Plus, it’s got an unfair reputation as being a health food fringe food.

But tofu has a superpower: It can magically transform, soaking up all kinds of flavors, frying up into meaty chunks, and blending into creamy sauces. My own two kids went from being skeptical of the squishy blocks to happily digging into tofu bowls and scooping up spoonfuls of tofu pudding in just a matter of weeks.

The moral of the story: When it comes to kids, don’t write off tofu—or any soyfood for that matter—because soy actually is a kid-friendly food!

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# Tasty Ways to Eat Soy With Kids

By Melissa Halas, MA, RDN, CDE

Sometimes kids can surprise you with what they're willing to eat, and soy is probably on that list! Don't be limited by your own taste preferences—some tots will eat tofu right out of the container and ask for more. Silken and sprouted tofu offer a soft texture, which may appeal to your kids due to how smooth and easy they are to eat. Firm tofu can be crisped up in the oven for a toasty protein source and soynuts can add crunch to snack time. There's something for everyone! Here are some fun and easy ways to incorporate soy into old time favorites or new meals to add to your menu rotation.

## Nuggets and Fries You Can't Deny!

### Tofu nuggets

- These breaded gems are so easy to make and can be cut into fun shapes by hand or using cookie cutters. Take pressed tofu, which has the liquid drained out, cut it into your favorite shape, toss in cornstarch or other flour, and top with your favorite seasoning. Bake on a baking sheet sprayed with oil for 15–20 minutes or until golden and crunchy.

### Tofu fries

- Remove as much water as possible from extra firm tofu and then cut it into skinny strips like French fries. Sprinkle with salt and pepper and bake for 15 to 20 minutes until golden brown.
- Let them sprinkle on their own spice-herb blended creation. Take an empty saltshaker and with your kid, add in a mix of tasty spices they like. Some kids love it spicy—try a mix of chipotle, cumin, paprika, garlic, and onion powder. Others like it savory—try basil, oregano, and parsley.
- Serve these up as a pre-dinner appetizer when kids are hungry and more willing to try a new food.

Continued on pg. 22



There are lots of good reasons to encourage kids to eat soy. Unlike most plant foods, soy is a high-quality protein, which means that, like meat, it has all of the essential amino acids (protein building blocks) that the body needs to get from food. Soy is also a good source of iron. Both iron and protein are vital for kids as they're growing. For kids and teens who are exploring vegetarian and vegan diets, soy can be an important cornerstone food to deliver some of the important nutrients they may be missing when they cut out meat and animal products.

Soy is also safe for kids. Despite internet rumors, there is no evidence to show that soy is harmful to boys or girls or that it affects hormone levels or impacts puberty. What research does show is that soy eaten during childhood might be protective against breast cancer in adulthood. In a review published in *Nutrition Reviews*, researchers concluded that one serving of soyfoods a day is safe and healthy for children. One serving of soy is a cup of soymilk, a half-cup of tofu, or a half-cup of soybeans. Though soy is one of the Big 8 allergens, it's also one that children are more likely to outgrow.

And yes, soyfoods truly can be kid-pleasers. Here are some of my best tips for serving some of the most common soyfoods to the younger set:

**Tofu:** For tofu newbies, choose extra firm tofu. After draining, press out extra moisture to lower the squish-factor using a tofu press or something heavy (I use a cast-iron skillet) placed on top. Marinate tofu in a flavor they already love, like teriyaki, and cut into small pieces at first so a bite isn't as daunting. Tossing tofu pieces in cornstarch then baking will add more crunch to the exterior. *Even better:* Pop cubed tofu into an air fryer to really make it crisp. You can also crumble tofu and cook it into ground beef or turkey for tacos or spaghetti sauce. Or choose silken tofu to blend into creamy sauces, pies, and (our household favorite) chocolate pudding right in the blender.

**Edamame:** Keep these in the pods—this finger food is naturally kid-friendly. Kids can pop the firm soybeans right into their mouth, and the flavor is easy to love: nutty and slightly sweet (sprinkle on a bit of salt for even more flavor). They're perfect as an easy, inexpensive protein source for lunch boxes and snack time. One cup of edamame (in the pod) has about half the protein young kids need in a day! Edamame is also a good source of fiber, and most kids don't get enough.

**Soymilk:** For kids who don't like or can't drink regular milk, soymilk is the best alternative on the shelf because it's naturally high in protein. In fact, soymilk fortified with vitamin D is specifically recognized by the USDA as an equivalent to cow's milk. One eight-ounce glass has the same amount of protein as cow's milk. Make sure you choose a variety of soymilk that's fortified with both calcium and vitamin D and shake it well before serving (the calcium tends to settle on the bottom). Then use it as you

would regular milk on cereal or by the glass. If kids are still getting used to the taste, whirl it into smoothies with frozen fruit. Flavored soymilks like chocolate and vanilla do contain extra added sugar but can make the transition easier too.

**Miso:** This fermented paste is made from soybeans (and grain). Though it's not rich in protein like other soyfoods, it's very kid-friendly because it adds a rich, salty flavor to broth, transforming into a savory bowl of soup. Add noodles, favorite veggies, and little cubes of tofu for a batch of homemade ramen.

**Remember:** It can take repeated exposures for kids (and grown-ups) to feel comfortable around a new food. Just because kids don't accept tofu stir-fry or a soymilk smoothie the first time isn't a reason to give up. Taking the time to prepare soyfoods in a way that's appealing to kids can go a long way. So, keep serving soy in different ways, giving kids lots of chances to explore it—and yes, simply allowing it on their plate or taking one small taste are baby steps toward eventually eating and liking it!

References available on pg. 33

#### ABOUT THE AUTHOR

Sally Kuzemchak, MS, RD, is the creator of RealMom-Nutrition.com, a no-judgements zone for feeding a family and the author of *The 101 Healthiest Foods For Kids*.

# Kid-Friendly Tofu Buddha Bowls

Makes 4 servings

## Ingredients

1 block Extra firm tofu

2 cups Uncooked brown rice, (or white, use what your family likes)

1½ Tablespoons Cornstarch

1 cup each Raw, chopped vegetables such as sweet potato, carrots, broccoli, Brussels sprouts, bell peppers, and mushrooms  
1 Tablespoon Olive oil

**PEANUT SAUCE**  
¼ cup Natural peanut butter  
3 tablespoons Real maple syrup  
3 Tablespoons Reduced-sodium soy sauce (or tamari for gluten-free sauce)  
1 teaspoon Rice vinegar  
1 teaspoon Sesame oil  
1 clove Garlic, minced or pressed

Crushed peanuts and sliced green onion garnish (optional)

## Directions

1

Press tofu for at least an hour to remove excess moisture. Place tofu between paper towels (or a clean kitchen cloth) on a plate. Set a heavy object, such as a cast iron pan or heavy pot, on top.

2

Prepare brown rice according to package directions.

3

Preheat oven to 400°F and line two baking sheets with parchment paper or silicone baking mats. Once tofu is pressed, cut into cubes. Toss cubes in cornstarch and arrange in a single layer on one of the baking sheets.

4

Chop vegetables into uniform pieces, toss with olive oil, and arrange in a single layer on the second baking sheet. Bake tofu and vegetables for 20 to 30 minutes or until tofu is lightly browned and crisp around the edges and vegetables are crisp-tender (or desired doneness). If your oven can't cook two sheets evenly, rotate them between racks halfway through cooking time or bake them separately. Keep in mind that root vegetables such as carrots and potatoes will take longer to cook, followed by broccoli and Brussels sprouts. Add more delicate quick-cooking vegetables such as mushrooms and peppers in the last 10 minutes.

5

While tofu and vegetables are baking, whisk together the peanut butter, maple syrup, soy sauce, vinegar, sesame oil, and garlic until smooth. If the sauce is too thick, drizzle in water slowly, one teaspoon at a time, while whisking, until you get the texture you like.

6

Place a portion of rice in each bowl. Top with tofu and vegetables, drizzle peanut sauce on top. Top with crushed peanuts and green onion if desired.



### Nutritional Information (1 bowl)

Calories 331; Total Fat 11g; Sat Fat 2g; Trans Fat 0g; Unsat Fat 9g; Cholesterol 0mg; Sodium 106mg; Total Carbs 44g; Sugar 6g; Sugar Protein 17g; Fiber 7g

Recipe by Sally Kuzemchak available at [RealMomNutrition.com](http://RealMomNutrition.com).

## Mini Foods for Your Mini-Me

Whip up some tofu and mini veggie kabobs in no time. Can you blame kids for loving anything tiny and cute? Button mushrooms, baby bell peppers, smoked or flavored tofu (this is sold already flavored—find it at your grocery store!) make an adorable and delicious meal.

## Pop It!

Kids love to pop, squeeze, mush, or smash. That's why edamame, baby soybeans, are so much fun! Steam edamame in its shell and let your kids squeeze and pop them out. If needed, add a flavor boost like ginger and soy sauce, or red pepper flakes and sesame oil. But first, see if your kids like them plain—you may be surprised.

## Soup It Up!

- Making your family's favorite potato-based soup? Try adding in  $\frac{1}{3}$  silken tofu and blend it up for a more protein-packed and filling soup for your kids.
- Try serving up chicken noodle soup with cubed tofu instead of chicken for an easy Meatless Monday meal! Or add some in with the chicken for a heart-protective boost.
- Miso, another fermented food with gut health benefits for your kids, can be an easy soup. This mini meal is a breeze! Add some miso paste to vegetable broth, green onion, and tofu, and you'll have a warm comforting dish on a cool day. Add some seaweed if you're feeling extra adventurous.

## Travel the World

- Mix tofu with spices (cumin, garlic, and chipotle), beans, low-fat cheese, and guacamole and enjoy a meat-free taco night served with toasted corn taco shells.

- Feeling like lasagna? Cut the amount of ricotta cheese by a third and replace it with silken tofu for extra protein. Blend silken tofu with ricotta and Italian seasoning in a food processor or blender before adding it to your lasagna layers.

## Crunchables

- What kid can resist a crunchy snack? Try making some tasty spring rolls packed with veggies and protein. Layer some thin slices of their favorite veggies with a crunch, like cucumber and carrots. Then add in some cooked julienned tofu and lettuce. Next, roll everything up in rice paper and serve with peanut dipping sauce. Yum!
- Make your own hummus! Blend together black beans and tofu. Then add in tahini, cumin, garlic, and olive oil for a creamy and dip-tastic after school snack. Serve with crunchy veggies like red bell pepper and carrot sticks.
- Pack some soynuts on your next outing to the park or playground for a crunchy snack to hold you and your kids over between meals.

## Just Keep Trying!

Soy might be a new food for you and your family or an old time favorite that you always eat the same way. When adding tofu as a first-time food with your child, try pairing it with a familiar food or dish. Because it's so versatile, it can work in almost any recipe—mixed into ground meat for meat sauce, blended into a smoothie, or even whipped into a maple syrup pudding. Try it and you'll discover your new favorite ways to serve and eat this protein powerhouse, while knowing you're reaping the health benefits! And don't forget there's more to soy than just tofu. Whip up some mini tempeh tacos or steamed edamame next time your kids ask for a snack or a meal. Now that's soy-licious!

# Soy Nutty-Fruity Clusters

Makes 16 servings

## Ingredients

- 1 Tablespoon Soybean oil
- 1 cup **Soynuts**, roasted, salted
- 1 cup Assorted dried fruit, chopped
- 1/4 cup Brown rice syrup
- 1/4 cup Light brown sugar, packed
- 1/4 teaspoon Salt

## Directions

- 1 Foil-line a 11 x 17" pan, grease with soybean oil.
- 2 Combine soynuts and dried fruit. Spread onto prepared pan in single layer.
- 3 Stir brown rice syrup, brown sugar, and salt in small saucepan until blended. Bring to boil over medium high heat, stirring constantly. Boil until candy thermometer reaches 270°F, about 3 to 4 minutes. Immediately pour over soynuts and fruit. Quickly and carefully stir until coated. While hot, separate into clusters. Cool completely.



### Nutritional Information (1 cluster)

Calories 110; Fat 3.5g; Sat Fat 0.5g; Trans Fat 0g; Cholesterol 0mg; Sodium 80mg; Total Carbs 18g; Protein 4g; Fiber 3g

Recipe available at [SoyConnection.com](http://SoyConnection.com).

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### SOYNUITS

Roasted soynuts are whole soybeans that have been soaked in water and then baked until browned. Soynuts can be found in a variety of flavors, including chocolate covered. High in protein and isoflavones, soynuts are similar in texture and flavor to peanuts.

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# Tofu Green Goddess Dip

Makes 1 cup

## Ingredients

4 ozs.	Silken tofu
1/2	Ripe avocado
1/4 cup	Light mayonnaise
2 Tablespoons	Lemon juice
2 Tablespoons	Water
15	Fresh basil leaves, torn
3	Green onions, white and light green parts, cut into a few pieces
1 small	Clove garlic, chopped
1/2 teaspoon	Kosher salt
1/4 teaspoon	Black pepper



## Directions

Put all of the ingredients into the bowl of a food processor fitted with a metal blade and run until creamy and smooth.

Transfer to a bowl and serve with cut up vegetables such as carrots, radishes, cucumber, and snap peas for dipping.

1

**Notes:** Classic green goddess gets a nourishing makeover by relying on tofu and avocado for creaminess in place of sour cream. The result is an herbaceous dip that packs more protein, fiber, and healthy fats than its more traditional counterpart. Take it from dip to salad dressing by adding an extra tablespoon or two of water.

## Nutritional Information

Calories 377; Total Fat 30.8g; Sat Fat 4.5g; Cholesterol 20mg; Sodium 1649mg; Total Carbs 20.2g; Protein 9g; Fiber 8g

# Tex Mex Tempeh Chili

Makes 4 servings

## Ingredients

1 Tablespoon	<b>Soybean oil</b>
1 large	Yellow onion, chopped
1 large	Carrot, diced
1 stalk	Celery, diced

8 ozs.	<b>Tempeh</b>
2 Tablespoons	Chili powder
1 teaspoon	Minced chipotle chile en adobo
1 teaspoon	Ground cumin
1 teaspoon	Paprika
1 teaspoon	Kosher salt

1 - 15 oz. can	Crushed tomatoes
1 - 15 oz. can	Black beans, drained
2 cups	Water



## Directions

Heat the soybean oil in a medium saucepan. Add the onion, carrot, and celery and sauté until the onion is tender, about 6 minutes.

1

Crumble the tempeh into the pot along with the chili powder, chipotle chile en adobo, cumin, paprika, and kosher salt. Sauté 1 minute.

2

Add the tomatoes, black beans, and water. Simmer until the flavors meld, about 15 minutes. Add more water or salt as needed.

3

Spoon into bowls and top with favorite garnishes such as diced avocado, sour cream, chopped cilantro, grated cheese, or sliced jalapeño peppers.

4

## Nutritional Information

Calories 319; Total Fat 10.8g; Sat Fat 1.9g; Cholesterol 0mg; Sodium 1239mg; Total Carbs 40.7g; Protein 20g; Fiber 11.2g



# Veggie and Tofu Fajitas

Makes 6 servings

## Ingredients

3 Tablespoons Fresh lime juice  
2 teaspoons Paprika  
2 teaspoons Ground cumin  
3 cloves Garlic, minced  
1 small Jalapeño, seeded, finely diced  
1/2 teaspoon Salt

12 ozs. Tofu, extra firm, drained  
(1 block)

2 Tablespoons **Soybean oil**  
2 Bell peppers, cored, seeded, sliced  
1 Onion, peeled and sliced

12 Corn or flour tortillas (heated)  
3/4 cup Guacamole  
3/4 cup Pico de gallo, store-bought  
1/2 cup Plain greek yogurt

## Directions

1 Combine lime juice, paprika, cumin, minced garlic, jalapeño and salt. Set aside.

2 Cut tofu into 12, 1 x 1 x 3" pieces. Place tofu pieces in baking dish; top with marinade. Refrigerate at least one hour or longer, turning tofu occasionally to marinate evenly.

3 Heat 2 tablespoons soybean oil in large non-stick frying pan over medium high heat. Add tofu, turning frequently, until evenly browned and crisp; remove tofu from pan. Add bell peppers and onions to pan, cook until just soft, about 8 minutes. Gently stir in tofu pieces; remove from pan.

4 Serve with tortillas, guacamole, pico de gallo, and yogurt.



### Nutritional Information (2 fajitas)

Calories 300; Fat 13g; Sat Fat 1.5g; Cholesterol 0mg; Sodium 450mg; Total Carbs 37g; Protein 12g; Fiber 6g

Recipe available at [SoyConnection.com](http://SoyConnection.com).

### SOYBEAN OIL

Soybean oil, more commonly known as vegetable oil, has a heart-healthy fatty acid profile as it is comprised of almost 90% unsaturated fatty acids, about two-thirds of which is linoleic acid. A trusted plant-based oil, soybean oil provides essential omega-3 fats, and builds flavor support to many cuisine favorites.

### TEMPEH

Tempeh, a traditional Indonesian food, is a chunky, tender soybean cake. Whole soybeans are fermented into a rich cake of soybeans with a smoky or nutty flavor. Tempeh can be marinated and grilled and added to soups, casseroles, or chili.

# Soy in the Supermarket

## PRODUCE

Edamame, tofu, tempeh, refrigerated soy protein smoothie drinks

## BAKERY

Protein-fortified baked snacks (cookies, brownies, etc.)

## MEAT SECTION

Vegetarian meat alternatives - burgers, sausages, other forms

## DAIRY SECTION

Soy cheese, soy yogurt, soymilk

*Eating soy every day is easier than you think with the plethora of great-tasting soy products on the market.*



## Meal and Snack Ideas

### Breakfast

- Try a soy protein-fortified breakfast cereal or granola with soymilk
- Swap regular sausage with a meatless sausage or a combination of sausage and soy crumbles
- Create a fruit and yogurt parfait layering soy yogurt with fresh fruit and granola
- Whip up a soy protein smoothie with 1 cup soymilk, frozen fruit, and a scoop of soy protein powder
- Swirl a tablespoon of soynut butter or soy protein powder into your oatmeal to boost the protein

### Lunch

- Enjoy a glass of soymilk or a soy protein beverage
- Substitute regular deli meats with meatless deli slices
- Make a grilled cheese sandwich with soy cheese
- Trade regular peanut butter for soynut butter
- Have a soy veggie burger or “hotdog” in lieu of a traditional burger or hotdog
- Roasted soynuts or steamed edamame
- Soynut butter on whole grain crackers

## CEREAL

Soy protein-fortified hot and cold cereals, granola, nutrition bars

## BEVERAGES

Protein-fortified nutritional beverages, meal replacements, coffee drinks

## DESSERTS/ SNACKS

Nondairy frozen dessert, pastry fillings, soynuts, soynut butter

## PHARMACY

Soy protein-fortified bars and protein powders, weight management, pediatric and adult nutritional supplements



### Snacks

- Always have in your desk, or in your bag, a soy protein nutrition bar to stave off hunger in between meals
- Look for nutrient-rich bars that have at least 6 grams of protein, contain a good source of fiber, and are low in fat and sugar
- Roasted soynuts or steamed edamame
- Soynut butter on whole grain crackers
- A glass of soymilk or a soy protein beverage
- After exercise, choose a protein recovery beverage that includes soy protein

### Dinner

- Grill tofu and skewer it with roasted vegetables for easy kabobs
- Substitute soy veggie crumbles in place of ground beef in chili or lasagna, or toss into marinara sauce for a protein boost, or do half ground beef and half soy veggie crumbles
- Cube tempeh and toss in soybean (vegetable) oil, soy sauce, and garlic powder. Roast in a 450°F oven for about 15 minutes. Toss tempeh into your favorite salad

# Myth vs. Fact

Soyfoods have been a mealtime staple in some cultures for centuries, and the versatile food has been growing in popularity in the United States in the last couple of decades. So, too, have the misconceptions.

## *Here is what the science says:*



### Soy is Nutritious

Soyfoods are nutritious additions to children’s diets. They provide high-quality protein without the saturated fat typically present in other commonly consumed sources of protein.<sup>1</sup> Soyfoods also contain iron, zinc, calcium, fiber, and numerous other nutrients.

Studies show children find soyfoods as acceptable as their non-soy counterparts.<sup>2</sup> Furthermore, as in adults, soy protein lowers blood cholesterol levels in children.<sup>3</sup>



### Soy is Safe for Children

The FDA has concluded that soyfoods are safe for all, except those who are allergic to soy protein—first in 1999 and again in 2017. And it is not just the United States, more than a dozen other countries recognize soy as safe.

Much of the discussion about the safety of soyfoods revolve around isoflavones, a compound similar to estrogen. Contrary to some rumors, multiple studies show no impact on testosterone.<sup>4</sup> Additionally, soy intake when young may reduce breast cancer risk later in life.<sup>5</sup>



### Processed Soyfoods Contain High-Quality Protein

Soyfoods are very versatile and thus can range from whole to processed, depending on the product. Edamame and soynuts are whole, tofu is minimally processed, and miso and tempeh undergo fermentation while soy “meat” products are highly refined.

No matter how soybeans are transformed, they hold value in diets—whether as a protein, dairy alternative, or vegetable.<sup>6</sup>



### Soy is Sustainable

From no-till farming to a reduction of herbicide usage, farmers in the United States are committed to cultivating soybeans in a sustainable way.

References available on pg. 33

# Soynut Butter Banana Pudding Parfait

Makes 5 servings

## Ingredients

16 ozs. **Silken tofu**  
1/3 cup Creamy, no sugar added  
**Soynut butter** (or peanut butter)  
1/3 cup Packed brown sugar  
1/4 teaspoon Cinnamon

1 to 2 Bananas

## Directions

**1** Put the tofu, soynut butter, brown sugar, and cinnamon into the bowl of a food processor. Run until very creamy and smooth with no obvious flecks of tofu. Spoon into 5 small dishes and refrigerate for 30 minutes.

**2** Top with sliced banana and any additional toppings.

**3** **Optional toppings:** crumbled graham crackers, chocolate shavings, mini chocolate chips, chopped peanuts



### Nutritional Information (1 parfait)

Calories 147; Fat 6.6g; 1.4g Sat Fat; Sodium 44mg;  
Total Carbs 18.8g; Protein 5.5g; Fiber 2.4g

Recipe created by Katie Morford,  
available at [SoyConnection.com](http://SoyConnection.com).

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### SOYNUT BUTTER

Made from roasted, whole soynuts, which are then crushed and blended with soybean oil and other ingredients, soynut butter has a slightly nutty taste, less fat than peanut butter, and provides many other nutritional benefits.

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### TOFU & TOFU PRODUCTS

Tofu is a soft, cheese-like food made by curdling fresh, hot soymilk. It is rich in high-quality protein and B vitamins and low in sodium. Firm tofu is higher in protein, fat, and calcium than other forms of tofu. Firm tofu is dense and solid and can be cubed and served in soups, stir fried, or grilled. Soft tofu is good for recipes that call for blended tofu. Silken tofu is a creamy product and can be used as a replacement for sour cream in many dip recipes.

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# Soy Doughnuts

Makes 14 servings

## Ingredients

1 Tablespoon + 1 teaspoon Active dry yeast, divided  
1 cup Soy milk, warmed, divided  
1¾ cups All purpose flour, divided

1 teaspoon Vanilla extract  
3 Egg yolks  
¾ cup Soy flour  
3 Tablespoons Sugar  
1 teaspoon Salt

6 Tablespoons Unsalted butter



Soybean oil or **High oleic soybean oil** for frying

## HIGH OLEIC SOYBEAN OIL

When high oleic soybeans—exclusively grown in the U.S.A.—are transformed into oil, the result is a product with enhanced functionality, improved fat profile, improved shelf life, neutral flavor, and many more benefits. High oleic soybean oil contains lower saturated fat and three times the amount of beneficial monounsaturated fatty acids, compared to many conventional vegetable oils, which benefit heart health when consumed in moderation.

## Directions

1

In a medium bowl, dissolve 1 tablespoon of the yeast into ¾ cup of the milk. Add ¾ cup of the all purpose flour and stir to create a smooth paste. Cover and let rest in a warm spot for 30 minutes.

2

Combine remaining milk and yeast in the bowl of a stand mixer fitted with the paddle attachment. Add the rested flour mixture, vanilla, and egg yolks. Mix until smooth. Turn off the mixer and add in the soy flour and ¼ cup of the all purpose flour, and top with sugar and salt. Mix on low for about 30 seconds or until the dough starts to come together.

3

Add the butter and mix until it becomes incorporated, about 30 seconds. Switch to a dough hook and add more flour, about ¼ cup at a time with the mixer turned off, kneading the dough at medium speed between additions, until the dough pulls away from the sides of the bowl and is smooth and not too sticky to roll out.

Cover the bowl with plastic wrap and let sit in a warm place for 30 minutes. Gently degass the dough, and refrigerate for at least 1 hour (and up to 12 hours).

Roll out the dough on a lightly floured surface to ½" thick. With a doughnut or cookie cutter, cut out 3" diameter rounds with 1" diameter holes (for filled doughnuts, don't cut out the holes).

Place the doughnuts on the baking sheet at least 1" apart and cover with plastic wrap. Let sit in a warm spot to proof until almost double in size, about 30 to 40 minutes, testing at five-minute intervals. To test whether the dough is ready, touch lightly with a fingertip. If it springs back immediately, it needs more time. If it springs back slowly, it is ready. If it doesn't spring back at all, it has overproofed; you can punch it down and reroll it once.

4

While the doughnuts are proofing, heat a heavy-bottomed pot with at least 2" of soy oil until a deep-fat thermometer registers 300°F. With a metal spatula, carefully place the doughnuts in the oil. Fry for 2 to 2½ minutes per side, or until light golden brown. Remove with a slotted spoon, drain on a wire rack over a paper towel, and let cool slightly before topping (optional).

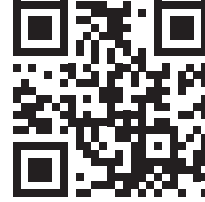
## Nutrition Information (1 doughnut sans topping)

Calories: 150; Total Fat: 6.7g; Sat Fat: 3.6g; Cholesterol: 58mg; Sodium: 214mg; Total Carbs: 17.6g; Protein: 5g; Fiber: 1g

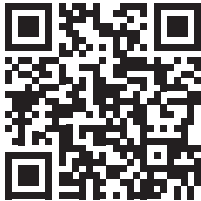
# Resources



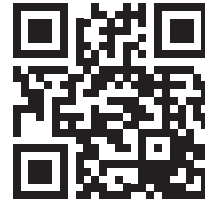
**Soy Connection**  
SoyConnection.com



**United States Department of Agriculture**  
USDA.gov



**Soy Nutrition Institute**  
TheSoyNutritionInstitute.com



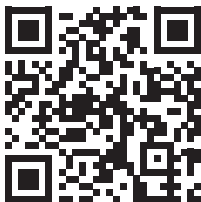
**American Soybean Association**  
SoyGrowers.com



**Missouri Soybean Merchandising Council**  
MoSoy.org



**Soy Info Center**  
SoyInfoCenter.com



**United Soybean Board**  
UnitedSoybean.org



**The Soyfoods Council**  
TheSoyfoodsCouncil.com

# Resources

## RECIPES



**Child Nutrition Recipe Box**  
[TheICN.org/cnrb](http://TheICN.org/cnrb)



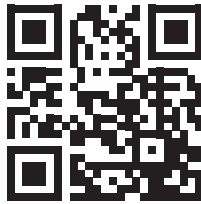
**The Lunch Box**  
[TheLunchBox.org](http://TheLunchBox.org)



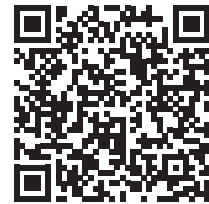
**USDA Child Nutrition Office  
Rules and Regulations**  
[GovInfo.gov/content/pkg/  
FR-2008-09-12/pdf/E8-21293.pdf](http://GovInfo.gov/content/pkg/FR-2008-09-12/pdf/E8-21293.pdf)



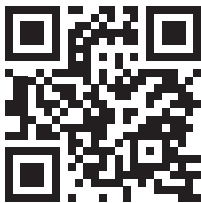
**Healthy School Recipes**  
[HealthySchoolRecipes.com](http://HealthySchoolRecipes.com)



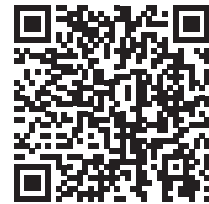
**All Recipes**  
[Allrecipes.com](http://Allrecipes.com)



**USDA Food Buying Guide**  
[fns.usda.gov/tn/food-buying-guide-  
for-child-nutrition-programs](http://fns.usda.gov/tn/food-buying-guide-for-child-nutrition-programs)



**Food Network**  
[FoodNetwork.com](http://FoodNetwork.com)



**USDA Tempeh Memo**  
[fns.usda.gov/cn/crediting-tempeh-  
child-nutrition-programs](http://fns.usda.gov/cn/crediting-tempeh-child-nutrition-programs)



**Genius Kitchen**  
[Food.com](http://Food.com)



**USDA Soyfoods Memo**  
[fns-prod.azureedge.net/  
sites/default/files/cn/SP53\\_  
CACFP21\\_2016os.pdf](http://fns-prod.azureedge.net/sites/default/files/cn/SP53_CACFP21_2016os.pdf)



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## Jumping for Soy 6 Reasons Soy is Super for Kids

pg. 7

1. <https://www.aafp.org/afp/2009/0101/p43.html>
2. <https://www.aafp.org/afp/2002/1001/p1217.html>
3. <https://ods.od.nih.gov/factsheets/Iron-HealthProfessional/>
4. USDA Nutrient Database “soy milk” and “edamame in pod” <https://fdc.nal.usda.gov/fdc-app.html#/food-details/719800/nutrients>
5. <https://www.soyconnection.com/health-professionals/newsletters-ce/health-nutrition-newsletter/newsletter-article-list/role-of-soyfoods-in-plant-based-diets>
6. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6124841/>
7. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6124841/>
8. <http://www.jnmjournal.org/journal/view.html?doi=10.5056/jnm.2011.17.135>
9. <https://www.aafp.org/afp/2009/0101/p43.html> (table 2)
10. <https://pediatrics.aappublications.org/content/101/1/141> (#5 in the section “Significance of Blood Cholesterol Levels in Children and Adolescents”)
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pg. 8

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3. [http://schoolnutrition.org/uploadedFiles/5\\_News\\_and\\_Publications/4\\_The\\_Journal\\_of\\_Child\\_Nutrition\\_and\\_Management/Fall\\_2019/Implementation-of-Vegan-Entrees-in-an-Washington-DC-Elementary-School-Fall2019.pdf](http://schoolnutrition.org/uploadedFiles/5_News_and_Publications/4_The_Journal_of_Child_Nutrition_and_Management/Fall_2019/Implementation-of-Vegan-Entrees-in-an-Washington-DC-Elementary-School-Fall2019.pdf)

## Allergens

pg. 10

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## Yes, Soy IS Kid-Friendly!

pg. 18

- <https://www.aafp.org/afp/2009/0101/p43.html>
- <https://academic.oup.com/nutritionreviews/article/75/7/500/3902926>
- Protein needs for children: [http://www.nationalacademies.org/hmd/~media/Files/Activity%20Files/Nutrition/DRI-Tables/8\\_Macronutrient%20Summary.pdf](http://www.nationalacademies.org/hmd/~media/Files/Activity%20Files/Nutrition/DRI-Tables/8_Macronutrient%20Summary.pdf) (Children ages 4–8 need 19g protein)
- USDA Nutrient Database: <https://fdc.nal.usda.gov/fdc-app.html#/food-details/339355/nutrients> (“Edamame, cooked, 1 cup in pods”).
- <https://www.choosemyplate.gov/eathealthy/dairy>
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## Myth vs. Fact

pg. 28

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# Did You Miss It?

Asian Chicken Edamame Pizza pg. 6



Tofu Fingers pg. 16



Veggie and Tofu Fajitas pg. 25



Soynut Butter Parfait pg. 29



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