



# 2022 Food Specification CATALOG



### Contents

Introd	luction
	Mission Statement
	Vision Statement
	Values Statements
	Importance of Good Procurement
	Specifications and Standards
Writir	ng A Specification
	Writing Food Specifications for School Food Service
	Specification Template9
USFA	Standards
	Antibiotic-Free (ABF) Chicken Standard10
	Responsible Antibiotic Use Turkey Standard11
	Ingredient Guide 202112
	Ingredient Guide Quick Reference
Samp	le Specifications
	Compostable 5 Compartment Plate38
	Sample Bid Sheet for "LOCAL" Apples
	Bid Sheet for "LOCAL" Produce44
	Beef Burger48
	Beef Crumbles
	Chicken Breast Patty, Breaded50
	Chicken Breast Tender, Breaded
	Chicken Breast Chunk, Breaded
	Chicken Drumstick, Unbreaded53
	Cereal, Single Serve 1 oz
	Cereal, Single Serve 2 oz55
	French Toast Stick with Egg
	French Toast Stick, Baked or Grilled57
	Pizza, Cheese 16 Inch Round58
	Pizza, Pepperoni 16 Inch Round
	Pizza, French Bread, Cheese
	Turkey Breast, Sliced

	Turkey Ham, Sliced	. 62
	Turkey Crumbles	. 63
	Turkey Frank	. 64
Resou	rces	. 65



### **Mission Statement**

Leveraging our Collective Voice to Transform School Meals

### **Vision Statement**

To be the leading change agent for advancing high-quality school meals that foster student achievement.

### **Values Statements**

- **Elevate Environmental Stewardship:** We strive to keep sustainability at the forefront of our decision-making
- **Partner with Purpose:** We believe that partnership and collaboration are key to systems-change success
- Promote Equity: We are tenacious about ensuring that all kids have access to the food they need
- **Be Visionary:** We strive to set an innovative standard for what a positive school meal experience should be
- **Prioritize Student Health:** We are dedicated to keeping the wellbeing of our students at the forefront of every decision
- Lead with influence: We responsibly use our expertise and experience to strengthen school meals
- **Nourish Children:** We believe that all students deserve the highest quality, healthy meals to learn and grow

### **Importance of Good Procurement**

The goal of good procurement is to obtain the item you want at the best prices in a consistent supply you begin by defining:

- what you want (specifications)
- what quantity
- timing of purchases
- forecasting volume

and sharing that with your partners in the process

### **Specifications and Standards**

### **Specifications**

A specification is a concise statement of a set of requirements to be satisfied by a product, material, and or process. Write a clear specification. The clearer the specification, the more likely you will receive the anticipated product. Specifications are used by school food authorities to identify a specific product in the procurement process and as a key component in the award criteria of the procurement.

Well written clear specifications help the vendor understand exactly what you want so a competitive price can be quoted

Virginia Department of Education, Office of School Nutrition Programs

### **Standards**

A standard is a repeatable, harmonized, agreed and documented way of doing something. Standards contain precise criteria designed to be used consistently as a rule, guideline, or definition. Standards result from collective work by experts in a field and provide a consensus at the time when the standards are developed. Any organization can establish standards for internal or external use. Adherence to standards is voluntary, unless they are a requirement of legislation or regulation, or are incorporated as part of a formal contract.

Standards are an important way of protecting consumers. While consumer protection is often visible through government policies or consumer protection organizations, standards create an extra protective environment that lies behind the perception of most consumers.

The Urban School Food Alliance continues to support research-based nutrition policy and guidelines that boost student achievement and educate young people about healthy choices and lifestyles. We are committed to serving students healthy, flavorful meals with the

use of local products as often as possible. The members of the Alliance work hard to gain student approval of menu items that meet the strong nutrition standards set through federal regulations.

### No Antibiotics Ever Chicken

The Urban School Food Alliance first issued a standard for No Antibiotics Ever chicken in 2014. The Alliance's landmark action focused on chicken because it is one of the most popular items served in school cafeterias across the country. "Purchasing meat and poultry raised without the unnecessary use of antibiotics is critical to ensuring the safety of our children," said Mark Izeman with the Natural Resources Defense Council, one of the nation's leading environmental and public health organizations and a non-profit partner of the Alliance that helped develop the antibiotic-free standard. "This transformational move had a dramatic impact on the quality of school meals and also helped push the entire food industry to move away from animals raised with improper antibiotic use."

### **Certified Responsible Antibiotic Use**

Turkey is the second most served protein in Alliance schools, coming after chicken, for which the Alliance issued a similar standard in 2014. According to research from NRDC (Natural Resources Defense Council), the turkey industry is the most intensive user of medically important antibiotics, dispensing more drugs per kilogram of animal than any other sector.

"Issuing this standard for responsible antibiotic use in turkey is the next step in the Urban School Food Alliance's commitment to provide the healthiest food to students in all its member districts," said Dr. Katie Wilson, Executive Director of the Urban School Food Alliance. "By leveraging the collective purchasing power of Alliance districts, this standard sends an important message to the turkey industry and helps to improve the quality of food sold to the school marketplace."

### **Writing Food Specifications for School Food Service**

A specification is a concise statement of a set of requirements to be satisfied by a product, material, and or process. Write a clear specification. The clearer the specification, the more likely you will receive the anticipated product. Specifications are used by school food authorities to identify a specific product in the procurement process and as a key component in the award criteria of the procurement.

### What is included in a specification?

Name of Product	Use common language of the industry Example: chicken, tender or corn. When available the Standard of Identify should be used.
Description	Describe the product, main ingredients, weight, portion size (raw or pre-cooked), shape, and, in some cases, manufacturer's name, product code and pack size may be included. If specifying manufacturer and product code respondents may quote on brand name or preapproved equal products to insure maximum open competition.
Main ingredients	Describe the main and secondary ingredients desired in the product in as much detail as possible such as whole chicken breast meat or once frozen pollack.
Quality Indicators	Standards of Identity (SOI) for foods are federal requirements that define what a food product is. SOIs protect consumers by ensuring labels accurately describe the products contained within the package.
	Grade standards are USDA quality standards and are based on measurable attributes that describe the value and utility of the products. U.S. Grade Standards provide a uniform language for describing the quality and condition for meat, poultry, fresh fruits and vegetables, and processed fruits and vegetables. More information about quality indicators is available on the <a href="USDA"><u>USDA</u></a> <a href="Website"><u>Website</u></a> .
Minimum and Maximum size pieces	What is the minimum size of the product? What is the maximum size of the product?
Meal pattern contribution	What is the desired meal pattern contribution from the product? CN label preference.
Prohibited ingredients.	When creating a specification indicate what ingredients are prohibited in the product such as food additives, artificial colors and flavors, hydrogenated fat, monosodium glutamate (MSG), and assorted allergens.

Case and pack weight.	How should the item be packaged, and how big are the cases? Example: 6/#10 cans, or 4/5# loaves, or case not to exceed 25#, Items individually wrapped, 48count, cases not to exceed 30 pounds.
Desired or required nutritional standards.	What are the nutritional standards for the product? Minimum or maximum nutrient or ingredient requirements or limitations. Example: Product must meet NSLP specific meal pattern requirements, or sodium, or sugar content per serving.
Unit on which award is made	How will the SFA team determine which company is offering the best price for an acceptable product? How will the unit price be determined for an acceptable product? Some possible descriptions may include by the case, by the serving size, or per pound.

### **Example specifications**

Corn, whole kernel, frozen, IQF, domestic, 2.9 oz# suggested portion or amount to meet ½ cup veg, starchy subgroup, suggested pack: 20#, Grade A, delivered frozen, heat and serve, packaged bulk, less than 10% calorie from sat. fat, less than 50 mg sodium per ½ cup serving.

Pizza Cheese: Whole grain rich crust, topped with part-skim mozzarella cheese, frozen. Total sodium not to exceed 500mg per portion and 35% or less calories from fat. No added trans-fats. Must be CN labeled or product specifications required. One portion must contribute 2 M/MA and 2 grain equivalents.

### How are specifications used?

**Specifications are used by manufacturers** to consistently produce products with the same size, ingredients, nutritional quality, meal components, color, texture, and any other characteristics that are deemed important to product performance. Without a properly written specification, manufacturers cannot produce the same product every time.

When responding to school food authority request for proposal, specifications are used to determine if the item the manufacturer produces will meet the requirements. Many times, manufacturers make multiple items of a particular type, such as: beef patty, taco filling, mac and cheese or cheese sauce and some will qualify, while others will not due to fat, sodium, size, pack, and flavor. A good specification will help you get exactly what you are looking for.

**Specifications** included in a school district bid or RFP **are used by distributors** to determine the specific item(s) that a school is requesting to procure. These specifications are a critically important aspect of the solicitation, ensuring the buying and selling parties are in agreement about the product that is being requested. Distributors need to know as much information as possible about the products the district is wishing to procure PLUS, approximate annual projected case usage. The distributor sends the RFP/IFB to the broker/vendor community for them to review and offer their best price. It is helpful to notate if the item is a hard spec or not. Distributors receive pricing and multiple substitutes for the items listed because other vendors

want to sell their brands as an alternate to the brands requested. If you are bidding through the distributor they need to know if you want to see information and pricing for alternate items.

**Produce specifications** should include Pack/Size and Grade. Information about produce grade and size can be found in <u>USDA AMS grades and standards</u>. School districts should work with a produce distributor to identify the appropriate grade and size of fruits for schools. For example, if a district replaces 113ct fancy oranges for 138ct choice grade oranges they could save thousands of dollars (or more) annually. Districts should utilize the expertise of the produce vendor to learn about produce and how to write school appropriate specifications.

**Specifications are used by school districts** to communicate the specific product and product qualities desired in an RFP or IFB document in a manner mutually understandable to the buyer and potential sellers. Specifications must be included in bid evaluation criteria and award documents.

### Resources

- Procurement in the 21st Century
- School Food and Nutrition Management for the 21st Century, Dorothy Pannell-Martin and Julie Boettger.
- <u>USDA Agricultural Marketing Service Grades</u>
- USDA Agricultural Marketing Commercial Item Description
- <u>USDA Produce Food Safety</u>

### **Specification Template**

Name of Product  Description  Main ingredients  Quality Indicators  Minimum and Maximum size pieces  Meal pattern contribution  Prohibited ingredients.  Case and pack weight.  Desired or required nutritional standards.  Unit on which award is made		
Main ingredients  Quality Indicators  Minimum and Maximum size pieces  Meal pattern contribution  Prohibited ingredients.  Case and pack weight.  Desired or required nutritional standards.  Unit on which award is	Name of Product	
Quality Indicators  Minimum and Maximum size pieces  Meal pattern contribution  Prohibited ingredients.  Case and pack weight.  Desired or required nutritional standards.  Unit on which award is	Description	
Minimum and Maximum size pieces  Meal pattern contribution  Prohibited ingredients.  Case and pack weight.  Desired or required nutritional standards.  Unit on which award is	Main ingredients	
Maximum size pieces  Meal pattern contribution  Prohibited ingredients.  Case and pack weight.  Desired or required nutritional standards.  Unit on which award is	Quality Indicators	
Maximum size pieces  Meal pattern contribution  Prohibited ingredients.  Case and pack weight.  Desired or required nutritional standards.  Unit on which award is	Minimum and	
Meal pattern contribution  Prohibited ingredients.  Case and pack weight.  Desired or required nutritional standards.  Unit on which award is		
Case and pack weight.  Desired or required nutritional standards.  Unit on which award is	Maximum size pieces	
Case and pack weight.  Desired or required nutritional standards.  Unit on which award is	Meal pattern	
Prohibited ingredients.  Case and pack weight.  Desired or required nutritional standards.  Unit on which award is		
Case and pack weight.  Desired or required nutritional standards.  Unit on which award is		
Desired or required nutritional standards. Unit on which award is	Profibited ingredients.	
nutritional standards. Unit on which award is	Case and pack weight.	
nutritional standards. Unit on which award is		
nutritional standards. Unit on which award is	Desired or required	
Unit on which award is	-	
made	Unit on which award is	
	made	

(Name of Product) (Description of the Product, (Main Ingredient(s)), (Quality indicators (grade, quality)), (Minimum and Maximum Size and Pieces), (Meal Pattern Requirements/Child Nutrition (CN) Label), (Prohibited ingredients), (Desired or required nutrition standards), (Unit on which award is made)

### **Antibiotic-Free (ABF) Chicken Standard**



### **Urban School Food Alliance Statement**

In 2014, the Urban School Food Alliance, a coalition of the largest school districts that includes New York, Los Angeles, Chicago, Miami-Dade, Orange County in Orlando and Broward County in Fort Lauderdale adopted an antibiotic-free chicken standard when supplying chicken products to their schools. While it was a joint decision to adopt the standard, each school district in the Alliance still has the autonomy to choose its own chicken manufacturer. Therefore, this is NOT a joint procurement among all districts. Chicken products are procured individually by each school district in the Urban School Food Alliance.

### **Urban School Food Alliance Antibiotic-Free Chicken Standard**

The Alliance will require that all chicken products must be produced under a USDA Process Verified Program that includes compliance with the following:

- 1. Humanely raised as outlined in the National Chicken Council Animal Welfare Guidelines
- 2. No antibiotics ever

Proof of process verification must be supplied during the pre-award vendor qualification process. The use of vegetarian feed is preferred but not required and vendors able to comply should provide proof during the qualification process.

If a food company cannot supply the full volume of "No Antibiotics Ever" chicken during procurement, a written plan as to when the supplier will meet the above standard will be required. In the meantime, the supplier must have the capacity for USDA Process Verified (third party) for Therapeutic Use Only chicken as defined in the Natural Resources Defense Council's "Support for Antibiotic Stewardship in Poultry Production" dated December 2013; Or School Food Focus Certified Responsible Use Standard dated September 29, 2016

http://battlesuperbugs.com/sites/battlesuperbugs.com/files/CRAU%20Rationale%20 and%20 Standard%20July%202017.pdf

Updated 8/22/2017

### **Responsible Antibiotic Use Turkey Standard**

Working with suppliers, non-profit partners and government agencies, the Urban School Food Alliance is issuing the following standard for responsible antibiotic use in turkey products.

Meeting the Urban School Food Alliance Responsible Antibiotic Use Turkey Standard requires that all turkey products must be produced under a USDA process verified program that includes compliance with the <u>Certified Responsible Antibiotic Use (CRAU)</u>.

### The Certified Responsible Antibiotic Use Standard:

- 1. No administration of antibiotics pre-hatch
- 2. Antibiotics with analogues in human medicine are not allowed for:
  - Disease prevention
  - Growth promotion
  - Feed efficiency, or
  - Weight gain

Antibiotics with human analogs can only be used therapeutically to:

- Treat disease in poultry with bacterial disease; and
- Control disease in poultry exposed to infectious bacteria

### **Ingredient Guide 2021**



### **Acknowledgements:**

This document is a science-based tool created primarily by school nutrition professionals, for school nutrition professionals, in partnership with Center for Science in the Public Interest. The original *Ingredient Guide for Better School Food Purchasing* was developed in 2014 by school nutrition leaders from seven districts in the upper Midwest region, the nonprofit School Food FOCUS, and Lisa Lefferts, Senior Scientist at Center for Science in the Public Interest. In 2019, updating the Ingredient Guide became a project of FoodCorps' supply chain engagement work group which was facilitated by Jillian Dy, Director of Supply Chain Engagement.

### This 2021 version was revised with generous contributions from:

- Bertrand Weber Director of Culinary and Wellness Services, Minneapolis Public Schools
- Tammy Yarmon Director of Nutrition Services, Omaha Public Schools
- Angela Richey, MPH, RD, SNS Director of Nutrition Services, Roseville Area and St. Anthony/New Brighton Schools
- Jeanne Reilly Director of School Nutrition, RSU 14 Windham Raymond Schools
- Debra Brunner, RD, CD Supervising Dietitian, Milwaukee Public Schools
- Linley Danner, MS RD Dietitian, Austin Independent School District
- Amanda Oceguera Manager of Nutrition Services, Houston Independent School District
- Nicole Scarangello Director of Menu Management, NYC Department of Education
- Megan Flynn, MPH, RD Nutrition
   Project Manager, Life Time Foundation
- Adam Kesselman Executive Director, Center for Ecoliteracy
- Jill Kidd, MS, RD, SNS Procurement Director, Urban School Food Alliance

- Valeria La Rosa Senior Program Manager, Life Time Foundation
- Lisa Lefferts, MSPH Senior Scientist, Center for Science in the Public Interest
- Alexa Norstad Director of Programs, Center for Ecoliteracy
- Niisoja Torto Emerson Hunger Fellow, Congressional Hunger Center
- Ashley Nitzkorski, RD Dietitian, Culinary and Wellness Services, Minneapolis Public Schools

### This guide is endorsed by:

Center for Ecoliteracy
Chef Ann Foundation
Eat REAL
FoodCorps
Healthy Schools Campaign
Laurie M. Tisch Center for Food, Education &
Policy, Teachers College, Columbia University
Life Time Foundation
LunchAssist
National Farm to School Network
Scratchworks
Urban School Food Alliance
Wellness in the Schools

Cover Photo Credit: Life Time Foundation

Whole Kids Foundation

### Ingredient Guide Introduction





This guide is a resource for school food leaders and manufacturers alike who are committed to improving the overall quality, nutritional value, and safety of food provided to all students in every school. It highlights unwanted ingredients to eliminate, and those to watch out for as new food products are developed and others are modified.

### **How To Use:**

School districts should decide what works best for their school food programs according to the unique needs of their community. This guide is a tool that can be used by school districts of any size or geographic location to:

- Share with industry partners, manufacturers, food entrepreneurs, brokers, and anyone wanting
  to enter the school nutrition space to guide their decision-making process in the development
  of new products and alteration of current products intended for schools; It can be used to help
  clarify expectations and understand market demand.
- Guide purchasing decisions and recipe development; It can be used directly in food bids or RFPs (Requests for Proposal).
- Communicate food philosophy to students and families via school nutrition websites or social media platforms.
- · Steer overall menu direction and program vision.
- Overall, if school nutrition operators using this guide have questions about whether or how an
  ingredient is used, we encourage them to reach out to the manufacturer or vendor.

### "Better School Food Purchasing" Definition

A food product should include only whole foods like whole grains, fruits, vegetables, meats or dairy that are minimally processed or in their purest form; simply food made from food. A food product should not include unnecessary ingredients.

### **Nutrition Statement**

The school nutrition leaders who contributed to creating this tool are committed to providing students with healthy, minimally processed, whole foods through school meal programs. In an effort to lead the nation in changing school food for the better, school districts are encouraged to develop menus that align with the age-appropriate recommendations in the 2020-2025 Dietary Guidelines for Americans, and then when needed, exceed federal nutrition requirements for Child Nutrition programs. Healthy eating patterns are essential for students to achieve their full academic, physical and mental growth potential, and to support long term health and well-being. Additionally, school districts are encouraged to provide nutrition education through the school food environment so that students will become healthy lifelong consumers.

Last Revised July 2021

3

### **Environmental and Public Health Impact**

The term "healthy" refers not only to what is healthy for the individual, but also what is healthy for the environment, and the public.\* Food purchases impact, and are impacted by, environmental and public health issues such as antibiotic resistance, climate change, and chemical contaminants in food, food packaging, water, air, soil, crops, and animals. While the focus of this guide is ingredients added to food and their safety or healthfulness to children, districts are also encouraged to:

- Prioritize purchasing foods produced more sustainably (1) and locally sourced, using a definition of local appropriate for their school district.
- Increase offerings of plant-based foods, such as vegetables, fruits, whole grains, legumes, nuts, and seeds (2).
- Choose products that have 3rd party verified claims of responsible use of medically important antibiotics (e.g., Certified Organic, Certified Responsible Antibiotic Use).
- Minimize or phase-out single-use packaging and packaging that contains chemicals of concern including bisphenols, ortho-phthalates, and per- and polyfluoroalkyl substances (PFAS) (3-5).

Some districts may also wish to consider other third-party verified claims when purchasing commercial products (e.g., American Grassfed, Certified Humane, Animal Welfare Approved, or American Humane Certified).

In these ways, school districts can also help support the regional economy and our surrounding communities, and provide our students opportunities to understand the benefits and importance of healthy food systems.

\*For example, certified organic foods and seafood that is identified as a "best choice" or "good alternative" on the Monterey Bay Aquarium Seafood Watch list, or similarly certified by other equivalent program.

### Why is this guide needed?

The system for overseeing the safety of substances added to the food supply has been widely criticized (6-10). For example, most additives have not been tested for safety according to FDA's testing recommendations, and FDA does not have a policy of using an additional safety factor to better protect children, as do some agencies. FDA also lacks a system for routinely re-assessing the safety of substances added to food in order to take into account new scientific information. These are some of the reasons behind the development of this Guide.

5

### **Unwanted List**

Ingredients that are not acceptable at any level in newly developed products, and should be eliminated over time from existing products.



### 1) ARTIFICIAL COLORS

### Synthetic Food Dyes (Blue 1, Blue 2, Green 3, Red 3, Red 40, Yellow 5, Yellow 6)

Description: Synthetic food dyes are colorings added to processed foods to make them look more appealing.

Concern: The scientific literature indicates that synthetic food dyes can impact neurobehavior in some children, according to the State of California and other independent reviews and studies (11-24). Some dyes are also known to cause allergic or hypersensitivity reactions (25). In Europe, foods containing certain dyes (including Red 40, Yellow 5, and Yellow 6) are required to carry a warning label that the dyes, "may have an adverse effect on activity and attention in children." In 1990, FDA concluded that Red 3 is a carcinogen, based on studies in animals, and banned some uses of Red 3 (in cosmetics and externally applied drugs), but never finished banning all uses, including in food (26). Animal studies show that certain food dyes or contaminants in food dyes may pose a risk of cancer (11). Synthetic food dyes also often substitute for actual fruit or other "real" ingredients.

### Caramel Color CL 3-4

**Description:** Caramel color is made by heat treatment of sugar compounds. Class III and IV are made with ammonium compounds as well. These ingredients are commonly found in processed foods such as soy and Worcestershire sauces, chocolate-flavored products, baked goods and pre-cooked meats, but the most significant sources in the diet are colas and caramel-colored beverages.

Concern: When produced with ammonia, caramel coloring contains contaminants (i.e., 2-methylimidazole, 4-methylimidazole), which have been found to cause cancer in animal studies conducted by the National Toxicology Program (NTP) (27). The International Agency for Research on Cancer (IARC), a division of the World Health Organization, has concluded that 2-methylimidazole and 4-methylimidazole are "possibly carcinogenic to humans" (28,29). Furthermore, under Proposition 65, the Safe Drinking Water and Toxic Enforcement Act of 1986, the state of California classifies 2-methylimidazole and 4-methylimidazole as carcinogenic (30).

### (2) ARTIFICIAL & UNSPECIFIED NATURAL FLAVORS, AND FLAVOR **ENHANCERS**

Description: The term artificial flavor or artificial flavoring is defined by the Food and Drug Administration (FDA) as "any substance, the function of which is to impart flavor, which is not derived from a spice, fruit or fruit juice, vegetable or vegetable juice, edible yeast, herb, bark, bud, root, leaf or similar plant material, meat, fish, poultry, eggs, dairy products, or fermentation products thereof" (31). The term natural flavor or natural flavoring is defined by the FDA as "the essential oil, oleoresin, essence or extractive, protein hydrolysate, distillate, or any product of roasting, heating or enzymolysis, which contains the flavoring constituents derived from a spice, fruit or fruit juice, vegetable or vegetable juice, edible yeast, herb, bark, bud, root, leaf or similar plant material, meat, seafood, poultry, eggs, dairy products, or fermentation products thereof, whose significant function in food is flavoring rather than nutritional" (31) These types of flavors are commonly found in processed foods such as breakfast cereals, desserts, soft drinks, and many other foods.

Concern: The use of artificial and natural flavors indicates the absence of whole ingredients, most often fruits. A standing expert panel sponsored by the Flavor and Extract Manufacturers Association, not the FDA, decides whether flavorings are safe and can be added to food (32). Some people may be sensitive to certain flavoring ingredients (33). The FDA allows manufacturers to put flavor on ingredient lists without any specifics of what flavors are used. School food service departments are requesting that when natural flavors are used they include specific details explaining from which ingredients the natural flavors are derived. Many districts have students that are allergic or sensitive to certain ingredients, or who do not want to consume flavors that are derived from animals.

### Monosodium Glutamate (MSG)

**Description:** MSG is the sodium salt of an amino acid that is used to enhance the meaty (i.e., umami) flavor of foods. It is commonly found in processed foods.

Concern: MSG is commonly used to substitute for flavor, allowing food manufacturers to reduce the use of nutritionally superior ingredients (e.g., using MSG to reduce the amount of chicken needed in chicken soup). For certain sensitive individuals, large amounts of MSG have been linked to adverse reactions including but not limited to headache, nausea, weakness, and a burning sensation on the back of the neck, forearms and chest. Some people report difficulty breathing, changes in heart rate or blood pressure, and chest pain (33,34). However, additional studies with better designs are needed to establish whether such effects occur in sensitive individuals at lower levels normally consumed in foods (33,35).

### (3) ARTIFICIAL PRESERVATIVES

### Butylated Hydroxyanisole (BHA)

Description: BHA is an antioxidant preservative that retards rancidity in fats and oils; commonly found in processed products, particularly meats, cereals, potato chips and vegetable oils.

Concern: In the U.S. Report on Carcinogens, the National Toxicology Program within the Department of Health and Human Services lists BHA as "reasonably anticipated to be a human carcinogen" (36).

### **Butylated Hydroxytoluene (BHT)**

Description: BHT is an antioxidant preservative that retards rancidity in oil. It is commonly found in processed foods, particularly cereals, meats, and oils.

Concern: Some animal studies of carcinogenicity and chronic toxicity of BHT have shown contradictory results (33,37). The Center for Science in the Public Interest recommends that BHT be replaced by safer substitutes or left out of foods altogether (33).

### **Propyl Gallate**

Description: Propyl gallate is an antioxidant used to protect fats, oils, and fat containing foods from going rancid, and is commonly found in meat products, soup bases and potato sticks. It is commonly used in conjunction with BHA and BHT (33).

Concern: Safety studies published by the US government have shown concerning results. In one study propyl gallate appeared to cause cancers in rats treated with a low dose of propyl gallate as opposed to those treated with a zero dose or high dose (38). The Center for Science in the Public Interest explains that this finding indicates this food additive could be an endocrine disruptor, as well as a carcinogen, and test-tube studies also find endocrine disrupting effects, but more research is recommended to better understand how this additive impacts human health (33,39).

### Tert-Butylhydroquinone (TBHQ)

Description: TBHQ is an antioxidant preservative that is used to prevent rancidity. Sometimes it is used in conjunction with BHA, BHT and propyl gallate. It is commonly found in vegetable oil, snack foods, cereals and other fat-containing foods (33).

Concern: A government animal study showed TBHQ increased the incidence of tumors (33,40).

8

### (4) ARTIFICIAL SWEETENERS & OTHER SUGAR-FREE (Non-Nutritive, Low Calorie, and Reduced-Calorie) SWEETENERS

Description: Artificial and other sugar-free sweeteners include a wide range of sugar substitutes including but not limited to: Acesulfame potassium, Advantame, Aspartame, Monk Fruit Extract, Neotame, Saccharin, Stevia Leaf Extract (Rebiana), Sucralose, various Sugar Alcohols (Erythritol, Hydrogenated Starch Hydrolysate, Isomalt, Lactitol, Maltitol, Mannitol, Sorbitol, Xylitol), and Thaumatin. (Cyclamate has been banned in the United States, and Brazzein and Monatin are not yet used/ permitted. Low and reduced calorie sugars metabolized differently than traditional sugars are discussed below.) These sweeteners are used to improve sweetness in foods or beverages with fewer calories than those produced with caloric sweeteners (e.g., cane sugar, high fructose corn syrup). These ingredients can be found in a range of products such as diet beverages, baked goods, yogurts and cereals, and are not limited to products labeled as diet or low-sugar.

Concern: Evidence on the safety of these sweeteners for children is lacking. The American Academy of Pediatrics found that "the long-term safety of non-nutritive sweeteners in childhood has not been assessed in humans." A 2018 American Heart Association Scientific Advisory advises against prolonged consumption of low-calorie sweetened beverages by children. A 2019 Consensus Statement on Healthy Beverage Consumption in Early Childhood (ages five and under) by four national health and nutrition organizations finds beverages sweetened with caloric or low calorie sweeteners "not recommended." A few artificial sweeteners, especially aspartame, but also acesulfame potassium, saccharin, and sucralose may pose a risk of cancer (33,41-48). Sugar alcohols can cause diarrhea or other gastrointestinal distress in sufficient quantities, although this is much less likely with erythritol.

### (5) EMULSIFIERS

### Brominated Vegetable Oil (BVO)

Description: BVO is an emulsifier and acts as a clouding agent, primarily in soft drinks, by keeping flavor oils in suspension.

Concern: BVO is poorly tested and has been on an interim list from FDA for decades, after being removed from the FDA's list of ingredients "Generally Recognized as Safe" in 1970 (26,33). BVO is not permitted in Europe. Consuming BVO leaves residues in body fat as well as fat in the brain, liver, and other organs. Animal studies indicate that BVO can cause heart lesions, changes in the liver, impaired growth and behavioral development (33). Some people who consumed extremely large amounts of soft drinks containing BVO have experienced symptoms of bromine toxicity, including headache, fatigue, and serious neurological symptoms (49). More studies are needed to fully understand the risk, especially for lower levels typically consumed by children (33,49).

9

### Carboxymethylcellulose (CMC) and Polysorbates

Description: CMC, also called cellulose gum, is an emulsifier and thickening agent used to improve texture, bind water, and prevent sugar from crystallizing. It is used in ice cream, pie fillings, jellies, cake icings, and diet foods. Polysorbates (polysorbate 60, 65, and 80), also emulsifiers, keep baked goods from going stale and prevent oil from separating out of artificial whipped cream. They are also used in frozen desserts.

Concern: A 2015 study funded by the National Institutes of Health found that both CMC and Polysorbate 80 affected gut bacteria and triggered inflammatory bowel disease symptoms, as well as obesity and metabolic syndrome. They also promoted colitis in mice prone to the disease (50). It is possible that polysorbates,  $\ensuremath{\mathsf{CMC}},$  and other emulsifiers act like detergents to disrupt the mucous layer that lines the gut. Research is needed to determine long-term effects of these and other emulsifiers (33). CMC is not absorbed or digested, so the FDA allows it to be included with "dietary fiber" on food labels. CMC isn't as healthful as fiber that comes from natural foods (33).

### 6 FLOUR TREATMENT AGENTS

### **Bromated Flour/Potassium Bromate**

**Description:** Bromated flours are those that contain the additives potassium bromate or calcium bromate. These additives are flour "improvers" used to strengthen dough allowing for greater oven spring and higher rising. This type of flour is used in white breads, rolls, crackers, and pizza crusts.

Concern: The majority of bromate breaks down in the baking process. However, the main concern is that various animal studies demonstrate an association of potassium bromate with cancer (33). The International Agency for Research on Cancer considers potassium bromate to be possibly carcinogenic to humans, and the US Environmental Protection Agency considers it to be a probable human carcinogen (51,52). California's Proposition 65 also lists potassium bromate as a carcinogen (29). Many countries with the exception of the US and Japan have banned bromates (33).

### Azodicarbonamide (ADA)

**Description:** Azodicarbonamide (ADA) is a chemical substance used by commercial bakers as a dough conditioner for bread baking and as a whitening agent in cereal flour (53). ADA is used in baked products such as breads, rolls and pizza crusts.

Concern: During bread making, ADA completely breaks down to form other chemicals, one of which is semicarbazide (SEM). At high levels, animal studies have shown SEM has increased the incidence of tumors when fed to female mice (53). Another chemical that is a result of ADA's breakdown is urethane, a recognized carcinogen (33, 53). The FDA explains that ADA is not necessary for bread making and there are alternative ingredients approved for use available (54).

### Potassium Iodate

Description: Potassium iodate is sometimes used as a dough strengthener in bread and rolls. Potassium iodate is a source of iodine, an essential trace element necessary for the body to make thyroid hormones. But too little or too much iodine can be harmful.

Concern: A committee of the World Health Organization concluded that use of potassium iodate as a flour treatment agent was unacceptable because it could result in an excessive intake of iodine (55). Some people, such as those with thyroid disease, are especially sensitive to iodine intake and should make a special effort to avoid potassium iodate in bread and rolls (33,56). One other possible concern is that iodate breaks down in dough and in the body to form iodide. In a study conducted by Japanese government scientists, high doses of potassium iodide caused cancer in rats, suggesting it may be a weak carcinogen. The same research found that it also increased the potency of a known carcinogen (33,57).

### (7) MYCOPROTEIN

Description: Mycoprotein is protein made from processed mold. The only mycoprotein currently in widespread use is made from a mold called Fusarium venenatum, which is grown in liquid tanks. While the chunks of imitation meat are nutritious, the prepared foods in which they are used may be high in fat or salt (33,58,59).

Concern: One controlled clinical study and many reports indicate that this type of mycoprotein can cause adverse effects, including gastrointestinal reactions (nausea, diarrhea, vomiting, abdominal cramps) and allergic reactions (hives, itchy skin, swelling of the throat or mouth, difficulty breathing), sometimes severe enough to warrant medical attention. Two deaths have been linked to it. Because of an objection filed by the Center for Science in the Public Interest (CSPI) in response to a proposed settlement of a class action case, labels for products containing this mycoprotein sold in the U.S. now must state, "Mycoprotein is a mold [member of the fungi family]. There have been rare cases of allergic reactions to products that contain mycoprotein" (33,58,59).

### Watch List

Ingredients that have the potential to be overused.

These ingredients can be a red flag as they are frequently overused, common in foods of lower nutritional quality, and/or tend to indicate a highly processed food. As a result, school districts and food manufacturers are encouraged to watch out for and limit ingredients like these, and demand transparency and accountability in their use. Items in the Watch List should be scrutinized by buyers, and their function and the amount used must be understood and justified through dialogue between districts and food manufacturers.

Biggest concern: Too much added sodium and sugars. The science is clear that added sodium and all added sugars are the food ingredients that pose the greatest dietary threat to human health in the US. These two ingredients are included in a vast array of foods and beverages, and consequently consumed in excessive amounts leading to poor health outcomes and serious chronic diseases.



### ADDED SODIUM

Description: Sodium and sodium chloride are added to foods, often during processing, for preservative or flavor purposes. In the average American diet almost half of all dietary sodium comes from these 10 foods: breads and rolls, pizza, sandwiches, cold cuts and cured meats, soups, burritos and tacos, savory snacks (chips, popcorn, pretzels, snack mixes, crackers), chicken, cheese, eggs and omelets (60).

Concern: Salt, at levels present in the diets of most people, is one of the single most harmful substances in the food supply. While the body needs small amounts of sodium to function properly, most Americans are consuming far too much of it, leading to high blood pressure, which in turn is associated with an increased risk of heart disease and stroke (60). While these health problems typically manifest in adult populations, their precursors start in early childhood (61). Children ages 2 to 19 consume more than 3,100 mg of sodium a day, which is over twice the daily recommendation of the American Heart Association (AHA). The AHA recommends that Americans of all ages consume no more than 1,500 mg of sodium a day (62). Sodium levels in school meals are already regulated by the USDA. Sodium limits and tiered reductions are currently in place (63). The inclusion of added sodium on this list is intended to support planned reductions in sodium limits by removing excess added sodium from highly processed food products.

### (2) ADDED SUGARS

Description: Added sugars are now listed on the Nutrition Facts label (64). Added sugars are caloric sweeteners added to processed and prepared foods and include but are not limited to: agave, anhydrous dextrose, brown sugar, cane juice,

Last Revised July 2021

11

12

cane sugar, confectioner's powdered sugar, corn syrup, corn syrup solids, crystal dextrose, date sugar, dextrose, evaporated cane juice, fructose, fruit juice concentrate, high-fructose corn syrup, high-maltose corn syrup, honey, invert sugar, isomaltulose, lactose, malt syrup, maltose, maple syrup, molasses, nectars (e.g., peach nectar, pear nectar), pancake syrup, raw sugar, sucrose, sugar, sugar cane juice, trehalose, and white granulated sugar. These types of sweeteners are commonly found in most types of foods and beverages but the major source of these are in sugar-sweetened beverages (e.g., soft drinks, energy drinks, sports drinks, fruit drinks) and desserts/sweet snacks (e.g., cakes, cookies, pies, cobblers, sweet rolls, pastries, donuts, ice cream) (65). Added sugars do not include naturally occuring sugars found in milk, fruits, and vegetables.

Concern: Added sugars contribute calories to your diet but no essential nutrients, and make it difficult to eat healthfully without taking in too many calories (66). Excess daily consumption of added sugars, especially in beverages, has been linked to poor nutrient intake, tooth decay, overweight, obesity, diabetes, as well as the development of cardiovascular disease and its associated risk factors (66-71). Since 1999, Americans' consumption of added sugars has decreased but still remains higher than recommended levels (33, 72-75). While most everyone enjoys a sweet, the majority of Americans of all ages consume too much of it (75). While it is understood that certain foods and beverages require some level of added sugars, the quantities of these ingredients need to be within reason, and other foods and beverages do not require them. School food professionals may need to be mindful of total grams of added sugar and total calories from such sweeteners to ensure that their menus meet USDA Meal Pattern Guidelines as well as contribute to healthful diets for students throughout the year.

### Sugary Syrups (e.g., high fructose corn syrup, high maltose corn syrup, high dextrose corn syrup, corn syrup, tapioca syrup)

**Description:** These are a subset of added sugars. High fructose corn syrup (HFCS) and other corn syrups are sweeteners derived from cornstarch and broken down using enzymes or acids into its glucose (also called dextrose) subunits. HFCS is further enzymatically altered to change the natural fructose to glucose ratio. HFCS is an inexpensive caloric sweetener commonly found in processed foods and beverages, and not limited to sweets. Companies are increasingly using substitutes for HFCS that are no healthier.

Concern: Between 1970 and the late 1990's Americans' annual consumption of high fructose corn syrup (HFCS) increased from 3.6 pounds per capita to 62.4 pounds, primarily as a result of cheap HFCS available on the market (76). HFCS consumption declined by about 32 percent between 1999 and 2013. It is important to note that all added sugars—not just HFCS—contribute empty calories linked to numerous health problems, including weight gain, type 2 diabetes, metabolic syndrome and high triglyceride levels, which increase the risk of heart disease. All added sugars must be carefully watched and eliminated from food served in schools when not serving a

vital functional or culinary purpose. However, the proliferation of HFCS as a cheap caloric sweetener in the food supply deserves special mention. It is ubiquitous in overly processed, low quality foods that districts seek to eliminate from their menus.

### (3) ARTIFICIAL PRESERVATIVES

### Benzoates and Benzoic Acid

Description: Benzoates (e.g., sodium benzoate, potassium benzoate, calcium benzoate) and its close relative benzoic acid are used as preservatives to prevent the growth of microorganisms in acidic foods, and are commonly used in fruit juices, carbonated beverages, pickles and processed foods.

Concern: There is some evidence that benzoates such as sodium benzoate may cause hives, asthma, or other hypersensitivity reactions in sensitive individuals (77). Benzoates can also react in beverages that contain ascorbic acid (i.e., vitamin C) or erythorbic acid, a chemical cousin of vitamin C, to form small amounts of benzene, a chemical that can cause cancer in humans (33). In 2006, the FDA's Center for Food Safety and Applied Nutrition shared findings on their survey of benzene in beverages in which 4 out of 100 beverages with added benzoates had elevated levels of benzene (78). In addition, one cranberry juice beverage product with added ascorbic acid and natural levels of benzoic acid (no added benzoates) had elevated levels of benzene. According to FDA, all five samples were reformulated and re-tested, with levels below FDA's level of concern. FDA notes that its testing covered a limited number of products, brands, and geographic regions, and that levels of benzene are highly variable due to factors such as temperature and light exposure during shipping, handling, and storage (78). School districts plan to keep an eye on products containing these types of preservatives.

### Sulfites

Description: Sulfites are used as a preservative to prevent discoloration in foods such as dried fruits and processed potatoes (e.g., dried, fried or frozen potatoes).

Concern: This preservative destroys vitamin B1 in foods, thus, reducing the foods' nutritional profile. For some sensitive individuals, in particular asthmatics, sulfites can cause severe reactions (33,79). The US FDA requires that foods that use sulfites as an ingredient or during processing declare its presence on food labels. Sulfites are prohibited from use with certain foods such as raw fruits and vegetables. However, they are still allowed with minimally processed potatoes and dried fruits (8o).

### (4) CAFFEINE (Especially Added Caffeine)

Description: Caffeine is a stimulant that can be found naturally in some plantbased foods and drinks, such as chocolate, coffee, and tea, and it is also added to many manufactured products. Common sources of added caffeine consumed by

14

children include soda, coffee, tea, and energy drinks, and it can also be found in chocolate and some coffee flavored foods (e.g. ice cream), other beverages (water, juices) and snack foods (mints, gummy candy, chewing gum, peanut butter, energy bars) with added caffeine, lip balms and some skincare products, some over the counter medications, and supplements (81).

Concern: Caffeine is one of the few drugs present naturally and added to widely consumed foods. Caffeine can disrupt sleep, cause jitteriness, anxiousness, nausea, and headache (81,82). Caffeine can also affect calcium metabolism, and caffeinated beverages can displace calcium-rich beverages (83). Caffeine has some benefits, but several authorities recommend against caffeine for children. Caffeine is consumed regularly by children, and some caffeinated products are marketed specifically to children (84). There is currently no proven safe dose for children and the American Academy of Pediatrics advises against caffeine for children under 12, against any use of energy drinks for children and teens, and limiting caffeine to at most 100 mg daily for those 12-18 years (81). Further research is needed to better understand the long term consequences of children's caffeine consumption (84).

### (5) COLORINGS (Naturally Derived)

### Annatto

**Description:** Annatto is a widely used food coloring obtained from the seeds of a tropical shrub. Its hue is yellow to orange.

**Concern:** Allergic reactions to annatto (e.g., hives) appear to be more common than allergic reactions to synthetic food dyes. As food manufacturers shift away from synthetic food dyes to naturally-derived colorings like these, it will be important to watch for these ingredients as they appear on food labels.

### Cochineal extract/carmine

**Description:** Cochineal extract is coloring obtained from the cochineal insect and carmine is a more purified coloring made from cochineal, which creates a stable pink, red, or purple hue in food products.

**Concern:** While cochineal extract and carmine appear to be safe for most people, a small percentage of individuals can suffer from allergic reactions ranging from hives to life-threatening anaphylactic shock (85). As food manufacturers shift away from synthetic food dyes to naturally-derived colorings like these, it will be important to watch for these ingredients as they appear on food labels.

### HYDROLYZED VEGETABLE PROTEIN (HVP)

**Description:** Hydrolyzed vegetable protein (HVP) is vegetable (often soybean) protein that has been chemically broken down to the amino acids of which it is composed, and used as a flavor enhancer in a wide variety of foods including

soups, frankfurters, sauce mixes and beef stew (33). It should not be confused with isolated vegetable protein (IVP) or textured vegetable protein (TVP), both of which appear to be safe. (IVP is protein that is typically extracted from soybeans but can also be derived from other foods such as peas), and TVP is soy protein that has been combined with chemical additives and processed into granules, chunks, or strips that can function as a meat analog).

Concern: HVP is often made through the process of acidic hydrolysis of a vegetable protein; and when using hydrochloric acid during the acid hydrolysis process, carcinogenic compounds can be produced, and the resulting product is high in salt (86,87). HVP also contains monosodium glutamate, which some individuals are sensitive to (88).

### (7) NATURAL FLAVORS (Specified)

Description: The term natural flavor or natural flavoring is defined by the FDA as "the essential oil, oleoresin, essence or extractive, protein hydrolysate, distillate, or any product of roasting, heating or enzymolysis, which contains the flavoring constituents derived from a spice, fruit or fruit juice, vegetable or vegetable juice, edible yeast, herb, bark, bud, root, leaf or similar plant material, meat, seafood, poultry, eggs, dairy products, or fermentation products thereof, whose significant function in food is flavoring rather than nutritional" (31).

Concern: These flavors serve no nutritional function and they are commonly found in many kinds of foods of low nutritional value. The use of natural or artificial flavors indicates that the real ingredient has been left out. School districts report that some of their children may have allergic or hypersensitivity reactions to certain ingredients. School food service departments are requesting that when natural flavors are used they include specific details about from which natural ingredients the natural flavors are derived. For example, an ingredient list should include details such as "natural flavors (banana extract)".

### (8) PHOSPHORIC ACID & PHOSPHATES

**Description:** Different phosphorus compounds are used for myriad purposes, including to inhibit discoloration, keep oil and water mixed together, make foods more acidic, retain moisture, act as mineral supplements, and trap trace amounts of metals that cause food to discolor or go rancid, to name a few (33, 89-92).

Concern: Most people consume far more phosphorus than they need, which may have adverse effects on kidney, bone, and cardiovascular health, especially for people suffering from kidney disease. Phosphate food additives are inorganic phosphorus, which is more readily absorbed than organic forms of phosphorus that are naturally occurring in food (33, 89-92).

### PROCESSED MEAT

**Description:** Processed meat is meat that has been transformed through salting, curing, fermentation, smoking, or other processes to enhance flavor or improve preservation. Examples of processed meat include hot dogs (frankfurters), ham, sausage, corned beef, beef jerky, and canned meat.

Concern: In 2015, the International Agency for Research on Cancer (IARC) at the World Health Organization classified processed meat as "carcinogenic to humans" (93). IARC found that there was "sufficient" evidence of carcinogenicity in humans, meaning, there is convincing evidence that processed meat causes cancer, in this case, colorectal cancer. If processed meats are served, they should be served infrequently, to reduce risk. There is no reason to think that "natural" cured meats or meats labeled "no nitrites/nitrates" are any safer. They use natural sources of nitrates to cure the meat and can have as much or more nitrite as conventional products.

### REFINED OR WHITE (including Bleached) FLOUR

**Description:** Refined or white flour has the germ and bran removed, the parts that contain much of the nutrients and vitamins. Bleached flour is flour that has been treated with an oxidizing agent, most commonly benzoyl peroxide, but azodicarbonamide, chlorine dioxide, or other agents may be used to accelerate the natural aging process that results in a whiter color and improves its baking properties (94). USDA regulations specify that at least half of all grain must come from whole grain, the remainder of which must come from enriched grain that has had nutrients added back after refining.

**Concern:** Refined and bleached flour tends to be used in highly processed foods and have less nutrients and fiber than whole wheat flour or whole grain flour. Rarely, benzoyl peroxide may cause reactions in those handling the flour (95).

### SUGARS METABOLIZED DIFFERENTLY THAN TRADITIONAL SUG-ARS: ALLULOSE & TAGATOSE

**Description:** Allulose is a naturally occurring sugar that has 70% of the sweetness of table sugar yet only 10% of the calories since it is poorly digested. It also causes only negligible increases in blood sugar and insulin levels. For these reasons, FDA permits allulose to be excluded from the amount of "Total Sugars" and "Added Sugars" listed on Nutrition Facts labels (96). It is being added to a growing number of foods such as ice cream, cereal, and protein bars. Similarly, tagatose is a naturally occurring sugar that has 92% of the sweetness of table sugar and is the mirror image of fructose, but is also poorly digested and yields only about one-third as many calories (33).

**Concern:** While allulose and tagatose may be perfectly safe replacements for added sugars, too much, like with other poorly digested carbohydrates, can cause gastrointestinal effects such as nausea, diarrhea, and abdominal pain. The effects

have not been well-studied, and not studied at all in children, who are estimated to consume the highest amounts per pound of body weight, nor in those with digestive disorders like irritable bowel syndrome (97).

### 12 THICKENING AGENTS

### Carrageenan

Description: Carrageenans are large molecules called polysaccharides that are extracted from edible red seaweeds. They are used in foods as gelling, thickening and stabilizing agents, and are found in dairy products (e.g., chocolate milk, skim milk, evaporated milk, milkshakes and instant breakfast power, cottage and cream cheese products, yogurt) dairy alternatives (e.g., almond milk, soy milk), fruit drinks, desserts (i.e., flans and custards, pudding, pie fillings), salad dressings, sauces (i.e., relish, pizza, BBQ), and tofu (33,98).

Concern: There is not adequate data on carrageenan to firmly assess its safety, according to European food safety authorities (99). The composition of carrageenan can vary, with some types and components associated with potential adverse effects, yet there is often not adequate data characterizing the composition of carrageenan used in various studies, and of food-grade carrageenan. It is unclear whether these thickening and texturing agents might cause gastrointestinal problems in people with gastrointestinal diseases (33). In a very small randomized, double-blind, placebo-controlled clinical trial, carrageenan intake contributed to an earlier relapse in patients with ulcerative colitis in remission, compared to placebo. Small amounts of "degraded" carrageenan may contaminate food-grade carrageenan, and a bit more probably forms in the acidic conditions of the stomach (33). While undegraded carrageenan does not cause cancer, degraded carrageenan is considered to be "possibly carcinogenic in humans" by the International Agency for Research on Cancer, a branch of the World Health Organization (100).

The Ingredient Guide for Better School Food Purchasing is a living document, updated regularly to incorporate up-to-date research. This guide can be downloaded at the following websites:

- CSPI's Support Healthier School Food
- Facebook group Tips for School Meals that Rock
- Center for Ecoliteracy
- FoodCorps

- The Lunchbox at Chef Ann Foundation
- · Life Time Foundation
- Healthy Schools Campaign

### **Works Cited**

- 1. U.S. Office of Disease Prevention and Health Promotion. Healthy people 2020 topics and objectives: environmental health [Internet]. Washington, D.C: U.S. Dept. of Health and Human Services; 2020 [cited 9] Jun 2021]. Available from: https://www.healthypeople.gov/2020/topics-objectives/topic/environmental-health
- 2. Leiserowitz A, Ballew M, Rosenthal S, Semaan J. Climate change and the American diet [Internet]. New Haven: Yale Program on Climate Change Communication; 2020. Available from: https://climatecommunication.yale.edu/publications/climate-change-and-the-american-diet/z/
- 3. Muncke J, Andersson AM, Backhaus T, Boucher JM, Almroth BC, Castillo AC, et al. Impacts of food contact chemicals on human health: a consensus statement. Environmental Health. 2020 Dec;19(1):1-2.
- 4. Environmental Defense Fund Supply Chain Solutions Center. Key chemicals of concern in food packaging and food handling equipment [Internet]. New York: Supply Chain Solutions Center; [date unknown] [cited 9 Jun 2021]. Available from: https://supplychain.edf.org/resources/key-chemicals-of-concern-in-food-packaging-and-food-handling-equipment/
- 5. Muncke J. Tackling the toxics in plastics packaging, PLoS Biology. 2021 Mar 30;19(3):e3000961.
- 6. Trasande L, Shaffer RM, Sathyanarayana S, American Academy of Pediatrics Council on Environmental Health. Food additives and child health. Pediatrics. 2018 Aug 1;142(2).
- 7. Government Accountability Office. Food safety: FDA should strengthen its oversight of food ingredients determined to be generally recognized as safe (GRAS) [Internet]. Washington, D.C.: Government Accountability Office; 2010 [cited 9 Jun 2021]. Available from: https://www.gao.gov/products/gao-10-246
- 8. Center for Science in the Public Interest. FDA food ingredient approval process violates law, says CSPI [Internet]. Washington, D.C.: Center for Science in the Public Interest; 2015 [cited 9 Jun 2021]. Available from: https://cspinet.org/new/201504151.html
- 9. Center for Science in the Public Interest. Groups sue FDA to protect food safety: Seek to ensure food Additives Are Found Safe Before Being Marketed to American Consumers [Internet]. Washington, D.C.: Center for Science in the Public Interest; 2017 [cited 9 Jun 2021]. Available from: https://cspinet.org/news/groups-sue-fda-protect-food-safety-20170522
- 10. Pew Charitable Trusts. Fixing the Oversight of Chemicals Added to Our Food [Internet]. Philadelphia: Pew Charitable Trusts; 2013. Available from: https://www.pewtrusts.org/

- en/research-and-analysis/reports/2013/11/07/fixing-the-oversight-of-chemicals-added-to-our-food
- 11. Lefferts LY, Jacobson MF, MacCleery L. Seeing Red: Time for Action in Food Dyes. [Internet] Washington D.C.: Center for Science in the Public Interest; 2016. Available from: http://cspinet.org/reports/seeing-red-report.pdf
- 12. Conners CK, Goyette CH, Southwick DA, Lees JM, Andrulonis PA. Food additives and hyperkinesis: a controlled double-blind experiment. Pediatrics. 1976 Aug 1;58(2):154-66.
- 13. California Office of Environmental Health Hazard
  Assessment. Health Effects Assessment: Potential
  Neurobehavioral Effects of Synthetic Food Dyes in Children
  [Internet]. Sacramento: California Office of Environmental
  Health Hazard Assessment; 2021. Available from: https://
  oehha.ca.gov/risk-assessment/report/health-effectsassessment-potential-neurobehavioral-effects-synthetic-food
- 14. Nigg JT, Lewis K, Edinger T, Falk M. Meta-analysis of attention-deficit/hyperactivity disorder or attention-deficit/hyperactivity disorder symptoms, restriction diet, and synthetic food color additives. Journal of the American Academy of Child & Adolescent Psychiatry. 2012 Jan 1:SI(1):86-07.
- 15. Sonuga-Barke EJ, Brandeis D, Cortese S, Daley D, Ferrin M, Holtmann M, et al. Nonpharmacological interventions for ADHD: systematic review and meta-analyses of randomized controlled trials of dietary and psychological treatments. American Journal of Psychiatry. 2013 Mar;170(3):275-89.
- 16. Schab DW, Trinh NH. Do artificial food colors promote hyperactivity in children with hyperactive syndromes? A meta-analysis of double-blind placebo-controlled trials. Journal of Developmental & Behavioral Pediatrics. 2004 Dec 1;25(6):423-34.
- 17. Faraone SV, Antshel KM. Towards an evidence-based taxonomy of nonpharmacologic treatments for ADHD. Child and Adolescent Psychiatric Clinics. 2014 Oct 1;23(4):965-72.
- 18. Nigg JT, Holton K. Restriction and elimination diets in ADHD treatment. Child and Adolescent Psychiatric Clinics. 2014 Oct 1;23(4):937-53.
- 19. Arnold LE, Hurt E, Lofthouse N. Attention-deficit/ hyperactivity disorder: dietary and nutritional treatments. Child and Adolescent Psychiatric Clinics. 2013 Jul 1;22(3):381-402.
- 20. Arnold LE, Lofthouse N, Hurt E. Artificial food colors and attention-deficit/hyperactivity symptoms: conclusions to dye for. Neurotherapeutics. 2012 Jul;9(3):599-609.

- 21. Stevens LJ, Kuczek T, Burgess JR, Hurt E, Arnold LE. Dietary sensitivities and ADHD symptoms: thirty-five years of research. Clinical Pediatrics. 2011 Apr;50(4):279-93.
- 22. Stevenson J, Buitelaar J, Cortese S, Ferrin M, Konofal E, Lecendreux M, et al. Research Review: The role of diet in the treatment of attention–deficit/hyperactivity disorder–an appraisal of the evidence on efficacy and recommendations on the design of future studies. Journal of Child Psychology and Psychiatry. 2014 May;55(5):416-27.
- 23. Bateman B, Warner JO, Hutchinson E, Dean T, Rowlandson P, Gant C, et al.The effects of a double blind, placebo controlled, artificial food colourings and benzoate preservative challenge on hyperactivity in a general population sample of preschool children. Archives of Disease in Childhood. 2004 Jun 1;89(6):506-11.
- 24. McCann D, Barrett A, Cooper A, Crumpler D, Dalen L, Grimshaw K, et al. Food additives and hyperactive behaviour in 3-year-old and 8/9-year-old children in the community: a randomised, double-blinded, placebo-controlled trial. Lancet. 2007 Nov 3;370(9598):1560-7.
- 25. Kobylewski S, Jacobson MF. Food Dyes: A Rainbow of Risks. [Internet] Washington D.C.: Center for Science in the Public Interest; 2010. Available from: https://cspinet.org/new/pdf/food-dyes-rainbow-of-risks.pdf
- 26. U.S. Food and Drug Administration. CFR Code of Federal Regulations Title 21, Section 81.10. Silver Spring: U.S. Food and Drug Administration; 2020 [cited 9 Jun 2021]. Available from: https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/cfrsearch.cfm?fr=81.10
- 27. U.S. Food and Drug Administration. Questions and Answers on Caramel Coloring and 4-MEI [Internet]. Silver Spring: U.S. Food and Drug Administration; 2014 [updated 27 Mar 2020, cited 9 Jun 2021]. Available from: http://www.fda.gov/food/ingredientspackaginglabeling/foodadditivesingredients/ucm364184.htm
- 28. IARC Working Group on the Evaluation of Carcinogenic Risks to Humans. Some Chemicals Present in Industrial and Consumer Products, Food and Drinking-Water, IARC Monographs on the Evaluation of Carcinogenic Risks to Humans 2-METHYLIMIDAZOLE [Internet]. Geneva: World Health Organization; 2013; 101:435-445. Available from: http://monographs.iarc.fr/ENG/Monographs/volio1/mono101-014.pdf
- 29. IARC Working Group on the Evaluation of Carcinogenic Risks to Humans. Some Chemicals Present in Industrial and Consumer Products, Food and Drinking-Water, IARC Monographs on the Evaluation of Carcinogenic Risks to Humans 4-METHYLIMIDAZOLE [Internet]. Geneva: World Health Organization; 2013; 101:447-459. Available from https://monographs.iarc.fr/ENG/Monographs/volto1/monotolpff

- 30. Office of Environmental Health Hazard Assessment CEPA. The Proposition 65 List [Internet]. California: Office of Environmental Health Hazard Assessment CEPA; 2016 [updated 2021, cited 2021 Jun 9]. Available from: http://oehha.ca.gov/proposition-65/proposition-65-list
- 31. Code of Federal Regulations, Specific Food Labeling Requirements [Internet]. Washington, D.C.: U.S. Government Publishing Office; 1993 [updated 2021, cited 2021 Jun 9]. Available from: http://www.ecfr.gov/cgi-bin/text-idx/SID=4387710052bb3232d013ff06256a40fe&mc=true&node=sp21.2.101.b&rgn=div6
- 32. Neltner TG, Alger HM, O'Reilly JT, Krimsky S, Bero LA, Maffini MV. Conflicts of interest in approvals of additives to food determined to be generally recognized as safe: out of balance. JAMA Internal Medicine. 2013 Dec 9;173(22):2032-6.
- 33. Center for Science in the Public Interest. Chemical Cuisine, [Internet] Washington, D.C.: Center for Science in the Public Interest; 2014 [cited 2021 Jun 9]. Available from: http://www.cspinet.org/reports/chemcuisine.htm
- 34. Raiten DJ, Talbot JM, Fisher KD, editors. Executive summary from the report: analysis of adverse reactions to monosodium glutamate (MSG). The Journal of Nutrition. 1995 Nov 1;125(11):2891S-906S.
- 35. Zanfirescu A, Ungurianu A, Tsatsakis AM, Niţulescu GM, Kouretas D, Veskoukis A, et al. A review of the alleged health hazards of monosodium glutamate. Comprehensive Reviews in Food Science and Food Safety. 2019 Jul;18(4):1111-34.
- 36. National Toxicology Program, US Dept of Health and Human Services. 13th Report on Carcinogens [Internet]. Research Triangle Park: National Toxicology Program; 2014 [updated 2016; cited 2021 Jun 9]. Available from: https://ntp.niehs.nih.gov/whatwestudy/assessments/cancer/roc/index.html
- 37. Nieva–Echevarría B, Manzanos MJ, Goicoechea E, Guillén MD. 2, 6–Di–tert–butyl–hydroxytoluene and its metabolites in foods. Comprehensive Reviews in Food Science and Food Safety. 2015 Jan;14(1):67-80.
- 38. National Toxicology Program, US Dept. of Health and Human Services. Carcinogenesis Bioassay of Propyl Gallate in F344 Rats and B6C3F1 Mice [Internet]. Bethesda: National Toxicology Program; 1982 [cited 2021 Jun 9]. Available from: https://ntp.niehs.nih.gov/ntp/htdocs/lt\_rpts/tr240.pdf
- 39. Pop A, Drugan T, Gutleb AC, Lupu D, Cherfan J, Loghin F, Kiss B. Estrogenic and anti-estrogenic activity of butylparaben, butylated hydroxyanisole, butylated hydroxytoluene and propyl gallate and their binary mixtures on two estrogen responsive cell lines (T47D-Kbluc, MCF-7). Journal of Applied Toxicology. 2018 Jul;38(7):944-57.

- 40. Abdo KM, Kari FW. The sensitivity of the NTP bioassay for carcinogen hazard evaluation can be modulated by dietary restriction. Experimental and Toxicologic Pathology. 1996 Feb 1;48(2-3):129-37.
- 41. Landrigan PJ, Straif K. Aspartame and cancer-new evidence for causation. Environmental Health. 2021 Dec;20(1):1-5.
- 42. Belpoggi F, Soffritti M, Padovani M, Esposti DD, Lauriola M, Minardi F. Results of long-term carcinogenicity bioassay on Sprague-Dawley rats exposed to aspartame administered in feed. Annals of the New York Academy of Sciences. 2006 Sep 1;1076(1):559-77.
- 43. Soffritti M, Belpoggi F, Tibaldi E, Esposti DD, Lauriola M. Life-span exposure to low doses of aspartame beginning during prenatal life increases cancer effects in rats.

  Environmental Health Perspectives. 2007 Sep;
- 44. Soffritti M, Belpoggi F, Manservigi M, Tibaldi E, Lauriola M, Falcioni L, Bua L. Aspartame administered in feed, beginning prenatally through life span, induces cancers of the liver and lung in male Swiss mice. American Journal of Industrial Medicine. 2010 Dec;53(12):1197-206.
- 45. Soffritti M, Padovani M, Tibaldi E, Falcioni L, Manservisi F, Belpoggi F. The carcinogenic effects of aspartame: The urgent need for regulatory re-evaluation. American Journal of Industrial Medicine. 2014 Apr;57(4):383-97.
- 46. Tibaldi E, Gnudi F, Panzacchi S, Mandrioli D, Vornoli A, Manservigi M, Sgargi D, Falcioni L, Bua L, Belpoggi F. Identification of aspartame-induced haematopoietic and lymphoid tumours in rats after lifetime treatment. Acta Histochemica. 2020 Jul 1;122(5):151548.
- 47. Schernhammer ES, Bertrand KA, Birmann BM, Sampson L, Willett WC, Feskanich D. Consumption of artificial sweetener–and sugar-containing soda and risk of lymphoma and leukemia in men and women. American Journal of Clinical Nutrition. 2012 Dec 1;96(6):1419-28.
- 48. Soffritti M, Padovani M, Tibaldi E, Falcioni L, Manservisi F, Lauriola M, et al. Sucralose administered in feed, beginning prenatally through lifespan, induces hematopoietic neoplasias in male swiss mice. International Journal of Occupational and Environmental Health. 2016 Jan;22(1):7.
- 49. Horowitz BZ. Bromism from excessive cola consumption. Journal of Toxicology: Clinical Toxicology. 1997 Jan 1;35(3):315-20.
- 50. Chassaing B, Koren O, Goodrich JK, Poole AC, Srinivasan S, Ley RE, et al. Dietary emulsifiers impact the mouse gut microbiota promoting colitis and metabolic syndrome. Nature. 2015 Mar;519(7541):92-6.

- 51. International Agency for Research on Cancer (IARC). Summaries and Evaluations, Potassium Bromate (Group 2B) [Internet]. Lyon: IARC; 1999 [cited 2021 Jun 9]. Available from: http://www.inchem.org/documents/iarc/vol73/73-17.
- 52. US EPA Integrated Risk Information System (IRIS).
  Bromate CASRN 15541-45-4, IRIS Assessments [Internet].
  Washington, D.C.: US EPA; 2001 [cited 2021 Jun 9]. Available from: https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance\_nmbr=1002
- 53. Cañas BJ, Diachenko GW, Nyman PJ. Ethyl carbamate levels resulting from azodicarbonamide use in bread. Food Additives & Contaminants. 1997 Jan 1;14(1):89-94.
- 54. US Food and Drug Administration. Frequently Asked Questions on Azodicarbonamide (ADA) [Internet]. Silver Spring: US FDA; 2016 [updated 4 Jan 2018; cited 2021 Jun 9]. Available from: https://www.fda.gov/food/food-additivespetitions/azodicarbonamide-ada-frequently-asked-questions
- 55. Joint FAO/WHO Expert Committee on Food Additives, World Health Organization & Food and Agriculture Organization of the United States. Specifications for the Identity and Purity of Food Additives and their Toxicological Evaluation: Some Antimicrobials, Antioxidants, Emulsifiers, Stabilizers, Flour-Treatment Agents, Acids and Bases, Ninth report of the Joint FAO/WHO Expert Committee on Food Additives, [Internet]. Geneva: World Health Organization; 1965. Available from: https://apps.who.int/iris/handle/10665/39853
- 56. Leung AM, Braverman LE. Consequences of excess iodine. Nature Reviews Endocrinology. 2014 Mar;10(3):136-42.
- 57. Takegawa K, Mitsumori K, Onodera H, Shimo T, Kitaura K, Yasuhara K, Hirose M, Takahashi M. Studies on the carcinogenicity of potassium iodide in F344 rats. Food Chem Toxicol. 2000 Sep;38(9):773-81.
- 58. Center for Science in the Public Interest. Quorn [Internet]. Washington, D.C: Center for Science in the Public Interest; [no date] [cited 9 Jun 2021]. Available from: https://www.cspinet.org/eating-healthy/ingredients-concern/quorn
- 59. Jacobson MF, DePorter J. Self-reported adverse reactions associated with mycoprotein (Quorn-brand) containing foods. Annals of Allergy, Asthma & Immunology. 2018 Jun 1;120(6):626-30.
- 60. Center for Disease Control and Prevention. Top sources of sodium [Internet]. Atlanta: CDC; 2021 [cited 9 Jun 2021]. Available from: https://www.cdc.gov/salt/sources.htm
- 61. Appel LJ, Lichtenstein AH, Callahan EA, Sinaiko A, Van Horn L, Whitsel L. Reducing sodium intake in children: a public health investment. Journal of Clinical Hypertension. 2015 Sep;17(9):657-62.

- 62. American Heart Association. Sodium and Kids [Internet]. Dallas: American Heart Association; 2018 [cited 9 Jun 2021]. Available from: https://www.heart.org/en/healthy-living/healthy-eating/eat-smart/sodium/sodium-and-kids#:~:text=How%20much%20sodium%20are%20children,sodium%20they%20tend%20tox20eat.
- 63. US Department of Agriculture, Food and Nutrition Service. Nutrition standards in the National School Lunch and school breakfast programs; final rule. Federal Register. 2012;77(17):4088-167.
- 64. US Food and Drug Administration. Added Sugars on the New Nutrition Facts Label [Internet]. Silver Spring: US FDA; 2020 [cited 9 Jun 2021]. Available from: https://www.fda.gov/food/new-nutrition-facts-label/added-sugars-new-nutrition-facts-label
- 65. Centers for Disease Control and Prevention. Get the Facts: Added Sugars [Internet]. Atlanta: Centers for Disease Control and Prevention; 2021 [cited 9 Jun 2021]. Available from: https://www.cdc.gov/nutrition/data-statistics/added-sugars.html
- 66. Centers for Disease Control and Prevention. Know Your Limit for Added Sugars [Internet]. Atlanta: Centers for Disease Control and Prevention; 2021 [cited 9 Jun 2021]. Available from: https://www.cdc.gov/healthyweight/healthy\_eating/sugar.html
- 67. Centers for Disease Control and Prevention. Get the Facts: Sugar-Sweetened Beverages and Consumption [Internet]. Atlanta: Centers for Disease Control and Prevention; 2021 [cited 9 Jun 2021]. Available from: https://www.cdc.gov/nutrition/data-statistics/sugar-sweetened-beverages-intake.html
- 68. Welsh JA, Sharma A, Abramson JL, Vaccarino V, Gillespie C, Vos MB. Caloric sweetener consumption and dyslipidemia among US adults. Journal of American Medical Association. 2010 Apr 21;303(15):1490-7.
- 69. Fung TT, Malik V, Rexrode KM, Manson JE, Willett WC, Hu FB. Sweetened beverage consumption and risk of coronary heart disease in women. American Journal of Clinical Nutrition. 2009 Apr 1;89(4):1037-42.
- 70. Vartanian LR, Schwartz MB, Brownell KD. Effects of soft drink consumption on nutrition and health: a systematic review and meta-analysis. American Journal of Public Health. 2007 Apr;97(4):667-75.
- 71. Johnson RK, Appel LJ, Brands M, Howard BV, Lefevre M, Lustig RH, et al. Dietary sugars intake and cardiovascular health: a scientific statement from the American Heart Association. Circulation. 2009 Sep 15;120(11):1011-20.
- 72. Ervin RB. Consumption of added sugar among US children and adolescents, 2005-2008. US Department of Health & Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics; 2012.

- 73. Welsh JA, Sharma AJ, Grellinger L, Vos MB. Consumption of added sugars is decreasing in the United States. American Journal of Clinical Nutrition. 2011 Sep 1;94(3):726-34.
- 74. Ervin RB, Ogden CL. Consumption of added sugars among US adults, 2005-2010. US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics; 2013.
- 75. Bowman SA, Clemens JC, Martin CL, Anand J, Steinfeldt LC, Moshfegh AJ. Added Sugars Intake of Americans: What We Eat in America, NHANES 2013-2014 [Internet]. Washington, D.C: US Department of Agriculture; 2017. Available from: https://www.ars.usda.gov/ARSUserFiles/80400530/pdf/DBrief/18\_Added\_Sugars\_Intake\_of\_Americans\_2013-2014.pdf
- 76. Putnam JJ, Allshouse JE. Food consumption, prices, and expenditures, 1970-97 [Internet]. Washington, D.C.: US Department of Agriculture; 1999. Available from: https://www.ers.usda.gov/publications/pub-details/?pubid=47115
- 77. Wibbertmann A, Kielhorn J, Koennecker G, Mangelsdorf I, Melber C. Benzoic Acid and Sodium Benzoate [Internet]. Geneva: World Health Organization; 2000. Available from: http://www.who.int/ipcs/publications/cicad/cicad26\_rev\_lpdf
- 78. US Food and Drug Administration. Data on Benzene in Soft Drinks and Other Beverages [Internet]. Silver Spring: US FDA; 2006 [cited 9 Jun 2021]. Available from: http://wayback.archive-it.org/7993/20170112012123/http://www.fda.gov/Food/FoodbornelllnessContaminants/ChemicalContaminants/ucmo55815,htm
- 79. Timbo B, Koehler KM, Wolyniak C, Klontz KC. Sulfites—a Food and Drug Aadministration review of recalls and reported adverse events. Journal of Food Protection. 2004 Aug 1;67(8):1806-11.
- 80. Food Allergy Research and Resource Program. Sulfites USA [Internet]. Lincoln: Institute of Agriculture and Natural Resources; 2004 [cited 9 Jun 2021]. Available from: http://farrp.unl.edu/sulfites-usa
- 81. American Academy of Child & Adolescent Psychiatry. Caffeine and Children [Internet]. Washington, D.C.:American Academy of Child & Adolescent Psychiatry; 2020 [cited 9 Jun 2021]. Available from: aacap.org/AACAP/Families\_and\_Youth/Facts\_for\_Families/FFF-Guide/Caffeine\_and\_Children-131.aspx
- 82. U.S. Food and Drug Administration. Spilling the Beans: How Much Caffeine is Too Much? [Internet]. Silver Spring: U.S. Food and Drug Administration; 2018 [cited 9 Jun 2021]. Available from: https://www.fda.gov/consumers/consumerupdates/spilling-beans-how-much-caffeine-too-much
- 83. American Bone Health. Kids and Caffeine [Internet]. Raleigh: American Bone Health; 2019 [cited 17 Jun 2021]. Available from: https://americanbonehealth.org/bestbones-forever/kids-and-caffeine-2/?highlight=caffeine

- 84. Temple JL. Caffeine use in children: what we know, what we have left to learn, and why we should worry.

  Neuroscience & Biobehavioral Reviews. 2009 Jun 1;33(6):793-806.
- 85. US Food and Drug Administration. Listing of Color Additives Exempt From Certification; Food, Drug, and Cosmetic Labeling: Cochineal Extract and Carmine Declaration [Internet]. Washington, D.C.: Federal Register; 2009. Available from: https://www.federalregister.gov/documents/2009/01/05/E8-31253/listing-of-color-additives-exempt-from-certification-food-drug-and-cosmetic-labeling-cochineal
- 86. Aaslyng MD, Martens M, Poll L, Nielsen PM, Flyge H, Larsen LM. Chemical and sensory characterization of hydrolyzed vegetable protein, a savory flavoring. Journal of Agricultural and Food Chemistry. 1998 Feb 16;46(2):481-9.
- 87. EFSA Panel on Contaminants in the Food Chain (CONTAM). Risks for human health related to the presence of 3-and 2-monochloropropanediol (MCPD), and their fatty acid esters, and glycidyl fatty acid esters in food. Efsa Journal. 2016 May;14(5):e04426.
- 88. Scopp AL. MSG and hydrolyzed vegetable protein induced headache: review and case studies. Headache: Journal of Head and Face Pain. 1991 Feb;31(2):107-10.
- 89. Bird RP, Eskin NM. The emerging role of phosphorus in human health. Advances in Food and Nutrition Research. 2021 Apr 15;96:27-88.
- 90. Ritz E, Hahn K, Ketteler M, Kuhlmann MK, Mann J. Phosphate additives in food—a health risk. Deutsches Ärzteblatt International. 2012 Jan;109(4):49.
- 91. Nadkarni GN, Uribarri J. Phosphorus and the kidney: what is known and what is needed. Advances in Nutrition. 2014 Jan;5(1):98-103.
- 92. Calvo MS, Moshfegh AJ, Tucker KL. Assessing the health impact of phosphorus in the food supply: issues and considerations. Advances in Nutrition. 2014 Jan;5(1):104-13.
- 93. International Agency for Research on Cancer (IARC). IARC Monographs evaluate consumption of red meat and processed meat [Internet]. Lyon: IARC; 2015. Available from: https://www.iarc.who.int/wp-content/uploads/2018/07/pr240\_E.pdf

- 94. Saiz Al, Manrique GD, Fritz R. Determination of benzoyl peroxide and benzoic acid levels by HPLC during wheat flour bleaching process. Journal of Agricultural and Food Chemistry. 2001 Jan 15;49(1):98-102.
- 95. Adelman M, Mohammad T, Kerr H. Allergic Contact Dermatitis Due to Benzoyl Peroxide From an Unlikely Source. Dermatitis. 2019 May 1;30(3):230-1.
- 96. U.S. Department of Health and Human Services, Food and Drug Administration, Center for Food Safety and Applied Nutrition. The Declaration of Allulose and Calories from Allulose on Nutrition and Supplement Facts Labels: Guidance for Industry [Internet]. Silver Spring: US Food and Drug Administration; 2020. Available from: https://www.fda.gov/media/123342/download
- 97. Center for Science in the Public Interest. CSPI Comments on FDA Draft Guidance re: Declaration of Allulose [Internet]. Washington, D.C.: Center for Science in the Public Interest; 2019. Available from: https://cspinet.org/resource/cspi-comments-fda-draft-guidance-re-declaration-allulose
- 98. Zhanjiang Fisheries College. Properties, manufacture and application of seaweed polysaccharides- agar, carrageenan and algin. In: Training Manual on Gracilaria Culture and Seaweed Processing in China [Internet]. Zhanjiang: Food and Agriculture Organization of the UN; 1990. Available from: http://www.fao.org/3/AB730E/AB730E03.htm
- 99. EFSA Panel on Food Additives and Nutrient Sources added to Food (ANS), Younes M, Aggett P, Aguilar F, Crebelli R, Filipič M, Frutos MJ, Galtier P, Gott D, Gundert-Remy U, Kuhnle GG. Re-evaluation of carrageenan (E 407) and processed Eucheuma seaweed (E 407a) as food additives. EFSA Journal. 2018 Apr;16(4):e05238. Available from: https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2018.5238
- 100. International Agency for Research on Cancer. Some Food Additives, Feed Additives and Naturally Occurring Substances [Internet]. Geneva: World Health Organization; 1983. Available from: https://publications.iarc.fr/Book-And-Report-Series/larc-Monographs-On-The-Identification-Of-Carcinogenic-Hazards-To-Humans/Some-Food-Additives-Feed-Additives-And-Naturally-Occurring-Substances-1983

### **Ingredient Guide Quick Reference**

## INGREDIENT GUIDE

for Better
School Food
Purchasing

**QUICK REFERENCE** 

Last updated July 2021

# INGREDIENT GUIDE INTRODUCTION

his guide is a resource for school food leaders and manufacturers alike who are committed to improving the overall quality, nutritional value, and safety of food provided to all students in every school. It highlights unwanted ingredients to eliminate, and those to watch out for as new food products are developed and others are modified.

This document is a science-based tool created primarily

by school nutrition professionals, for school nutrition professionals, in partnership with Center for Science in the Public Interest.

The full version with descriptions and citations can be downloaded here:



#### THIS GUIDE IS ENDORSED BY:

Center for Ecoliteracy
Chef Ann Foundation
Eat REAL
FoodCorps
Healthy Schools Campaign
Laurie M. Tisch Center for Food,
Education & Policy, Teachers
College, Columbia University

Life Time Foundation
LunchAssist
National Farm to School
Network
Urban School Food Alliance
Wellness in the Schools
Whole Kids Foundation

# UNWANTED LIST



Ingredients that are not acceptable at any level in newly developed products, and should be eliminated over time from existing products.

#### ARTIFICIAL COLORS

Synthetic Food Dyes (Blue 1, Blue 2, Green 3, Red 3, Red 40, Yellow 5, Yellow 6)

Caramel Color CL 3-4

## ② ARTIFICIAL & UNSPECIFIED NATURAL FLAVORS, AND FLAVOR ENHANCERS

Artificial Flavors & Unspecified Natural Flavors

Monosodium Glutamate (MSG)

## (3) ARTIFICIAL PRESERVATIVES

Butylated Hydroxyanisole (BHA)

Butylated Hydroxytoluene (BHT)

Propyl Gallate

Tert-Butylhydroquinone (TBHQ) ARTIFICIAL SWEETENERS
 & OTHER SUGAR-FREE
 (Non-Nutritive, Low Calorie, and Reduced-Calorie)
 SWEETENERS

#### ⑤ EMULSIFIERS

Brominated Vegetable Oil (BVO)

Carboxymethylcellulose (CMC) and Polysorbates

# ⑥ FLOUR TREATMENT AGENTS

Bromated Flour/Potassium Bromate

Azodicarbonamide (ADA)

Potassium Iodate

#### (7) MYCOPROTEIN

# **WATCH LIST**



Ingredients common in foods of lower nutritional quality, and/or tend to indicate a highly processed food. Watch, limit, demand transparency and accountability in their use.

- ADDED SODIUM
- ADDED SUGARS (INCLUDING SUGARY SYRUPS)
- ③ ARTIFICIAL PRESERVATIVES

Benzoates and Benzoic Acid
Sulfites

- CAFFEINE (Especially Added Caffeine)
- ⑤ COLORINGS (Naturally Derived)

Annatto

Cochineal extract/carmine

- NATURAL FLAVORS (Specified)
- ® PHOSPHORIC ACID & PHOSPHATES
- PROCESSED MEAT
- REFINED OR WHITE (including Bleached) FLOUR
- ① SUGARS METABOLIZED DIFFERENTLY THAN TRADITIONAL SUGARS:

Allulose & Tagatose

12 THICKENING AGENTS

Carrageenan

⑥ HYDROLYZED VEGETABLE PROTEIN (HVP)

## **Sample Specifications**

#### **Compostable 5 Compartment Plate**

Name of Product	Plate, compostable
Description	Compostable plate, 5 compartments able to hold 5 meal components including a milk carton/bottle. Center compartment must be able to hold a ½ pint milk carton or bottle, round or oval shapes for compartments are acceptable. The other compartments measure: minimum 4.3" x 2.9", minimum Depth: 0.900", size: approximately 10.7" outer rim, 9.5" inner rim, minimum thickness: 0.0195 inches (19.5 MIL). Minimum Weight: 25 grams. Must not have a wax or plastic coating (polypropylene).
Main Ingredients	Prefer no pre-consumer materials used and where possible made entirely from one primary material such as sugarcane, post- consumer paper, wheat, etc.
Quality Indicators	Must be sturdy and durable, able to endure hot and cold food without seepage. Waterproof and minor oil proof. All components of the product must be 100% certified compostable. Must be tested by a Biodegradable Products Institute certified lab and shown to be compliant with ASTM D6868. Must be food safe for all type and varieties of food and have FDA GRAS certification for food contact.
Min/Max size pieces	5 compartments able to hold 5 meal components including a milk carton/bottle. Center compartment must be able to hold a ½ pint milk carton or bottle, round or oval shapes for compartments are acceptable. The other compartments measure: minimum 4.3" x 2.9", minimum Depth: 0.900", size: approximately 10.7" outer rim, 9.5" inner rim, minimum thickness: 0.0195 inches (19.5 MIL). Minimum Weight: 25 grams.
Meal Pattern Contribution	
Prohibited Ingredients	Must not have a wax or plastic coating (polypropylene).
Desired or Required Nutrition Standards	Preferred color of natural white or beige. All colors will be reviewed. Must be able to be safely handled by users. Prefer packed five hundred per case in sanitary, protected plastic, carton or other component to ensure clean and food safety from manufacturer to user.
Unit on which award is made	Cost per plate.

Compostable plate, 5 compartments able to hold 5 meal components including a milk carton/bottle. Center compartment must be able to hold a  $\frac{1}{2}$  pint milk carton or bottle, round or oval shapes for compartments are acceptable. The other compartments measure: minimum 4.3" x 2.9", minimum Depth: 0.900", size: approximately 10.7" outer rim, 9.5" inner rim, minimum thickness: 0.0195 inches (19.5 MIL). Minimum Weight: 25 grams. Must not have a wax or plastic

coating (polypropylene). Prefer no pre-consumer materials used and where possible made entirely from one primary material such as sugarcane, post- consumer paper, wheat, etc.

Must be sturdy and durable, able to endure hot and cold food without seepage. Waterproof and minor oil proof. All components of the product must be 100% certified compostable. Must be tested by a Biodegradable Products Institute certified lab and shown to be compliant with ASTM D6868. Must be food safe for all type and varieties of food and have FDA GRAS certification for food contact. Preferred color of natural white or beige. All colors will be reviewed. Must be able to be safely handled by users. Prefer packed five hundred per case in sanitary, protected plastic, carton or other component to ensure clean and food safety from manufacturer to user.

### Sample Bid Sheet for "LOCAL" Apples

Adapted from "Getting Local Foods into New York State Schools." New York State Department of Agriculture and Markets, Division of Agriculture Development.

#### [SFA Name] District Information:

The food service department is currently seeking vendors to supply fresh fruits and vegetables meeting the below listed specifications to implement a focus on locally grown fruits and vegetables in the school cafeteria.

#### **Informal Bid Quote Worksheet**

**Product Name:** Apples

#### **Specifications**

- U.S. Fancy / No. 1
- Smooth skin free of blemishes, bruises, or scars.
- Tenderness and Maturity not more than an average of five percent in any lot and ten percent in individual containers may be further advanced in maturity than firm ripe.

#### **Delivery**

- Delivered within hours of harvest.
- Deliveries may be made to [Desired drop off location] between \_\_\_\_ AM and \_\_\_\_ PM.
- Other delivery or packaging requirements

#### **Qualifications & Experience**

- Overview of food safety procedures
- Three references
- Able to provide farm/facility tour or classroom /cafeteria visit.

#### Variety

Products will meet color and desirable characteristics typical of each variety as listed below:

(List of apple varieties available within the district definition of "Local" and a brief description of the desirable characteristics of the variety)

#### Example:

Cortland - Firm, juicy & tender

Braeburn - Skin is thin and seems to disappear in the mouth. The flesh is yellow-green to creamy yellow, breaking and crisp in texture.

## **Geographic Preference**

Able to provide produce from within the geographic preference area (list below)

Variety Available	Count Ct/case	Packed	Price/ case	Estimated Quantity	Minimum Delivery	Months Available

#### **Apple Variety Information**

California	http://www.calapple.org/uploads/1/2/5/0/125053236/california_apple_varieties.pdf
Florida	Apples not grown commercially
Georgia	https://365atlantatraveler.com/types-of-apples/
Maryland	http://www.marylandapples.com/apples.html, https://newenglandapples.org/2014/10/16/new-england-apples-from- the-usa/
Massachusetts	https://www.massfarmtoschool.org/wp-content/uploads/2017/08/ Massachusetts-Apple-Varieties.pdf, https://newenglandapples.org/2014/10/16/new-england-apples-from-the-usa/
Michigan	https://www.michiganapples.com/About/Varieties
New York	http://www.nyapplecountry.com/varieties, https://newenglandapples.org/2014/10/16/new-england-apples-from- the-usa/
Oregon	https://www.gardenguides.com/13428994-apple-varieties-grown-in- oregon.html

Pennsylvania	https://www.marketsatshrewsbury.com/blog/guide-to-common-types-of-apples/, https://newenglandapples.org/2014/10/16/new-england-apples-from-the-usa/
Texas	https://agrilifeextension.tamu.edu/library/farming/texas-fruit- and-nut-production-apples/#:~:text=help%20control%20diseases ,Varieties,%2C%20and%20'Royal%20Gala'.
Washington	https://www.tripsavvy.com/apple-varieties-grown-in-washington-state-2965269

#### **Produce Information Sheets**

https://www.fns.usda.gov/ofs/produce-information-sheets

#### USDA Geographic Preference: What It Is and How to Use It

https://www.fns.usda.gov/cfs/geographic-preference Example: Geographic Preference

Α.	[SFA	Name] desires to serve	describe preference) grown product	s to its students.
В.	appl wha such Vege	y a "local" geographic preference to t is "local" for the purposes of Unito as the National School Lunch Prog etable Program, the Special Milk Pro	urchasing institution, has the author o minimally processed foods, but also ed States Department of Agriculture ram, the School Breakfast Program, to ogram, the Child and Adult Care Food of Department of Defense Fresh Program	o to determine (USDA) programs the Fresh Fruit & d Program, the
C.		Name] defines "locally grown produce] district office located at [District	ucts' as grown withinoffice Address].	of the [SFA
D.	quo		e] will provide a point preference du chased for school food procurement reference is as follows:	_
	a.	If a product is grown and packaged weighted preference will be applied	or processed withind.	a 15-point
	b.		or processed within, n paragraph (C), a 10-point weighted	

E. Pursuant to USDA regulations, the geographic preference in this section is applied only to

"minimally processed" agricultural products that retain their inherent character.

#### **Buy American**

[SFA Name] require bidders to certify that all products are processed in the U.S. and contains over 51% of its agricultural food component from the U.S. to be in compliance with all requirements regarding "Buy American".

#### **Evaluation of Solicitation**

Award will be made to the lowest responsible bidder. The lowest responsible bidder will be determined based on an evaluation of the price, products available, delivery timelines and evaluation criteria shown hereafter. Such determination will, of necessity, require judgmental evaluations by district representatives. The decision resulting from the evaluation process as to which product best meets the needs of various programs remains the sole responsibility of [SFA Name] and is final.

#### **Example Criteria**

<b>Evaluation Criteria</b>		Maximum Points to be Awarded
Price	Price per pound and count per case.	30 points
Product Specifications	Quality of the products offered.	15 points
Delivery	Location and delivery time.	15 points
Qualifications & Experience	Service history in general and additional qualifications and/or conditions.	15 points
Invoice data	Ability to show state of origin on invoice	10
	Ability to show farm of origin on invoice	5
Farm tours	Opportunity for farm tours or farmer classroom visits	5
Geographic Preference	Ability to provide products sourced from within the stated geographic preference area.	15 points
Variety available	Product variety available for distribution. Preference will be provided for a vendor who may provide more than one variety of the product specified.	0-5 points*

<sup>\*</sup>weighted points vary by product requested

#### **USDA Produce Safety University Resources**

https://www.fns.usda.gov/ofs/take-home-training-professional-standards

https://www.fns.usda.gov/ofs/produce-safety-videos

https://www.fns.usda.gov/ofs/produce-safety-webinars

#### **Bid Sheet for "LOCAL" Produce**

#### **District Information:**

The food service department is currently seeking vendors to supply fresh fruits and vegetables meeting the below listed specifications to implement a focus on locally grown fruits and vegetables in the school cafeteria.

Informal Bid Quote Worksheet		
Product Name:		
Specifications		
Delivery		
Delivered within hours of harvest.		
<ul> <li>Deliveries may be made to [Desired drop off location] between</li> </ul>	AM and	PM.

#### **Qualifications & Experience**

• Overview of food safety procedures

• Other delivery or packaging requirements

- Three references
- Able to provide farm/facility tour or classroom /cafeteria visit.

#### Variety

Products will meet color and desirable characteristics typical of each variety as listed below:

#### **Geographic Preference**

Able to provide produce from within the geographic preference area (list below)

Variety Available	Count Ct/case	Packed	Price/ case	Estimated Quantity	Minimum Delivery	Months Available

#### **Additional Information for Bidding Local Produce**

#### **Produce Information Sheets**

https://www.fns.usda.gov/ofs/produce-information-sheets

USDA Geographic Preference: What It Is and How to Use It

https://www.fns.usda.gov/cfs/geographic-preference Example: Geographic Preference

Α.	[SFA Name] desires to serve (describe preference) grown products to its students.
В.	Under federal law, [SFA Name], as the purchasing institution, has the authority not only to apply a "local" geographic preference to minimally processed foods, but also to determine what is "local" for the purposes of United States Department of Agriculture (USDA) programs such as the National School Lunch Program, the School Breakfast Program, the Fresh Fruit & Vegetable Program, the Special Milk Program, the Child and Adult Care Food Program, the Summer Food Service Program, and the Department of Defense Fresh Program.
C.	[SFA Name] defines "locally grown products' as grown within of the [SFA Name] district office located at [District office Address].
D.	As allowed under federal law, [SFA Name] will provide a point preference during evaluation of quotes to "locally grown products" purchased for school food procurement as defined under this geographic preference. The point preference is as follows:
	a. If a product is grown and packaged or processed within a 15-point weighted preference will be applied.
	b. If a product is not grown packaged or processed within, though meets the definition of "local" specified in paragraph (C), a 10-point weighted preference will be applied.
F.	Pursuant to USDA regulations, the geographic preference in this section is applied only to

#### **Buy American**

[SFA Name] require bidders to certify that all products are processed in the U.S. and contains over 51% of its agricultural food component from the U.S. to be in compliance with all requirements regarding "Buy American".

"minimally processed" agricultural products that retain their inherent character.

#### **Evaluation of Solicitation**

Award will be made to the lowest responsible bidder. The lowest responsible bidder will be determined based on an evaluation of the price, products available, delivery timelines and evaluation criteria shown hereafter. Such determination will, of necessity, require judgmental evaluations by district representatives. The decision resulting from the evaluation process as to which product best meets the needs of various programs remains the sole responsibility of [SFA Name] and is final.

#### **Example Criteria**

Evaluation Criteria		Maximum Points to be Awarded
Price	Price per pound and count per case.	
Product Specifications	Quality of the products offered.	
Delivery	Location and delivery time.	
Qualifications & Experience	Service history in general and additional qualifications and/or conditions.	
Invoice data	Ability to show state of origin on invoice	
	Ability to show farm of origin on invoice	
Farm tours	Opportunity for farm tours or farmer classroom visits	
Geographic Preference	Ability to provide products sourced from within the stated geographic preference area.	
Variety available	Product variety available for distribution. Preference will be provided for a vendor who may provide more than one variety of the product specified.	

<sup>\*</sup>weighted points vary by product requested

#### **USDA Produce Safety University Resources**

https://www.fns.usda.gov/ofs/take-home-training-professional-standards

https://www.fns.usda.gov/ofs/produce-safety-videos

https://www.fns.usda.gov/ofs/produce-safety-webinars

# **Beef Burger**

Name of Product	Beef, burger
Description	Beef burger, fully cooked. IQF
Main Ingredients	Beef
Quality Indicators	100% beef
Min/Max size pieces	2.25 + oz.
Meal Pattern Contribution	One portion must contribute 2 oz. meat/meat alternate, must be CN labeled or product formulation statement required.
Prohibited Ingredients	
Desired or Required Nutrition Standards	Sodium not to exceed 150 mg, no more than 20% fat, and contains no added trans-fats

Beef burger, Beef burger fully cooked, IQF, 100% beef, 2.25+ oz. One portion must contribute 2 oz. meat/meat alternate, must be CN labeled or product formulation statement required. Sodium not to exceed 150 mg, no more than 20% fat, and contains no added trans-fats. Unit on which award is made, cost per serving.

# **Beef Crumbles**

Name of Product	Beef, crumbles
Description	Beef crumbles, fully cooked. IQF
Main Ingredients	Beef
Quality Indicators	100% beef
Min/Max size pieces	
Meal Pattern Contribution	One portion must contribute 2 oz. meat/meat alternate, must be CN labeled or product formulation statement required.
Prohibited Ingredients	
Desired or Required Nutrition Standards	Sodium not to exceed 150 mg, no more than 20% fat, and contains no added trans-fats
Unit on which award is made	Cost per serving

Beef crumbles, Beef crumbles fully cooked, IQF, 100% beef, one portion must contribute 2 oz. meat/meat alternate, must be CN labeled or product formulation statement required. Sodium not to exceed 150 mg, no more than 20% fat, and contains no added trans-fats. Unit on which award is made, cost per serving.

# **Chicken Breast Patty, Breaded**

Name of Product	Chicken breast breaded
Description	Fully Cooked, chicken breast patty with rib meat, breading must be at least 50% whole grain rich
Main Ingredients	Chicken
Quality Indicators	Made with whole muscle
Min/Max size pieces	3.3 oz+
Meal Pattern Contribution	One portion must contribute 2M/MA 1 Grain, must be CN labeled or product formulation statement required.
Prohibited Ingredients	
Desired or Required Nutrition Standards	No Antibiotics Ever required, Total Sodium not to exceed 500 mg, no added trans fats
Unit on which award is made	Cost per serving

Chicken, breast breaded, fully cooked chicken breast patty with rib meat breading must be at least 50% whole grain rich. Chicken breast with rib meat, made with whole muscle. 3.3 oz+ one portion must contribute 2m/ma and 1 grain equivalent, must be CN labeled or product formulation statement required. No antibiotics ever required, total sodium not to exceed 500 mg per serving, no added trans fat. Unit on which award is made, cost per serving.

## **Chicken Breast Tender, Breaded**

Name of Product	Chicken tender, breaded
Description	Fully cooked chicken breast tender, breading must me at least 50% whole grain rich., tender shaped chicken breast patty
Main Ingredients	Chicken breast with rib meat
Quality Indicators	Made with whole muscle
Min/Max size pieces	
Meal Pattern Contribution	One portion must contribute 2 oz. meat/meat alternate and one grain equivalent, must be CN labeled or product formulation statement required.
Prohibited Ingredients	
Desired or Required Nutrition Standards	No Antibiotics Ever required, Total Sodium not to exceed 500 mg, no added trans fats
Unit on which award is made	Cost per serving

Chicken tender breaded, fully cooked chicken breast tender, breading must be at least 50% whole grain rich, tender shaped chicken breast patty made with chicken breast with rib meat. Made with whole muscle. One portion must contribute 2 oz. meat/meat alternate and one grain equivalent, must be CN labeled or product formulation statement required. No Antibiotics Ever required, Total Sodium not to exceed 500 mg, no added trans fats. Unit on which award is made Cost per serving.

# **Chicken Breast Chunk, Breaded**

Name of Product	Chicken breast chunk, breaded
Description	Chicken breast chunk fully cooked, breading must be at least 50% whole grain rich
Main Ingredients	Chicken
Quality Indicators	Made with whole muscle
Min/Max size pieces	
Meal Pattern Contribution	One portion must contribute 2M/MA 1 Grain, must be CN labeled or product formulation statement required.
Prohibited Ingredients	
Desired or Required Nutrition Standards	No Antibiotics Ever required, Total Sodium not to exceed 500 mg, no added trans fats
Unit on which award is made	Cost per serving

Chicken breast chunk, breaded. Chicken breast chunk fully cooked, breading must be at least 50% whole grain rich. Chicken, made with whole muscle white meat. One portion must contribute 2M/MA 1 Grain, must be CN labeled or product formulation statement required. No Antibiotics Ever required, Total Sodium not to exceed 500 mg, no added trans fats. Unit on which award is made, cost per serving.

# **Chicken Drumstick, Unbreaded**

Name of Product	Chicken drumstick, unbreaded
Description	Chicken drumstick unbreaded, fully cooked, oven roasted, bone in.
Main Ingredients	Chicken drumstick
Quality Indicators	
Min/Max size pieces	
Meal Pattern Contribution	One portion must contribute 2M/MA 1 Grain, must be CN labeled or product formulation statement required.
Prohibited Ingredients	
Desired or Required Nutrition Standards	No Antibiotics Ever required, Total Sodium not to exceed 500 mg, no added trans fats
Unit on which award is made	Cost per serving

Chicken drumstick, unbreaded: Fully cooked oven roasted, bone in. Chicken drumstick. One portion must contribute 2 oz meat/meat alternate, must be CN labeled or product formulation statement required. No Antibiotics Ever required, Total Sodium not to exceed 320 mg, no added trans fats. Unit on which award is made, Cost per serving.

## Cereal, Single Serve 1 oz.

Name of Product	Cereal, Single serve 1 oz.
Description	Cereal must contain at least 51% whole grain. State flavors.
Main Ingredients	Wheat, rice, or corn
Quality Indicators	
Min/Max size pieces	1 oz package
Meal Pattern Contribution	1 package meets 1 oz grain equivalent. Provide portion size in grams. Product analysis sheet shall specify serving size to meet USDA certified grain servings and provide information about other USDA food categories and number(s) of servings provided by this serving size.
Prohibited Ingredients	No High fructose corn syrup or artificial sweeteners
Desired or Required Nutrition Standards	Added sugar not to exceed 6gm per 1 oz of cereal.
Unit on which award is made	Cost per serving

Cereal, Single serve 1 oz. Cereal must contain at least 51% whole grain. State flavors. Wheat, rice, or corn.1 oz package. 1 package meets 1 oz grain equivalent. Provide portion size in grams. Product analysis sheet shall specify serving size to meet USDA certified grain servings and provide information about other USDA food categories and number(s) of servings provided by this serving size. No High fructose corn syrup or artificial sweeteners. Added sugar not to exceed 6gm per 1 oz of cereal. Unit on which award is made, cost per serving.

## Cereal, Single Serve 2 oz.

Name of Product	Cereal, Single serve 2 oz.
Description	Cereal must contain at least 51% whole grain. State flavors.
Main Ingredients	Wheat, rice, or corn
Quality Indicators	
Min/Max size pieces	2 oz package
Meal Pattern Contribution	1 package meets 2 oz grain equivalent. Provide portion size in grams. Product analysis sheet shall specify serving size to meet USDA certified grain servings and provide information about other USDA food categories and number(s) of servings provided by this serving size.
Prohibited Ingredients	No High fructose corn syrup or artificial sweeteners
Desired or Required Nutrition Standards	Added sugar not to exceed 6gm per 1 oz of cereal.
Unit on which award is made	Cost per serving

Cereal, Single serve 2 oz. Cereal must contain at least 51% whole grain. State flavors. Wheat, rice, or corn.2 oz package. 1 package meets 2 oz grain equivalent. Provide portion size in grams. Product analysis sheet shall specify serving size to meet USDA certified grain servings and provide information about other USDA food categories and number(s) of servings provided by this serving size. No High fructose corn syrup or artificial sweeteners. Added sugar not to exceed 6gm per 1 oz of cereal. Unit on which award is made, cost per serving.

# **French Toast Stick with Egg**

Name of Product	French Toast Stick
Description	Fully cooked, whole grain rich, dipped in egg batter, oven baked
Main Ingredients	Whole grain rich wheat bread, egg
Quality Indicators	
Min/Max size pieces	
Meal Pattern Contribution	1 package meets 2 oz grain equivalent. Provide portion size in grams. Product analysis sheet shall specify serving size to meet USDA certified grain servings and provide information about other USDA food categories and number(s) of servings provided by this serving size.
Prohibited Ingredients	No High fructose corn syrup or artificial sweeteners
Desired or Required Nutrition Standards	Added sugar not to exceed 6gm per 1 oz of cereal.
Unit on which award is made	Cost per serving

French Toast Stick Fully cooked, whole grain rich, dipped in egg batter, oven baked. Whole grain rich wheat bread, egg. 1 serving meets a minimum of 1 oz. eq. meat and 1 oz. eq. grain. CN Labeled or Product formulation statement. Sodium not to exceed 310 mg per serving, no added trans-fats. Unit on which award is made, cost per serving.

# French Toast Stick, Baked or Grilled

Name of Product	French Toast Stick
Description	Fully cooked, must contain 51% whole grain wheat flour. Baked or grilled
Main Ingredients	Whole grain rich wheat bread
Quality Indicators	
Min/Max size pieces	
Meal Pattern Contribution	1 serving meets a minimum of 2 oz. eq. grain. CN Labeled or Product formulation statement.
Prohibited Ingredients	
Desired or Required Nutrition Standards	Sodium not to exceed 290 mg per serving, no added trans-fats, no high fructose corn syrup.
Unit on which award is made	Cost per serving

French Toast Stick. Fully cooked, must contain 51% whole grain wheat flour, baked or grilled. Whole grain rich wheat bread. 1 serving meets a minimum of 2 oz. eq. grain. CN Labeled or Product formulation statement. Sodium not to exceed 290 mg per serving, no added trans-fats, no high fructose corn syrup. Unit on which award is made, cost per serving.

# Pizza, Cheese 16 Inch Round

Name of Product	Pizza, cheese 16-inch round
Description	Pizza, whole grain rich crust with part skim mozzarella cheese, frozen.
Main Ingredients	Whole grain rich wheat crust, part skim mozzarella cheese
Quality Indicators	
Min/Max size pieces	
Meal Pattern Contribution	One portion must contribute 2 M/MA and 2 grain equivalents. CN Label or product formation statement required.
Prohibited Ingredients	
Desired or Required Nutrition Standards	Total sodium not to exceed 500mg per portion and 35% or less calories from fat, no added trans-fats.
Unit on which award is made	Cost per serving

Pizza, cheese 16-inch round. Pizza, whole grain rich crust with part skim mozzarella cheese, frozen. Whole grain rich wheat crust, part skim mozzarella cheese. One portion must contribute 2 M/MA and 2 grain equivalents. CN Label or product formation statement required. Total sodium not to exceed 500mg per portion and 35% or less calories from fat, no added trans-fats. Unit on which award is made, cost per serving.

# Pizza, Pepperoni 16 Inch Round

Name of Product	Pizza, pepperoni 16-inch round
Description	Pizza, whole grain rich crust with part skim mozzarella cheese and pepperoni (beef or turkey), frozen.
Main Ingredients	Whole grain rich wheat crust, part skim mozzarella cheese
Quality Indicators	
Min/Max size pieces	
Meal Pattern Contribution	One portion must contribute 2 M/MA and 2 grain equivalents. CN Label or product formation statement required.
Prohibited Ingredients	
Desired or Required Nutrition Standards	Total sodium not to exceed 600mg per portion and 35% or less calories from fat, no added trans-fats.
Unit on which award is made	Cost per serving

Pizza, pepperoni 16-inch round. Pizza, whole grain rich crust with part skim mozzarella cheese and pepperoni (beef or turkey), frozen. Whole grain rich wheat crust, part skim mozzarella cheese. One portion must contribute 2 M/MA and 2 grain equivalents. CN Label or product formation statement required. Total sodium not to exceed 600mg per portion and 35% or less calories from fat, no added trans-fats. Unit on which award is made, cost per serving.

# Pizza, French Bread, Cheese

Name of Product	Pizza, French bread, cheese
Description	Pizza, whole grain rich crust with part skim mozzarella cheese, frozen.
Main Ingredients	Whole grain rich wheat crust, part skim mozzarella cheese
Quality Indicators	
Min/Max size pieces	
Meal Pattern Contribution	One portion must contribute 2 M/MA and 2 grain equivalents. CN Label or product formation statement required.
Prohibited Ingredients	
Desired or Required Nutrition Standards	Total sodium not to exceed 500mg per portion and 35% or less calories from fat, no added trans-fats.
Unit on which award is made	Cost per serving

Pizza, WG French bread, cheese. Pizza, whole grain rich crust with part skim mozzarella cheese, frozen. Whole grain rich wheat crust, part skim mozzarella cheese. One portion must contribute 2 M/MA and 2 grain equivalents. CN Label or product formation statement required. Total sodium not to exceed 500mg per portion and 35% or less calories from fat, no added trans-fats. Unit on which award is made, cost per serving.

# **Turkey Breast, Sliced**

Name of Product	Turkey breast, sliced
Description	Pre-sliced, all natural minimally processed turkey breast
Main Ingredients	Turkey breast
Quality Indicators	Utilizes white turkey
Min/Max size pieces	.5 oz
Meal Pattern Contribution	One portion must contribute 2 oz. meat/meat alternate and one grain equivalent, must be CN labeled or product formulation statement required.
Prohibited Ingredients	
Desired or Required Nutrition Standards	CRAU turkey preferred. Total sodium not to exceed 480 mg per portion.
Unit on which award is made	Cost per serving

Turkey breast, sliced. Pre-sliced, all natural minimally processed turkey breast. Turkey breast utilizes white turkey, .5 oz minimum slice. One portion must contribute 2 oz. meat/meat alternate and one grain equivalent, must be CN labeled or product formulation statement required. CRAU turkey preferred. Total sodium not to exceed 480 mg per portion. Unit on which award is made, cost per serving.

## **Turkey Ham, Sliced**

	,
Name of Product	Turkey ham, sliced
Description	Pre-sliced, all natural minimally processed turkey ham 5% water added
Main Ingredients	Turkey
Quality Indicators	Utilizes dark meat turkey
Min/Max size pieces	.5 oz
Meal Pattern Contribution	One portion must contribute 2 oz. meat/meat alternate and one grain equivalent, must be CN labeled or product formulation statement required.
Prohibited Ingredients	No nitrates or nitrites.
Desired or Required Nutrition Standards	CRAU turkey preferred. Total sodium not to exceed 430 mg per portion.
Unit on which award is made	Cost per serving

Turkey ham, sliced. Pre-sliced, all natural minimally processed turkey. Turkey ham utilizes dark meat turkey, .5 oz minimum slice. One portion must contribute 2 oz. meat/meat alternate and one grain equivalent, must be CN labeled or product formulation statement required. CRAU turkey preferred. Total sodium not to exceed 430 mg per portion, no added trans fats no nitrates or nitrites. Unit on which award is made, cost per serving.

# **Turkey Crumbles**

Name of Product	Turkey crumbles
Description	Fully cooked, all natural minimally processed turkey.
Main Ingredients	Turkey
Quality Indicators	Utilizes dark meat turkey
Min/Max size pieces	
Meal Pattern Contribution	One portion must contribute 2 oz. meat/meat alternate and one grain equivalent, must be CN labeled or product formulation statement required.
Prohibited Ingredients	
Desired or Required Nutrition Standards	CRAU turkey preferred. Total sodium not to exceed 430 mg per portion.
Unit on which award is made	Cost per serving

Turkey crumbles. Fully cooked, all natural minimally processed turkey. Utilizes dark meat turkey. One portion must contribute 2 oz. meat/meat alternate and one grain equivalent, must be CN labeled or product formulation statement required. CRAU turkey preferred. Total sodium not to exceed 430 mg per portion, no added trans fats. Unit on which award is made, cost per serving.

# **Turkey Frank**

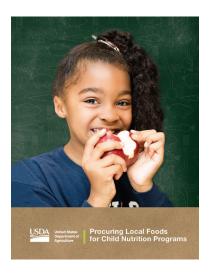
Name of Product	Turkey frank
Description	Frozen, fully cooked, skinless
Main Ingredients	Turkey
Quality Indicators	Utilizes dark meat turkey
Min/Max size pieces	8/1
Meal Pattern Contribution	One portion must contribute 2 oz. meat/meat alternate and one grain equivalent, must be CN labeled or product formulation statement required.
Prohibited Ingredients	No nitrates or nitrites.
Desired or Required Nutrition Standards	CRAU turkey preferred. Total sodium not to exceed 270 mg per portion.
Unit on which award is made	Cost per serving

Turkey frank. Fully cooked, skinless turkey frank. Utilizes dark meat turkey, 8/1. One portion must contribute 2 oz. meat/meat alternate and one grain equivalent, must be CN labeled or product formulation statement required. CRAU turkey preferred. Total sodium not to exceed 270 mg per portion, no added trans fats no nitrates or nitrites. Unit on which award is made, cost per serving.

#### Resources

#### **USDA Local Procurement**

https://www.fns.usda.gov/cfs/procuring-local-foods-child-nutrition-programs



#### **Virginia Department of Education**

Writing Bid Specifications

https://www.doe.virginia.gov/support/nutrition/resources/writing-bid-specifications.pdf

#### **Writing Bid Specifications**

What Are The First Two
Documents You Need To Have
Before You Begin To Write Bid
Specifications?

- 1. CYCLE MENUS
- 2. STANDARDIZED RECIPES

Virginia Department of Education, Office of School Nutrition Programs

#### **USDA Common Specification**

Resources for Writing Excellent Bid Specifications
<a href="https://edu.wyoming.gov/downloads/nutrition/writing-excellent-food-bid-specifications.pdf">https://edu.wyoming.gov/downloads/nutrition/writing-excellent-food-bid-specifications.pdf</a>



#### Virginia Department of Education, Office of School Nutrition

Procurement training included with the approval of the VADOE-OSN. For additional resources visit the <u>VADOE-OSN</u> website.



# **BID SPECIFICATION PREPARATION**

What are the first two documents you need to have before you begin to write bid specifications?

- 1. Cycle menus
- 2. Standardized recipes



# WRITING BID SPECIFICATIONS OVERVIEW

- What is the definition?
- > What are specification characteristics?
- > How to develop bid specifications



# **SPECIFICATIONS DEFINITION**

- The physical descriptions of products material, and/or process
- Words to describe:
  - Color
  - Size
  - Packaging for the Product
- Numbers or Letters to Describe:
  - Grade
  - Weight
  - Quantity



# WHY DO YOU NEED A SPECIFICATION?

- Required for SNP
- Helps the vendor understand exactly what you want so a competitive price can be quoted



# PRODUCT SPECIFICATION INFORMATION

- Name of product
- Description of the product
- Case pack and weight
- Minimum and maximum size and pieces
- Main ingredient(s)
- Other product ingredients
- > Prohibited ingredients
- Nutritional standards

- > Unit on which award is made
- Quality indicators
- Meal pattern requirements/child nutrition (CN) label



# PRODUCT SPECIFICATION: NAME OF PRODUCT

- WG Breaded Chicken Nuggets
- Milk, Fluid, Unflavored
- > Apples, Red Delicious
- > WG Breaded Cod
- > Beans, Green
- Cups, Foam



# PRODUCT SPECIFICATION: PRODUCT DESCRIPTION

Clearly Identify the product listed

- Type
- Cut and shape
- Portion size
- Precooked weight
- Frozen, fresh, or dry

If specifying a brand, ensure to state that "an equal" product may be offered and describe the performance or other relevant requirements of the product.

# PRODUCT SPECIFICATION: MINIMUM AND MAXIMUM SIZES OR PIECES

Describes the minimum and maximum size of the product

Possible description may include: each serving must weigh a minimum of 3.9 ounces and cannot exceed 4.1 ounces



# PRODUCT SPECIFICATION: MAIN INGREDIENTS

Describes the main ingredients

- > Pinto beans, black beans
- Whole grain-rich tortilla
- Deboned white chicken meat



# PRODUCT SPECIFICATION: UNIT ON WHICH AWARD IS MADE

Describes how the unit price will be determined:

- By the case
- By the serving size
- Per pound



# PRODUCT SPECIFICATION: QUALITY INDICATORS FOR FRUITS AND VEGETABLES

- Grade A or U.S. Fancy = first quality private label
- Grade B or U.S. Choice = Second quality private label
- Vegetables: Grade B or U.S. Extra Standard = second quality private label
- Grade C or U.S. Standard = third quality private label
  - Example: APPLES, FRESH: Packed to U.S. Fancy Grade; Red Delicious; 100 count, 40-Lb case

# PRODUCT SPECIFICATION: QUALITY INDICATORS FOR MEATS Beef Prime Choice Select Poultry: Grade A Fish: Grade A Pork: Not graded Pork: Not graded

# PRODUCT SPECIFICATION: MEAL PATTERN REQUIREMENTS/CN LABEL

- Describes if the product has to have a CN label
- Needs to meet certain meal component requirements



# PRODUCT SPECIFICATION: PRACTICE

- Item Catsup, made from tomato concentrate, not less than 33% solids
- Pack size 1000/9 grams
- Unit bid Case



# **DEVELOPING SPECIFICATIONS PROCESS**

- > Develop a cycle menu
- Create standardized recipes
- > Evaluate customer quality and acceptance of current items
- > Research the market on new items
- Request a description of the product from the manufacturer
- > Taste test with YOUR CUSTOMERS!
- Write the bid specification



# **REFERENCES**

- > Procurement in the 21st Century
- > USDA Agricultural Marketing Service Grades
- > USDA Agricultural Marketing Commercial Item Description
- > USDA Produce Food Safety
- > 21 CFR Food and Drugs

