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By Dayle Hayes, MS, RD

# Cool Beans!

» How to teach students and their families about pulses: dry beans, peas and lentils.



An August 2019 research brief from the Healthy Schools division of the U.S. Centers for Disease Control and Prevention (CDC) outlines *Opportunities for Nutrition Education in US Schools*, emphasizing that this subject is vital in a comprehensive, effective health education program. As school nutrition professionals, you already know the report's basic tenets: “[S]chools play an important role in helping students establish healthy eating behaviors by providing nutritious and appealing foods and beverages, consistent and accurate messages about good nutrition, and ways to learn about and practice healthy eating.”

You also understand the challenges of providing nutrition education within the incredibly packed schedules of most schools today. As the CDC documents, “U.S. students receive less than 8 hours of required nutrition education each school year, far below the 40 to 50 hours that are needed to affect behavior change. Additionally, the percentage of schools providing required instruction on nutrition and dietary behaviors decreased from 84.6% to 74.1% between 2000 and 2014.”

Whatever the food or nutrition topic, there are multiple ways to include valuable educational messages throughout the school day, the school campus and the whole community. Many school nutrition departments are already actively involved beyond their cafeterias and kitchens. In this article, let's explore how *you* can use various settings within the existing school schedule to offer age-appropriate education about an important food group: dried beans, peas and lentils, also referred to as “pulses.”

## BEAN COUNTER

First, some clarification about the terminology for this food group is necessary. Since the establishment of the 2012 federal nutrition standards for school meals, this food group is officially refer-

enced as the Bean and Pea (Legume) Vegetable Subgroup. This component category is unique for school meals, because it can be credited either as a vegetable or a meat alternate, but not both at the same time. These crediting options reflect the distinctive nutritional quality of legumes. They are an excellent source of fiber and a good source of potassium; both are considered nutrients of public health concern in this country. Legumes are also rich in protein.

This means that pulses can help fill the fiber gap in most American diets and that they also make delicious, center-of-the-plate items for plant-based, vegetarian and vegan meals. According to school meal regulations, legumes in this group include dried black beans, dry black-eyed peas, edamame, garbanzo beans (chickpeas), kidney beans, lentils, lima beans (mature, including fava and mung), navy beans, pinto beans, soybeans, split peas and white beans.

But this is where the terminology gets a little tricky. Outside of school meals, in most of the nutrition, culinary and agricultural worlds, these foods are all considered to be in the legume family, but they are more specifically characterized as **pulses**. To further clarify:

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- » A legume is any plant that has seeds in pods.
- » A pulse officially refers to the dry, edible seed within the pod of a legume. Beans, lentils, chickpeas and split peas are the most common types of pulses.

For school meal programs, *fresh* legumes (including cowpeas, field peas, black-eyed peas and green peas, as well as immature lima beans) have been included in the Starchy Vegetable Subgroup. But that's not the only variance from conventional legume wisdom: Green beans, snow peas and bean sprouts belong in the Other Vegetable Subgroup. And the most popular legume in the U.S.—peanuts (and peanut butter)—always credits as a meat alternate, never as a vegetable.

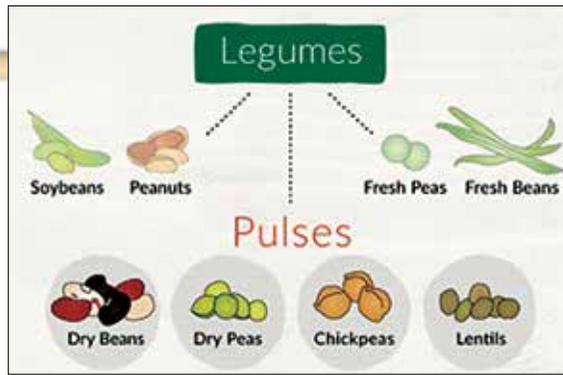
### AP-PEA-LING BENEFITS

Fortunately, K-12 students do not need to understand the somewhat confusing ins-and-outs of vegetable subgroup classification for reimbursable school meals! However, education about pulses is important for children and adults alike to help raise awareness about the health and environmental benefits of these nutritious foods.

**Fiber fullness.** The sad nutrition truth is that most of us—more than 90% of Americans—do not get enough fiber on a regular basis. Pulses are an excellent source of both types of dietary fiber (soluble and insoluble); they contain more than 20% of the recommended Daily Value (DV).

Fiber intake is associated with a long list of health benefits: lower risk of heart disease, stroke, high blood pressure, prediabetes and type 2 diabetes, as well as colorectal, gastric and breast cancers, plus obesity. Fiber also has intestinal benefits, including increased satiety after eating and a healthy microbiota (the trillions of microorganisms in the gut).

**Nutrition powerhouses.** Pulses are naturally sodium-, cholesterol- and gluten-free, as well as low in fat.



activities that will help K-12 students understand where their food comes from—and why it is important for them to include more pulses in their meals.

You also don't have to start from scratch (so to speak)! Here are a couple of go-to online

resources for pulse education. Both feature downloads and links to help you tailor activities to your location, environment, resources and daily schedule.

» The October 2017 Farm to School Month theme for Georgia Organics ([www.georgiaorganics.org](http://www.georgiaorganics.org)) was Make Room for Legumes ([www.tinyurl.com/Legumes-GO-SNmag](http://www.tinyurl.com/Legumes-GO-SNmag)). The organization's catalog of resources is amazingly comprehensive, and materials are aligned with Georgia Pre-K through 12 Standards-based Learning guidelines. While those educational standards may vary slightly from ones in your state, the lesson plans, fact sheets, marketing materials, surveys and videos can be used anywhere with little or no adaptation.

» USA Pulses, a program of the USA Dry Pea & Lentil Council and the American Pulse Association, represents the dry pea, lentil, dry bean and chickpea industry in the United States. Its website has recipes and tools specifically for K-12 school nutrition professionals ([www.usapulses.org/schools](http://www.usapulses.org/schools)). The resources include tips for marketing pulses in your cafeteria and downloadable posters and puzzles for students.

As you start diving into available resources, the following are some specific suggestions of pulse education activities that you can conduct in your school or district.

### IN THE CAFETERIA

New menu items and taste celebrations are effective ways to conduct nutrition education on a topic like pulses, especially when you focus on trending flavors and fun facts.

Depending on the variety, pulses can have 2.5 times the iron as chicken and as much potassium as a small banana.

### Environmental sustainability.

Pulses require fewer nitrogen fertilizers and less water than many other crops, which make them a good choice for drought-prone areas. All legumes actually create their own fertilization by pulling nitrogen from the air and into the soil, leaving it healthier for the next crop.

**Agricultural heritage.** Pulses were among the very first crops cultivated—perhaps as far back as 8,000 to 11,000 years ago—and they are now grown all around the globe. Many popular cuisines—Asian, Indian, Mediterranean and Latin, for example—use pulses for their classic dishes.

### REACH AND TEACH

As you read through the list of benefits, did you begin imagining different ways to highlight pulses and raise awareness of them in your school meal program? Perhaps you started thinking about new menu options and bulletin board displays or student engagement activities and celebrity chef visits. But then, it's likely that another thought crossed your mind: *"I don't have time for this!"*

Since your day is already jam-packed with job responsibilities, remember that you do not have to go it alone when it comes to providing nutrition education. There are so many partners you can turn to for help! College students, parents, Food Corps and AmeriCorps service members, agriculture extension agents, master gardeners, farmers and community foodies can all be enlisted to devise

- » Consider local chefs whose restaurants may offer popular hummus (made with chickpeas) wraps or red lentil dahl. Chefs may be willing to do a cooking demo or to “schoolify” one of their recipes—and in return, you can feature them on social media.
- » Work with teachers. Social studies classes can help research traditional global entrées that feature pulses, while math students can collect data from a taste test and recommend the best way to introduce a new item to their peers. (The Georgia Organics site has numerous taste-test ideas for all grade levels.)
- » Need some proven pulse recipes? *School Nutrition's* archives are always worth searching for recipes, marketing ideas and more. (Visit [www.schoolnutrition.org/snmagazine](http://www.schoolnutrition.org/snmagazine) and click on the Archives link.)

### IN THE CLASSROOM

The opportunities for in-classroom nutrition education extend from Pre-K (using beans to learn about different colors and shapes) through high school (researching ways to improve soil health). Reach out to innovative teachers in your district, as well as agriculture extension agents in the community; both may have existing lessons, especially in states where pulses are important agricultural crops.

- » While STEM (science, technology, engineering and mathematics) lessons may be top of mind for different curricula involving food and nutrition, other classes like art and social studies may be equally engaging. Check the Georgia Organics resources for lesson plans for all grades.
- » In a high school art class, students can be challenged to draw botanical sketches of such pulse plants as black beans or red lentils. They can research the history and styles of botanical art.
- » Social studies classes offer opportunities for studying the agriculture and cuisines of different regions across the United States, as well as



## » the test



Go to: [www.schoolnutrition.org/OnlinePDAs](http://www.schoolnutrition.org/OnlinePDAs)

### “Cool Beans!”

Completion of this test, with a passing score, will count as 1 Continuing Education Unit (CEU) in **Key Area 1, Nutrition, Code 1210.**

(Please Print)

Name: \_\_\_\_\_

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Email: \_\_\_\_\_

**1. U.S. students receive ample nutrition education to affect behavior change.**

- True  False

**2. The percentage of schools providing required instruction on nutrition and dietary behaviors has decreased to \_\_\_\_.**

- 8 hours  
 200%  
 50%  
 74.1%

**3. Foods in the Bean and Pea (Legume) Vegetable Subgroup can be credited as \_\_\_\_ in reimbursable school meals.**

- a vegetable  
 a protein  
 a vegetable or a protein  
 a vegetable and a protein

**4. A pulse is a food that is part of the legume family.**

- True  False

**5. A pulse refers to the \_\_\_\_ of a legume.**

- stalk  pod  
 dry, edible seed  leaf

**6. Legumes are good sources of \_\_\_\_.**

- healthy fats  fiber  
 vitamin C  all of the above

**7. In school meals, snow peas are classified in the Starchy Vegetable Subgroup.**

- True  False

**8. Dietary fiber intake is associated with such health benefits as \_\_\_\_.**

- a lower risk of heart disease  
 a lower risk of type 2 diabetes  
 increased satiety after eating  
 all of the above

**9. Pulses require less \_\_\_\_ to grow than many other crops.**

- water  
 pesticides  
 sunlight  
 all of the above

**10. For garden activities, beans and peas sprout easily indoors.**

- True  False

#### TEST COMPLETION & SUBMISSION DETAILS

To earn 1 Continuing Education Credit (CEU) toward SNA's Certificate/Credentialing programs for this professional development article (PDA) test, you must achieve a passing score and the issue date (**November 2019**) must not be older than five (5) years from your Certificate/Credentialing period. A maximum of three (3) PDAs per year is allowable for SNA's Certificate in School Nutrition program. There is no maximum of passing PDAs for those with the SNS Credential, submitted within the three-year period.

**To pay by check:** Mail this completed form before your expiration date. Include \$11 (SNA Members) or \$17 (non-members) for processing to: SNA, Attn: PDA, PO Box 759297, Baltimore, MD 21275-9297. Do not send cash!

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countries around the world. Students can also research pulse recipes from their own family traditions, and then prepare samples for tasting in a food lab activity.

#### IN THE SCHOOL GARDEN

Strategies to integrate nutrition education into gardening are generally pretty obvious. And gardening does not

necessarily need to be done in large spaces or even to be outdoors! Beans and peas sprout easily indoors and germination can be observed between paper towels in a plastic bag.

» The Georgia Organics website features a fact sheet and video on “How to Plant, Grow and Harvest Beans” in a school garden, which includes instructions on how to dry

pulses. Since their calendars are for a southern state, consult your agricultural education teacher or extension agent to determine the best planting and harvesting schedule for your area.

» A Spring 2016 paper, “Exploring Pulses Through Math, Science and Nutrition Activities,” published in SNA’s *The Journal of Child Nutrition & Management* ([www.schoolnutrition.org/jcnm](http://www.schoolnutrition.org/jcnm)), reported positive results for a school garden-based curricula. The paper also provides a number of important insights into various challenges with garden-based education.

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#### IN CONJUNCTION WITH FARM-TO-SCHOOL INITIATIVES

Farm-to-school activities are increasingly popular ways to provide nutrition education to students and families. Harvest of the Month promotions that integrate cafeteria, classroom and local farms can be effective for education, as well as for enhancing consumption—plus supporting local farmers.

As an example, the Montana Farm to School Program has extensive resources for a Harvest of the Month campaign on lentils in K-12 schools ([www.tinyurl.com/Montana-lentils-SNmag](http://www.tinyurl.com/Montana-lentils-SNmag)). The free downloadable resources include a video, large and small posters, cafeteria and classroom newsletters and more.

#### PERFECTLY POSITIONED

Nutrition education strategies work best when students see and hear consistent information about healthy eating both in school and at home. As a school nutrition professional, you see where the food meets the tray, meaning you are perfectly positioned to connect nutrition education from your menus to the mouths you feed. Look around for creative partners—and nutrition education might become one of the best parts of your job. **SN**

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