

Beans and Children Pose Unique Challenge, But Nutritional Benefits Provide Great Reward

By Sanna Delmonico, MS, RDN, CHE

Key health and nutrition facts about dry beans, plus a few easy and tasty recipes, are usually enough to convince adult patients and clients to increase dry beans in their diets. When working with children, however, increasing consumption can be more complicated. In order to change children's diets, RDNs must help parents understand not only the benefits of dry bean consumption, and how to prepare them at home, but also how to feed and interact with children in ways that provide them with plenty of opportunities to learn to like dry beans and eat them regularly.

Health and Nutrition Benefits for Children

There is an inverse association between legume intake and metabolic syndrome, type 2 diabetes,¹ LDL-cholesterol levels, and coronary heart disease in adults.^{2,3} Higher legume intake is associated with lower waist circumference and lower body weight⁴ in adults. Since eating habits formed in childhood predict adult eating habits,⁵ children who eat more dry beans are likely to grow into adults who eat more beans, and have reduced disease risk.

RDN Takeaway #1:

Dry beans provide fiber, folate, minerals, phytochemicals, and other important nutrients in children's diets, and are easy for toddlers to eat.

Nutrient-dense dry beans clearly provide important nutrients for growing children, including protein, fiber, B vitamins including folate and niacin, iron, zinc, and some calcium, as well as important phytochemicals.⁶ Dry bean intake



is associated with greater nutrient intake.^{4,7} In addition, a benefit of dry beans in young children's diets is that they are in a form that is developmentally appropriate. Toddlers who have few teeth and no molars have difficulty eating meat, but they do very well with cooked beans that are soft and easy to chew.

Preventing Iron Deficiency in Young Children

Iron-deficiency is a significant concern in young children worldwide.⁸ The phytate content of both legumes and whole grains has been raised as a concern for infants, as phytate inhibits the absorption of iron and zinc.⁹ However, the American Academy of Pediatrics' clinical report on the prevention of iron deficiency in

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Beans and Children Pose Unique Challenge

young children⁸ recommends that children eat legumes to increase iron consumption. The report recommends the consumption of sources of nonheme iron, plant sources such as whole grains and dry beans, along with sources of vitamin C, which increases nonheme iron absorption. Suggested sources of vitamin C include citrus fruits, berries, kiwi, peppers, tomatoes, cabbages, and leafy green vegetables.

RDN Takeaway #2:

To increase the bioavailability of iron, an important nutrient for young children, serve dry beans with a source of vitamin C such as citrus fruit, peppers, or tomatoes.

Phytate content is reduced by common cooking methods such as soaking legumes and discarding soaking liquid, as well as by sprouting and fermenting.⁹ All of these methods increase the bioavailability of iron. The biggest risk factors for iron deficiency in toddlers in the United States are low intake of iron-rich foods and especially overconsumption of cow's milk.¹⁰

Recommendations for Intake

Because of the significant benefits, the American Academy of Pediatrics recommends that children "eat more legumes (beans) and tofu in place of meat for some entrees."¹¹ Replacing meat with dry beans in a meal increases the fiber content and decreases saturated fat. The 2010 Dietary Guidelines recommends that, "because of their high nutrient content, beans and peas may be considered both as a vegetable and as a protein food."¹² This makes dry beans very important foods for children.

Do Children Eat Enough Beans?

Parents frequently report that vegetables are the food group that children consume the least. Dry bean intake among U.S. children in particular is low.¹³ According to NHANES' *What We Eat in America*, legume intake for children ages 2–19 averages less than 1/10th of a cup per day. Children in lower-income families consume more legumes than children in higher income families, and Hispanic and Non-Hispanic Asian children consume more legumes than Non-Hispanic

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black and Non-Hispanic white children.¹⁴

A small study of day care centers found that none of the centers met the Healthy Eating Index-2005 criteria for offering appropriate amounts of dark green and orange vegetables and legumes to children.¹⁵

How Do We Encourage Dry Bean Consumption by Children?

Interestingly, children like dry beans. General bean acceptability in children in one study was high, at 79 percent.¹⁶ The 79 percent acceptability included 67 percent who said they had "tried and liked" beans and 12 percent who were "willing to try" beans. Dishes with the highest acceptability were chili with beans and baked beans. The authors concluded that for children to consume more beans "familiarity may be an important consideration."

RDN Takeaway #3:

Children like dry beans, especially familiar dishes like chili and baked beans.

Helping children learn to like dry beans and consume them regularly is easier when parents understand the ways that children learn to like new foods and how food preferences and eating habits develop. Genetic differences impact children's predispositions to like sweet and salty tastes and to dislike sour and bitter tastes. Older babies and young toddlers tend to be neophobic, they avoid the new, in general, and they may avoid new foods.¹⁷

RDN Takeaway #4:

Children who eat dry beans are more likely to grow into adults who eat dry beans.

Genetic and developmental factors, however, can be modified by the experiences children have with food early in life.¹⁸ The way that parents approach feeding has a significant impact on the development of food preferences and eating habits. A negative experience with a food, such as a child being pressured or forced to eat it, decreases acceptance.¹⁹ Children learn to like most foods, even foods they initially reject, when the foods are offered repeatedly in a positive environment.²⁰ 

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About the Author

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DBQUICK BITE

Let's Move

Dale Thorenson, Washington, D.C. representative for the U.S. Dry Bean Council, recently met at the White House with “Let’s Move” Director Deb Eschmeyer. The topic of the meeting was promoting the consumption of pulse (dry bean) crops in the diet. Doug McKalip, director of the White House Rural Council, attended the meeting, as well.

“Let’s Move” is a program that provides schools, families, and communities with simple tools to help children be more active, eat better, and get healthier. Find out more at www.LetsMove.gov.

Smart Choice Recipes

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Parents, Try This Dish

By Sanna Delmonico

~ How to get your kids to eat more beans ~

1. Eat more dry beans yourself. Modeling healthy eating habits encourages those habits in children.
2. Learn to cook a variety of dry bean dishes. Children may not like everything, but they will find their favorites.
3. Give children the opportunity to see, try, and learn to like dry beans by serving them frequently at family meals and snacks.
4. Don't be discouraged when children don't like new foods right away. Familiarity makes it more likely that children will learn to like them. Keep cooking, serving, and eating new foods including dry beans. After a while, new foods aren't new anymore.
5. Try serving unfamiliar foods alongside a familiar food or flavor to increase acceptance. Try familiar celery sticks with red bean hummus, or familiar baked chicken with a side of stewed black beans.
6. Season beans with plenty of herbs, spices, and aromatic vegetables such as onions, shallots, and garlic, to boost flavor and add interest.

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