Let’s Hear it for Legumes!

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John C. Stalker Institute of Food and Nutrition
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Legumes: A Mixed Perception

Our consultants were wrong...hummus sells out at football game concessions. Mealtalkers, what variety of legumes, as vegetable, do you plan on serving once a week, THAT YOUR STUDENTS WILL EAT?

Beans and peas featured in many online food magazines and sites: Magic Beans, Budget Cooking, Super-Food, Anti-Aging.

Not to sound to negative, but the issue is acceptability with our students. Our kids love them!!!

Use of Legumes
Legume History

• Southeast Asia (11,000 BC): soy beans
• Mediterranean (6000 BC): lentils and chickpeas (the most widely consumed legume in the world)
• New World (6000 BC): lima, common bean (kidney, cannellini, etc)
• Northern Africa and Southwest Asia: broad beans (fava bean)
Importance of Legumes throughout History

- **Trade:** some areas used as money, traded throughout the world
- **Storage:** long shelf-life
- **Nutrition:** good source of protein, becomes a complete protein with an addition of grain
- **Agriculture:** only plant that puts nitrogen back into the soil
Popular Regional Bean and Pea Dishes

- Ranch-style beans (pinto)
- Refried beans (pinto)
- Mid-western chili (kidney)
- Lima Beans
- Boston Baked Beans (navy)
- Black-eyed peas
- Red beans and rice
Dry Bean Consumption in the US

Figure A-1
Percent of consumers reporting dry bean use on any given day

- All limas
- Black
- Navy
- Kidney
- Refried
- Pinto
- All beans

Source: Economic Research Service, USDA.

Figure A-4
U.S. population and dry bean consumption, by region

- Northeast
- Midwest
- South
- West

Source: Economic Research Service, USDA.

Use of Legumes
Lowest income consumed the most pinto beans and lima beans
Highest income consumed the most garbanzo bean and black beans
Know your Customer

Considering what our kids eat in Texas is WAY different than what they would eat in the rest of the US, as is the case with all states. If we served great northern beans, I wouldn’t be able to give them away. Pintos? Sure, bring ‘em on.

Young people are more open to suggestion when it comes to the type of food they eat.

Ethnic foods are increasing rapidly as part of the market.

Use of Legumes
Dry Bean Production in the U.S.

Types of Beans Produced
• Pinto--42 percent
• Navy (pea)--17 percent
• Black--11 percent
• Great Northern--5 percent
• Garbanzo (large chickpeas)--5 percent

State Bean Production
• North Dakota--38 percent
• Michigan--14 percent
• Nebraska--11 percent
• Minnesota--10 percent
• Idaho--7 percent
• California--4 percent
• Washington--4 percent
• Colorado--3 percent
Health Benefits of Legumes

- Weight Management: low calories and low glycemic index
- Heart Health: high in fiber, especially soluble fiber (helps lower cholesterol) AND contain no cholesterol and virtually fat free, low in sodium
- Cancer: folate and fiber help lower the risk of some types of cancer (colorectal, pancreatic)
- Protein: excellent source of plant protein that is low in fat and sugar
- Nutrients: provides iron, potassium, folate, and zinc
Economic Benefits of Legumes

- Cost: least expensive protein source: most protein per dollar
- Edible portion: Contains 90% solids (other meat contains 60-70%)
- Storage: Easy to store
- Versatile: takes variety of flavor, extends more expensive proteins
USDA Dry Beans and Peas

- Black beans
- Black-eyed peas, mature
- Garbanzo beans (chickpeas)
- Great Northern beans
- Kidney beans
- Lentils
- Lima beans, mature
- Navy (Pea) beans
- Pink beans
- Pinto beans
- Red beans
- Soybeans, mature
- Split peas

Use of Legumes
Dry refers to the bean being harvested dry, not to the purchase form of the bean. Many canned beans and peas are actually dry beans and peas that have been cooked and canned, and are therefore acceptable. Any fresh or frozen bean or pea does not qualify.
NOT Considered Dry Beans or Peas

- Bean sprouts
- Green beans
- Fresh soy beans (edamame)
- Wax beans
- Green peas
- Sugar snap peas
- Fresh lima beans
- Frozen baby lima beans
- Pigeon peas
- Field peas
USDA Meal Pattern

• Mature dry beans and peas are creditable in food-based menu planning as either a vegetable or meat/meat alternate component, but not as both components in the same meal.

• A school may offer two distinct servings of beans/peas (legumes) in one meal. For example, legumes may be offered as part of a salad (vegetable component) and as part of chili/bean soup (meat/meat alternate component).
Meat/Meat Alternate

• A ¼ cup of cooked beans equals one ounce of the Meat/Meat Alternate requirement. If with liquid, there should be more than ¼ cup of beans and liquid. The liquid does not count as beans.
Use the **Serving Description** to select the desired food item for your planned meal. For crediting, choose oz. for Meat/Meat Alternates (M/MA), cups for Vegetables/Fruits (V/F), or servings for Grains/Breads (G/B). Additional measures could be used for recipes or salad bars.

**Food Categories**

| Legumes, Dry Beans and Peas |

**37 Items Found for Legumes, Dry Beans and Peas**

- Bean Products, dehydrated, Refried Beans
- Bean products, dry beans, canned, beans baked or in sauce with pork
- Bean Products, dry beans, canned, beans with bacon in sauce
- Bean Products, dry beans, canned, beans with frankfurters in sauce
- Bean Products, dry beans, canned; Beans, Baked or in sauce, Vegetarian, includes USDA Foods
- Bean Products, dry beans, canned; Refried Beans, includes USDA Foods
- Bean soup, dry beans, canned, condensed, (1 part soup to 1 part water)
- Bean soup, dry beans, canned, ready-to-serve
- Beans, black, (Turtle beans), dry, canned, whole, includes USDA Foods
- Beans, black, (Turtle beans), dry, whole
- Beans, black, (Turtle beans), dry, canned, whole, includes USDA Foods
• Beans/Peas (Legumes) vegetable subgroup requires ½ cup serving per week.

• Schools can break up the subgroup requirement across the week provided the week’s menu as a whole meets the full subgroup requirements, AND each day the school offers the full daily vegetable minimum.

• The minimum creditable serving size for a fruit or a vegetable is ⅛ cup.
• A daily salad bar line that offers multiple vegetable subgroups every day may be used as a way to meet the weekly vegetable subgroup requirement if the salad bar is available to all children each day and offers all of the required weekly subgroups over the course of the week.

*USDA Salad Bars in the National School Lunch Program Memo,
Food Buying Guide for Child Nutrition Programs

VEGETABLES

BEANS and PEAS (LEGUMES)

<table>
<thead>
<tr>
<th>Section 2 - Vegetables – Beans and Peas (Legumes)</th>
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<tr>
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<tr>
<td><strong>BEANS, BLACK (TURTLE BEANS)</strong></td>
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<tr>
<td>Beans, Black (Turtle beans), dry, canned</td>
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<tr>
<td></td>
</tr>
<tr>
<td>Beans, Black (Turtle beans), dry</td>
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<tr>
<td>Whole</td>
</tr>
<tr>
<td><strong>BEANS, BLACK-EYED (or PEAS)</strong></td>
</tr>
<tr>
<td>Beans, Black-eyed (or Peas), dry</td>
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<tr>
<td>Whole</td>
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<tr>
<td>Beans, Black-eyed (or Peas), dry, canned</td>
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**Food Categories**

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- Bean soup, dry beans, canned, condensed, (1 part soup to 1 part water)
- Bean soup, dry beans, canned, ready-to-serve
- Beans, black, (Turtle beans), dry, canned, whole, includes USDA Foods
- Beans, black, (Turtle beans), dry, whole
- Beans, black-eyed (or peas), dry, canned, whole, includes USDA Foods
- Beans, black-eyed (or Peas), dry, whole, includes USDA Foods
- Beans, Black-eyed (or Peas), fresh, shelled
Perceptions that Prevent Legume Use

• Produces gas
• Difficult and time consuming to prepare
• Poor student acceptability
• Considered a low-income food
• Not sure how to incorporate legumes into the current menu
• Not enough time to try new recipes and do taste testing
Decreasing Gas

• Eat legumes more often
• Drain and rinse canned beans
• Soak beans a minimum of 3 hours (8-12 is better). Change soaking and cooking water 2-3 times.
• Sprout beans by soaking them 2-3 days, changing the water frequently
Preparing Dry Beans
Preparing Dry Beans and Peas
Dry Beans

Red Beans: used in bean burritos, bean tostadas, nachos frijoles, soups, salad bar choice, marinated salads, and main dishes or side dishes such as vegetarian beans or baked beans
- pinto
- pink beans
- light red kidney
- dark red kidney
- red beans
- pea beans
- black beans

White beans: used in soups, salads, salad bar choice, or served as a vegetable
- navy
- small white
- great northern
- cannellini (white kidney bean)
- garbanzo (chickpeas)
Peas and Lentils

Peas are round: used in side dishes, salads, casseroles, and soups
• black-eyed peas
• split peas

Lentils are flat disks: used in soups and salad
• green
• red
• yellow
• black
Tips for Preparing Dry Beans and Peas

- Do not add soda because it destroys thiamin
- Be careful with acidic ingredients like tomatoes, molasses, brown sugar, and ketchup
Dry Beans: Quick Soak

Use of Legumes
**Quality Score Card for Dry Beans and Peas**

**Date:** ____________  
**Name of Menu Item:** ________________________________

**Proudly Prepared by:** ____________________________________________

**Quality Scored by:** ____________________________________________

**Directions:** When the food is ready to serve, use this Quality Score Card to evaluate the quality. Mark **YES** when the food meets the standard and **NO** when it does not. Mark **NA** (Not Applicable) when a specific quality standard does not apply to the food being evaluated. Use the **COMMENTS** section to explain why a food does not meet a standard.

*Remember, if a food does not meet the quality standards, it should not be placed on the serving line.*

<table>
<thead>
<tr>
<th>Quality Standard</th>
<th>Yes</th>
<th>No</th>
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<th>Comments</th>
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<tr>
<td><strong>Appearance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product appears moist, but not watery.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>Beans or peas retain their shape.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>No oil or fat is visible.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td></td>
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<tr>
<td><strong>Texture or Consistency</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product has a soft texture.</td>
<td>○</td>
<td>○</td>
<td>○</td>
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</tr>
<tr>
<td>Product is moist, not dry.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td></td>
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<tr>
<td>Product gives little resistance to bite.</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td><strong>Flavor and Seasoning</strong></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Flavor is distinctive for the specific</td>
<td>○</td>
<td>○</td>
<td>○</td>
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</tbody>
</table>

**Use of Legumes**
Sodium Reduction

- Decreased 36% by draining
- Decreased 41% by draining and rinsing
Lentils

• Quick cooking 10 minutes – 1 hour
• Similar protein, fiber, and other nutrients as dry beans and peas
Popular Choices in Schools

Use of Legumes

Pinto bean and cheese quesadilla
Baked beans
Black bean and corn salsa
Black eyed peas
Spinach dahl with red lentils
Beans in pasta dishes
Refried beans and cheese
Breakfast burritos
Black bean soup
Red beans and rice
Meatless chili
Cuban black beans
Hummus
Bean burrito
Navy bean soup
Pinto bean and cheese quesadilla

Use of Legumes
Recipe Resources

Menu Planning > Beans >

Recipes

Bean Recipes
Browse through these quantity bean recipes for schools and child care, from the Recipe Finder Database.

Vegetarian Quantity Recipes
The Vegetarian Resource Group.
A listing of quantity vegetarian recipes featuring beans.

Michigan Bean Commission Recipes
The Michigan Bean Commission.
Database of bean recipes, which would need to be adjusted to meet the desired serving size.

Beans
US Dry Bean Council.
Collection of bean recipes, including appetizers, breakfast dishes, wraps, side dishes, soups and chilis, breads and desserts, salads, and main dishes.

Idaho Bean Commission Recipes
Idaho Bean Commission.
Database of large quantity and family-size bean recipes.

Use of Legumes
Recipe Finder

Find standardized recipes, quantity recipes, USDA recipes, recipes from industry and more. You may even discover new ways to use commodity foods!

View search tips for more information.

50 record(s) found.

<table>
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<th>Recipe Name</th>
<th>Servings (Small)</th>
<th>Servings (Large)</th>
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<td>Baja Bean Tacos</td>
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<td>Baja Bean Tacos</td>
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<tr>
<td>Bean and Barley Soup</td>
<td>50 Servings</td>
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<tr>
<td>Bean and Macaroni Soup</td>
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<td>Bean and Rice Burrito</td>
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<td>Bean and Vegetable Quesadilla</td>
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<td>Bean Burrito D-21A</td>
<td>25 Servings</td>
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<tr>
<td>Bean Dip G-02</td>
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<td>50 Servings</td>
<td>Yes</td>
</tr>
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</table>

Use of Legumes
Use of Legumes
More Legumes in School Meals!

- Consider dishes you already serve
- Share recipe ideas
- Make/read comments on recipe resources
- Look to ethnic foods
- Use as an extender in entrees (lasagna, sloppy joes, etc.)
- Use on your salad bar
- Puree for dips or to thicken soups
Marketing Your Legumes

- Use eye-catching and mouth watering names in your menus such as: Rockin’ Red Beans and Rice, Hearty Black Bean Chili, or Hip Hummus
- Create visual appeal with line placement and presentation
- Use theme days, like Meatless Monday or Ethnic/Cultural Celebrations
- Classroom Connection
- Keep trying!
Resources


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http://johnstalkerinstitute.org/blog/jsi-resource-center/use-of-legumes/

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