

# Harvest of the Month



## BEANS

### Language Links

**English:** beans

**Scientific Name (Latin):**  
*Phaseolus vulgaris*

**Spanish:** los frijoles, los porotos

**Hmong:** taum

### Local Highlight

Dry beans grow best on deep loamy soils that are low in clay and prefer low humidity. The primary growing areas in California are the Sacramento and northern San Joaquin valleys. We have a couple farmers producing dry beans in Humboldt County: Earthly Edibles in Korbel and Rain Frog Farm near Blue Lake.

### Joke Corner

What kind of bean cannot grow in a garden?

A jelly bean.

Knock Knock!

Who's there?

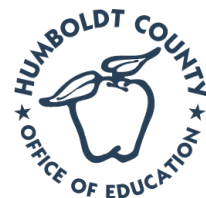
Bean.

Bean who?

Bean a while since I last saw ya!



HUMBOLDT COUNTY OFFICE OF EDUCATION  
Nutrition Programs & Services



# BEANS



## Nutrition Power

Beans are a great source of protein and minerals like iron.



**Protein**  
helps you build  
strong muscles!



**Iron**  
helps your blood  
carry oxygen!

## Did You Know?

- ❑ Plant part we eat: SEED
- ❑ Beans are in the legume family. In addition to beans, legumes include flowering plants such as peas, peanuts, lentils, and soybeans.
- ❑ Beans originated from Central and South America. Beans, corn, and squash are grown together in the ancient Indigenous planting method called the “three sisters.” See information about corn for more details.
- ❑ Beans form inside of pods (the fruit of the plant) that split along the sides when they are mature.
- ❑ Beans are very diverse! Snap beans (green beans, wax beans) have an edible pod and are harvested before they are mature. They can be eaten raw or cooked. Dry beans (black beans, kidney beans, pinto beans) are varieties that are bred to be harvested at full maturity after totally drying, when the seeds are rattling around in their pods. Some dry bean varieties can also be harvested before fully mature and dry.
- ❑ The leaves of bean plants tilt to follow the sun throughout the day! At night they fold up.
- ❑ More than 50 varieties of beans are grown in California, and at least 13,000 varieties worldwide! They come in many shapes, sizes, and colors.



# BEANS

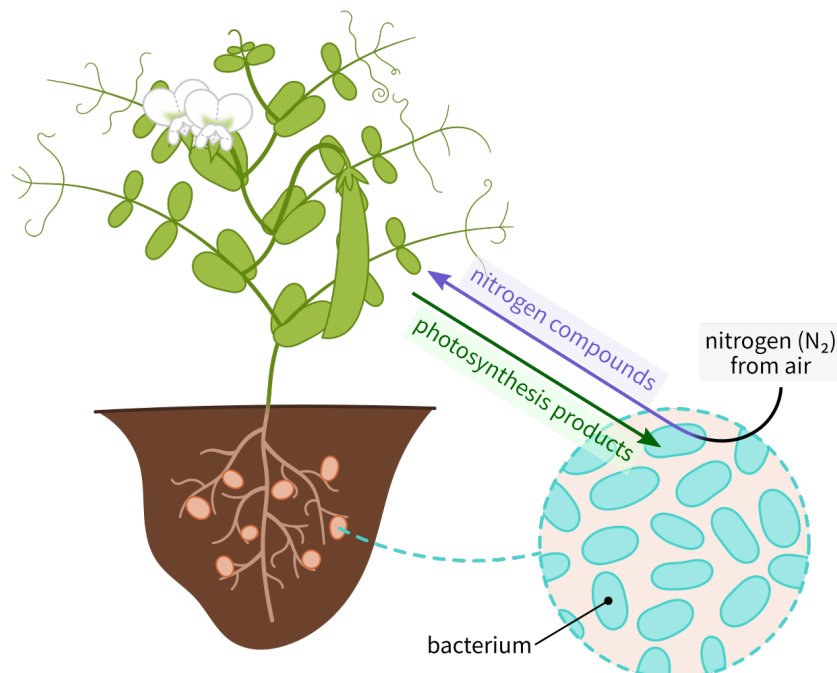


## Legumes and Nitrogen

Plants need nitrogen to grow. It is a core nutrient that plants use to make chlorophyll and to put on green, leafy growth. Specifically, plants need a form of nitrogen that they can absorb through their roots, called ammonia. The air we breathe has a lot of nitrogen gas, but plants can't use it. Legumes, like beans, are special plants because they can turn the nitrogen that is in the air into the type that plants can absorb. They don't do it alone though!

Legumes have a symbiotic relationship with a bacteria that lives in the soil called Rhizobia. The bacteria enters the roots of the legume plant and multiplies, forming little bumps called nodules. Inside the nodules, the bacteria transform the nitrogen that is in the air into ammonia and give it to the plant. This process is called "fixing." In return, the plant gives sugars and carbon to the bacteria.

This means that legumes can grow in poorer soils than other plants. It also means that gardeners can grow legumes as a way to make their soil healthier! In the fall, legumes such as fava beans can be planted as a cover crop. The plants grow through the winter, fixing nitrogen and protecting the soil. Then in spring the plants can be chopped down and incorporated into the soil (or composted for incorporating later). After the plants break down, all of the nitrogen that was fixed and taken up by the legume plants will be available for other plants to absorb. Green manure! It is best to chop down the plants as they start to flower, before going to seed.

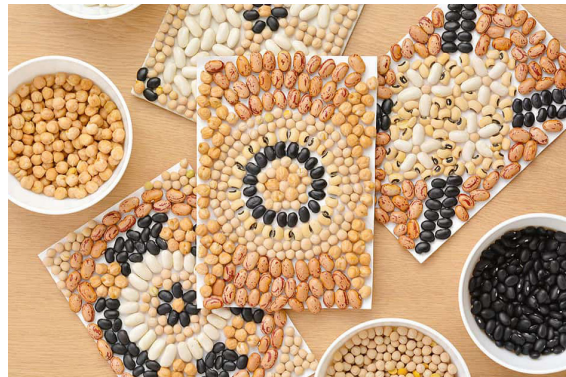


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## Activity Ideas

1. If you have any winter cover crop in your garden that includes fava beans, dig up a plant or two, wash off the roots, and look for nodules. They will look like clusters of white or pinkish bumps.
  - Look at the nodules with magnifying lenses. Squeeze one open and observe the color.
  - Talk about how the bacteria and the plant help each other, and how we use cover crop to add nitrogen to the soil.
  - If the timing is right with plant maturity and weather, start chopping down the plants!
2. Observe, classify, and identify seeds and seed parts. Refer to the "Seedy Character" activity in the All About Plants section of *The Growing Classroom* by Life Lab for a lesson plan. Students will dissect soaked bean seeds as part of the activity!
3. Grow beans in a jar to observe seed growth! Refer to the "Growing, Growing, Gone" activity in the All About Plants section of *The Growing Classroom* by Life Lab for a lesson plan.
4. Have old bean seeds? Make seed mosaics!



## Tasting

- Compare a variety of canned beans to the same variety cooked from dry form.
- Combine black beans, frozen corn (thawed), avocado and lime juice for a delicious salad.
- Make a bean dip.