

Anti-Inflammatory Diet

Legumes, Pulses, Nuts, & Seeds



Legumes & Pulses

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Legumes & Pulses

Domesticated around 8,000 BCE in Middle East- chickpeas, peas, lentils, fava

and in 2000 BCE Mesoamerica- one of the “Three sisters” (maize & squash)- these were the *common beans*- black, kidney, green/wax etc

High in protein, an alternative when animal protein is in low supply

Decrease greenhouse gasses, use less water compared to other crops

Legumes

Oilseed Legumes

Higher fat and calorie content



- Soybeans
- Peanuts



Fresh Legumes

Eaten as fresh vegetables



- Fresh beans
- Fresh peas/pods



Pulses

*Dried, edible seeds of grain legumes;
low-fat, high-fiber, high-protein*

Common beans

*A type of pulse;
many varieties*

- Black beans
- Pinto beans
- Kidney beans



Lentils



Dry peas



Chickpeas



Types of Legumes

- ❖ Pinto
- ❖ Black
- ❖ Black-eyed
- ❖ Kidney
- ❖ Adzuki
- ❖ Lima
- ❖ Mung
- ❖ Wax bean
- ❖ Green bean
- ❖ Garbanzo/Chickpea
- ❖ Lentils: Red, green, yellow
- ❖ Soy/edamame
- ❖ Split peas
- ❖ Snow peas
- ❖ Sugar snap peas
- ❖ Peanut
- ❖ Tamarind
- ❖ Mesquite



They're Tiny, What's the Big Deal?

❖ Nutrition:

good source of protein and carbohydrate (30% is fiber – HIGH!), rich in potassium, magnesium, zinc, iron, folate

Per half cup serving (average of most beans):

- 115 calories
- 8g protein
- 20 g carbohydrate
- 8g fiber
- <1g fat

Did you know?

Mediterranean diet pattern recommends to eat 1.5 cups of dry beans per week

They're Tiny, What's the Big Deal?

❖ Health:

- Phytochemicals, saponins, tannins - lower risk for **heart disease** and **cancer** with antioxidant properties
- Improve lipids (**cholesterol**), **blood pressure**, **inflammation**
- Lower glycemic index than grains- better replacement in diets for **diabetes**
- Support healthy gut microbiome – important part of **immune system**
- Promote good colon function, decrease risk of **diverticulosis** (but avoid during a diverticulitis flare up)

Beans in place of meat?

Yes, plants can replace meat in diet

1 protein equivalent =

- ¼ cup of dry beans
- ½ ounce of nuts
- 1 Tbsp nut butter
- 1 ounce of cooked animal flesh
- 1 egg

- How do I know if I've had enough protein?

1. count number of 1 ounce equivalents of all protein foods

2. if it meets the recommended daily amount for you – you're set!

Protein Oz- eq per day	30-59	60+
Women	5-6	5-6
Men	6-7	5.5-6.5

Beans, beans, the magical fruit. . .

Do beans really cause more gas?

- **Yes:**

- High fiber and fermentable sugar (oligosaccharide) that is partially undigestible can cause gas production in large intestine
- Human intestine lacks the enzyme to break down beans, but it can be supplemented – alpha-galactosidase (Beano)- right before a bean-rich meal (caution with diabetes and galactosemia)

- **No:**

- Our guts adjust quickly to changes in diet
- Add beans gradually
- Make sure beans are properly cooked
- Drink water or light herbal teas



Snap

vs



Shell

vs



Dry

❖ Edible shell

- ❖ Sugar snap peas
- ❖ Snow peas
- ❖ Green

These can be eaten raw or cooked, they are immature protein sources so low in lectins

❖ Non-edible shell

- ❖ Edamame
- ❖ Shell peas
- ❖ Beans that need to be shelled

❖ No shell, just the bean

- ❖ Pinto, black, split peas
- ❖ Lentils
- ❖ Buy canned/bulk/bagged

How to Cook Dry Beans

Bean (1 Cup)	Water (Cups)	Stovetop Cook Time (Hours)
Black	4	1 ½
Black-eyed peas	3	1
Garbanzo	4	3
Great northern/Canellini/Navy	3 ½	2
Kidney	3	1 ½
Lentils	3	15 minutes
Pinto	3	2 ½
Peas	3	45 min

1. Lay beans on a table and sort beans to remove any rocks or shriveled beans. Sort into a colander.
2. Rinse with water.
3. Soak in large bowl with plenty of water for min 5 hrs or overnight (no refrigeration needed)
4. Drain the soaking water and rinse again. Transfer to a large pot of lightly salted water, cover, and bring to a boil.
5. Boil for 90 minutes to 3 hours (see chart) depending on the type of bean. Add water as needed if dry.
6. Let beans finish cooking to desired tenderness.

Be safe, cook it properly!

Beans (and grains) have a natural lectin compound called phytohemagglutinin (pronounce PHYTO- HEMA- GLUTIN-IN)

– a protein that binds to carbohydrates, it causes red blood cells to clump together.

It is the highest in red kidney beans, cannellini, and in smaller amounts in other beans

It is deactivated by soaking beans for 5 hours, then boiling beans in fresh water (212F) for at least 30 minutes.

While you can pressure cook beans for 45 minutes without presoaking,

DO NOT SLOW COOK YOUR RAW BEANS!

Poisoning can occur after eating just a few raw beans – nausea, vomiting, diarrhea; Recovery typically within 3 hours from ingestion



Using Beans

- ❖ 1 serving = half cup of cooked beans
- ❖ By itself: as a hot side or bean salad with vinegar
- ❖ Add to green salads or soups for extra protein
- ❖ Use to “stretch” ground meat in meatloaf, burgers, meatballs, meat sauce etc
- ❖ Use in place of meats in stuffing: burritos, tacos, egg rolls,
- ❖ Puree/mash for a creamier texture for refried beans and hummus/bean dip
- ❖ Buy pasta or crackers made with pulse flour
- ❖ Rinse canned beans to remove most salt
- ❖ Flavor with spices like garlic, onion, cumin, paprika, ginger, and herbs: cilantro, chives, basil, etc.
- ❖ Add healthy fats like olives/olive oil, avocados, or sesame butter (tahini)



Storing Beans

- ❖ Dry beans can be stored in cool dark place for months
- ❖ To store cooked, don't need to drain the liquid
- ❖ Keep refrigerated for 4 days for best flavor, but discard after 7 days
- ❖ Keep frozen cooked beans in airtight containers for <3 months for best quality
- ❖ Can be split into 1 or 2 cup portions (using 1-cup measuring cup) into freezer bags



Did you know?



Beans have been used in divination in ancient times

FAVOMANCY – fortune telling using beans/peas

Half-Cup Habit

- 4-week challenge to add more to your diet
- Add 1½ cups of pulses (dried beans, peas, lentils) per week
- Pick 3 days of the week to add ½ cup of pulses to your meal
- Check out usapulses.org for recipes, cooking tips, and storage guides
- Check out the website for more information on the challenge

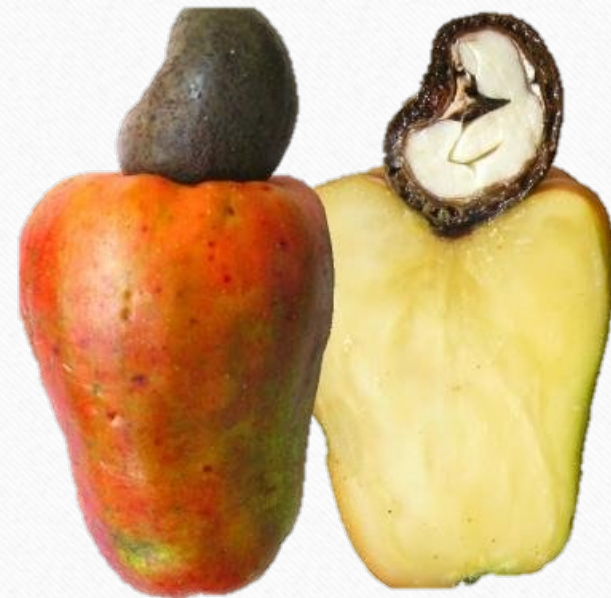


Nuts

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What Are They?

- ❖ Different from beans:
 - ❖ Nuts are fruits vs beans are seeds
 - ❖ Nut's seed is not attached to shell
 - ❖ Rich in fats
- ❖ Botanically, some aren't true nuts
 - ❖ Acorn = true nut



Types of Nuts

❖ Beech

❖ Chestnut

❖ Hazel

❖ Filbert

❖ Acorn

❖ Almond

❖ Walnut

❖ Pistachio

❖ Pecan

❖ Brazil

❖ Cashew

❖ Macadamia



A Fistful of Nuts

Nutrition

- ❖ Good source of fat, fiber and protein
- ❖ Most of fat is in unsaturated form – MUFAs and PUFAs (source of Omega 3)
- ❖ Source of magnesium, potassium, iron, vitamin E, B-vitamins
- ❖ Per 1 oz serving
 - ❖ 160-200 calories
 - ❖ 1-3g fiber

Health

- ❖ Better snack option than processed foods, chips, crackers or refined cereals – may help lower LDL
- ❖ 1 oz of nuts can count as an equivalent of 1 oz of meat
- ❖ Drink in place of milk, but does not replace it equally
- ❖ Diets rich in nuts and seeds found to protect against cancers, heart disease, degenerative nerve disease
- ❖ High vitamin E content promotes cell membrane integrity and skin health

A Fistful of Nuts

Considerations

- ❖ Avoid rancid/over-heated → Pro-inflammatory
- ❖ Some nuts are toxic – bitter almonds, horse chestnuts – avoid completely and supervise children and pets
- ❖ GI issues if eaten in large quantities with skin on
- ❖ Allergies in some people
- ❖ Pricey

Plant-Based Milks

- ❖ Dairy free
 - ❖ Good for dairy allergy
 - ❖ Good for lactose intolerance
- ❖ Many made using nuts, grains, and seeds
- ❖ Some are fortified (Calcium, D₃)
- ❖ Contain varying nutrient profiles
 - ❖ Read the label if looking for something specific
- ❖ Choose unsweetened
 - ❖ Flavors or “Original” may have added sugars, “natural flavors”

Quick Tips

- ❖ Crush and add to yogurt
- ❖ Add to oatmeal
- ❖ Make your own trail mix
- ❖ Add to blender with smoothies
- ❖ Powder and add to flours
- ❖ Crush and add to baked goods
- ❖ Add to salad
- ❖ Make nut butters
- ❖ Add to stir-fry (Kung-Pao)
- ❖ Mill to encrust tofu, fish, chicken breast
- ❖ For tasty dip: Process with roasted red peppers, garlic, salt and pepper until creamy
- ❖ Peanut (or any nut) sauce
- ❖ Meatless meatballs...?



Seeds

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What are Seeds?

- ❖ Beans and nuts and grains
- ❖ High in protein and fat
- ❖ Some used as spices
- ❖ Often have a protective cover



- ❖ Flax
- ❖ Sunflower
- ❖ Sesame
- ❖ Chia
- ❖ Pumpkin
- ❖ Coriander
- ❖ Cumin
- ❖ Poppy
- ❖ Hemp
- ❖ Mustard
- ❖ Celery



Tiny Tips for Satisfying Seeds

- ❖ Add to smoothies
- ❖ Sprinkle on salads
- ❖ Mix with doughs/batters
- ❖ Mill to make powder
- ❖ Roast with spices
- ❖ Add to stir-fry
- ❖ Add to yogurt
- ❖ Add to oatmeal/cereal
- ❖ Use seed butter if allergic to nuts
- ❖ Chia pudding with your choice of milk, vanilla extract, and toppings



Trivia time! Is coffee bean a real bean?

- Not at all!!! Coffee is a seed of coffee plant fruit,
- There are only 3 varieties of coffee in the world:
 - Arabica- the most popular one thanks to it's great taste
 - Robusta – higher in caffeine, but harsher in flavor
 - Liberica – very rare, lower in acid, more fruity, and least bitter of the three
- The fruit itself is called a cherry, and can be harvested, dried and brewed into a delicious tea-like beverage called cascara



Thank You

Did your questions for today's topic get answered?

What kind of recipes might you try using beans,
nuts, seeds?

What will be challenging or a barrier to trying some
of today's recipes?