

HEALTHY PLANT-BASED COOKING SERIES

EAT PLANTS, FEEL FULL! USING PLANT-BASED EATING TO CURB APPETITE and MAXIMIZE METABOLISM

Vince Alvarez, RD; Chris Heslin, MS CNS



Objectives for this class:

- Understand how proper blood sugar management can maximize satiety and help curb hunger.
- Discuss the major role that protein, fat, and fiber play in managing blood sugar and hunger.
- Understand the advantages of harnessing protein, fat, and fiber from plant sources rather than animal sources.
- Know the difference between “complete”, “incomplete” and “complementary” proteins.
- Dispel some common myths regarding various plant protein sources.
- Learn about some of the healthiest carbohydrate sources on the planet: beans, legumes and pulses.
- Explore a variety of methods of incorporating healthy plant-based proteins and fats into your daily diet through five delicious plant-based recipes.
- Practice mindfulness while tasting the healthy creations.
- Have FUN!

The only meal plan one can stay on is one in which you are well fed and satiated.

Blood sugar management, weight management and health... what's the connection?

Why Plant-Based Eating?

Aside from being better for the environment and kinder to animals, there are many reasons why a plant-based way of eating can support overall health. Here are a few of the major ones:

- Higher levels of unsaturated fat versus saturated and trans-fats.
 - Improves cholesterol levels.
 - Less inflammatory.
- Higher in antioxidant and anti-carcinogenic compounds.
 - Enhanced immunity.
 - Elimination of oxidative stress from free radicals.
- High in whole, intact, soluble and insoluble fibers.
 - Promotes satiety and blood sugar management.
 - Can lower LDL cholesterol.
 - Prebiotic, which enhances the health of the gut micro biota (aka healthy gut bacteria).
 - Adds volume to food while cutting calories.

Understanding Order of Absorption

While it's important for everybody to eat the right nutrients in the right amounts, it's perhaps even more important to combine these nutrients in a manner at every meal and snack in order to avoid spikes in blood sugar. To accomplish this, we must first understand that different nutrients are absorbed into the blood stream at different rates. Fat and protein are absorbed much more slowly than carbohydrates. High-fiber carbohydrates are absorbed slower than refined, processed and sugary ones.

Absorption speed of Nutrients

Fast



Slow

Nutrient	Plant-Based Examples
Simple Carbohydrates	Sugars, fruit juices, refined grains.
Complex Carbohydrates	Whole vegetables and fruits, whole grains, beans, legumes and pulses.
Proteins	Whole grains, beans, legumes, pulses, soybeans.
Fats	Oils, nuts, seeds, avocado.

The Power of Plant Protein

There has long been the notion that humans must consume animal based foods in order to get adequate, high-quality protein. However, with the increasing numbers of healthy vegetarians, it is evident that this myth has been successfully debunked. Even though from a bioavailability standpoint animal proteins tend to be higher quality, there are several high quality plant proteins as well. To understand how to use plant proteins in the most effective manner, we must first explore the concept of complete versus incomplete proteins.



Proteins are made from building blocks called **amino acids**. There are nine essential amino acids that the body cannot synthesize and, therefore, must be obtained from food.

Complete proteins are proteins that contain all nine of the essential amino acids and are sometimes referred to as high-quality proteins. All animal-derived foods like meat, dairy and seafood are complete proteins. Plant-based complete proteins include soy, quinoa, buckwheat, chia and hemp seed, mycoprotein (marketed as “quorn”) and spirulina.

Incomplete proteins are proteins that lack significant amounts of one or more of the nine essential amino acids. They are often referred to as lower-quality proteins. Plant foods (with the exception of those listed above) are incomplete proteins and would pose a threat for deficiency if one had to live off of only one of these foods. This is common in poor countries where rice, or a single other grain like wheat, is the staple and the only food consumed.

Complementary proteins are two incomplete protein sources that compensate for each other's inadequate supply of specific essential amino acids. Examples of complementary proteins are beans and grains, or beans and nuts or seeds. Contrary to popular belief, complementary protein sources do not have to be eaten at the same meal to complement each other.

Plant Fats Rule!



All fats have the following common properties:

- They provide nine calories per gram.
- They are composed of three fatty acids attached to a glycerol backbone and are referred to as **triglycerides** (the form in which they are transported throughout the body in the blood).
- They require bile for absorption in the small intestine.

All fats, however, are not created equal in structure and in what they do once in your body. Here's a breakdown of the three major categories that fats fall into:

Unsaturated fats are predominantly found in foods from plants, such as vegetable oils, nuts, and seeds, and are called healthy fats because they ease inflammation, stabilize heart rhythms, can improve blood cholesterol levels, and play a number of other beneficial roles. Unsaturated fats are liquids at room temperature and can raise levels of HDL (aka "good") cholesterol in the body.

There are two types of unsaturated fats:

1. **Monounsaturated fats** are found in high concentrations in olive and canola oils, avocados, nuts such as almonds, macadamias, hazelnuts, and pecans, and seeds such as pumpkin and sesame seeds.
2. **Polyunsaturated fats** are found in high concentrations in sunflower, corn, soybean, and flaxseed oils, and also in foods such as walnuts, flax seeds, and fish. These food sources also contain the essential fatty acids omega-3 and omega-6, which the body can't make; they must come from food. The typical American diet is higher in omega-6 (grains, peanut oil, grain-fed animals) than omega-3 (fish, chia seeds, flax seeds, walnuts, and oils such as flaxseed, canola, and soybean). This imbalance may promote inflammation as omega-6s are used by the body to produce needed inflammation, whereas omega-3s are used to clear inflammation.

Saturated fats, which are found predominantly in animal-derived foods and tropical plant oils (coconut and palm), are needed for various functions in the body including energy, organ support, hormones and cell membrane signaling to name a few. The liver uses saturated fats to build LDL (aka *bad*) cholesterol. Diets high in saturated fats can raise LDL cholesterol levels and, therefore, should be limited. The body can manufacture saturated fats from extra carbohydrate and protein, as well as other fats.

Trans fats are the unhealthiest of fats and are found only in small amounts naturally in meat and dairy products. They are more commonly found in junk foods containing partially hydrogenated oils, such as fast food, pastries, and sweets with icing. When ingested, these fats increase LDL, decrease HDL, increase blood triglycerides and, perhaps most importantly, promote systemic inflammation, which is believed to be the foundation for heart disease. It is recommended by nearly all health agencies that these fats be avoided if possible.

Facts about Fiber

Dietary fiber, also known as roughage or bulk, includes all parts of plant foods that your body can't digest or absorb. Unlike other food components such as fats, proteins, or carbohydrates that your body breaks down and absorbs, your body doesn't digest fiber. Fiber passes virtually unchanged through your stomach and small intestine and into your colon. In general, the best sources of fiber are found in fruits, vegetables, beans and whole grain breads and cereals.

The average person in the United States consumes about 10 to 14 grams of dietary fiber daily. Experts recommend that the average adult consume 25 to 35 grams per day. High fiber foods usually contain fewer calories than many low-fiber foods. Meat, milk, eggs, fats, and oils are virtually devoid of fiber. By increasing the fiber content of your diet, you can feel more full and satisfied while eating more food and less calories!

Fiber is often classified into two categories: those that don't dissolve in water (insoluble fiber) and those that do dissolve in water (soluble fiber).

- **Insoluble fiber:** This type of fiber promotes the movement of material through your digestive system and increases stool bulk, so it can be of benefit to those who struggle with constipation or irregular stools. Whole-wheat flour, wheat bran, nuts and many vegetables are good sources of insoluble fiber.
- **Soluble fiber:** This type of fiber dissolves in water to form a gel-like material. It can help lower blood cholesterol and glucose levels. You can find generous quantities of soluble fiber in oats, peas, beans, apples, citrus fruits, carrots, barley and psyllium.

A high-fiber diet has many benefits, which include:

- Prevents constipation. Dietary fiber increases the weight and size of your stool and softens it. A bulky stool is easier to pass, decreasing your chance of constipation. If you have loose, watery stools, fiber may also help to solidify the stool because it absorbs water and adds bulk to stool.
- Lowers your risk of digestive conditions. A high-fiber diet may lower your risk of specific disorders, such as hemorrhoids, irritable bowel syndrome, and the development of small pouches in your colon (diverticular disease).

- Lowers blood cholesterol levels. Soluble fiber found in beans, oats, flaxseed, and oat bran may help lower total blood cholesterol levels by lowering low-density lipoprotein (LDL), or *bad*, cholesterol levels.
- Controls blood sugar levels. Fiber, particularly soluble fiber, can slow the absorption of sugar, which for people with diabetes can help improve blood sugar levels. A high-fiber diet may also reduce the risk of developing type 2 diabetes.
- Aids in weight loss. High-fiber foods generally require more chewing time, which gives your body time to register when you're no longer hungry, so you're less likely to overeat. Also, a high-fiber diet tends to make a meal feel larger and linger longer, so you stay full for a greater amount of time. And high-fiber diets also tend to be less energy dense, which means they have fewer calories for the same volume of food.

Legumes, Beans, Pulses: True Fiber Powerhouses

Legumes are a plant in the legume family Leguminosae, also called Fabaceae, that produce pods. The seed or fruit of these plants are also referred to as legumes. Beans refer to the edible dried seeds from legume plants, which are also referred to as pulses. Legumes, beans and pulses are a great source of protein, fiber, iron, B vitamins, magnesium, phosphorous, and potassium... and definitely fall in the category *superfoods*.

Sprouting makes beans and pulses more digestible and improves their nutrient profile. However, sprouted beans can result in bacteria overgrowth like e.coli, which can lead to a foodborne illness. See the following table for a list of common legumes, beans, and pulses, as well as their protein and fiber content.

List of Legumes, Beans, Pulses – Protein and Fiber Serving Size = 1 cup cooked

	Protein (g)	Fiber (g)
Lentils	17.9	15.6
Black Beans	15.3	15
Split Peas	16.3	16.3
White Beans	17.4	11.3
Fava Beans	12.9	9.2
Kidney Beans (Red Beans)	15.3	13.1
Lima Beans	14.7	13
Mung Beans	13.6	15.4
Blackeye	13.2	11.1
Pinto Beans	15.4	15
Navy Beans	15	19.1
Adzuki	17.3	13.2
Garbanzo (Chickpeas)	14.5	12.5
Edamame	17	8
Soy Bean	28.6	10.3

Preparing Legumes, Beans, and Pulses

Step One: Spread a handful of beans out on a white plate and sort through them discarding any shriveled or discolored bean or any debris.

Step Two: Dried beans and pulses, with the exception of lentils, split peas and black-eyed peas, need to be rinsed and soaked. This process gets rid of anti-nutrients like phytic acid and makes the beans' nutrients more bioavailable. Depending on the bean, a general rule is to soak the beans overnight. In a large stockpot, place 2 to 3 cups of water over 1 cup of rinsed beans and let sit overnight on your kitchen counter. The next morning you can discard the water and rinse them again. If flatulence is a problem, then soak them again for 4 to 8 hours, then rinse.

Step Three: In a stockpot bring 1 ½ cups of water for every 1 cup of beans to a boil, then add the dried beans and bring back to a boil. Once to a boil, lower the heat to a simmer and cook for 30 to 45 minutes or more depending on the bean. Check periodically for doneness. The bean should be easily smashed using your fingers when done. Add salt to taste only at the end of cooking, since adding it too early will cause the beans to toughen. Add a variety of ingredients like seasonings and spices according to the recipe.

5 Plant-Based Recipes to Maximize Satiety Using Protein, Fat and Fiber

1. Hearty and Healthy Hummus

This recipe is a perfect blend of protein, fiber, and healthy fats. Enjoy as a dip for your favorite vegetables or as a spread for your sandwiches or wraps. It's simple and easy!! Enjoy.

Ingredients

1 (15 ounce) can garbanzo beans (save liquid) or 2 cups fresh beans
1-2 garlic clove, crushed
1 tablespoon fresh lemon juice
1 tablespoon tahini
1/2 cup plain non-fat greek yogurt
3/4 teaspoon salt
1/2 teaspoon cumin
1 pinch: cayenne, sweet paprika, minced parsley
Drizzle of extra virgin cold pressed olive oil



Directions

1. In a food processor combine yogurt and tahini first so they don't stick to the lid, then add beans, garlic, cumin, cayenne, and lemon juice. Blend well. Add salt to taste, blend to a smooth and creamy dip.
2. If your hummus is too thick, add a little bit of the liquid from the garbanzo beans, about a teaspoon at a time to improve consistency.
3. Serve in a shallow bowl, spread the hummus evenly and garnish with paprika, drizzle of olive oil, and minced parsley leaves.

Notes:

2. Very Veggie Chili



This chili is easy to prepare and is a good source of protein, fiber, vitamins, and phytonutrients. Adding beans and legumes to your diet is a good way to decrease your risk of heart disease, diabetes and certain cancers. Serve with quinoa or brown rice and include a dark green leafy salad.

Ingredients

- 1 1/2 cup water
- 1 tablespoon avocado oil
- 1/2 large onion, finely chopped
- 2 stalks celery, finely chopped
- 1 large carrot, finely chopped
- 6 garlic cloves, minced
- 1 green bell pepper, finely chopped
- 1 chopped and crushed tomatoes
- 15 ounce can each of: black beans, great northern beans, red beans
- 1 teaspoon cumin seeds
- 2 tablespoons chili powder

Directions

Add avocado oil to heated stock pot, add celery, onions, carrots, and cumin seeds. Sauté for 3 to 5 minutes or until onions are soft and translucent. Stir in garlic, bell pepper, and 1/2 cup water, reduce to medium heat and cook for 10 minutes, stir occasionally. Add tomatoes, chili powder and 1 cup water. Cover and simmer for 10 minutes. Add undrained beans, cover loosely and simmer for 15 minutes. Add salt and pepper to taste. Serve and top with minced green onions, shredded parmesan cheese, cilantro, avocado, and diced jalapeños to your liking. Makes about eight, 1-cup servings

Notes:

3. Satiating Seitan (Vital Wheat Gluten) Asparagus Stir-fry

This is an extremely easy recipe for those that want a plant-based protein source in a quick and easy stir fry. The asparagus delivers the added fiber and nutrients to make this meal a nutritional slam dunk that will, with a doubt, fill you up and satisfy the taste buds at the same time. Plus, like almost all stir fries, it is super easy to prepare! You can use store-bought pre-made seitan, or very simply make your own using the following recipe:



Home-made Seitan

Ingredients

1 cup vital wheat gluten
1/2 cup vegetable broth
1/4 cup liquid Bragg's® liquid aminos 2 cups cooked and drained lentil beans
3 tablespoons nutritional yeast
1 tablespoon cold pressed olive oil
1 1/2 teaspoons minced garlic

Cooking Broth:

4 cups vegetable broth
4 cups water
1/4 cup tamari

Directions

Stir vital wheat gluten, nutritional yeast, 1/2 cup vegetable broth, liquid amino acid, olive oil, and garlic in a bowl until ingredients come together into a ball. Knead ball until dough has a rubbery texture. Divide dough into 3-4 equal pieces and shape into 1/2-inch thick patties. Bring 4 cups vegetable broth, water, and tamari to a boil in a large pot. Carefully place patties into boiling broth; cover pot and return to a boil. Set lid slightly askew to vent steam and reduce heat to low. Continue simmering patties until firm, turning patties occasionally, about 1 hour. Remove pot from heat and set lid aside. Allow patties to cool, then cut into stir fry-sized pieces (size is up to you).

Satiating Seitan (Vital Wheat Gluten) Asparagus Stir Fry

Ingredients

4 tablespoons olive oil
3 cups cut or cubed seitan pieces (use tofu if gluten intolerant/sensitive)
1 pound asparagus

½ teaspoon salt
½ teaspoon crushed red pepper
1 teaspoon garlic, minced
1 teaspoon ginger, minced
1 tablespoon low sodium tamari or soy sauce
2 tablespoons Hoisin sauce
2 tablespoons lemon juice
2 tablespoons Siracha sauce (optional)

Directions

In a large frying pan, heat 2 tablespoons olive oil over medium-high heat. Add seitan to the pan, then season with ½ teaspoon crushed red pepper. Cook until the seitan is slightly browned. Remove from the pan and set aside. In the same pan, heat 2 tablespoons olive oil and add asparagus. Add ginger and garlic, then season with ½ teaspoon of salt. Stir frequently and cook until the asparagus is tender-crisp. Return the seitan to the pan, then add tamari/soy sauce, hoisin and siracha (if preferred). Stir until the ingredients are well combined. Just before the dish is ready, add lemon juice, stir once more, and then serve while hot.

Notes:

4. Heart Healthy Lasagna

This tasty lasagna is well balanced with protein, fiber and healthy fats and packed with lots of veggies. Enjoy with your favorite salad and good friends.

Ingredients

1/2 tablespoon vegetable spread (Earth Balance)
1/8 – 1/4 teaspoon cayenne pepper (optional)
No boil lasagna noodles
15 ounce extra firm non-GMO tofu
8 ounce hummus
2 cups cooked and drained lentil beans
1 large thinly sliced crooked neck yellow squash
4 cups organic baby spinach
25 ounce tomato basil pasta sauce
1 cup parmesan



Directions

Preheat oven to 400 degrees fahrenheit. In a large mixing bowl, mix tofu and hummus together. In a separate bowl and if desired mix cayenne pepper and tomato sauce together. In a casserole dish (2x9x13) assemble lasagna starting with thin layer of vegetable spread so the noodles don't stick. Add some tomato sauce, then lay down the lasagna noodles to best fit the casserole dish. Add some tomato sauce, tofu and hummus mix, lentil beans, spinach, squash, and cheese. Continue for 3 layers. Next cover with a sheet of aluminum foil and place in oven for 40 to 45 minutes or until noodles are soft. Uncover and let cool for 15 minutes and enjoy. To make it vegan omit the eggs and cheese.

Notes:

5. Chocolate Avocado Mousse



This delicious dessert is tasty and healthy being a good source of protein, healthy fats, calcium, potassium, antioxidants, and polyphenols. There aren't too many desserts that can claim that. So what makes it so healthy? It's simple, healthy ingredients!

Ingredients

1 cup semi-sweet dark chocolate chips (60% cocoa or higher)
1 cup non-dairy almond or rice milk
1 12.3 ounce Silkin Soft tofu, nonGMO, organic
1 1/2 cup avocado, approximately 3 medium avocados
1 teaspoon vanilla extract
Toppings: Strawberries, Blueberries and Mint

Directions

Place chocolate and almond milk in a microwave safe bowl and heat for 1 minute. Let stand for 2 minutes. Place tofu, avocado, vanilla extract, and chocolate almond milk mixture into a blender and mix for a few minutes making a puree consistency. Spoon into small cups and place in the refrigerator for 2 hours or 30 minutes in the freezer. Top with fruit. Serves 8.

Notes:

This Session's Nutritional Power Houses

1. Lentils

A bean that is quick and easy to prepare, lentils are heart healthy and are great for managing blood sugar and diabetes mellitus. They come in a variety of colors, and are one of the earliest foods to be cultivated, with seeds found dating back 8,000 years. Many experts consider them the healthiest of the beans for good reason. They are rich in isoflavones, which are plant compounds that help protect against cancer and heart disease. They also contain lignans, which are phytoestrogens that can help lower cancer risk, minimize premenstrual syndrome and post-menopausal symptoms, and even protect against osteoporosis. Lastly, they contain iron and zinc, two minerals needed for energy and immunity, respectively.



Tips for use:

- Quick to prepare. No soaking necessary.
- Make sure of a high turnover rate if picking from bins, and that the beans are free from insects, moisture and mold.
- Avoid cracked and or shriveled beans.
- If necessary, choose canned beans as there is no nutritional difference. However, be sure to choose BPA-free cans.
- Store in an airtight container in a cool dark place. Cooked beans can last up to 3 days in the refrigerator.
- To cook, bring to a boil and then simmer for 30 minutes.

2. Garbanzo Beans (aka Chickpeas)

These beans are especially high in protein for a bean, as well as contain both soluble and insoluble fiber which can lower bad cholesterol and promote a healthier colon. Their high levels of folic acid can decrease blood homocysteine levels (high levels are a risk factor for heart disease). They also provide copious amounts of iron, zinc, calcium, magnesium and potassium, as well as flavonoids and quercetin, which are phytochemicals that have antioxidant and anticancer properties.



Tips for use:

- Make sure of a high turnover rate if picking from bins, and that the beans are free from insects, moisture and mold.
- Avoid cracked and or shriveled beans.
- If necessary, choose canned beans as there is no nutritional difference. However, be sure to choose BPA-free cans.
- Store in an airtight container in a cool dark place. Cooked beans can last up to 3 days in the refrigerator.
- To cook, boiling is fine as long as the water is consumed to avoid losing the water-soluble nutrients. Bring the water to a boil first then add the beans. They will be easier to digest this way.
- Using a pressure cooker can retain more of the nutrients.

3. Vital Wheat Gluten (Seitan)



Gluten is the protein found in wheat. When extracted and combined with a few other ingredients, it can be made into a texture-rich meat substitute that packs a solid protein punch. Wheat gluten by itself is an incomplete protein because it lacks the essential amino acid lysine. However, if prepared with soy in some way shape or form, this gap is filled and the result is a complete protein source that goes great in stir-fries, stews, curries or other dishes that might use

smaller pieces of meat as the protein. It is also a decent source of iron and should be consumed with foods high in Vitamin C to enhance absorption.

*Note: Seitan should be avoided by those that are gluten intolerant (Celiac's disease) or sensitive. Gluten free vegetable protein alternatives include tofu, tempeh or mycoprotein (quorn).

Tips for use:

- Choose vital wheat gluten flour that is at least 75 to 80% protein.
- The final consistency will vary depending on how much water is added to the dough and how much it is kneaded. For a firmer end product (more like chicken), add slightly less water, and knead for longer.
- Use low sodium soy sauce or tamari in the boiling broth to reduce sodium.
- Store unconsumed portions in an airtight container in the refrigerator and consume within 2 days.

4. Asparagus

This nutritional powerhouse vegetable is rich in glutathione, which is a natural anti-inflammatory phytonutrient that also has strong anti-cancer properties. It is a great source of soluble fiber making it a prebiotic food that can enhance gut health. It also delivers ample amounts of Vitamins C and E, as well as the minerals iron, potassium and magnesium.



Tips for use:

- Choose firm, bright stalks without browning at either ends.
- Eat within two days after picking.
- If needed store in a micro-perforated bag in the refrigerator.
- When chopping up and using in stir-fries or sautés, cook stalk portion first, then add tips once stalks are tender.

5. Avocados

These wonderful fruits are chock full of monounsaturated fats that help keep bad cholesterol (LDL) in check. Like asparagus, they are also high in glutathione, as well as beta-sitosterol and lutein, which are strong plant-based antioxidants. Avocados also pack a nutrient rich punch thanks to their high content of vitamins C, E, iron, magnesium and potassium.



Tips for use:

- Choose avocados with unbruised skins and without soft spots.
- To test ripeness, press gently with your thumb. If there's a slight give, they are ready to eat.
- Ripening can be accelerated by placing in a brown paper bag with a banana.
- Once flesh is exposed, you can avoid discoloration by spraying with lemon juice.
- Avocado oil can also be used in cooking stir-fries and sautés.

Notes:

