

## **Soy, Peas or Beans – Plant-based Proteins Really Are Very Different**

Plant-based proteins are better than meat for the planet and our health, a multitude of research has shown. Even a meal or two a week without meat can help. It turns out, though, that different proteins have quite different benefits. Choosing the right protein ingredients is critical.

### **Plant-based Proteins are Healthy**

The key personal benefit of plant-based proteins for anyone is likely to be their health. Whether you're considering eating less meat or giving it up entirely, the American Heart Association (AHA) says, the clear benefits are less risk of diseases such as strokes or cancer and improved health and well-being.

While plant-based meats and dairy have gotten lots of publicity, there are many alternatives. Tofu, quinoa, mushrooms, lentils, chickpeas, beans and legumes have plenty of protein. Even vegetables such as broccoli, corn, potatoes, peppers and spinach provide protein.

And going plant-forward is easier than ever, the AHA suggests. Start by searching for enticing vegetarian recipes that are easy to prepare, choose ingredients and flavours you like, experiment with a meatless meal once a week, and then add more days as you get used to it.

For meat-eaters who want protein that looks and tastes like what they are used to, there are plant-based meats, fish, eggs, milk, cheese and yogurt ranging from Beyond Burgers or Quorn chicken to Oatley milk and more. Indeed, more than 1,000 firms worldwide produce plant-based meat. However, nutritional values vary depending on the source of the protein.

A study published in [Nutrition](#), for instance, noted that plant proteins differ in nutritional quality. Registered dietitian Anne Carroll [wrote](#) that it is important to look at the ingredient list to know exactly what is in meat alternatives. It is better to select products made with whole food ingredients that you can easily identify such as beans, whole grains, legumes, nuts, or seeds. Less processed plant proteins such as tofu, whole grains, legumes, and beans are better than more processed soy isolates or gluten. And while the University of Connecticut said soy can provide the most complete nutrients in terms of amino acids, whereas other plant-based proteins may miss some essential amino acids, you can easily get all essential amino acids by mixing plant-based proteins or by pairing them with grains. It is also important to look out fillers that are high in sodium or saturated fats. The AHA also suggests not replacing meat with highly processed meat substitutes or “vegan junk food, the French fry diet.”

While amino acids may sound complex, the basics are straightforward. Cooking Light writer Julie Jones explains that protein is made up of amino acids, which are essential for all cells in the body. While our bodies naturally produce some amino acids, nine essential amino acids cannot be produced by the body and must come from the foods we eat. Foods that contain those nine amino acids are called complete proteins. Whole soy products, buckwheat and quinoa are complete proteins. While other vegetables, legumes, nuts and seeds are not complete proteins, they can be combined with other foods to create a complete protein.

For dairy, Louisiana State University assistant professor Elizabeth Gollub explained in *Healthline*, the nutrition profile of plant-based milks varies widely depending on the brand and ingredient. Plant-based milks are commonly made from soy, oat, rice, almond, coconut or pea protein. Many of them are fortified with vitamins and minerals to resemble nutrient levels in cow's milk. While soy milk and pea protein milk are comparable in protein to 2% milk, for example, coconut milk contains no detectable protein. And while oats are more beneficial to the environment than peas or soy, Gollub said oat milk may have little nutritional value or protein.

### **Environmental Impacts of Different Protein Sources Vary Greatly**

Along with looking at nutrition, in an era of intense climate change it is also important to look at the environmental impact of our foods. For a start, meat has a far worse environmental impact

than plant-based proteins. Making one pound (454 grams) of lamb generates five times more greenhouse gasses (GHG) than making a pound of chicken and around 30 times more than a pound of lentils, the World Economic Forum (WEF) observed. Just as different types of plant-based protein ingredients have different nutritional values, the environmental impacts of different types of plant-based protein ingredients vary greatly.

Research in [Sweden](#) on yellow peas, grey peas, fava beans, common beans and lentils, for instance, revealed large differences in energy use and GHG emissions in their production. Fava beans and yellow peas had low environmental impacts, while common beans had the highest impacts.

Peas may indeed be better options. Time magazine explained that peas require less water than soy or corn, are drought tolerant and reduce the need for nitrogen fertilisers.

Soy is at the other end of the spectrum. The WWF said the soybean industry is causing widespread deforestation. The Global Performance Nutrition Institute (GPNI) also noted that industrial soybean crops need large amounts of acid-neutralizing lime as well as synthetic fertilizers, pesticides, and herbicides, all of which create environmental hazards.

### **Choose Wisely**

While the concise information here is limited and the research is complex, it's clear that protein, nutrition and environmental impacts vary greatly depending on the source of the plant-based food. Figuring out what types of protein are right for you may take some time. If you're like many people, though, you'll likely choose some favourite foods and stick with them. Doing some research up front to choose your favourites well will benefit your health and the planet.