

# Nutrient composition and characteristics of PB and animal-based foods.

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## Introduction

Nutrition is a critical aspect of our lives, influencing our health, well-being, and longevity. The choice between plant-based (PB) and animal-based (AB) foods has gained significant attention in recent years, driven by concerns about health, environmental sustainability, and ethical considerations. Understanding the nutrient composition and characteristics of PB and AB foods is essential for making informed dietary choices. In this article, we will explore the key differences and similarities between these two categories of foods. Protein is a vital nutrient that plays a central role in building and repairing tissues, supporting immune function, and more. AB foods are renowned for their high-quality protein content. Foods like lean meats, poultry, fish, and dairy products are rich sources of complete proteins, containing all essential amino acids in the right proportions. On the other hand, PB foods like legumes (beans, lentils, and chickpeas), tofu, and tempeh are good sources of plant-based protein but may require careful combination to ensure a complete amino acid profile [1].

Both PB and AB foods contain fats, but the types of fats differ. AB foods, particularly red meat and dairy products, are known for their saturated fat content, which has been associated with an increased risk of heart disease. In contrast, PB foods such as nuts, seeds, avocados, and olive oil are rich in heart-healthy unsaturated fats, including monounsaturated and polyunsaturated fats. Fiber is essential for digestive health and can help regulate blood sugar levels and reduce the risk of certain diseases. PB foods like fruits, vegetables, whole grains, and legumes are excellent sources of dietary fiber. AB foods, with the exception of certain organ meats and seafood, generally contain little to no fiber.

Both PB and AB foods provide essential vitamins and minerals. For instance, AB foods like beef, poultry, and fish are rich in B vitamins (especially B12), iron, and zinc. PB foods, on the other hand, offer an array of vitamins and minerals, including vitamin C, vitamin K, potassium, and magnesium. However, vitamin B12 is primarily found in AB foods, making it a crucial consideration for those on a strict PB diet [2].

Antioxidants are compounds that help protect the body from oxidative stress and inflammation. PB foods are often packed with antioxidants, such as vitamins C and E, beta-carotene, and various phytonutrients. Fruits, vegetables, nuts, and seeds are particularly rich sources. While AB foods also contain some antioxidants, they generally contain fewer compared to PB foods [3].

One of the key differentiators between PB and AB foods is their environmental impact. Producing AB foods, particularly beef, generates more greenhouse gas emissions and requires more land and water resources compared to PB foods. Many people choose PB diets as a way to reduce their carbon footprint and support sustainable agriculture. Ethical concerns related to animal welfare are a significant driver behind the adoption of PB diets. Many individuals opt for plant-based foods because they want to avoid contributing to the suffering of animals raised for food. AB foods, especially those from factory farming, have raised serious ethical concerns regarding animal treatment and welfare. Both PB and AB diets have associated health benefits and risks. PB diets are generally associated with lower risks of heart disease, certain types of cancer, and obesity due to their higher fiber and lower saturated fat content [4]. AB diets, when balanced and consumed in moderation, can provide essential nutrients like vitamin B12 and heme iron, which are less abundant in PB diets. However, excessive consumption of red and processed meats is linked to increased risk of chronic diseases like heart disease and colorectal cancer. Both PB and AB foods offer a wide range of culinary possibilities. PB diets often emphasize creative and flavorful plant-based dishes, making use of diverse ingredients like tofu, tempeh, and a variety of vegetables. AB diets have a long history of culinary traditions with diverse cooking techniques for meats, poultry, and seafood. The versatility of both types of diets allows for rich and satisfying meal options [5].

## Conclusion

The choice between plant-based and animal-based foods involves a complex interplay of factors, including nutrient composition, environmental impact, ethical considerations, and health outcomes. It's essential to make dietary choices that align with your individual health goals, ethical beliefs, and environmental concerns. Regardless of your dietary preference, a balanced diet that includes a variety of foods from both plant and animal sources can help ensure you get the full spectrum of essential nutrients. Ultimately, the key to a healthy and sustainable diet lies in making informed choices and striving for balance and moderation.

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