

## **PLANT PROTEIN VS ANIMAL PROTEIN POWDER –**

### **WHAT VEGANS SHOULD KNOW**

Recent estimates have shown that the vegan population of the UK and the US has tripled over the last 10 years. This has presented the food and nutrition industry with very special challenges. However, it is in the fitness industry that this has been particularly, keenly felt.

For vegetarians, consuming dairy products was always considered to be okay, but for vegans, anything that has even touched an animal product or by-product is a very definite 'no-no'. Of course, the industry rose to the challenge and more- and better- plant-based products hit the market. But, how does a protein shake based on plants measure-up to a creamy whey protein isolate banana smoothie?

#### **What is protein?**

Put simply, proteins are substances that contain nitrogen. They are created by amino acids. The human body breaks down these proteins and re-builds them for its use. As well as being the building blocks for muscle and other of the body's tissues, protein creates hemoglobin, hormones and enzymes.



Basically, protein is responsible for all, and everything, that goes on within the body. While it can be used for energy, protein is not considered a primary energy source. Unfortunately, protein cannot be stored. It must be consumed each day.

So far, scientists have identified 20 amino acids necessary to human growth. Of these, 12 are non-essential. In other words, the human body can create these 12 amino acids itself. It doesn't need to consume them. However, the rest cannot be synthesised by the body, itself. They must be consumed. These are known as the 'essential amino acids'.

## **Why whey protein ruled the world**

Protein supplements make-up over 70% of the sports nutrition market- with whey protein enthroned as king.

Whey protein also contains all of the essential amino acids. These are the amino acids that the body can't produce itself. If these are not present in the gut at the same time, then they don't form a complete protein and they are, effectively, flushed. For the body to be able to utilize protein, all essential amino acids must be present.

However, there is more to it. Animal proteins are not all the same. The source of some can be high in saturated fats. Some are harder to digest. Some are high in sodium. The protein in some is not as readily utilizable as in others. A by-product of cheese manufacture, Whey protein contains casein, which has been shown to provide the greatest benefits for the increased synthesis of protein.



There are 3 types of whey protein:

- Whey protein concentrate, which contains low levels of fat and carbohydrate
- Whey protein Isolate, which is further processed and contains a higher percentage of protein
- And whey protein hydrolysate, which is pre-digested requiring less effort from the body to digest and enabling swifter, more efficient absorption and utilization.

There have, also, been a number of studies indicating that whey protein consumption can aid weight-loss, cut cholesterol, lower blood pressure and reduce the risk of heart disease.

## **Plant based proteins**

Most vegetables are very low in protein. Vitamins and minerals may be there in abundance, but when it comes to the building blocks of muscle, the cabbage and the cauliflower are left wanting. However, if we

look to legumes and grains the story changes, compared with other members of the plant kingdom, they offer excellent high protein alternatives to meat and dairy produce.

Some pulses supply all the essential amino acids:

- Soy – the vegetarian staple for decades, is versatile and made into milk, flour- and protein powder.
- Quinoa- is actually a seed, but known as the ‘supergrain’. High in magnesium and manganese and other essential minerals.



Some pulses don't:

- Pea- the humble pea is high in protein, though not complete, unlike its up-market edemame cousin. (Pea protein powder is made from the yellow pea)
- Chia seed- considered magical by the Aztecs, it is high in protein, and packed-full of minerals.

And the list could go on.

In reality, while many grains and, especially legumes, are very high in minerals, in most cases it is necessary to combine a legume with a grain to make sure of achieving the protein requirements for a healthy diet. Of course, nuts, particularly peanuts, are also a good source of plant-based protein, though they are much higher-calorie alternatives, given the amount of oil they contain.

## **Plant protein vs animal protein powder**

So, which is the best; plant or animal?

The difference between animal protein and plant protein is, at its simplest level, in its amino acid profile. The speed and efficiency with which a protein is absorbed into the body is determined by its amino acid profile.

The human being is nearer to an animal, in its make-up, than it is to a plant. Animal based foods are more readily-assimilated, because the human body is already adapted for its utilization; it is, basically, consuming something of a more similar structure. Animal protein is much nearer to human protein than is plant protein.



Further, by weight, animal protein sources are much richer than plant protein sources. To get the same amount of protein from a pile of beans, compared with a T-bone steak would require some serious eating!

However, that is not the whole story. There have been numerous studies on this subject. Some of those have come to the opposite conclusion. While they may agree with the basic idea of increased animal protein synthesis over plant proteins, they say that this could be more than made-up for by the relative simplicity of plant proteins.

In layman's terms, plant proteins come with less baggage. They also contain vital health-boosting minerals- minerals that are only available in animal products, because they eat plants.

While the number of whey-drinking professional body-builders dwarfs the number of vegan body-builders, there is certainly a shift going on. [Vegan protein powders](#) are slowly, but surely, gaining in popularity.



Possibly the ideal scenario is to combine the two. Include [animal protein](#) and plant protein supplements in your diet and get the best of both worlds. Of course, that would not be an option for a vegan, but for the rest of us, it is certainly worth thinking about.