

Non-dairy supplements for sportsmen and physically active people



Dr hab. Bartosz Sołowiej, Assoc. Prof.
Faculty of Food Sciences and Biotechnology
University of Life Sciences in Lublin

Soy Protein (SP)

- Soy protein (BV - 74) is a good source of **fiber, potassium, magnesium, phosphorus, calcium, iron, zinc, vitamin B** (vitamin B1 - 0,0690 mg, B2 - 0,189 mg, B6 - 0,81 mg on 100 g of finished products).
- It contains most of egsogenic aminoacids.
- There is no **cholesterol, lactose and saturated fatty acids**.

- In the composition of the SP are **saponins, phytosterols**, which support the functioning of the immune system and reduce levels of LDL cholesterol and triglycerides.
- Soy contains anabolic isoflavones: **genistein** and **daidzein** and powerful antioxidants to fight the free radicals.



- Soy protein has got **lectins** (glycoproteins*) which agglutinate tumor cells (agglutinate and neutralize them).
- It is more desirable for women.
- In the case of men - SP affects the ratio of androgen / estrogen (sex hormones), which **lowers testosterone levels** - a hindrance to the muscles, reduces the bioavailability of proteins, weakens the immune system).

* Glycoprotein - a protein resulting from post-translational modification of the enzyme

Soy protein isolate is present in the products, ie .:

- protein bars
- energy drinks
- cereals
- ice creams
- processed meat products
- soups
- ready-to-eat sauces



Organic Rice Protein (ORP)

- Organic rice protein (ORP) (BV - 83) is recommended in particular for those who are **lactose intolerant** or do not prefer consuming animal proteins.
- ORP **does not contain gluten**, it is hypoallergenic.
- Rice protein is not a complete protein (e.g. whey proteins).



The organic rice protein (ORP) is present in the products, ie .:

- energy bars
- sports drinks
- bread
- pasta
- cosmetics



Organic Hemp Protein (OHP)

- Organic hemp protein (OHP) is obtained by grinding seeds of the plant ***Cannabis sativa***.
- This kind of cannabis has a certificate to show that the **absence of a psychoactive substance** - THC (tetrahydrocannabinol).
- It is becoming more and more popular – it contains 20 amino acids, of which 10 are essential amino acids, essential for the production of proteins and in the process of **muscle regeneration**.



- OHP is the only protein of plant origin that contains **edestin*** and **albumin** - support digestion and the functioning of the human immune system.
- An additional advantage of OHP is the lack of estrogen, gluten and GMO.
- It is recommended for athletes, vegetarians and vegans, as well as all those who are looking for a substitute of animal protein.



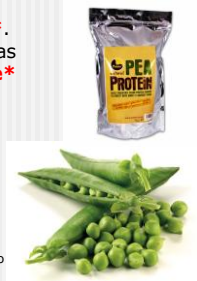
* edestin- crystalline globulin sourced from hemp

Pea Protein (PP)

- Pea protein (BV - 65) contains small amounts of **methionine***. However, this type of protein has the highest content of **arginine*** as compared to:
 - whey protein
 - casein
 - ovalbumin,
 - soy protein.

*Methionine prevents excess fat buildup and helps relieve or prevent fatigue.

*Arginine is involved in protein synthesis, the detoxification of ammonia, and its conversion to glucose as well as being catabolized to produce energy.



- Pea protein has much more **glutamine** compared to whey proteins and egg proteins, as well as higher levels of **branched chain amino acids** in comparison to the soy protein.
- Pea protein-based supplements are **hypoallergenic**, help in the fight against **hypertension** and **renal failure**.

*Glutamine has been shown to aid in recovery and recuperation (regeneration) in addition to boosting immune function.



Beef Protein (BP)

- The main disadvantage of beef is an **excess of fat and cholesterol**.
- The biological value of beef protein (BV) - 80.
- Beef protein-based supplements are subjected to processes such as: extraction, purification, and isolation of the hydrolysis, so that the removed fat and cholesterol.



- BP has a high concentration of essential amino acids, B vitamins, minerals.
- It contains **creatine** - an organic chemical compound that supports **muscle hypertrophy**.



Egg Albumen (EA)

- Albumin (BV - 100) is the fraction of protein that is present in **body fluids** and is part of the egg protein.
- In humans it is a component of blood, while in the case of animals is a key substrate of milk and tissues.
- Albumin is classified as globular protein, a characteristic of this group of proteins is the ability to form colloid in an aqueous medium - **easily assimilable nutrient**.



**Thank
you**