



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

“Soy Protein: Health Benefits And Body Building.”

Shivam Agrawal 1, Suchita Dubey 2, Bhagyashri Borde 3, Radha Gawande 4 , Dipali Sonone 5, Ankush Bhalerao 6 , Dr.Anisha Dubey 7

1,2,3,4,5, Student at shri sant Gajanan maharaj college of pharmacy, buldana 443001MS India

6,HOD,INCH.Principal of Cambridge college of pharmacy, Buldana

7,Doctor at Auckland city hospital, Newzeland.

Abstract: Soy protein refer to the protein that is found in soybeans that is often used to replace animal protein in an individual diet. The soybeans is a legume that contain no cholesterol and is low in saturated fats. It is used in for their functional properties, including water and fat absorption, emulsification, aeration(whipping) and heat setting and for increasing total protein content and improving the essential amino acids profile. Soy products can be tofu, tempeh, soy milk, and other soy based dairy and meat alternatives.

Keyword: Soy protein, fats, cholesterol, diet , soybean.

Introduction:

Genreally speaking, Soy protein are sold in bags, in the form of small or large pieces resembling light coloured cereals. They are consumed rehydrated and can replace meat or poultry occasionally , as part of a balanced diet. This food supplement has a stonger nutty flavour. Soy is a source of quality protein that is very quick to digest. Indeed, it contains 9 amino acids, including leucine, isoleucine, valine , lysine and arginine. These elements are very important for creating the conditions necessary for muscle gain.

Benefits for the body: There are many reason for this, soy protein avoid the inconviene of the lactose and gluten intolerance, it is available in different flavour; smooth chocolate , strawberry cream , vanilla or without added flavouring, so you are spoilt for choice.

1] Reduce cardiovascular disease: Soy is responsible for the reduction of bad cholesterol “LDL” and triglyceride.

2] Create the muscle mass: with 0.5g of lipid, 5g of carbohydrate, including 0.1g of sugar and 90g of protein per 100g , soy protein is ideal for any athlete wishing to increase his or her muscle mass while limiting fat gain.

3] Reduce risk of the cancer : In the long term, soy protein plays a beneficial role in the risk of cancers, particularly breast and prostate cancer.

4] Preserve muscle from tearing

5] Improve intestinal transit.

Soyabean is a whole protein, it is the first choice of many vegetarian fitness professionals.

Phytoestrogen can increase femininity. Soy contain isoflavones, also known as phytoestrogen. They are plant-based biological compound that are similar to human estrogen in structure and function. The difference is, a phytoestrogen is less potent.

When you consume soy within the recommended dosage, phytoestrogen have little to no effect on your body.

However, bodybuilder claim that consuming soybean every day can lead to increased estrogen levels.

Estrogen is the female sex hormone responsible for fat storage. Consequentially, men may develop, man boobs, low libido, low testosterone and high fat percentage.

Soya bean help to gain muscle in such manner: As we have said in above section soyabean is whole protein, it is rich in 9 essential amino acid , which are the core raw material needed to build muscle.

When you eat soy, your body digest it to forms EAAs , blood transport them to the muscle, and your muscle uses them up during protein synthesis to create more protein and provide energy.

So, essentially consuming soybean leads to muscle gain. There's no other catch.

There is no doubt that protein is necessary for building muscle. Protein supplement such as whey or soy protein powder are boon.

Whey protein and casein where cheese is made from cow's milk, the casein get separated out, leaving behind whey protein with water as the byproduct. This way water is then processed and made into concentrated whey isolate. Whey isolates have a high percentage of pure protein. They are free of carbohydrate, fats and cholesterol.

Whey protein has rich amino acid profile. It not only aids muscle recovery and growth, but it also helps with fat loss. One of the major benefits of whey protein is that it has a fast absorption rate. Almost all of the whey protein consumed is quickly digested and absorbed by the body.

There are three different kinds of soy protein that one may choose from:

1] Soy protein

2] Soy protein isolate

3] Textured soy protein(TSP)

On serving of soy protein (28gm)

1. Calories: 95
2. Protein: 22 grams
3. Fat: 0.5 grams
4. Carbohydrate: 1grams
5. Fiber: 0.5 grams
6. Calcium: 8% of the daily value
7. Iron: 15% of the daily value
8. Sodium: 210mg

Material and methods:

Processing: Wheat(Gluten free), Soya powder, Bajra flour or combination of both mixed with water and eggs an dother optional ingredients(like pudina, herbs, tomatoes and etc)

Usually 25-30kg of water is added per

The amount are measured by computerized dispensers. The mixture is kneaded by auger extruder equipped with mixing paddles and kneading blades to obtain a homogenous mass, and after that is extruded through various shaped dies.

Mixing: In this level, all the material are mixed by the ratio of 3:1. Water should be pure, with no off-flavour and suitable for drinking. Its temperature is about 35-45 degree celcius to help speed up absorption. For egg noodles, eggs are added in form of solid.

Disodium phosphate is also added to reduce the cooking time.

Measuring the raw material:

- Conveyor belt feeds
- Loss in weight feeds
- Slanted surface system
- Pre-mixer
- Final mixer

Extrusion: It's the process of kneading and shaping at the same time and in matter of a few minutes. The process take place in an extruder which is grooved extrusion cylinder equipped with an extrusion worm is a shaft with deep thread around its core. Its need and move the dough forward sand presses it through the dies in the head of the extruder. Cylinder are made up of stainless steel but the worm has a Teflon coating to decrease friction.

The temperature of dough should remain between 40 and 45 degree celcius. If the temperature exceeds 50 degree the gluten network would be damaged, which show negative effect on the quality of spaghetti.

Forming: There are different types and shapes of dies to form varous shapes of pasta. Generally, these can be categorized into large group long pasta (spaghetti, fettuccine, linguine, etc) . The dies are made of Teflon-coated bronze. The extruder pushes the dough through the dies and blades or trimmer cut the

dough through the dies and blades or trimmer cut the dough in the desired length. Various patents cover machinery for extruding pasta of different shapes.

Drying: It is one of the most difficult and critical parts of making spaghetti. If this dries too fast, it may crack during or after the drying process and acquire a poor appearance and lowered mechanical strength. If the spaghetti dries too slowly, it may spoil and become moldy. Thus, the drying process must be carefully executed in order to avoid the two aforementioned consequences.

Its has moisture contain of 31%.

Conclusion: The soya spaghetti will be a perfect addition to your healthy lifestyle. It gives chefs the ability to experiment with a variety of different ingredients. Its good source of energy and can give you fiber, too, if its made from whole grain.

References:

1. Overview of soy protein in bodybuilding; posted on 18 march 2019
2. Drug Research, How to eat soybean for bodybuilding, published on 21 may 2023
3. Whey protein Vs Soy protein- Which One to consider, Anju Mobin on September 21 2018
4. Soy protein: Health Benefits, Type, Dosage and side effect, posted on February 3, 2023
5. Pubmed, Molecular soybean- pathogen interactions, posted by steven A Whitlmam et al. Annu Rev Phytopathol. 2016
6. Pubmed, Evidence supports the use of soy protein to promote cardiometabolic health and muscle development, Greg Paul et al. J Am Coll Nutr, 2015.
7. healthline, 26 Muscle building foods to add to your diet, medically reviewed by peter pace,MS, RDN,CSCS,CPT- by Grant Tinsley, ph.D CSCS, CISSN-update on February 22,2023
8. PMC pubmed central, Soy and health update: Evaluation of the clinical and epidemiologic literature by Mark Messian.
9. ACS publication, Soybean (Glycine max) allergen- A review on an outstanding plant food with Allergenic potential.