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Peas - Protein Source

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Abstract: There is currently a lot of focus on developing pea varieties that are tolerant of harsh environments, studying the morpho-physiological traits of the developed varieties, enhancing their nutritional value, figuring out how cultivation practices affect crop yield and quality, and enhancing cultivation technology's constituent parts.

The significance of the pea crop, one of the leguminous grain crops, to the national economy is presented in this article, along with some conclusions.

Keywords: Legumes, pea, feed, nutrient unit, protein, bacteremia, productivity.

One of the most significant issues in the world's present financial and economic crises is how to meet the population's need for food, improve soil fertility, and develop effective, affordable, and environmentally friendly ways to combat plant diseases.

The primary component of both human and animal bodies is protein. Proteins have a role in how hormones, enzymes, and the body's most fundamental processes operate in both humans and animals.

When compared to cereal crops, legumeous grain crops offer higher-quality, cheaper grains that are easier to digest, have a higher protein content, and can use microbes to collect nitrogen from the atmosphere.

Peas, a leguminous crop, are crucial in addressing the issue of human and animal protein needs. Peas stand out from other cereal crops because they contain a lot of protein.

Pea grain has a protein content of 31% (41% in some sources), 7.0% oil, and 6.0% AEM. The most significant amino acids required by the human and animal bodies are tryptophan (0.75-1.1%), lysine (3.1-1.6%), therosine (2.5-1.5%), cystine (0.15-0.7%), and methionine (up to 1.6-1.4%). Pea seeds also include vitamin B1, mineral salts, proteins, and other nutrients.

Protein is a recognized organic substance that contributes to dietary quality and is required by the body. The majority of exchangeable and non-exchangeable amino acids used in the construction of proteins come from legume plants. Lysine, methionine, arginine, leucine, and isoleucine are significant necessary amino acids. Lysine in particular helps the body grow and develop in a favorable way. Leguminous crops include 24.0 g of lysine per kilogram, 23.3 g per kilogram of beans, 22.7 g per kilogram of peas, and 2.8 g per kilogram of wheat. Methionine contains sulfur, which contributes to the production of sulfuric acid and aids in the removal of hazardous substances produced by metabolic processes in the body. In order to effectively address one of today's most pressing challenges, the demand for plant protein, leguminous crops must be used to their full capacity. because there is still a large global need for vegetable protein. Leguminous crop cultivation is declining, and little is known about their biological and physiological characteristics.

Peas have 20.1-32.4% more protein than the majority of other legumes, making them more nutrient-dense. The composition's unique amino acids remove different toxic and unhealthy elements from

the human body. Lecithin, riboflavin (vitamin B2), nicotinic and panthenic acid, choline, and vitamin C are all abundant in the grain. It also includes significant amounts of phosphorus, potassium, and magnesium. Asparagine and glutamine, which are abundant in amino acids, have replaced meat in the human diet. As a result, two thirds of the peas that are farmed globally are used as food.

Grain's unique medicinal and nutritional characteristics, the richness of non-nitrogen extractives, and the fact that it may contain up to 32% protein and 8% fat when produced on dry areas are all factors contributing to its rising demand.

In addition to increasing soil fertility, beneficial bacteria found in the roots of leguminous plants also help the soil's organic matter content and water-physical characteristics by accumulating biological nitrogen. Leguminous plants capture biological nitrogen, which prevents the buildup of nitrates in plant products, the development of hazardous microorganisms that swiftly break down organic matter in the soil, and the production of uncontaminated goods.

The pea plant, like other leguminous crops, has the ability to take nitrogen from the air and create protein-building blocks. Rhizobium cicer, a nodule bacteria found in the pea root system's nodules, participates in the absorption of nitrogen from the air.

In addition to enhancing the quantity of organic matter in the soil, water-physical characteristics, and soil fertility, fungi that live in pea roots also collect biological nitrogen. The biological nitrogen that builds up in pea roots provides for the formation of a clean product while also preventing the buildup of nitrates in plant products and the development of harmful microflora that swiftly break down organic materials in the soil.

There are currently K-295 and K-296 types of chickpeas in addition to the Palvon, Zumrad, Umid, Yulduz, Halima, Malhotra, Uzbekistansky-32, Lazzat, and Jakhongir kinds. It is grown in the Kashkadarya and Samarkand areas, both dry and irrigated.

Additionally, 5-7 kg, occasionally 8-9 kg, of vegetable protein are required to produce 1 kilogram of animal protein, according to the findings of years of research. 20–30% of the nutrients are lost during processing. The protein shortage will worsen as a result.

The yield of chickpea varieties is 1 per hectare if planted in the spring as compared to fertile barley, and is 7 to 1.9, 6.6 to 7.5 centners if planted in the fall. The amount of protein in the seeds of the obtained crop is 9. According to the results of the scientific research, when determining the amount of protein in chickpea varieties, and comparing the yield and total protein content of each hectare of land with the barley plant grown on large-scale irri It was found that the straw was devoid of protein, had protein present in amounts of 2.9 to 3.0% in the spring and 5.1 to 5.3% in the spring and fall, affects the total amount of protein obtained from each hectare. Protein content per hectare was found to be 3.61 centners in productive barley, 4.15 centners in spring-planted chickpeas, 4.76 centners in the K-296 sample, and 7.0–8.17 centners in fall.

In summary, peas have a high protein content when compared to the protein found in other crops, and this is significant for addressing the issue of the quantity of protein required by the human body.

References

1. Ўзбекистон Республикаси Президентининг 2022 йил 28 январдаги «2022 — 2026 йилларга мўлжалланган янги Ўзбекистоннинг тараққиёт стратегияси тўғрисида»ги ПФ-60-сонли фармони
2. Bobokulov Z.R, Bobomurodov Z.S. Productivity Of Chikpea Varieties And The Effect Of Different Planting Times And Depths On Grain Quality Indicators. NVEO-NATURAL VOLATILES & ESSENTIAL OILS Journal| NVEO, 7524-7532
3. Бобомурадов З.С, Бобокулов З.Р. НЎХАТ ЭКИНИНИНГ ЎЗИГА ХОС ХУСУСИЯТЛАРИ (Фермерларга кичик маслахат). EVELOPMENT ISSUES OF INNOVATIVE ECONOMY IN THE AGRICULTURAL SECTOR, 989-992
4. Ҳамдамов И., Мустонов С., Бобомуродов З. Суғориладиган ерларда нўхат етиштиришнинг илмий асослари. Монография. Тошкент-2007. - 106 б.