



# P-ProPlus

PEA PROTEIN

## A Revolutionary Plant-Based Delicious Protein Solution



**Functional Properties of Pea Protein**  
Beside its nutritional benefits, pea protein can play vital functional roles in any food formulation, such as:

- Aeration and foaming
- Binding and adhesion
- Emulsification
- Humectancy
- Enhancement of foaming effect
- Crispness and strength and thickening, which can contribute to both appearance and mouthfeel

*Pea protein also works well in synergy with milk and cereal proteins.*

### Why Pea (Pulse) Protein?

Pea protein, in particular, has recently drawn a lot of attention for being highly sustainable, vegan, hypoallergenic, a good source of amino acids, easy to digest and a welcomed alternative to soy. Made with real vegetables, this product promotes not only a high protein content, but also fiber, vitamins and minerals. Legume peas return nitrogen to the soil and can, therefore, be considered a highly sustainable food source.

Pea Protein can be extracted in three types such as pea protein isolates, pea protein concentrate, and textured pea protein. Pea isolates are a more refined version of pea concentrates while textured pea protein contains higher amount of protein as compared to concentrates and isolates. Increased demand for more sustainable protein globally and more vegan and allergen-free options is driving development of more plant-based protein sources. Pea protein isolate can replace soy isolate on a weight-for-weight basis without a negative organoleptic impact.

Pea protein has shown to be an excellent hypoallergenic functional replacement for dairy, meat and grains in a range of food applications. Hartman Group described pea protein as a “natural” candidate for use in meat and egg substitutes as it is consistent in what it describes as the “less meat,” “soy-free” movement (Packaged Facts, 2016).



“The pea protein market is expected to grow to \$34.8 million by 2020”

- Tarver, 2016



## Market Significance and Value Proposition of Pulse Proteins

The global population of vegetarians and vegans is increasing. Furthermore, food allergies are a growing public health concern. According to a study released in 2013 by the Centers for Disease Control and Prevention, food allergies among children increased approximately 50% between 1997 and 2011 (Food Allergy Research & Education, n.d.). Therefore, the consumption of plant-based protein sources that are free of allergens is becoming more common. It is stipulated that hypoallergenic protein sources will occupy 50% of the alternative protein market by 2054 (Tarver, 2016).

In his April 2015 presentation at Ingredients Marketplace in Orlando, Florida, Christopher Shanahan, Global Program Manager, Food and Agriculture, for Frost & Sullivan noted that legumes, including peas, accounted for 34% of non-soy plant protein products globally in 2014 and that over half of that (55%) consisted of pea protein (Packaged Facts, 2016).

North America is said to be responsible for consuming over 30% of the world's global pea protein concentrate (Packaged Facts, 2016).

Recent surveys indicate that 88% of R&D professionals predict an increase in products made with pea protein. 89% of “protein-knowledgeable” food scientists participating in Global Food Forums, Inc. 2014 Protein Ingredient Trends Survey identified pea protein as the main plant-based protein to be used in food and beverage applications. (Packaged Facts, 2016).



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## *Challenges Associated with Pea Proteins in Food and Beverage Applications*

Adding pea protein to food and beverage applications presents some challenges, however, such as change in flavor profile of the finished product. The number one challenge faced by food and beverage formulators introducing or transitioning their products to include pea protein, remains balancing the benefits of these natural ingredients with a taste profile that appeals to the mainstream palate.

## **P-ProPlus: GLG Solves Pea Protein Taste Problems!**

GLG's core mission is providing natural solutions for healthier nutritional choices. With a partnership with MycoTech the challenges traditionally associated with pea protein have been overcome, providing food, beverage and sport supplement companies the ability to produce natural healthful products without the astringent taste profile and off-notes associated with pea protein.

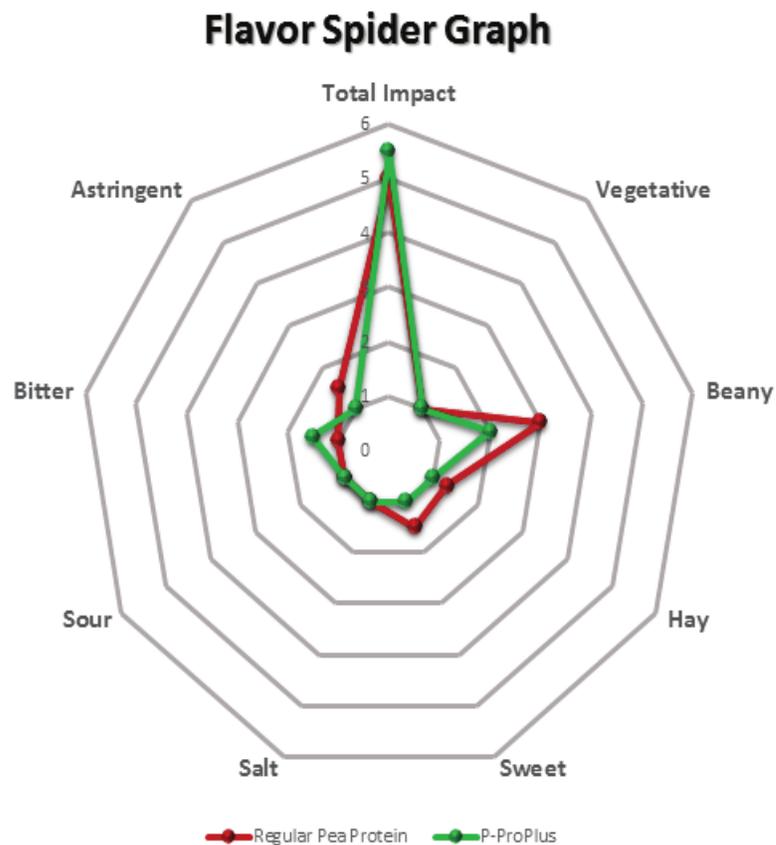
P-ProPlus features a clean flavor profile, enabling manufacturers to boost protein content and formulate across a broader range of applications more easily – without having to compromise flavor or sacrifice taste, while addressing growing consumer demand for healthy, nutritious, vegan, protein-rich foods and beverages. The advantages of its natural flavor profile enables companies to add more protein content into their products.



## The Advantage of P-ProPlus

P-Pro Plus offers not only the many benefits of regular pea protein, but also a taste profile that formulators and consumers alike will appreciate. We expect that this improved taste profile will broaden market appeal, reach new product segments and result in deeper market penetration of pea protein. P-Pro Plus is available in both conventional and organic varieties and in various mesh sizes and protein purity levels that can be tailored to your individual product needs.

Third-party sensory evaluation of our P-ProPlus shows that P-ProPlus is significantly superior in terms of total aroma and flavor impact compared to its closest regular pea protein rival:





## P-ProPlus Top Applications:

### Foods

- Pasta
- Mayonnaise-like products
- Processed fish and meat
- Meat and egg substitutes
- Workout Supplements
- Protein supplements
- Energy bars
- Shakes

### Snacks

- Hot and cold cereals
- Protein-fortified baked goods
- Cereals and extruded snacks
- Beverages
- Dairy-free milk
- Drink mixes
- Desserts
- Ice cream

### Qualified Claims

According to Mintel GNPD (Global New Products Database), the top 10 claims associated with pea protein in food and beverage launches globally include (Packaged Facts, 2016):

- Low/no/reduced allergen
- Gluten-free
- No additives or preservatives
- GMO-free
- Ethical and environmentally friendly package
- Kosher
- Vegan
- No animal ingredients
- High protein

### References

Food Allergy Research & Education. (n.d.). Food Allergy Facts and Statistics for the U.S. Retrieved from Food Allergy: <http://www.foodallergy.org/file/facts-stats.pdf>  
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Tarver, T. (2016). Palatable Proteins for Complex Palates. IFT Magazine, 33-39.

### Contact

GLG Life Tech Corporation  
TSX: GLG  
10271 Shellbridge Way  
Richmond, B.C., V6X 2W8 Canada  
Phone: +1 (604) 285-2602  
Fax: +1 (604)662-8858  
[sales@glglifetech.com](mailto:sales@glglifetech.com)