

## Documents

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**Grass pea (*Lathyrus sativus*) flour: microstructure, physico-chemical properties and in vitro digestion**  
(2019) *European Food Research and Technology*, 245 (1), pp. 191-198. Cited 1 time.

**DOI:** 10.1007/s00217-018-3152-y

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**Abstract**

Flour from grass pea, a legume that is adapted to arid conditions containing high levels of proteins, was characterized according to microstructure, some functional properties and digestibility. Microstructural results showed that grass pea starch granules appeared surrounded by an integral matrix with heterogeneous sizes from 6 to 30 µm. Thermal properties displayed a single endothermic transition corresponding to starch gelatinization transition. The digestibility of starch was 79.6%, expressed as the ratio of non-resistant starch to the total amount of resistant and non-resistant starch. The flour was also relatively rich in phenolic substances possessing antioxidant properties as demonstrated by the 2-diphenyl-1-picrylhydrazyl radical method. Adult and elderly in vitro digestion demonstrated that proteins were easily digested. These findings suggest that this legume is suitable for feeding of a large spectrum of population, being endowed with attractive properties that make it potential enough as functional food. © 2018, Springer-Verlag GmbH Germany, part of Springer Nature.

**Author Keywords**

Grass pea flour; In vitro elderly digestion; Microstructure; Novel foods

**Index Keywords**

Gelation, Microstructure, Proteins; Antioxidant properties, Endothermic transitions, Functional properties, Grass pea flour, In-vitro, Novel foods, Physicochemical property, Starch gelatinization; Starch

**Publisher:** Springer Verlag

**ISSN:** 14382377

**Document Type:** Article

**Publication Stage:** Final

**Source:** Scopus