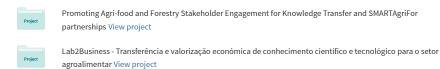
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Acorn: a devalued food with health benefits

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INTRODUCTION

- Acorns are the fruits of Quercus trees and they have been playing a relevant role in the human diet across centuries, from ancient Native American Indians to modern Mediterranean countries.
- Acorns have been described as alternative functional foods, specially considering their high nutritional value and richness in bioactive phytochemical with biological action, contributing to the consumer well-being

OBJECTIVES

This work aims to review the nutritional composition of the acorn and its nutraceutical properties with health benefits and to highlight the importance of promotion on acorn products.



METHODS

A bibliographic review was carried out in databases: Pubmed, ScienceDirect, Elsevier in Portuguese and English, using the words: acorn, acorn flour, acorn and nutraceutical, acorn and health. This research has been limited from 2008 to 2018

RESULTS AND CONCLUSIONS

Acorn fruits and its byproducts have a biological composition which confers attractive properties for the food and pharmaceutical products and its incorporation can **improve** the nutritional characteristics and consumer's health ^{1,2}.



Minerals

Manganese + Cooper (90%), Iron, Magnesium, Phosphorous, Calcium, Potassium, and Zinc

✓ prevent bone damage and improves brain function



Fatty acids, sterols and aliphatic acids (~3%)

Oleic acid and α -linoleic acid Vitamin E and Provitamin A Vitamin B3

 $\beta\text{-}$ sitosterol and tetracosanol

✓ Decrease blood serum triglycerides and increase HDL-cholesterol levels

★ Antimicrobial and antitumor activity

Starch, fibers and other hydrocarbonates (~70%)

✓ Improves gut microbiota activity

✓ Antioxidant and cell protection effect

✓ Tolerated by celiac patients (gluten free)

Acorns have great potential as high value nutraceuticals for dietary supplements or functional foods and thus should be used for innovation / valorization in the industry.



Acorn Bioactive

Health Roles

Anti

Anti bacterial Anti oxidan

Prebiotic

Anti aging Antiinflammatory

Selected bibliography:

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Acknowledgements

