

1st International  
Multidisciplinary Acorn as  
Food Workshop

**ACORN 2024**  
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# **ACORN: the food of the future**

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# Pepe

Company Profile

# Aromas

- Founded in 2013
- Organic production
- Sustainable family business
- Established market presence

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# Pepe

## Company Production **Aromas**

- 400 ha – Oak forest (acorn and cork) production
- 20 ha - Prickly pear fruit (Opuntia) production
- 4 ha - Lemon fruit production
- 40 ha - Cereals/Other vegetables production

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# Oak Forest

“MONTADO”

Company Production

- Portuguese cultural landscape shaped by human activity over centuries;
- “Montado” comprises various types of cork oak and holm oak plantations in Portugal and is closely linked to cork production and free-range pig farming, two activities with a long historical tradition;
- This type of forest functions as a diverse production system based on the sustainable exploitation of oak trees;
- Oak forests can absorb up to 14.7 tonnes of carbon dioxide (CO<sub>2</sub>) per hectare annually.

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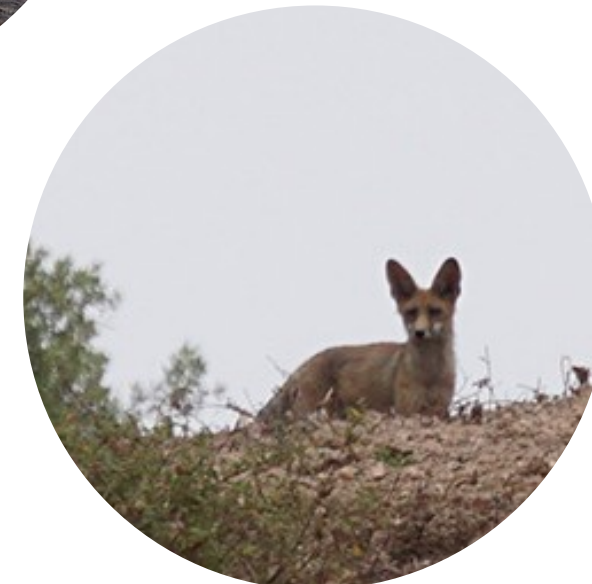




# Oak Forest

“MONTADO”

The treasures of the “montado”



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# Acorn

Company Production

- Acorns are edible fruits produced by various species of the genus *Quercus*, found throughout the Mediterranean;
- In Portugal, acorns are abundant but remain an underutilised resource, with nearly 50% of the fruit on trees left unharvested;
- Acorns, rich in phenolic compounds, exhibit antioxidant, antibacterial, antimicrobial, antifungal, anti-inflammatory, anticancer, antidiabetic, and cardioprotective properties;
- Traditionally used as animal feed, particularly for iberian black pigs;
- Consumed by humans across different historical periods.

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# Acorn

## Nutritional Profile of Acorns

- A gluten-free product suitable for those with coeliac disease;
- Rich in carbohydrates, with free sugars (glucose and sucrose);
- Contains significant levels of lipids, but a low concentration of protein;
- Micronutrients include Fe, Cu, Zn, Mn, Ca, Mg, P, and K;
- Also contains Vitamin E and provitamin A.

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# Acorn

## Nutritional Profile of Acorns

### Biochemical Composition of Acorns by Oak Species

Species	Carbohydrates (% dw)	Lipid (% dw)	Protein (% dw)	Ash (% dw)
<i>Q. ilex</i>	79.11 ± 5.50	11.51 ± 2.69	4.64 ± 0.09	1.96 ± 0.21
<i>Q. rotundifolia</i>	78.03 ± 4.91	11.75 ± 0.50	4.52 ± 0.34	1.60 ± 0.01
<i>Q. suber</i>	85.15 ± 1.20	5.33 ± 3.29	7.63 ± 1.94	2.13 ± 0.52
<i>Q. nigra</i>	91.92 ± 0.11	2.02 ± 0.02	5.26 ± 0.37	1.25 ± 0.06
<i>Q. faginea</i>	85.36 ± 5.15	4.68 ± 3.78	6.52 ± 0.73	2.09 ± 0.13

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# Acorn

## Nutritional Profile of Acorns

### Comparison of the Biochemical Composition of Different Products

Species	Lipid (% dw)	Protein (% dw)	Fiber (% dw)	Ash (% dw)
Holm Oak Acorn	9.82 ± 0.05	5.29 ± 0.10	17.90 ± 2.95	0.95 ± 0.01
Maize	0.55 ± 0.06	0.97 ± 0.08	2.62 ± 0.45	0.22 ± 0.01
Rice	0.93 ± 0.13	3.82 ± 0.04	0.43 ± 0.15	0.73 ± 0.03
Wheat	1.81 ± 0.05	11.54 ± 1.07	3.44 ± 0.01	0.92 ± 0.02

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# Acorn

Acorn Potential

- Animal Feed - cattle and wildlife
- Food - Flour, breads, infusions, vegetal milks, coffees, hamburguers, salads, snacks
- Biomedical and textile industries - Tannins
- Cosmetics – Oil, creams, shampoos

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# Acorn

Uses of Acorns - Animal Feed



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# Acorn

At Pepe Aromas



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# **ACORN: the food of the future**

Closing Statement

*Join the future with us.*

*Take a bite of an acorn!*

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# References

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