



Progetto BIOMA

Sicilian almond: biodiversity, properties, potential

A symbol of **resilience, biodiversity, culture** and **identity**, the **Sicilian almond** is more than just a shell fruit. Almond cultivation has its roots in the history of Sicily, beginning in Greek and Roman times. With the arrival of the Arabs in the 9th century, this crop then experienced further development, becoming an integral part of the island's landscape and culture. This is evidenced by the great varietal heritage spread over the centuries of cultivation, which sees Sicily as one of the richest areas in number of typical ancient varieties. Among the native Sicilian varieties still cultivated today: Pizzuta d'Avola, Fascionello, Romana, Chiricupara, Vinciatutti, Cavalera and many others. All appreciated for their unique organoleptic characteristics. An agricultural heritage to be protected.

Today, in an era of climate change and ecological transition, **the almond tree demonstrates remarkable adaptability** to the Mediterranean climate, water scarcity and the principles of organic-regenerative agriculture. The plant is hardy and low in energy demand, and it lends itself to techniques that favor soil regeneration, the creation of habitats for biodiversity and the maintenance of low-impact agricultural practices. Between the provinces of **Palermo** and **Trapani**, territories with a strong agricultural vocation, to date the almond tree thus represents a key crop for revitalizing the local economy and countering rural depopulation. Thanks to its adaptability to arid soils, low water demand and resistance to climate change, the almond tree is perfectly suited to **organic and regenerative agriculture**, where biodiversity is a resource and not a limitation.

Nutritional benefits and properties of almond

From a **nutritional point of view**, the almond is one of the most complete plant foods due to its composition:

- 50% lipids (mostly monounsaturated fats, such as oleic acid);
- 25% plant protein;
- 20% complex carbohydrates;
- dietary fiber and bioactive micronutrients.

In addition to being an excellent source of vitamin E, magnesium, calcium, iron, folic acid, niacin, and riboflavin, almonds are among the low-calorie foods with few available carbohydrates and saturated fats.

It also boasts **important antioxidant and prebiotic properties** and cardiovascular protective action. Other relevant effects are confirmed by numerous scientific studies:

- reduces LDL cholesterol (called bad cholesterol) levels in the blood, lowering the risk of heart disease due to its monounsaturated and polyunsaturated fatty acid content;
- helps keep blood sugar levels stable due to its low glycemic index and high fiber content;
- protects the skin from free radical damage, reducing signs of aging and improving skin elasticity due to the high antioxidant power of vitamin E and other antioxidants;
- regulates intestinal function by supporting the health of intestinal flora due to fiber content;
- strengthens the immune system.

Activated almond: a potential to be developed

Yet despite all these properties, the full potential of the almond can be further developed. The BIOMA Project, which was created precisely to combine tradition, scientific research and food innovation, fits into this perspective. The goal of the Project is to **enhance the Sicilian almond supply chain**, focusing on almond activation and pre-germination. **Activated almond** - that is, subjected to a controlled process of soaking and subsequent sprouting - could further enhance these properties, improving the bioavailability of vitamins and minerals and increasing protein digestibility.

Il Progetto BIOMA è realizzato nell'ambito del Psr Sicilia 2014-2020, misura 16.1
“Sostegno per la costituzione e la gestione dei gruppi operativi del PEI in materia di produttività e sostenibilità dell'agricoltura”
Gruppo Operativo BIOMA
CUP G97F19000290009

