Food and Agriculture Organization of the United Nations

One Country One Priority Product

Morocco

Carob *(Ceratonia siliqua)*

General overview

Carob is native to the Mediterranean region and a traditional part of Moroccan agriculture, especially in forested and mountainous areas. It is valued for its resilience to drought, its ecological role in soil protection and biodiversity, and its economic potential, especially through the extraction of carob gum (E410), used across the pharmaceutical, cosmetic, and food industries.

Status of the Carob in Morocco

Morocco produces between 40 000 and 60 000 tonnes of carob annually, most of which comes from forest areas managed by the National Agency for Water and Forests (ANEF). Production covers approximately 71 000 ha of forested lands and 28 000 ha of private holdings. While smallholders use traditional methods, large-scale producers cultivate grafted genotypes under modern practices

Production

- National production ranges between 40 000 and 60 000 tonnes per year
- Forest-based production managed by ANEF spans 71 000 ha
- 28 000 ha of carob are cultivated privately by smallholders and large-scale producers
- Smallholders rely on traditional methods; large farms use grafted genotypes and modern techniques

Collection and transport

- Most harvested pods are sent directly to crushing units
- Some are collected and sold via intermediaries and cooperatives

Two forest exploitation modes:

- Public auctions (for ANEF-approved operators)
- Cooperative-based exploitation, offering pods at preferential rates (1–2 MAD/kg) in return for forest conservation actions (e.g., grafting, surveillance, reforestation)

Processing

- Main processing activity is crushing (seed extraction), handled by around 15 units with a combined capacity of over 80 000 tonnes
- Value chain remains underexploited; most seeds are exported without transformation
- Processed products (e.g., syrup, molasses, flour, vinegar) exist but on a limited scale

Main processor types include:

- Seed-crushing units
- Gum and germ flour producers
- Pulp flour producers
- Animal feed processors
- Small-scale cooperative units

Marketing and trade

Serves six key markets:

- Export market for carob seeds, carob gum and pulp flour
- Domestic market for germ flour
- Domestic market for processed products and fresh pods
- Carob seed exports (mainly to Europe) reach 13 000 tonnes per year, worth around USD 100 million

*Carob gum exports average 825 tonnes per year, worth USD 23 million

- Pulp flour value not precisely estimated
- Domestic market includes products from gum units, small cooperatives, and fresh pods sold by farmers

Challenges

- No officially registered selected varieties
- Limited know-how in propagation, irrigation, and pollination
- Poorly structured local market
- Disorganized marketing and distribution channels
- Low product valorization
- Lack of entrepreneurial mindset in cooperatives
- Limited product promotion
- Weak research and innovation in the sector

Key activities

- FAO has completed a comprehensive carob value chain study, including an upgrading strategy and investment plan

Cultural importance and local consumption

Carob has long been part of Moroccan rural traditions, used in homemade syrups, flours, and natural remedies. Today, its seeds are highly valued for producing carob gum (E410), a key ingredient in the pharmaceutical, cosmetic, and agri-food industries, linking local traditions to global markets.

Coordination and key stakeholders

- MAPMDREF – Ministry of Agriculture, Maritime Fisheries, Rural Development, and Water and Forests
- INRA – National Institute for Agricultural Research
- IAV Hassan II – Hassan II Institute of Agronomy and Veterinary Medicine
- ENA Meknes – National School of Agriculture
- ENFI – National School of Forest Engineers
- ONSSA – National Office for Food Safety
- ONCA – National Office for Agricultural Advisory Services
- Universities
- Private sector

Target areas for partnership and investment

Production

- Support research on carob genotyping and varietal selection
- Train actors on sustainable production techniques
- Implement a traceability and control system along the value

Processing

- Conduct feasibility studies for processing units.
- Invest in carob gum, flour, and by product processing infrastructure

Marketing and trade

- Organize workshops to improve stakeholder coordination
- Support the creation of an interprofessional body for producers, processors, and traders

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