

## PORTUGAL

### PEDO-CLIMATIC CONDITIONS:

Warm and temperate Mediterranean climate, with a distinct wet season in winter

### CROP: Faba beans

Faba beans are very adaptable to Portuguese growing conditions but involve some challenges due to drought-period conditions. Using regenerative practices, faba-bean crops can yield up to 4 tons per hectare.

Growing faba beans in Portugal promises very good results since they can be grown in wintertime, are an excellent solution for crop rotation, and the demand for high-protein crops is continuing to grow.

The selection of varieties used was mostly predicated on well-known, highly productive cultivars that are adaptable to a wide range of growing conditions.

In field trials over the past three years, the highest yield was achieved with the Tiffany variety (4.4 tons per hectare), followed by all the other varieties tested. While all the cultivars demonstrated adaptability, key challenges included rust and chocolate disease attacks prior to maturity. Because susceptibility to rust, chocolate disease, trips, and black and green aphids is a risk for organic production, there is a greater need for control or for more robust varieties.

The seeds are contained in pods, which open when the seeds reach maturity. The colour of the seeds ranges from dark yellow to brown.

Typically, faba bean grows to a height around 1-1.5 metres.

Both the Tiffany and Fuego varieties have a longer growth cycle, growing up to 1.5 metres in height and producing smaller pods, while the Sofia variety produces purple beans.

Variety	Seed/m <sup>2</sup>	Plant n /m	g/m <sup>2</sup>	kg/há	g/plant
TIFFANY	50	49	440	4400	9.0
FUEGO	50	47	355	3550	7.5
SOFIA	50	46	407.5	4075	8.9

## BEST AGRICULTURAL PRACTICES:

### • Organic regenerative practices applied:

- Application of organic fertilisers.
- Foliar spraying with organic products, for pest and disease control.
- Three mechanical weedings during the growing season.
- The remaining biomass was incorporated back into the soil in the form of green manure, which improves soil health.



*Picture 1: Faba-bean field*



*Picture 2: detail of faba-bean flower*

### • Best practices for sowing :

- Soil preparation should involve shallow ploughing of up to 30 cm and the application of 100–150 kg/ha of organic fertiliser, with a Nitrogen-Phosphorus-Potassium ratio of 6:7:8.
- Sowing should be shallow, at a depth of 4 cm, with row spacing of 50 cm, and a density of 50 plants per square metre.
- The most suitable time for sowing faba beans is from February to March (although they can even be sown in October), using a mechanical or pneumatic seeder.

### • Best practices for managing the chosen crops:

- Soil analysis.
- Proper fertilisation based on soil and plant needs.
- Proper sowing.
- Preventive protection against bird attacks.
- Implementing pest and disease control.
- A minimum of three mechanical weedings.
- On-time harvesting, before heavy rains.

### • Best practices for harvesting the chosen crops:

- In August, with a mechanical harvester.



*Picture 3: faba-bean pods*