



Transition paths to sustainable legume-based systems in Europe

## Cultivating faba bean as green manure in the Mediterranean region

### Problem

A major concern in organic farming is the availability of nitrogen in the soil. Legumes can provide nitrogen to the soil due to their symbiosis property with nitrogen fixing bacteria, which are spread in the soil. Therefore, legumes can be used in crop rotation schemes in organic agriculture, where they are cultivated for green manure to improve nitrogen availability and soil fertility for the subsequent crop.

### Practical recommendations

Legumes cultivated for green manure should be characterized by high nitrogen fixing ability, such as faba bean. Before sowing, a low-input basal dressing is added to the field. The typical plant density is 30 seeds per square meter. Then, during the flowering stage when 50% of the flowers are closed, i.e. the maximum nitrogen fixing activity is observed, the crop is incorporated into the soil.

In addition, to maximize nitrogen fixing ability, seeds are inoculated with specific nitrogen fixing bacteria. During inoculation, the seeds are soaked in the solution of these bacteria and then sown in a high humidity soil. The inoculation process should be avoided during rainy days due to the high risk of bacterial leaching resulting in inoculation being unsuccessful.

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### Country/Region

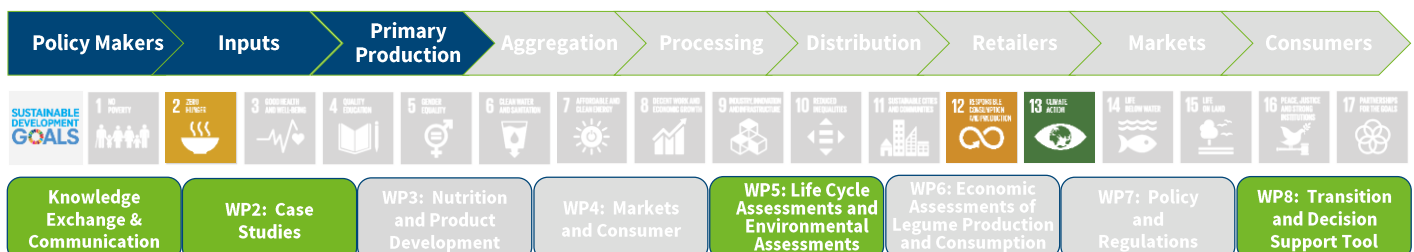
Greece / Mediterranean

### Keywords

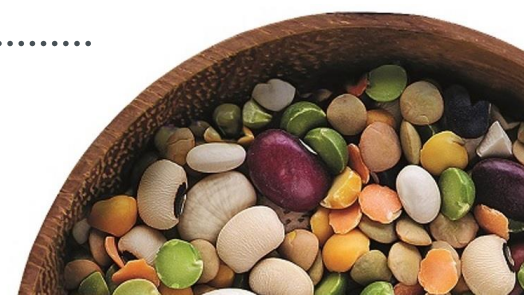
Faba bean, green manure, organic agriculture, nitrogen fixation, inoculation



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All Practice Abstracts prepared by the TRUE Project in the EIP-Agri common format can be found here: <https://ec.europa.eu/eip/agriculture/en/find-connect/projects/transition-paths-sustainable-legume-based-systems>





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1. Adding Arabic gum



2. Mixing



3. Adding rhizobia solution



4. Add rhizobia solution and sow.

Procedure of inoculation. Photo credits ©: Ioannis Karavidas



### About TRUE

The EU funded project "TTransition paths to sUustainable legume based systems in Europe" (TRUE) is a balanced practice-research partnership of 24 institutions, which aims to identify the best routes, or "transition paths" to **increase sustainable legume cultivation and consumption across Europe** and includes the entire legume feed and food value chains.

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