European Network for Rural Development

Using hydroponics to produce green fodder on the Canary Islands

EAFRD-funded projects

SPAIN

Entry of skilled / young farmers

Location
Güímar

Programming period
2014 – 2020

Priority
P2 – Competitiveness

Measure
M06 – Farm and business development

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EAFRD 96 050
National/Regional 16 950

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2018 – 2018

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Two young farmers set up a hydroponic facility to produce high quality green fodder for livestock in the Canary Islands.

Summary

As a consequence of their insularity, the Canary Islands struggle to meet the green fodder supply requirements of their farmers. The vast majority of feed is imported, which means that the food is rarely fresh and that very few short distribution channels for this type of product exist on the islands.

Two young farmers identified this market opportunity and decided to set up a hydroponic facility to produce high-quality, fresh green fodder for the local market.

Results

An 80 m2 hydroponic facility for the production of green fodder crop was constructed.

The production capacity of the facility is approximately 1000 kilograms of barley per day.

Green fodder with a high nutritional value has been produced. The production provides a continuous supply of green fodder to a farm with 300 goats and is also available on the local market.

The use of hydroponics allows for about 90% savings in water use compared to traditional systems.

Lessons & Recommendations

- ❑ The beneficiaries tried to develop the project without RDP support and it was not possible.
- ❑ The beneficiaries are satisfied with how their project is developing. They expect to be able to expand their facilities, and therefore increase production, as soon as possible.

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Using hydroponics to produce green fodder on the Canary Islands

Context

In the Canary Islands, and in Tenerife in particular, there is a livestock feed supply shortage. The sector is heavily dependent on the external market: importing around 80% of the food required by livestock farms. The imported feed tends to be poor quality as fresh produce is rarely available.

The Canary Islands are also confronted with water scarcity and competition for its use, which raises the water price above the national average. Thus, increasing water efficiency in agriculture is another important concern in the region.

Objectives

The main objectives of the project included:

- to supply green fodder to farms, zoos and retailers in the Canary Islands
- to create short distribution channels for green fodder
- to produce feed with a high nutritional value
- to offer the local market an environmentally sustainable product: emphasizing efficient water use (through hydroponics) and re-use
- to reduce the product delivery time and, therefore, deliver a fresh product with the lowest possible loss of nutrients
- to create relationships of trust between green fodder producers and consumers.

Activities

In order to achieve its objectives, the project involved the construction of an 80 m2 hydroponic facility for the production of green fodder. Its main production crop is barley, although tests have been made with other types of seeds with a view to increasing the variety of the crops produced.

The facility consists of 3 rooms:

The first one is the pre-germination room where the seeds are washed and the germination process begins, this stage lasts 1 day.

Afterwards the plants are moved to the cultivation room. In that room the fodder is cultivated in 6 vertical levels where the plants grow on substrates. One of the main characteristics of this method is that the plants are cultivated using mineral solutions instead of agricultural soil.

The excess water of the circuit is used to irrigate an attached plot. In addition, the cultivation room has a computer that monitors the water and its nutrients, the room temperature and the humidity level, in order to regulate the conditions and keep the plants growing continuously.

Finally, there is a third room where the climate control unit, the water pump and the lights system are set up.

The energy for the lights that are required by this production system is obtained through two wind turbines installed on the farm. This technology enables significant savings in the farm's energy costs.

The beneficiaries participated in training courses on green fodder cultivation to improve their knowledge on the subject. They also used these courses to build their network and promote their products.

Main Results

The most important achievements of the project are:

- An 80 m2 hydroponic facility for the production of green fodder crop was constructed.
- The production capacity of the facility is approximately 1000 kilograms of barley per day.
- Green fodder with a high nutritional value has been produced. The production provides a continuous supply of green fodder to a farm with 300 goats and is also available on the local market.
- New short distribution channels for green fodder have been created on the island.
- The farmers involved in the project have created a sustainable income source.
- The use of hydroponics allows for about 90% savings in water use compared to traditional systems.

Key lessons

The beneficiaries tried to develop the project without RDP support and it was not possible.

The beneficiaries are satisfied with how their project is developing. They expect to be able to expand their facilities, and therefore increase production, as soon as possible.

Additional sources of information

n/a

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