

## PRACTICE ABSTRACT 4

### Case study on 'Using by-products in dairy farming' - Spain

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#### WP1:

Re-Understanding and mobilising adoption through multi-actor engagement

#### Dehesa: A Unique Agro-silvo-pastoral System

**Dehesa** is an **agro-silvo-pastoral system** and cultural landscape of southern-central **Spain and Portugal** where **holm oak forests** and **grazing cattle, goats, sheep, and the Iberic pig** all **function together**. It is usually considered "marginal areas" in Spain due to the limited agricultural potential, lack of local industry, and weather inclemency.



Figure 1. Dehesa's landscape.

Due to **pasture scarcity**, Dehesa **dairy producers** usually **import conventional ingredients** such as corn, especially during drought. In recent years, these ingredients have experienced **high and variable prices**, leading to the **need** to find **alternative resources**.

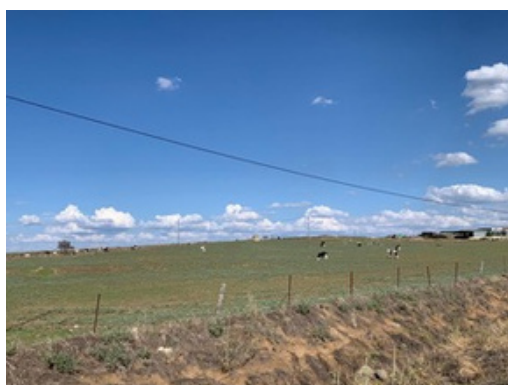


Figure 2. Dairy cows grazing on Dehesa's farm.

#### Challenges in Using By-products for Dairy Diets

The **inclusion of by-products in dairy diets** as a **cost-efficient alternative** is **gaining popularity**. However, there is still a long way to go and obstacles to fully implementing by-products in dairy cows' diets—for example, **seasonality** and **quality**.



Figure 3. Tomato by-products storage on Dehesa's dairy farm.



Figure 4. Different by-products (tomato and almond) are used on Dehesa's dairy farms.

There are not always guarantees that a chosen by-product will be available year-round; even if it is, its quality will not be affected. Furthermore, if a chosen by-product is only sometimes available, it will require **long planning**, like buying larger quantities, **processing, and storage**.

#### An opportunity to show the benefits of adoption and implementation of by-products in dairy diets

This raises other **questions** for dairy farmers. Will **cow diets change** drastically if a by-product must be substituted **due to seasonality**? Will the quality hurt dairy cattle and **milk quality**?

Working with Dehesa's dairy producers will help answer these and further questions and **elaborate a plan** where selected **by-products** can be safely incorporated into **dairy cows' diets efficiently for producers, consumers, and the environment**.