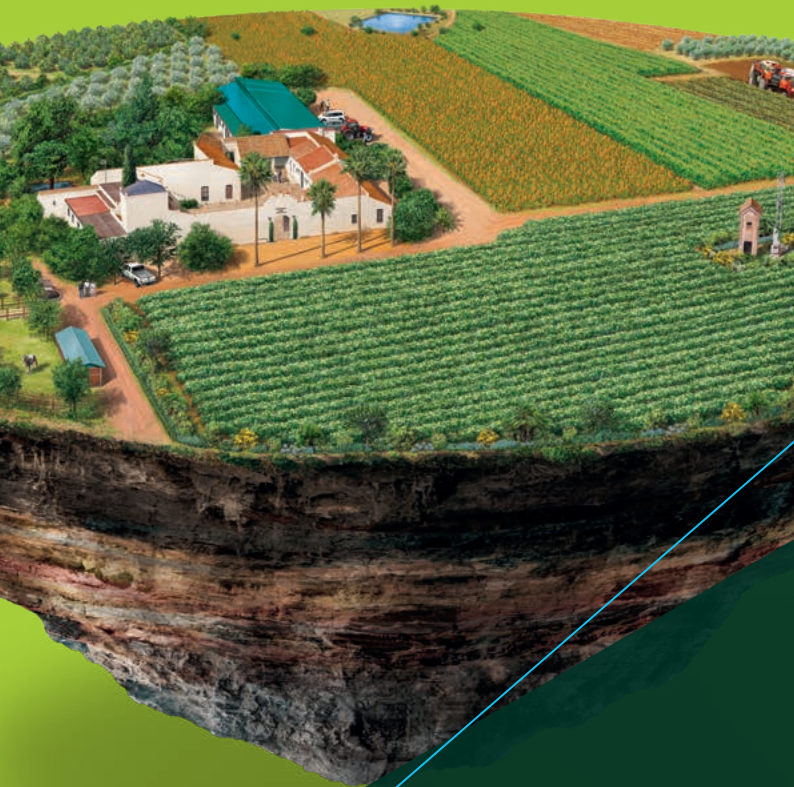




# One Step Ahead with Sustainable Agriculture

**Hacienda Las Cardenas –  
Spain**



Bayer  
Forward   
Farming

# Sustainable Agriculture in Practice

Hacienda Las Cardenas lies in the heart of Andalusia, in the Guadalquivir river valley basin known for the Mediterranean triad: wheat, olives and vine grapes. The Valdenebro family cultivates an even broader variety of crops. They believe that crop diversification allows them to keep their soil healthy and stabilize farm income. However, farming challenges are ample, especially with regard to water availability. With the Bayer ForwardFarming initiative, the family sees a great opportunity to further shape their ambition to create a truly sustainable farm environment, while further increasing modern agricultural practices.



## Introducing Hacienda Las Cardenas

**Managed by Diego and  
Patricio Valdenebro**



### **Location:**

Carmona, near Sevilla.



### **History:**

In the mid-20<sup>th</sup> century, Ignacio de Valdenebro Muñoz acquired the olive farm Hacienda Las Cardenas. Today, with over 1.000 ha, it is managed by the 2<sup>nd</sup> and 3<sup>rd</sup> generation of the Valdenebro family.



### **Farming Land:**

On an alluvial plain of the Guadalquivir river with sandy, silty and clay soils with gravel and stones.



### **Crops:**

Tomato, wheat, cotton, corn, quinoa, sunflower, orange, olive.



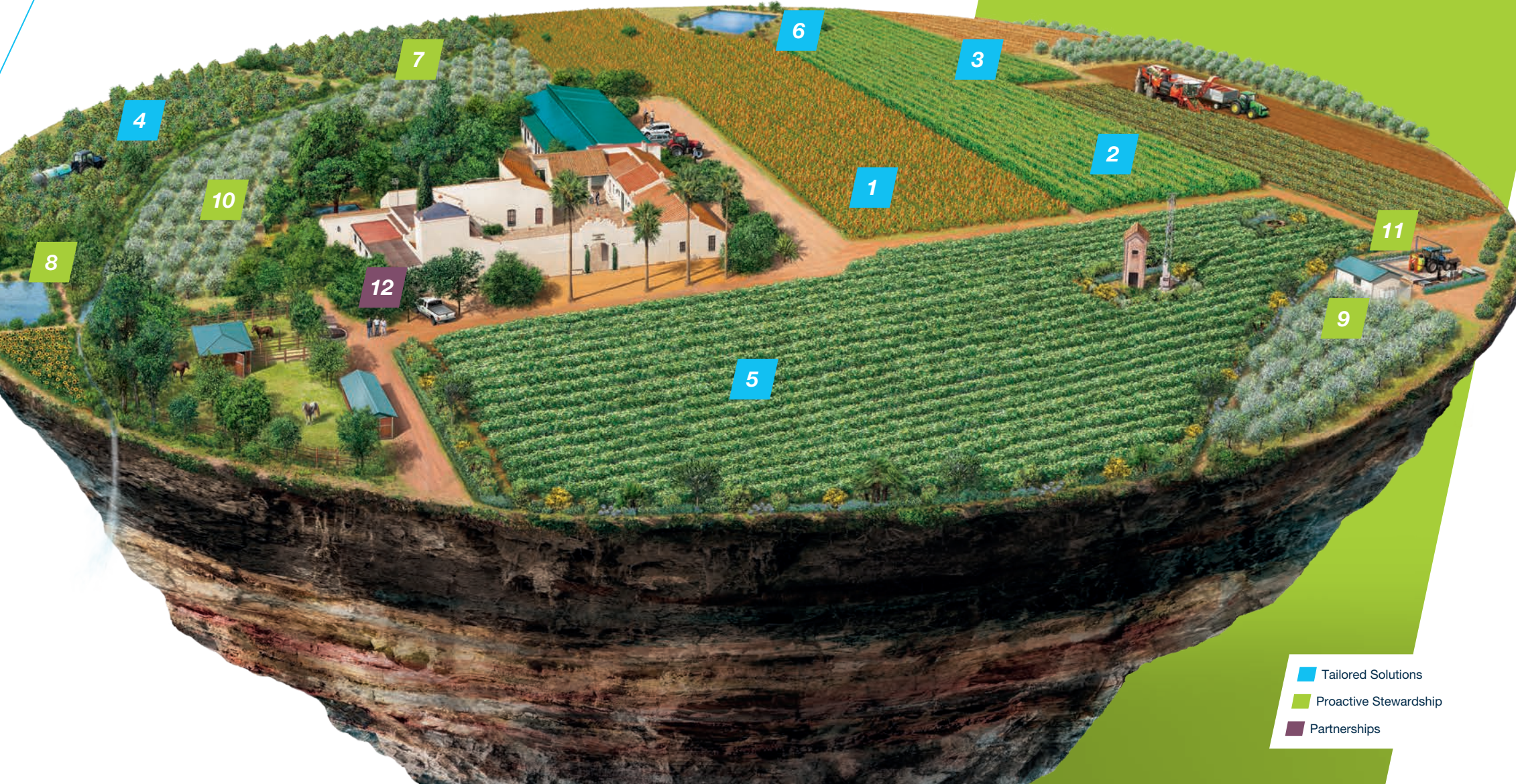
### **Partners:**

University of Cordoba, Biodiversity Node, and Bioteus.



# Hacienda Las Cardenas

## Farm Profile



- Tailored Solutions
- Proactive Stewardship
- Partnerships

## Key Elements

- 1 **Productivity starts with the seed**  
Modern seed technology allows to produce higher yielding crops of better quality on the same land.
- 2 **Precision farming**  
Digital tools like Climate FieldView™ allow for making more accurate decisions and increase efficiency while reducing the use of resources.
- 3 **Soil care**  
Ample crop rotation, fallow land and cover crop management to improve soil fertility and weed control.
- 4 **Smart crop protection**  
Monitoring and modelling pest and disease infestations to optimize chemical and biological product use, as well as cultural measures.
- 5 **Integrated weed management**  
Crop rotation, soil management, alternating herbicide modes of action and localized applications.
- 6 **Each drop of water counts**  
Efficiency in drip irrigation and digital solutions is essential to preserve water – a scarce commodity.
- 7 **From the field to the plate**  
Good agricultural practices, integrated management, biological treatment programs and pheromone trapping enable the production of high-quality food.
- 8 **Biodiversity conservation and enhancement**  
Planting native flower strips and shrub hedges, installing perches for birds of prey, nest boxes and insect hotels, floating islands for amphibians in a water reservoir and cover crops.
- 9 **Safety first**  
Maximizing user safety throughout all stages of crop protection handling with personal protective equipment, closed transfer systems such as easyFlow M, and continuous training.
- 10 **Best practice applications**  
Equipment calibration and adjustments, as well as the use of anti-drift nozzles.
- 11 **Water protection**  
Phytobac®: Sustainable management of wastewater from cleaning spraying equipment in a closed system that biologically breaks down crop protection product residues.
- 12 **Partnerships**  
Demonstrating that sustainable agriculture is possible with the involvement of various key players in the agricultural sector.





Bayer ForwardFarming provides an up-close look at how farmers are practicing sustainable agriculture around the world. Unique in its global reach the Bayer ForwardFarming network serves as platform for knowledge sharing and dialogue. Forward-Farmers deploy technologies and best practices that reduce agriculture-related greenhouse gas emissions, decrease the environmental impact of crop protection, promote biodiversity and conserve natural resources.

On the ForwardFarms, progress towards the Crop Science sustainability commitments truly comes to life.

**Bayer ForwardFarming demonstrates solutions that support sustainability in agriculture across the following three components:**

// **Care for Crops** – Every farm is different, and every field within a successful farming operation is unique. **Tailored Solutions** are needed to meet the needs of the individual farmer and their specific field – from the right seeds and traits to the correct type and amount of crop protection, to the digital tools and services that allow for good decision making and precision.

// **Care for the Planet and People** – ForwardFarming promotes and demonstrates **Proactive Stewardship** to protect human health and preserve the environment. Examples include addressing the safe and responsible use of crop protection products; soil health, biodiversity, and water conservation; and offering training in all of these areas.

// **Care for Partnerships** – Bayer ForwardFarming fosters **Partnerships** with agricultural value chain actors, research centers, universities, and other institutions to strengthen sustainable farming development.



For further information, visit our website:

[www.forwardfarming.com](http://www.forwardfarming.com)

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