



## University Farm

Area:	445 hectares (1100 acres) at Sutton Bonington, Bunny Park & Beeston
Soils & Environment	Wide ranging soils, including sand, clay, loam, and alluvial types. The farm is within a Nitrate Vulnerable Zone and has environmental features including ponds, beetle banks, field margins, new and mature woodland and nesting boxes. Rainfall is approximately 600 mm per year. Winter average temperature: 3 degrees C. Summer average temperature: 15 degrees C.
People:	Farm Director, Farm Manager, Head Herdsperson, two livestock workers, farm apprentice, part time and contract staff as required.

### Crop Production Centre

Combinable Crops:	Market-dependent, including milling and feed wheats, oilseed rape, field beans
Forage Crops:	maize, wholecrop wheat, triticale, temporary and permanent grass
Machinery:	Tractors, GPS controls for precision agriculture, drills, cultivators, crop nutrition & protection equipment. There is a contract farming agreement with a local farm
Market:	Crops currently sold at harvest or on forward contracts to 'Frontier Agriculture'.

### Animal Production Centre

Dairy:	<i>Circa</i> 200 Holsteins, yielding <i>circa</i> 11,700 litres per cow, homebred replacements
Milking:	4 Lely 'Astronaut' robots
Health Management:	Cow brushes, mattresses, rubber flooring, free access to milking, augmented ventilation, cow cooling systems, <i>ad lib</i> diets
Feed:	Total Mixed Ration (TMR) and individual cow diets using home-grown forage and purchased concentrate feeds
Market:	Tesco (liquid milk under the 'Arla' contract)
Sheep:	<i>Circa</i> 100 Lley x Aberfield and Lacune x Texel ewes crossed with Exlana and Berichon de Cher rams (Exlana has the recessive Wiltshire gene for wool loss for easy to manage ewe lamb replacements).

### Research Centre

Field Trials	<i>Circa</i> 15 hectares per year, in rotation with commercial crops + facilities for wide range of other crop types
Livestock Trials	Up to 60 animals using dedicated trial area and 'Smart Feeder'
Market:	University Research Staff.



## Environmental Centre

Stewardship	Field margins and corners, beetle banks and ponds; maintenance of 'Good Agricultural and Environmental Condition'. The farm is part of the Entry Level Stewardship scheme
Woodland	18 hectares of mature woodland at Bunny Park, Jubilee Woodland at Sutton Bonington
Cosmos data	<a href="http://cosmos.ceh.ac.uk/data">http://cosmos.ceh.ac.uk/data</a> (Click on 'Bunny Park')
Market:	Provision of Public Goods to the wider community.

## Recent academic research projects at University Farm

- Methane reduction from dairy cows through dietary change
- Life cycle analyses of milk production
- Resource use efficiency in ancient cereals and their potential for providing genetic diversity in modern wheats
- Bioethanol from wheat straw and its environmental impacts
- Disease control in winter cereals
- Improved risk assessment methods for predicting yield loss from disease
- Water use efficiency in sugar beet
- Cattle worming drugs and their effect on invertebrate species living in cattle manures
- Biogas research from slurries: methane and hydrogen
- Improving pasture management on sheep farms
- Treatment of lameness in dairy cows
- Prevention of hock lesions and lameness in dairy cows
- The farm is also widely used for BSc student research projects in the School of Biosciences and the School of Veterinary Medicine and Science.

## Examples of the role of University Farm in Teaching

- In the Year 1 module *Contemporary Agricultural Systems*. Visits to University Farm and other Farm Businesses are integrated with recent research findings
- In the Year 2 module *Crop Management Challenge*. Students plan spring applications of crop nutrients and protection products on trial plots at University Farm
- In the Year 2 module *Applied Animal Science*. Students conduct a comparative analysis of University Farm's system of milk production (robotic milking) with a neighbouring organic dairy farm
- In the Year 3 module *Management Consultancy*. Using University Farm's financial statements students draw up Consultancy reports on a topic of their own choice. Reports are presented to the University Farm Manager.
- In Year 1 of the Veterinary Course. Students visit the farm to practice their animal handling and learn about animal husbandry
- In Year 5 of the Veterinary Course. Students spend a number of days learning aspects of individual medicine, routine veterinary techniques and herd preventative medicine as part of their clinical training.

