



# Case Study: Ty Tanglwyst Dairy Farm

## Safeguarding the Future

sustainable development training  
for the professional business



## Environmental Management for the Future

sustainable development  
training for the Environmental  
Management sector

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## Case Study: Ty Tanglwyst Dairy Farm

### Introduction and Background

Ty Tanglwyst farm, situated in the Bridgend area of South Wales between Pyle and Porthcawl, comprises 120 acres (48ha) of grassland which is farmed intensively as a dairy business. In addition there are 20 acres (8ha) of ancient oak woodland. It is a family business with three generations still living and working on the farm.

The farm is currently a member of the Tir Cynnal agri-environment scheme and is also on the waiting-list for the Tir Gofal scheme as a result of their woodland conservation work. Through these schemes, the Welsh Assembly Government aims to help farmers to farm in ways that help the environment and wildlife. The proprietors receive advice and help from the non-governmental organisation Coed Cymru and the statutory Forestry Commission to help maintain and manage their woodland in relation to coppicing and thinning their woodland, building and maintaining footpaths through their woodlands, and fencing its perimeters. Half of the woodland and hedges on the farm area have been double-fenced using double-hedging as part of the Tir Cynnal scheme. Many of the hedgerows are uncut in order to encourage wildlife around the farm. Tir Cynnal grants funded contractors for the fencing around the farm.

Ty Tanglwyst Farm co-operates with a range of environmental bodies which have benefited the ethos of their business. These include the Royal Society for the Protection of Birds (RSPB) and the Volunteer and Farmer Alliance Scheme, which enables them to monitor bird species across the grassland area. The farm land-holding is small and their grassland for dairy cattle is managed intensively, utilising high clover mixtures developed by the grassland research centre based in West Wales near Aberystwyth (Institute of Grassland and Environmental Research, IGER). Grassland seed is purchased through the Pembrokeshire Machinery Ring. The farm is well networked with Lantra (the Sector Skills Council for the environmental and land-based sector), Pembrokeshire Machinery Ring, facility in Horeb (mid-Wales) and the EU-funded Farming Connect programme, all providing support, information and training opportunities.





## Environmental Management and Weed Control

The argument for moving towards maintaining a viable farm whilst encouraging environmental conservation is one that provides challenging issues in relation to the farm's business operations. Ty Tanglwyst's objective is to integrate environmental conservation and farm management as far as it is viable to the sustainability of their whole business. Environmental audits were undertaken by ADAS (environmental consultancy) during 2006, funded by the Welsh Assembly Government. Since 2006 the proprietors have implemented the audit recommendations for better waste management systems on the farm.

Weed control was problematic and was initially managed using herbicides. However, the objective is to reduce the amount of chemical intervention, which is seen as a last resort to rid arable grassland of docks, thistle and nettles. Where herbicides have been required, knapsack sprays were used to spot-spray specific locations where possible, and tractor-mounted plant-cut operations used as a last resort. The benefit of utilising this form of intervention is that it has brought the weed problem under control so that topping and intensive re-seeding can replace the need for herbicide use.

The farm's slurry store is now 40-50 years old and until repair work was undertaken, did not meet capacity for a full winter's quantity. It also leaked; run-off from the slurry store caused problematic nitrate, phosphate and ammonia levels in the soil. Repairs to the slurry store were undertaken by the farm at a cost of approximately £12,000. Reduction in the use of fertilizers has cut their fertilizer bills and has, with more effective control of livestock manures helped reduce nutrient losses in the soil.

Rain-harvesting and water-management systems have been in place since the family started farming Ty Tanglwyst. Water from a bore-hole is pumped into a reservoir and fed into cattle feeders using gravity systems. Water is also collected from the large shed roofs.



## Milk Processing Unit

Although a designated dairy farm, milk processing is a recent addition to the farm business. With the cottages and the milk production, the farm employs three full-time and seven part-time employees in addition to family members. Dairy

processing equipment was bought second-hand from a dairy machinery dealer from North-West England and installed. Milk from the milking parlour is gravity-fed into mobile tanks and transported across a yard into the processing unit, where again it is gravity-fed through heating plates and pasteurised at a temperature of 74°C, before being chilled to 4°C. Approximately 90% of pasteurisation is powered by regenerating heat from a heat-exchange unit. The farm produces around  $\frac{3}{4}$  million litres of milk per annum.



Source: C.E. Lloyd Swansea University



Pasteurisation unit showing temperature gauge.

Source: C.E. Lloyd Swansea University



*Unit separating the cream from the milk.  
Source: C.E. Lloyd Swansea University*



*Feed-hopper bottling milk in batches.  
Source: C.E. Lloyd Swansea University*



*Pipes carrying pumped pasteurised milk into cooling tanks.  
Source: C.E. Lloyd Swansea University*



*Labelling bottles previously by hand; now being done on a fully automated production line.  
Source: C.E. Lloyd Swansea University*

The average production cost of a litre of milk is £0.22–£0.23 per litre. At the time of writing, supermarkets are paying farmers £0.17 pence per litre of milk. Milk is bottled on the farm using 1- and 2-litre containers. The feasibility of using alternative containers has been considered, but these would risk contaminating the milk, and also would increase the cost to customers without adding value to the product.

The farm has sold to local farmers' markets in the past, but currently they sell wholesale in and around Porthcawl (South Wales) within a 3 mile (2km) radius, to golf clubs, camping sites, cafés and bars, schools, care homes, small independent local shops and an ice cream parlour. This sustains jobs for three local milkmen.