



Abstract

The desirable characteristics of the Longhorn cattle at Duggleby High Barns Farm are maintained through artificial selection of the 'herd bull' while the lifestyle and treatment of the 'steer' is responsible for the quality of its beef. We discuss the practical issues of maintaining a healthy herd while selecting for high beef yield.

A full day's fieldwork can include all the areas below or strands can be selected for a shorter study.

Aims

- To discuss selective breeding of the English Longhorn Cattle
- To investigate the effect of farming on a freshwater ecosystem
- To investigate the effect of atmospheric nitrate pollution on the lichen community in Nine Springs Dale
- To investigate the effect of different agricultural practices on diversity of farmland birds

Learning Objectives:

- To grasp the impacts of agriculture on UK biodiversity, its landscape, and the nation's food
- To become familiar with the usage and meaning of the common farming terms
- To understand the ways in which beef productivity is affected by farming practices
- To relate the path of the Nitrogen cycle to the rural landscape
- To establish how the health of a freshwater stream changes as it flows through farmland from its source
- To relate the locations of nitrogen-sensitive and nitrogen-loving lichens to their location in the farming landscape
- To connect the presence of particular farmland bird species to the land use on particular farms

Learning Outcomes:

- To recognise the hazards associated with farming fieldwork and explain how to minimise their likelihood of occurrence
- To apply knowledge of the desirable heritable characteristics of Longhorn cattle in a selective breeding scenario
- To evaluate extensive and intensive animal husbandry practices
- To annotate fieldwork results to a sketch of the Nitrogen cycle
- To evaluate the use of freshwater invertebrates as biological indicators of the health of a stream
- To relate the abiotic conditions of a freshwater stream to the environmental issues arising from the use of fertilisers surrounding farmland
- To evaluate the use of the ACFOR scale as a measure of lichen abundance
- To assess the use of epiphytic lichens as bio-indicators of atmospheric nitrate pollution
- To explain how particular species of farmland birds are affected by different agricultural practices
- Where appropriate, to explain unpredicted trends in the data
- To evaluate the limitations in equipment and methods used in data collection