FRCA

FARMING AND RURAL CONSERVATION AGENCY

An Executive Agency of the Ministry of Agriculture, Fisheries and Food and the Welsh Office

BLACK AND WHITE AVERHAMS FARMS
FLAXTON, YORK

Agricultural Land Classification (ALC)
Map and Report

FEBRUARY 1998

Resource Planning Team
Northern Region
FRCA, Leeds

RPT Job Number: 3/98
MAFF Reference: Not Given
LURET Job Number: ME2J7YY

AGRICULTURAL LAND CLASSIFICATION REPORT

LAND AT BLACK AND WHITE AVERHAMS FARMS, FLAXTON, YORK

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 105.7 ha of land at Black and White Averhams Farms, Flaxton, York.

2. The survey was carried out by the Farming and Rural Conservation Agency (FRCA) for the Ministry of Agriculture, Fisheries and Food (MAFF), in connection with the proposal to develop the land into a golf course. Survey work was mostly conducted in February 1998 except for a small area of land adjacent to the A64 which was surveyed in 1991 for a road improvement scheme.

3. The work was conducted by members of the Resource Planning Team in the Northern Region of FRCA . The land has been graded in accordance with the published MAFF ALC guidelines and criteria (MAFF, 1988). A description of the ALC grades and subgrades is given in Appendix I.

4. At the time of survey the agricultural land on the site was all in arable use, mostly awaiting a spring crop or in winter cereals. The site also contains sections of woodland which are part of Averhams (coniferous) Plantation. Other land comprises Black Averham Farm and a small pond in the west of the site.

SUMMARY

5. The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:10,000. It is accurate at this scale but any enlargement would be misleading.

6. The area and proportions of the ALC grades and subgrades on the surveyed land are summarised in Table 1.

Table 1: Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% site area
1			
2			
3a	37.5	42.6	35.5
3b	50.6	57.4	47.9
4			
5			
Agricultural land not surveyed		N/A	
Other land	17.6	N/A	16.6
Total surveyed area	88.1	100	-
Total site area	105.7	-	100

7. The field work was conducted at an average density of one boring per hectare. A total of 86 borings and two soil profile pits were dug on the site.

Subgrade 3a

8. This land was mapped mostly in the north west of the site. Topsoils were generally a loamy fine sand over a fine sand subsoil. Clayey subsoils were also present in places. These light textured topsoils have a tendency to blow or wind erode during spells of windy weather when soils are dry and crop cover low. The erosion has a number of negative consequences including damage to or loss of recently sown crops. Redrilling is occasionally required. Erosion limits this land to Subgrade 3a. Where clay subsoils occur close to the surface the ALC grade of the land is also limited by soil wetness.

Subgrade 3b

9. Remaining agricultural land is Subgrade 3b. Topsoils are typically medium clay loam, sandy clay loam or heavy clay loam over a gleyed, clayey, slowly permeable subsoil. Profiles are Wetness Class IV. Soil wetness and workability limit the ALC grade of this land.

Other land

10. This comprises woodland, farm buildings and a small pond.

FACTORS INFLUENCING ALC GRADE

Climate

11. Climate affects the grading of land through the assessment of an overall climatic limitation and also through interactions with soil characteristics.

12. The key climatic variables used for grading this site are given in Table 2 and were obtained from the published 5 km grid datasets using the standard interpolation procedures (Met. Office, 1989).

Table 2: Climatic and altitude data

Factor	Units	Values
Grid reference	N/A	SE 672 605
Altitude	m, AOD	25
Accumulated Temperature	day°C (Jan-June)	1369
Average Annual Rainfall	mm	643
Field Capacity Days	days	148
Moisture Deficit, Wheat	mm	107
Moisture Deficit, Potatoes	mm	98
Overall climatic grade	N/A	Grade 1

13. The climatic criteria are considered first when classifying land as climate can be overriding in the sense that severe limitations will restrict land to low grades irrespective of favourable site or soil conditions.

14. The main parameters used in the assessment of an overall climatic limitation are average annual rainfall (AAR), as a measure of overall wetness, and accumulated temperature (AT0, January to June), as a measure of the relative warmth of a locality.

15. The combination of rainfall and temperature at this site means that there is no overall climatic limitation on the site.

Site

16. The site is mostly level (0° to 1°). Altitude ranges from 19m AOD in the west to 31m AOD in the east.

Geology and soils

17. The site is underlain by Bunter Sandstone and Keuper Marl. However, this is covered with a thick layer of warp and glaciolacustrine clay. In places, especially the north of the site, aeolian sand has been deposited on top of the clay in variable thicknesses (BGS Sheet 63, York, 1983). The Soil Survey and Land Research Centre Sheet SE65, York East, covers the small section of the site south of Northing 60. It shows this area to be covered by the Wighill Series, which is a surface water gley soil developed in moranic drift.

18. Soils reflect the parent material and fall into two general types. Firstly, where sand lies over the clay, topsoils are loamy fine sand over similar or clayey subsoils. Profiles are Wetness Class I to IV depending upon depth to the clay layer. These soils are found in the north west of the site and in smaller blocks towards the centre of the site. Topsoils here have a tendency to blow or wind erode. Remaining soils are derived from clayey deposits. Topsoils are medium clay loam, heavy clay loam or sandy clay loam over a clayey, slowly permeable subsoil. Profiles are Wetness Class IV.

AGRICULTURAL LAND CLASSIFICATION

19. The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 1, page 1.

Subgrade 3a

20. This land was mapped mostly in the north west of the site. Topsoils were generally a loamy fine sand over a fine sand subsoil. Clayey subsoils were also observed. Profiles range from Wetness Class I to IV depending upon depth to clay. These light textured topsoils have a tendency to blow or wind erode during spells of windy weather when soils are dry and crop cover low. Spring is the most common time of year for this problem. The erosion has a number of negative consequences including damage to or loss of recently sown crops. Redrilling is occasionally required. Erosion limits this land to Subgrade 3a. Profiles in Wetness Class IV also have a 3a soil wetness limitation.

Subgrade 3b

21. Remaining agricultural land is Subgrade 3b. Topsoils are typically medium clay loam, sandy clay loam or heavy clay loam over a gleyed, clayey, slowly permeable subsoil. Profiles are Wetness Class IV. Soil wetness and workability limit the ALC grade of this land.

Other land

22. This comprises woodland, farm buildings and a small pond.

RPT File: 20,309
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SOURCES OF REFERENCE

British Geological Survey (1983) *Sheet No. 63, York, Solid and Drift Geology, 1:50,000 scale.*
BGS: London.

Ministry of Agriculture, Fisheries and Food (1988) *Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of agricultural land.* MAFF: London.

Met. Office (1989) *Climatological Data for Agricultural Land Classification.*
Met. Office: Bracknell.

Soil Survey of England and Wales (1983) *Sheet 1, Soils of Northern England, 1:250,000 scale.*
SSEW: Harpenden.

Soil Survey of England and Wales (1984) *Soils and their Use in Northern England*
SSEW: Harpenden

Soil Survey of England and Wales (1971) *Soils in Yorkshire 1 (Sheet SE 65), 1:25,000 scale.*

APPENDIX I

DESCRIPTIONS OF THE GRADES AND SUBGRADES

Grade 1: Excellent Quality Agricultural Land

Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.

Grade 2: Very Good Quality Agricultural Land

Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural or horticultural crops can usually be grown but on some land of this grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1 land.

Grade 3: Good to Moderate Quality Land

Land with moderate limitations which affect the choice of crops, the timing and type of cultivation, harvesting or the level of yield. When more demanding crops are grown, yields are generally lower or more variable than on land in Grades 1 and 2.

Subgrade 3a: Good Quality Agricultural Land

Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

Subgrade 3b: Moderate Quality Agricultural Land

Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass, or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

Grade 4: Poor Quality Agricultural Land

Land with severe limitations which significantly restrict the range of crops and/or the level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

Grade 5: Very Poor Quality Agricultural Land

Land with severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.