

**RUDDING PARK, HARROGATE
NORTH YORKSHIRE**

**Agricultural Land Classification (ALC)
Map and Report**

FEBRUARY 1998

**Resource Planning Team
Northern Region
FRCA, Leeds**

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AGRICULTURAL LAND CLASSIFICATION REPORT

RUDDING PARK, HARROGATE

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 33.7 ha of land lying approximately 4 km east-south-east of Harrogate town centre and directly east of the existing golf course. The field survey work was carried out in February 1998.
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 extend the existing golf course as far north as Crimple Beck. This map and report supersede any previous ALC information for this land.
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 in ley and permanent grass. Small areas of non-agricultural land (woodland) occurred in the south-east and in the west.

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	11.0	33.2	32.6
3b	22.1	66.8	65.6
4			
5			
Agricultural land not surveyed		N/A	
Other land	0.6	N/A	1.8
Total surveyed area	33.1	100	-
Total site area	33.7	-	100

7. The fieldwork was conducted at an average density of one boring per hectare. A total of thirty one borings and three soil pits were described.

8. Subgrade 3a, good quality agricultural land, occurs alongside Crimple Beck and in two areas in the south of the site. The soils vary between well drained and imperfectly drained, with medium clay loam topsoils (medium sandy loam west of Ducks Nest Farm) overlying medium clay loam, sandy clay loam or heavy clay loam subsoils in most cases. The ALC grade of these areas is limited by soil wetness or, west of Ducks Nest Farm where weathering sandstone occurs at around 50cm depth, soil droughtiness.

9. Subgrade 3b, moderate quality agricultural land, covers the remainder of the agricultural land on the site. The soils are poorly drained, typically consisting of medium clay loam topsoils overlying sandy clay loam, medium clay loam or heavy clay loam upper subsoils and sandy clay loam, heavy clay loam or clay lower subsoils. These soils become gleyed at between 20cm and 30cm depth, and become slowly permeable at between 25cm and 40cm depth in most cases. Soil wetness is a more significant limitation than on the adjoining Subgrade 3a land, and further limits the ALC grade to Subgrade 3b.

10. Other, non-agricultural, land on this site occurs in the west and south-east and consists of woodland.

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 341 538
Altitude	m, AOD	55
Accumulated Temperature	day°C (Jan-June)	1339
Average Annual Rainfall	mm	726
Field Capacity Days	days	182
Moisture Deficit, Wheat	mm	95
Moisture Deficit, Potatoes	mm	83
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 ALC grade.

Site

16. The land is level in the north but gently to moderately sloping (2-5°) in the south, with a southerly or easterly aspect. At no point does gradient restrict the ALC grade and neither microrelief nor flood risk are of significance on this site.

Geology and soils

17. The site is underlain by Millstone Grit consisting of interbedded sandstones and shales (BGS Sheet 62). Drift cover is present over most of the site, with alluvium in the north alongside Crimple Beck and till elsewhere. Only in the south-west of the site is drift cover absent, and the soils here are derived from weathering shale and sandstone.

18. The soils have been mapped as belonging to the Dunkeswick association and, alongside Crimple Beck, Fladbury 3 association (Soils of England and Wales, Sheet 1).

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. Subgrade 3a land occurs alongside Crimple Beck and also in the south-east and south-west. The soils alongside Crimple Beck are generally moderately well drained (Wetness Class II) although some well drained (Wetness Class I) and some imperfectly drained (Wetness Class III) profiles also occur. Medium clay loam topsoils overlie medium clay loam, heavy clay loam or sandy clay loam subsoils, although occasional sandy loam subsoils were also recorded. Both topsoils and subsoils are stoneless to very slightly stony and the ALC grade of this land is limited by soil wetness. In the south-west the soils vary between well and imperfectly drained (Wetness Classes I to III). Medium sandy loam topsoils and upper subsoils overlie either weathering sandstone or gleyed and slowly permeable clay at between 40cm and 65cm depth. Where the clay occurs soil wetness is the grade-limiting factor and where the weathering sandstone occurs it is soil droughtiness. In the south-east, medium clay loam topsoils and, in places, upper subsoils, overlie sandy clay loam. These soils typically become gleyed at around 30cm depth and slowly permeable at between 50cm and 60cm depth. Again, soil wetness is the grade-limiting factor.

Subgrade 3b

21. The remainder of the agricultural land on the site falls in Subgrade 3b. The soils are poorly drained (Wetness Class IV). Typically medium clay loam topsoils overlie sandy clay loam, medium clay loam, or heavy clay loam upper subsoils and sandy clay loam, heavy clay loam or clay lower subsoils. These soils generally become gleyed at between 20cm and 30cm depth, and slowly permeable at between 25cm and 40cm depth. The soils are very slightly to slightly stony, with 2-6% sandstones and hard stones in the topsoil and 2-8% sandstones and hard stones in the subsoil in most cases. Soil wetness is more restricting than on the adjoining Subgrade 3a land and it is this which limits the ALC grade to 3b.

Other land

22. Other land on this site consists of woodland in the west and south-east.

RPT File: 20,312
Resource Planning Team
Northern Region
FRCA, Leeds

SOURCES OF REFERENCE

British Geological Survey (1987) *Sheet No. 62, Harrogate (Solid and Drift). 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

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.