



AGRICULTURAL LAND CLASSIFICATION
LEEDS UDP
TOPIC 878
BRAMHAM MOOR

JUNE 1995

ADAS
Leeds Statutory Group

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2 FCS 10759

SUMMARY

A semi-detailed Agricultural Land Classification survey of 501.6 ha of land at Bramham Moor (Leeds UDP Topic 878) was carried out in June 1995. This survey upgrades a previous reconnaissance survey carried out in January 1995, with the inclusion of further areas to the north, south, east and west. Out of the total site area, 483.9 ha were in agricultural use at the time of the survey. 22.9 ha has been mapped as Grade 1. The soils are deep and well drained, with medium textured topsoils over medium to heavy textured subsoils. Weathering limestone bedrock occurs at between 80cm and 110cm depth in places, but topsoils are stoneless to very slightly stony and there are no, or only very minor limitations to the agricultural use of the land.

164.4 ha of Grade 2 land occurs on this site. Profiles are well, or, in a few cases, moderately well drained. Generally very slightly stony, medium textured topsoils overlie medium to heavy textured subsoils. Weathering limestone bedrock occurs at around 70cm depth in most areas, although a slowly permeable clay subsoil begins at around 65cm depth in some places. This land is limited to Grade 2 by either slight droughtiness or slight soil wetness.

Subgrade 3a covers 175.7 ha. The soils are well drained in most cases with very slightly to slightly stony medium textured topsoils and subsoils overlying weathering limestone at between 45cm and 60cm depth. A more severe soil droughtiness restriction limits this land to Subgrade 3a. In some parts of the site land in this subgrade consists of moderately well to imperfectly drained soils where medium to heavy textured topsoils overlie heavy textured subsoils, which often become slowly permeable at between 45cm and 70cm depth. Soil wetness and topsoil workability limitations are the factors restricting this land to Subgrade 3a.

The remainder of the agricultural land (120.9 ha) falls in Subgrade 3b. The medium textured soils are well drained but shallow, and overlie weathering limestone at between 30cm and 45cm depth. This land is limited to Subgrade 3b by soil droughtiness. A small area of land east of Paradise Farm is poorly drained, consisting of medium silty clay loam topsoils over slowly permeable silty clay or clay subsoils. Topsoil workability and severe soil wetness limitations restrict this land to Subgrade 3b. The remaining Subgrade 3b land consists of a small area of disturbed land adjacent to a disused quarry. Other land on the site consists of Urban land (a disused and an active quarry covering 3.6 ha), Woodland (covering 7.5 ha) and Agricultural Buildings (covering 6.6 ha).

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WEST YORKSHIRE (LEEDS UDP, TOPIC 878)

1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Location and Survey Methods

This site lies approximately 16 km east-north-east of Leeds, to the north-east of the A1/A64 road junction, and covers a total area of 501.6 ha. The site was subject to a reconnaissance survey in January 1995. This survey upgrades this to a semi-detailed survey with the inclusion of further areas to the north, south, east and west. Soils were examined by hand auger borings at a density of one per two hectares predetermined by the National Grid. Detailed soil pits were dug to allow full profile descriptions to be made. The land quality was assessed using the methods described in "Agricultural Land Classification of England and Wales. Revised guidelines and criteria for grading the quality of agricultural land" (MAFF, 1988).

1.2 Land Use and Relief

At the time of the survey 97% of the site was in agricultural use, either as arable land or ley grassland. The remainder consists of Agricultural Buildings, Woodland and Urban land consisting of a disused quarry in the south-west, and a working quarry to the north-east.

Site altitude varies from 70m A.O.D. in the south-west to 42m A.O.D. in the south-east and the land is generally gently to moderately sloping (1-4°) with variable aspect. Only in a small area in the north-west of the site is the A.L.C. grade of the land limited to Subgrade 3b by slope.

1.3 Climate

Grid Reference	: SE 444 415
Altitude (m)	: 50
Accumulated Temperature above 0°C (January - June)	: 1355 day °C
Average Annual Rainfall (mm)	: 656
Climatic Grade	: 1
Field Capacity Days	: 155
Moisture Deficit (mm) Wheat	: 100
Moisture Deficit (mm) Potatoes	: 88

1.4 Geology, Soils and Drainage

The area is mostly underlain by Lower Magnesian Limestone although in the centre of the site there are deposits of Upper Magnesian Limestone and a band of Permian Marl. The Magnesian Limestone outcrops to within one metre of the soil surface over much of the site.

There is no drift cover over the north and south-east of the site. Most of the centre and south are covered with a thin layer of boulder clay principally derived from Permian Marl and Magnesian Limestone. In the south-west of the site there are deposits of morainic sand and gravel.

Most of the soils on the site are well drained (Wetness Class I) with medium clay loam, sandy clay loam or medium silty clay loam topsoils overlying medium clay loam, medium silty clay loam, heavy clay loam or heavy silty clay loam subsoils.

Where the soils have formed over weathering Permian Marl (or in drift principally derived from it) the soils are typically moderately well to poorly drained, falling in Wetness Classes II, III and IV, with medium or heavy clay loam topsoils overlying clay or heavy silty clay loam subsoils.

2. AGRICULTURAL LAND CLASSIFICATION

The ALC grades occurring on this site are as follows:

<u>Grade/Subgrade</u>	<u>Hectares</u>	<u>Percentage of Total Area</u>
1	22.9	4.6
2	164.4	32.8
3a	175.7	35.0
3b	120.9	24.1
4		
5		
(Sub total)	(483.9)	(96.5)
Urban	3.6	0.7
Non Agricultural		
Woodland	7.5	1.5
Agricultural Buildings	6.6	1.3
Open Water		
Land not surveyed		
(Sub total)	(17.7)	(3.5)
TOTAL	<u>501.6</u>	<u>100</u>

2.1 Grade 1

Grade 1 land has been mapped in three separate areas in the centre of the site, covering 22.9 ha. The soils are well drained (Wetness Class I) and consist of medium clay loam or medium silty clay loam topsoils overlying medium clay loam, medium silty clay loam, heavy clay loam or heavy silty clay loam subsoils. Weathering limestone bedrock occurs at between 80cm and 110cm depth in places. Topsoils are stoneless to very slightly stony, containing up to 3% small and medium sandstones and limestones, while subsoils are stoneless to slightly stony, containing up to 8% small and medium limestones. There are no or only very minor limitations to the agricultural use of this land.

2.2 Grade 2

Grade 2 land covers approximately 164.4 ha of the site. Profiles are well drained (Wetness Class I) or, in a few cases, moderately well drained (Wetness Class II). Topsoils and subsoils are very slightly to slightly stony in most cases, containing between 2% and 8% small and medium subangular limestones or subrounded hard stones. In most cases weathering limestone bedrock begins at between 60cm and 80cm depth. Topsoils are medium-textured (medium clay loam or medium silty clay loam) and subsoils medium to heavy textured (usually medium clay loam, medium silty clay loam, heavy clay loam or heavy silty clay loam). Slowly permeable clay subsoils begin in places at between 60cm and 70cm depth. This land is limited to Grade 2 by either slight soil droughtiness or, less frequently, slight soil wetness.

2.3 Subgrade 3a

Subgrade 3a land covers approximately 175.7 ha of the site. Generally the soils are well drained (Wetness Class I), with medium clay loam or medium silty clay loam topsoils and subsoils overlying weathering limestone bedrock at between 45cm and 60cm depth. Topsoils are typically very slightly stony (containing around 5% small, medium and large subangular limestones) and subsoils slightly stony (containing around 10% subangular limestones). The A.L.C. grade of this land is limited by soil droughtiness. In some parts of the centre of the site the soils on the Subgrade 3a land are moderately well to imperfectly drained and fall in Wetness Classes II and III. The profiles here consist of medium or heavy clay loam topsoils overlying heavy clay loam, heavy silty clay loam or clay subsoils, which often become slowly permeable at between 45cm and 70cm depth. In this case soil wetness and topsoil workability restrictions limit the land to Subgrade 3a.

2.4 Subgrade 3b

The remainder of the agricultural land on this site (120.9 ha) falls into Subgrade 3b. The majority of the soils are well drained (Wetness Class I) and typically consist of very slightly stony medium clay loam or medium silty clay loam topsoils and, in places, subsoils overlying weathering limestone bedrock at between 30cm and 45cm depth. Severe soil droughtiness restrictions limit this land to Subgrade 3b.

A small area of land to the west of the site, east of Paradise Farm, is poorly drained (Wetness Class IV) , and consists of stoneless medium silty clay loam topsoils over stoneless, gleyed, slowly permeable silty clay or clay subsoils. This land is limited to Subgrade 3b by severe soil wetness and workability restrictions.

The remaining Subgrade 3b land consists of a small area of land to the south-west, adjoining the quarry which has been disturbed.

2.5 Urban

A disused quarry and adjoining buildings in the south-west, and a working quarry in the north have been mapped as urban.

2.6 Woodland

Woodland occurs in four separate blocks in the north of the site, and in a small area in the east.

2.7 Agricultural Buildings

This category includes seven sets of buildings to the west, centre and north-east of the site.

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MAP