MAFF Ministry of Agriculture Fisheries and Food

AGRICULTURAL LAND CLASSIFICATION

LEEDS UDP

TOPIC 539

WEST YORKSHIRE

APRIL 1996

RPT 20021

ADAS

Leeds Statutory Group

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SUMMARY

A detailed Agricultural Land Classification (ALC) survey of 13.4ha of land at East Ardsley ("Leeds UDP Topic 539") was carried out in April 1996. At the time of the survey 13.1ha of the site was in agricultural use and 5.2ha of this has been mapped as Subgrade 3a. The soils are generally moderately well or imperfectly drained, with sandy clay loam or medium clay loam topsoils and upper subsoils (the latter generally gleyed but permeable) overlying silt loam, medium clay loam, heavy silty clay loam or silty clay lower subsoils (which are generally gleyed and sometimes slowly permeable) at between 40cm and 60cm depth. Soil wetness and a pattern limitation restrict the ALC grade in this case.

Subgrade 3b land covers 7.9ha. The soils are either well drained but shallow, with light to medium-textured topsoils and subsoils overlying sandstone at around 45cm depth, or poorly drained, with medium-textured topsoils overlying gleyed and slowly permeable heavy-textured subsoils within 35cm depth. These two soil types result in the ALC grade being restricted by soil droughtiness and soil wetness respectively.

Other (non-agricultural) land on the site consists of 0.3ha in the centre, where scrub occurs on the site of a demolished nursery.

AGRICULTURAL LAND CLASSIFICATION REPORT ON LAND AT BRADFORD ROAD, EAST ARDSLEY ("LEEDS UDP TOPIC 539")

1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Location and Survey Methods

This site lies 8km south of Leeds city centre, on the east side of the A650 at East Ardsley. The survey work was carried out in April 1996 when the soils were examined by hand auger borings at 100m intervals predetermined by the O.S. National Grid. In addition, two soil pits were dug to allow the soils to be described in greater detail. 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, 98% of the site was growing winter cereals while 2% consisted of scrub on the site of a demolished nursery, which has been mapped as non-agricultural land.

Site altitude varies from 140m AOD in the south-west to 130m AOD in the north and south-east. Slopes are gentle to moderate (2-5°) in most places and the aspect is variable.

1.3 Climate

Grid Reference	: SE 300 255
Altitude (m)	: 132
Accumulated Temperature above 0°C (January - June)	: 1271 day °C
Average Annual Rainfall (mm)	: 674
Climatic Grade	: 2
Field Capacity Days	: 159
Moisture Deficit (mm) Wheat	: 91
Moisture Deficit (mm) Potatoes	: 77

1.4 Geology, Soils and Drainage

The Ardsley area is underlain by Carboniferous Coal Measures consisting of interbedded sandstones and shale. With the exception of locally derived Head deposits there is no drift cover on this site although the solid geology is complex, with soils derived from weathering shale and soils derived from weathering sandstone occurring close together and with little apparent pattern.

The soils derived from the weathering shale vary between moderately well and poorly drained (Wetness Classes II to IV) and consist of sandy clay loam, medium clay loam or medium silty clay loam topsoils overlying medium clay loam, medium silty clay loam, heavy silty clay loam or silty clay subsoils.

Those soils derived from the weathering sandstone are generally well or moderately well drained (Wetness Classes I and II), with sandy loam, sandy silt loam or medium silty clay loam topsoils and subsoils overlying sandstone at between 40cm and 50cm depth.

These soils correspond to the Rivington 1 and Dale associations as mapped by the Soil Survey and Land Research Centre.

2. AGRICULTURAL LAND CLASSIFICATION

The ALC grades occurring on this site are as follows:

Grade/Subgrade	Hectares	% of Total Area
1		
2		
3a	5.2	38.8
3b	7.9	59.0
4		
5		
(Sub total)	(13.1)	(97.8)
Other Land	0.3	2.2
TOTAL	**13.4**	**100**

2.1 Subgrade 3a

Subgrade 3a land occurs in the centre of the site. The soils are typically moderately well or imperfectly drained (Wetness Classes II and III respectively), with sandy loam or medium clay loam topsoils and upper subsoils overlying silt loam, medium clay loam, heavy silty clay loam or silty clay lower subsoils. The upper subsoils are generally gleyed but permeable whilst the lower subsoils, which begin at between 40cm and 60cm depth, are generally gleyed and sometimes slowly permeable. Although some profiles meet the requirements for Grade 2, they cannot be accurately mapped as a separate unit. This land is, therefore, limited to Subgrade 3a by soil wetness and pattern restrictions.

2.2 Subgrade 3b

Subgrade 3b land occurs in the south, east and west of the site. Two main soil types exist, the first of which consists of well drained (Wetness Class I) profiles where medium silty clay loam, sandy loam or sandy silt loam topsoils and subsoils overlie weathering sandstone bedrock at around 45cm depth. Soil droughtiness restricts the ALC grade of this land. The second soil type consists of poorly drained (Wetness Class IV) profiles where medium clay loam, medium silty clay loam or sandy clay loam topsoils overlie gleyed and slowly permeable heavy silty clay loam or silty clay subsoils at between 30cm and 35cm depth. Soil wetness limits these areas to Subgrade 3b.

2.3 Other Land

This occurs in the centre of the site and consists of scrub on the site of a demolished nursery.

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