



AGRICULTURAL LAND CLASSIFICATION

LEEDS UDP

TOPIC 968

WEST YORKSHIRE

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ADAS
Leeds Statutory Group

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SUMMARY

A detailed Agricultural Land Classification (ALC) survey of 41.0 ha of land north of Allerton Bywater (Leeds UDP, Topic 968) was carried out in October 1995. At the time of the survey 30.1 ha was in agricultural use, whilst 0.7 ha was Urban land, 3.0 ha was Non-Agricultural land and 6.5 ha was Woodland. 0.7 ha in the east of the site was left unsurveyed.

Of the agricultural land 3.7 falls in Subgrade 3a. The profiles here are either well drained, with light to medium-textured topsoils and subsoils overlying weathering sandstone at around 60 cm depth (in which case soil droughtiness limits the ALC grade) or imperfectly drained, with medium-textured topsoils and upper subsoils overlying gleyed and slowly permeable heavy-textured lower subsoils at around 50 cm depth (in which case soil wetness is the grade limiting factor).

The remainder of the agricultural land (26.4 ha) falls in Subgrade 3b. In most cases the soils are poorly drained with medium-textured topsoils overlying gleyed and slowly permeable medium to heavy-textured subsoils at around 30 cm depth. Although a few profiles meet the requirements for Subgrade 3a, they cannot be accurately mapped as a separate unit, thus a pattern limitation and a more severe soil wetness limitation restrict this land to Subgrade 3b.

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1. AGRICULTURAL LAND CLASSIFICATION

AGRICULTURAL LAND CLASSIFICATION (ALC) REPORT ON LAND AT ALLERTON
BYWATER (LEEDS UDP - TOPIC 968)

1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Location and Survey Methods

This site lies 12½ km east-south-east of Leeds city centre, on the north side of the village of Allerton Bywater. It covers a total area of 41 ha. Survey work was carried out in October 1995 when the soils were examined by hand auger borings at 100m intervals predetermined by the National Grid. In addition, three soil pits were dug to allow full profile descriptions to be made. 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 30 ha of the site was in agricultural use (principally set-aside winter cereals and oilseed rape) while 10 ha consisted of Urban and Non-Agricultural land and Woodland. 0.7 ha in the east was left unsurveyed. Site altitude varies from 15m AOD in the south-east to 35m AOD in the north-west and the land is level to moderately sloping (0-5°), with a southerly or south-easterly aspect in most cases.

1.3 Climate

| | |
|---|---------------|
| Grid Reference | : SE414285 |
| Altitude (m) | : 25 |
| Accumulated Temperature above 0°C (January - June) | : 1389 day °C |
| Average Annual Rainfall (mm) | : 632 |
| Climatic Grade | : 1 |
| Field Capacity Days | : 141 |
| Moisture Deficit (mm) Wheat | : 106 |
| Moisture Deficit (mm) Potatoes | : 97 |

1.4 Geology, Soils and Drainage

The area is underlain by Middle Coal Measures consisting of interbedded sandstones (which outcrop to within 40cm depth of the soil surface in the north of the site) and shales. There is no significant drift cover on this site, but soils in the west have been restored following opencast coal mining, and some soils in the south have been contaminated by colliery spoil.

Most of the soils (including the restored soils) are imperfectly or poorly drained, falling in Wetness Classes III and IV. Generally medium clay loam or medium silty clay loam topsoils overlie medium clay loam, medium silty clay loam, heavy clay loam, heavy silty clay loam or silty clay subsoils. In a few places, particularly around the sandstone outcrop in the north of the site, the soils are well or moderately well drained (Wetness Class I and II), with medium clay loam or medium sandy loam topsoils overlying sandy clay loam or medium sandy loam subsoils.

The undisturbed soils on this site correspond to the Dale Association as mapped by the Soil Survey and Land Research Centre.

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 | | |
| 2 | | |
| 3a | 3.7 | 9.0 |
| 3b | 26.4 | 64.4 |
| 4 | | |
| 5 | | |
| (Sub total) | (30.1) | (73.4) |
| Urban | 0.7 | 1.7 |
| Non Agricultural | 3.0 | 7.3 |
| Woodland | 6.5 | 15.9 |
| Agricultural Buildings | | |
| Open Water | | |
| Land not surveyed | 0.7 | 1.7 |
| (Sub total) | (10.9) | (26.6) |
| | | |
| TOTAL | <u>41.0</u> | <u>100</u> |

2.1 Subgrade 3a

A small area of Subgrade 3a land has been mapped in the centre of the site. The soils are either well drained (Wetness Class I) or imperfectly drained (Wetness Class III) and consist of medium clay loam, medium silty clay loam, sandy clay loam or medium sandy loam topsoils and upper subsoils overlying either gleyed and slowly permeable heavy silty clay loam or silty clay lower subsoils, or weathering sandstone bedrock. Where they occur the slowly permeable lower subsoils begin at between 45 cm and 50 cm depth. The ALC grade of this land is limited by either soil wetness or soil droughtiness.

2.2 Subgrade 3b

Most of the agricultural land on this site falls in Subgrade 3b. In most cases the soils are poorly drained, falling in Wetness Class IV, with medium clay loam or medium silty clay loam topsoils overlying gleyed and slowly permeable medium clay loam, heavy clay loam, heavy silty clay loam or silty clay subsoils at between 25 cm and 35 cm depth. Although some profiles are imperfectly drained (Wetness Class III), a pattern limitation prevents them being mapped out. The remaining areas are limited to Subgrade 3b by soil wetness.

2.3 Urban

An area of housing, industrial units and a small car park in the west of the site has been mapped as Urban.

2.4 Non-Agricultural

Non-Agricultural land consisting of scrub (in the centre) and wetland (in the south-east) covers a total area of 3 ha.

2.5 Woodland

Woodland, covering a total of 6.5 ha, occurs in four blocks in the centre and east of the site.

2.6 Land not Surveyed

This occurs in the east, where the owner/tenant of 0.7 ha could not be identified.

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MAP