

AGRICULTURAL LAND CLASSIFICATION

LAND AT BROUGHTON,
HUMBERSIDE (SITES 1 AND 2)

ADAS
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1. AGRICULTURAL LAND CLASSIFICATION

**1. AGRICULTURAL LAND CLASSIFICATION REPORT
ON LAND AT BROUGHTON, HUMBERSIDE**

INTRODUCTION

The two sites surveyed adjoin the village of Broughton, approximately 7 km east of Scunthorpe.

Site 1 (NGR SE 960 083) covers 18.3 hectares to the south of the village whilst site 2 consists of approximately 22.4 hectares of land centred around grid reference SE 968 093 on the north eastern edge of the village.

Survey work was carried out in January 1989 when soils were examined by hand auger borings to a depth of 1 metre at points predetermined by the National Grid. The density of borings was approximately 1 boring per hectare except on site 2 where 3 fields were not surveyed because access was refused.

All assessments of land quality were made using the methods described in the revised Agricultural Land Classification of England and Wales (MAFF, October 1988).

CLIMATE

Average Annual Rainfall in the area is approximately 620 mm. Accumulated Temperature above 0°C (January-June) is approximately 1372 day °C and the Mean Duration of Field Capacity is approximately 134 field capacity days.

These characteristics indicate that there is no overall climatic limitation on ALC grade.

Summer moisture deficits of 106 mm for winter wheat and 97 mm for potatoes, however, mean that soil droughtiness is limiting on all coarse loamy and sandy soils in the area, especially where they consist only of thin deposits over rock.

SOILS AND GEOLOGY

Soils on both sites are developed on superficial wind blown sand deposits which form a cover of variable thickness over the underlying Jurassic limestone.

Typical profiles consist of loamy medium sand, or medium sand topsoils passing into similar subsoils. These occasionally contain a soft rusty coloured iron pan in the lower profile.

The underlying limestone occurs within 1 metre of the surface in a number of places, especially in the centre of site 1 and the southern part of site 2. It consists usually of shattered weathered material with a thin covering and matrix of marly clay loam.

Soils on both sites are generally stoneless except where limestone is close to the surface.

LAND USE

Site 1 at Broughton south consists of 3 arable fields which have previously been used for cereal production. There is also a small area of deciduous woodland along the northern edge of this site.

Site 2 (Broughton north east) contains 2 arable fields north of Common Road and Moor Beck. The remaining areas consist of permanent pasture, currently used for horse grazing, and land in non agricultural uses such as woodland, farm buildings and open water.

2. AGRICULTURAL LAND CLASSIFICATION GRADES

BROUGHTON SOUTH (SITE 1)

The grades occurring on site 1 are as follows.

Grade	Hectares	Per cent of total Agricultural Land
3a	4.6	25.9
3b	11.1	62.3
4	<u>2.1</u>	11.8
Total Agricultural Land	17.8	
NON AGRICULTURAL (woodland)	<u>0.5</u>	
Total site	18.3	100

SUBGRADE 3a

Subgrade 3a land occurs in the centre of the site. It consists mainly of loamy medium sand, or medium sandy loam topsoils over similar subsoils to depth. In a few places, however, calcareous clay loam or clayey limestone marl occurs in the lower subsoil below approximately 60 cm depth.

The absence of slowly permeable horizons or evidence of soil wetness places these soils in wetness class 1. Droughtiness is likely to restrict yields of both winter wheat and potatoes and is the main limitation on ALC grade.

SUBGRADE 3b

The field at the western edge of the site consists of loose, medium sand or light loamy medium sand topsoils over similar subsoils to depth. These very light textured soils are subject to wind erosion and require very careful management to minimise the loss of topsoil. Droughtiness is limiting for winter wheat and potatoes. This in combination with an overall topsoil texture limitation, restricts this land to subgrade 3b.

Much of the remaining area of 3b land has slightly heavier and better structured topsoil. It consists mainly of loamy medium sand or medium sandy loam topsoils over similar subsoils which, in a number of places, overlie limestone below about 50-60 cm depth. The presence of rock relatively close to the surface reduces the amount of available water and droughtiness is also the main grading limitation in these areas.

GRADE 4

Two small areas of grade 4 land occur on the site. Soils are thin and consist generally of medium loamy sand topsoil passing into similar, or lighter, subsoils overlying fractured limestone bedrock between 20 and 50 cm depth. Very severe droughtiness associated with this thin, light textured, material limits these areas to grade 4.

NON AGRICULTURAL

This consists of deciduous woodland which covers part of the northern edge of the site.

3. AGRICULTURAL LAND CLASSIFICATION GRADES

BROUGHTON NORTH EAST (SITE 2)

The ALC grades occurring on site 2 are as follows.

Grade	Hectares	Per cent of total surveyed Agricultural Land
3a	1.1	6.5
3b	12.4	73.4
4	<u>3.4</u>	20.1
Total of surveyed agricultural land	16.9	-
Non Agricultural (woodland)	0.5	-
Farm Buildings	0.2	-
Open Water	0.2	-
Unsurveyed	3.6	-
Urban (road)	<u>1.0</u>	-
Total site	22.4	100

SUBGRADE 3a

Subgrade 3a land occurs west of Watermill Place. Soils consist of stoneless loamy medium sand topsoils over similar subsoils to depth. The absence of any slowly permeable horizon or significant gley morphology indicates that these soils fall within wetness class 1. Droughtiness is likely to reduce yields of both winter wheat and potatoes and is the main limitation on ALC grade.

SUBGRADE 3b

Subgrade 3b predominates north of Common Road and East of Watermill Place. Topsoils consist mainly of medium sand, or loamy medium sand, over similar subsoil to depth.

Slowly permeable horizons are absent indicating that this land falls within Wetness Class 1. Soft iron pass occur occasionally in the lower subsoil. The main limitations which restrict this land to subgrade 3b are severe droughtiness and very light topsoil texture.

GRADE 4

Land in this grade is confined to areas near the southern boundary where there is only a thin cover of blown sand over the limestone. Soils consist of loamy medium sand, or medium sand, topsoils over similar subsoil. Fractured limestone bedrock occurs between about 30 and 45 cm depth. The very severe droughtiness, associated with this thin cover of light textured material, limits this area to grade 4.

NON AGRICULTURAL

Non Agricultural Land consists of scrubby woodland around Moor Beck and adjoining Common Road at the north eastern corner of the site.

FARM BUILDINGS

These comprise buildings and hard standing areas at Watermill Place.

OPEN WATER

This is the pond at Watermill Place.

UNSURVEYED

Three fields were left unsurveyed because access was refused. Two lie along the western edge of the site. The third is located between Common Road and Watermill Place.

Resource Planning Group
Leeds RO
January 1989

**AGRICULTURAL LAND CLASSIFICATION
MAPS**