

# REPORT OF THE MAFF AGRICULTURAL LAND CLASSIFICATION SURVEY (1988) - HIGH CROSS

## Summary:

The land has been classified following the Agricultural Land Classification of England and Wales - revised guidelines and criteria for grading the quality of agricultural land (MAFF, 1988). Of the land surveyed 57% is classified as sub-grade 3a and 40% as sub-grade 3b. A further 3% is classified as non-agricultural land.

### 1. Introduction:

The survey work was carried out during September 1989. This followed a long period of dry weather, thus making the ground hard and difficult to auger. A grid auger boring survey was completed and soil pits were dug as required.

### 2. Climatic Limitations:

The main parameters used in the assessment of the climatic limitations are average annual rainfall (AAR), as a measure of overall wetness, and accumulated temperature (ATO), as a measure of the relative warmth of the locality. The figures of AAR and ATO indicate that there are no climatic limitations on this site.

### 3. Site Limitations:

The assessment of site factors is primarily concerned at the way in which topography influences the use of agricultural machinery and hence the cropping potential of the land. There are no site limitations affecting the agricultural use of the land.

### 4. Soil Limitations:

The main soil properties which affect the cropping potential and management requirements of land are texture, structure, depth, stoniness and chemical fertility. These may act as limitations separately, in combination or through interactions with climate or site factors. The physical limitations which result from interactions with climate or site are soil wetness, droughtiness and erosion. Soil wetness, which expresses the extent to which excess water imposes restrictions on crop growth, is the main interactive limitation affecting the grading on this site. Soil wetness is assessed in the field by identifying the depth to any slowly permeable soil horizon, defined in terms of soil texture, structure and gleying, and relating this to the texture of the top 25 cm. Combining the soil wetness class and the field capacity days (FCD) a land classification grade is arrived at. Reference will be made to this limitation in Section 7.

### 5. Background information:

The underlying geology is mapped as Coal Measure Deposits with beds of sandstone and coal seams over much of the site; close to the south western boundary deposits of sandstone and conglomerate are present. (Sheet 141, Loughborough, Geological Survey).

### 6. Agricultural Land Use:

At the time of the survey evidence of the season's cereal crop was observed.

## 7. Agricultural Land Quality (Appendix 1)

### Sub-grade 3a:

The soil typically has a medium clay loam texture, with the occasional sandy clay loam texture present, overlying heavy clay loam and clay below 35 cm. Observations of soil wetness, gleying and the depth to the slowly permeable layer combined with a field capacity day figure of 141 indicate wetness class III and sub-grade 3a classification.

### Sub-grade 3b:

The soil typically has a medium clay loam texture overlying clay by 30 cm. Observations of soil wetness, gleying and the depth to the slowly permeable layer combined with a field capacity day figure of 141 indicate wetness class IV and sub-grade 3b classification.

### Non-agricultural land:

Includes woodland and an area with much brick and rubble present.

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Wolverhampton  
December 1989

AGRICULTURAL LAND QUALITY - HIGH CROSS

Grade/ Sub Grade	ha	As % of total area	As % of agricultural area
3a	18.7	57	59
3b	12.8	40	41
Non-agricultural : former site of building	0.4	1	
Woodland	0.7	2	
Total	32.6	100	100

## REPORT TO ACCOMPANY THE SOIL UNITS MAP FOR HIGH CROSS

### Introduction

Following an Agricultural Land Classification survey, carried out on 100 metre grid, soils of a similar texture have been grouped into soil units. These units reflect similar requirements in stripping, handling and storage. On the site 2 soil units are identified; the main one consists of a topsoil of clay loam texture overlying an upper subsoil of either heavy clay loam or clay and a lower subsoil typically of clay. A smaller unit is identified towards the centre of the site where there is very little soil present, but much brick rubble lying on the surface.

Soil pits were dug in the main soil unit to examine physical characteristics such as structure.

### Unit 1

This consists of a topsoil with a medium clay loam texture to 30 cm. The upper subsoil extending to a depth of 45 cm includes soil of a heavy clay loam or clay texture; the lower subsoil extending to 100 cm consists mainly of clay. Within this unit there is much variation in the upper subsoil textures and depth over the whole site. For this reason the upper subsoil has been treated as one horizon. Descriptions of the 2 soil pits dug within this unit are attached in Appendix I.

### Unit 2

A small area towards the centre of the site is identified, where there is little soil cover and augering was only possible to a depth of between 2 and 3 cm. No soil pit was dug in this unit.

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APPENDIX I

HIGH CROSS - Pit 1 - ploughed

cms	Texture	Munsell Colour	Mottles	Structure Porosity	Stone
0-30	MCL	10 YR 6/2	Grey mottles		Slightly stony mostly small rounded pebbles (10-15%)
30+	C	10 YR 6/2	"	Weakly developed coarse subangular blocky; variable structure within part; parts coarse angular blocky Porosity <0.5% >0.5 mm	

Note: Topsoil structure not assessed because recently ploughed  
 Plough pan present at 30 cms  
 Plant roots present to at least 40 cms

HIGH CROSS - Pit 2 - Ploughed

cms	Texture	Munsell Colour	Mottles	Structure Porosity	Stone
0-35	MCL	10 YR 4/1			Slightly stoney small/
35-45	HCL	10 YR 6/4		Medium subangular blocky; moderately well developed; some coarse blocks.	medium rounded hard pebbles
45+	C	10 YR 6/8		moderately well developed coarse angular blocky. Variable structure throughout pit Porosity < 0.5% > 0.5 mm	

Note: Plant roots common to 60+  
 No soil fauna observed  
 Some well developed structural units in lower subsoil