

## **Report of the MAFF Agricultural Land Classification Survey (1988) - Weston Hall**

### **1. 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 site 18% is classified as Grade 2 land and 47% as sub-grade 3a land. A further 27% is classified as sub-grade 3b and 5% as Grade 4. The remaining area is accounted for in other land, including non-agricultural land, woodland, ponds and agricultural buildings.

### **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. In places gradient is a limiting factor to the agricultural use of this land and where applicable is referred to in section 6.

### **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 between climate, site and soil wetness, droughtiness and erosion. Soil wetness, which expresses the extent to which excess water imposes restrictions on crop growth, is the main interacting limitation affecting the grading on this site. Soil wetness is assessed in the field by identifying the depth to any slowly permeable soil horizon, which is defined in terms of soil texture, structure and gleying and relating this to the texture of the top 25 cms. Combining the soil wetness class and the field capacity days (FCD) a land classification grade is arrived at. This site lies partly within the 175 field capacity days boundary and partly within the 176 field capacity days boundary. Land lying mostly to the western part of the site and south of the A500 road has a field capacity days figure of 175. Land lying to the north and immediately south of the A52 road and also south of Chorlton Hall Farm has a field capacity of 176. This change across the site affects the final grading where soil wetness is a limiting factor.

Droughtiness limits for Grades and sub-grades are defined in terms of moisture balances for wheat and potatoes and are calculated by subtracting the available water in the soil profile and the moisture deficit. Where droughtiness is a limiting factor this will be referred to in section 6.

## 5. Agricultural Land Use:

At the time of the survey, December 1988, the land was under winter cereal, grass and beet.

## 6. Agricultural Land Quality (Appendix 1):

Grade 2: The soil typically has a sandy loam texture overlying loamy sand and sand below 45 cms. The main limitation to the agricultural use of this land is droughtiness, as indicated by the moisture balance limits satisfying the requirements for Grade 2 and not meeting those of Grade 1.

Sub-grade 3a: Land has been classified as sub-grade 3a where soil wetness and droughtiness are limiting factors to the agricultural use. Where droughtiness is a limiting factor the soil typically has a sandy loam texture overlying loamy sand and sand and fails to meet the moisture balance limits for Grade 2, hence the sub-grade 3a classification.

Soil wetness is a limiting factor where soils of a sandy clay loam texture overlie mixtures of sand and clay. Observations of gleying and depth to a slowly permeable layer indicate either wetness class II or wetness class III and combined with the appropriate field capacity day figure indicate a grading of 3a.

Sub-grade 3b: To the south east of Chorlton Bank Farm gradient is a limiting factor where slopes exceed  $7^{\circ}$  and fail to meet the requirements for a higher grade. Close by a low lying area crossed by drains has been classified as sub-grade 3b land. Soil textures vary from peaty loam, clay loam overlying clay loamy sands and sandy clay loams overlying sands and clays. Observations of gleying and depth to slowly permeable layer indicate a wetness class IV, hence a classification of sub-grade 3b.

Over much of the site where sandy clay loam or clay loam soils overlie clay at varying depths below 29 cms, observations of gley and depth to slowly permeable layer indicate wetness class IV and sub-grade 3b classification.

Grade 4: The main area of this grade occurs along the low lying land close to the water carrier which runs north south through the site. The soils are varied over a short distance and include clay loams and peaty loams overlying peats. At the time of the survey there were signs of poaching and *Juncus* species were present in places.

To the north east of Chorlton Bank Farm the gradient exceeds  $11^{\circ}$  and is therefore classified as Grade 4.

Close to the A52 road, the site of infilled ponds, soils of heavy clay loam texture overlie clay and observations of gleying and depth to the slowly permeable layer indicate wetness class IV as appropriate and when combined with a field capacity of 176, classification of Grade IV is arrived at.

Other Land: Includes ponds, agricultural buildings and woodland.

### Agricultural Land Classification Summary

Grade sub/grade	ha	as % of total	as % of agricultural land
2	58.6	18	18
3a	153.9	47	49
3b	86.4	27	27
4	17.4	5	6 (100)
Other land	5.8	2	
Unclassified (Agricultural Buildings)	4.7 326.6	1 (100)	

### HOUSING AREAS

Grade Sub-grade	1	2	3	4	5	6	TOTAL
2		10.7	7.3			0.2	18.2
3a	4.9	7.1	3.2	5.0	6.7	5.9	32.8
3b		2.5	1.4	2.6	7.7	0.6	14.8
4		0.1	1.7				1.8
Non-Ag		0.5			0.2		0.7
TOTAL	4.9	20.9	13.6	7.6	14.6	6.7	68.3

**DESCRIPTION OF THE GRADES AND SUBGRADES**

The ALC grades and subgrades are described below in terms of the types of limitation which can occur, typical cropping range and the expected level and consistency of yield. In practice, the grades are defined by reference to physical characteristics and the grading guidance and cut-offs for limitation factors enable land to be ranked in accordance with these general descriptions. The most productive and flexible land falls into Grades 1 and 2 and Subgrade 3a and collectively comprises about one-third of the agricultural land in England and Wales. About half the land is of moderate quality in Subgrade 3b or poor quality in Grade 4. Although less significant on a national scale such land can be locally valuable to agriculture and the rural economy where poorer farmland predominates. The remainder is very poor quality land in Grade 5, which mostly occurs in the uplands.

Descriptions are also given of other land categories which may be used on ALC maps.

**Grade 1 - excellent quality agricultural land**

Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.

**Grade 2 - very good quality agricultural land**

Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.

**Grade 3 - good to moderate quality agricultural land**

Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.

**Subgrade 3a - good quality agricultural land**

Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

**Subgrade 3b - moderate quality agricultural land**

Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

#### **Grade 4 - poor quality agricultural land**

Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (eg cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

#### **Grade 5 - very poor quality agricultural land**

Land with very severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

#### **Descriptions of other land categories used on ALC maps**

##### **Urban**

Built-up or 'hard' uses with relatively little potential for a return to agriculture including: housing, industry, commerce, education, transport, religious buildings, cemeteries. Also, hard-surfaced sports facilities, permanent caravan sites and vacant land; all types of derelict land, including mineral workings which are only likely to be reclaimed using derelict land grants.

##### **Other land primarily in non-agricultural use -**

##### **Non-agricultural - "soft" uses**

'Soft'; uses where most of the land could be returned relatively easily to agriculture, including: golf courses, private parkland, public open spaces, sports fields, allotments and soft-surfaced areas on airports/airfields. Also active mineral workings and refuse tips where restoration conditions to 'soft' after-uses may apply.

##### **Woodland**

Includes commercial and non-commercial woodland. A distinction may be made as necessary between farm and non-farm woodland.

##### **Agricultural buildings**

Includes the normal range of agricultural buildings as well as other relatively permanent structures such as glasshouses. Temporary structures (eg polythene tunnels erected for lambing) may be ignored.

##### **Open water**

Includes lakes, ponds and rivers as map scale permits.

##### **Land not surveyed**

Agricultural land which has not been surveyed.

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Where the land use includes more than one of the above land cover types, eg buildings in large grounds, and where map scale permits, the cover types may be shown separately. Otherwise, the most extensive cover type will usually be shown.