8PCS 4797

85/92

COTSWOLD DISTRICT LOCAL PLAN: LECHLADE

AGRICULTURAL LAND CLASSIFICATION

Report of Survey

1 INTRODUCTION

Just over eleven hectares of land around Butler's Court Farm, Lechlade were graded under the Agricultural Land Classification (ALC) System in September 1992. The survey was carried out as part of MAFF's statutory input into the draft consultation of the Cotswold District Local Plan.

The fieldwork was carried out by ADAS's Resource Planning Team (Taunton Statutory Unit) at a scale of 1:10,000 (approximately one sample point every hectare). The information is correct at the scale shown but any enlargement would be misleading. This survey supercedes the previous surveys of this area at 1" and the 1985 survey at 1:10,000 being at a more detailed level and carried out under the Revised Guidelines and Criteria for grading the quality of agricultural land (MAFF 1989). A total of 9 borings and 1 soil pit were examined.

The ALC provides a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on agricultural use. The grading takes account of the top 120cm of the soil profile. A description of the grades used in the ALC System can be found in the appendix.

The distribution of ALC grades identified in the survey area is detailed below and illustrated on the accompanying map.

Table 1 Distribution of ALC grades: Lechlade

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
1	7.2	63.0	78.0
2	2.1	18.0	22.0
Urban	0.2	1.5	100% (9.3ha)
Non Ag	1.1	9.5	
Farm Bdgs	0.9	8.0	
TOTAL	11.5	100%	

2. CLIMATE

The grade of the land is determined by the most limiting factor present. The overall climate is considered first because it can have an overriding influence on restricting land to lower grades despite other favourable conditions.

To assess any overall climatic limitation, estimates of important climatic variables were obtained for the site by interpolation from the 5km grid Met Office/Maff Database (Met Office/MAFF/SSLRC 1989). The parameters used for assessing climate are accumulated temperature, (a measure of the relative warmth of a locality) and average annual rainfall, (a measure of overall wetness). The results shown in Table 2 reveal that there is no overall climatic limitaion.

No local climatic factors such as exposure were noted in the survey area. Climatic data on Field Capacity Days (FCD) and Moisture Deficits for wheat (MDW) and potatoes (MDP) are also shown. This data is used in assessing the soil wetness and droughtiness limitations referred to in Section 5.

Table 2 Climatic Interpolations: Lechlade

Grid Reference	SP 208 000
Height (m)	75
Accumulated Temperature (^{o} days)	1438
Average Annual Rainfall (mm)	689
Overall Climatic Grade	1
Field Capacity (Days)	152
Moisture Deficit, Wheat (mm)	106
Potatoes (mm)	97

3. RELIEF

The survey area is in a flat area with little increase in height from the nearby River Thames. The land is at a height of 75m.

4. GEOLOGY AND SOILS

A small proportion of the survey area is underlain by Oxford Clay. The rest is underlain by both First and Second Terrace river terrace deposits (comprising mainly of gravel). This type of geology is common for the area as shown on BGS sheet 252.

In the main the soils across the survey area become heavier with depth. Topsoil textures found were medium silty clay loams and medium clay loams, except for a small area where the texture was heavy clay loams. The topsoils tended to give way to heavy clay loams in the subsoils with stoniness increasing with depth to 9% by 65cm and 12% below. The soils

are well drained and show only very slight evidence of wetness in places at depth.

5. AGRICULTURAL LAND CLASSIFICATION

The distribution of ALC grades identified in the survey area is detailed in Section 1 and shown on the accompanying ALC map. The information is correct at the scale shown but any enlargement would be misleading.

Grade 1

Over three quarters of the agricultural land surveyed has been classified as Grade 1. The soils are well drained and can be placed in Wetness Class I. The topsoils in this unit have medium clay loam and medium silty clay loam textures, with heavy silty clay loam subsoils, sometimes becoming lighter again in texture at depth. A soil pit was dug in the northern part of the site showing the characteristics of these soils. Stone percentages were measured using sieving and displacement in water. The upper subsoil horizon had 9% stones increasing to 12% in the lower subsoil below 65cm. These stone contents do not impose a droughtiness limitation on the soil With the light topsoils these soils can be classified as Grade 1 in the local climatic situation.

A small part of this area (north east corner) is designated as a Scheduled Ancient Monument. Although in terms of the physical characteristics of the soil it can be Grade 1, the restrictions, imposed by the designation, on agricultural practice may significantly reduce the versatility of this land.

Grade 2

These soils have the same characteristics as those described under Grade 1, but have heavy clay loam topsoils. This means that the soils can be classifies no better then Grade 2. A workability limiation is said to exist. This means that access onto the land is restricted to a greater extent than for soils with a lighter topsoil. Access onto the land at some times of the year could lead to damage of the soil structure.

APPENDIX

DESCRIPTION OF THE GRADES AND SUB-GRADES

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 include 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 an 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.

Non-agricultural

'Soft' uses where most of the land could be returned relatively easily to agriculture, including: 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.

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.

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.