PFCS 4875 97/92

THE OLD GRANGE, DYMOCK, GLOUCESTERSHIRE

AGRICULTURAL LAND CLASSIFICATION

Report of survey

1. INTRODUCTION

Twenty two hectares around The Old Grange at Dymock were graded using the Agricultural Land Classification (ALC) System in December 1992. The survey was carried out for MAFF as part of its statutory role in response to an ad hoc planning application made to The Forest of Dean District Council.

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 1" to the mile ALC map of this area being at a more detailed level and carried out under the Revised Guidelines and Criteria for grading the quality of agricultural land (MAFF 1988). A total of 20 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: The Old Grange

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
2	19.0	80.2	95.7
3A	0.9	3.8	4.3
Urban	1.5	6.3	100% (19.9ha)
Non Agric	1.5	6.3	
Farm Bdgs	0.3	1.3	
Water	0.5	2.1	
TOTAL	23.7	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 limiation in the survey area.

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: The Old Grange

Grid Reference	SO 693 322	SO 686 317
Height (m)	30	43
Accumulated Temperature (° days)	1487	1472
Average Annual Rainfall (mm)	710	715
Overall Climatic Grade	1	1
Field Capacity (Days)	157	157
Moisture Deficit, Wheat (mm)	107	106
Potatoes (mm)	100	98

3. RELIEF

The survey area gently undulates generally sloping to the north. There are no limiting slopes.

4. GEOLOGY AND SOILS

The majority of the site is underlain by Lower Old Red Sandstone of the Raglan Mudstone Formation, as shown on sheet 216 of the British Geological Survey. There is a small area of sand and gravels of the Third Terrace of the River Severn and some alluvium along the brook.

The soils were found to be uniform across the site, being reddish heavy clay loams becoming clays at depth. The soils are well drained except for a small area near the old canal which has restricted drainage.

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 2

The majority of the site has been classified as Grade 2. These soils are well drained and are virtually stone free. The topsoils and upper subsoils are heavy clay loams. The lower subsoils sometimes become clays. For the local Field Capacity value of 157 these soils can be graded no better than Grade 2. A workability limiation is said to exist which means that the days available for access onto the land without causing structural damage to the soil is limited which reduces the versatility of the land. At the time of the survey there was some evidence that the brook had flooded but there was insufficient information available to make an accurate assessment of the longterm effect that flooding may have on the versatility of that part of the site.

Subgrade 3a

A small area of land adjacent to the old canal shows evidence of restricted drainage possibly caused by the canal. The area is in a slight hollow and the soils are gleyed. They are assigned to Wetness Class II.

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.