RFCS6281 7/94

AGRICULTURAL LAND CLASSIFICATION

LAND AT POUNDBURY FARM, DORCHESTER

REPORT OF SURVEY

1. SUMMARY

The site, an area of 113 hectares of land west of Dorchester was graded using the Agricultural Land Classification (ALC) system in February 1994. The survey was carried out on behalf of MAFF as part of its Statutory Role in the consultation with West Dorset District Council regarding the West Dorset Consultative Local Plan.

The fieldwork was carried out by ADAS (Resource Planning Team, Taunton Statutory Unit) at a scale of 1:10,000. The information is correct at this scale but any enlargement would be misleading. A total of 94 auger borings and 4 soil profile pits were examined. The distribution of ALC grades identified in the survey area is detailed below and illustrated on the accompanying map.

Distribution of ALC grades: Poundbury Farm

Grade	Area (ha)	% of Survey Area	% of Agricultural Land	
2	77.5	68.5	72.0	
3a	19.0	16.8	17.7	
3b	7.4	6.6	6.8	
4	2.6	2.3	2.4	
5	1.2	1.0	1.1	
Urban	3.5	3.1		
Non-agricultural	0.6	0.5		
Agric buildings	1.3	1.2		
TOTAL	113.1	100.0	100.0	(107.7 ha)

The site occupies for the most part a gently undulating area however the steeper slopes in the north-west impose a moderate and severe limitations on the agricultural land quality. The rest of the site is best and most versatile land with the main limiting factor on these well drained clay and chalky soils being workability. On grade 2 land the topsoil textures impose a slight workability limitation. Land graded 3a experiences similar workability limitations however where the chalk is shallow a moderate drought limitation is also experienced.

2. INTRODUCTION

An area of 113 hectares of land to the west of Dorchester, was surveyed on behalf of MAFF as part of its statutory role in the consultation with West Dorset District Council regarding the Consultative Local Plan. The survey was carried out in February 1994 by ADAS (Resource Planning Team, Taunton Statutory Unit) using the Agricultural Land Classification (ALC) system and conducted at a scale of 1:10,000 (approximately one sample point for every hectare of agricultural land). The 94 borings were supplemented by 4 soil inspection pits and were used to assess subsoil conditions. The information is correct at the scale shown but any enlargement would be misleading.

The published provisional 1" to the mile ALC map of the area (MAFF, 1974) shows the majority of the land to be Grade 2 with Grades 3 and 4 to the north and west site. A number of surveys have been done on this site over the last 15 years at various scales of detail. The most recent in 1987 used the original guidelines and found land of Grade 2, 3a, 3b and small areas of 3c and 5. The current survey supersedes any previous work and was undertaken to provide a more detailed representation of the agricultural land quality using the Revised Guidelines and Criteria (MAFF, 1988). These guidelines provide a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on the agricultural use. The grading takes account of the top 120 cm of the soil profile. A description of the grades used in the ALC system can be found in Appendix 2.

3. 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.

Climatic data for the site was interpolated from the published agricultural climate dataset (Meteorological Office, 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 1 indicate that there is no overall climatic limitation.

Table 1 Climatic interpolations: Poundbury Farm

Grid Reference	SY 667 904	SY 675 907
Height (m)	110	100
Accumulated Temperature (day °)	1458	1469
Average Annual Rainfall (mm)	1029	1023
Overall Climatic Grade	1	1
Field Capacity (days)	204	203
Moisture deficit: Wheat (mm)	88	89
Potatoes (mm)	76	78

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 6. No local climatic factors such as exposure were noted in the survey area. A description of the Soil Wetness classes used is included in Appendix 3.

4. RELIEF AND LANDCOVER

The site occupies a hill for the most part gently sloping. The highest point being 110 m AOD to the west of Poundbury Farm. North of this point land falls steeply to the by-pass which bounds the site, the lowest point being 70 m AOD. At the time of survey most of the agricultural land was cultivated or under arable stubble with the steeper areas being permanent grazing land.

5. GEOLOGY AND SOILS

The published 1:50,000 scale solid and drift geology map, sheet 328 (Geological Survey of England and Wales, 1978), shows all of the site to comprise Upper Chalk.

The soil survey of England and Wales mapped the soils in the area in 1983 at a reconnaissance scale of 1:250,000. This map shows soils to comprise the Andover 2 Association with very small areas of Andover 1 and Coombe 1 Association. Andover 2 Association is described as shallow well drained calcareous silty soils over chalk associated with deeper non-calcareous but variably flinty well drained fine silty and fine silty over clayey soils. The two other Associations have similar descriptions.

The recent survey found similar soils to the mapped associations comprising medium and heavy silty clay loam topsoils over variable depths, of clay which in turn overlie chalk. In localised areas chalk is found immediately below the topsoil.

6. AGRICULTURAL LAND CLASSIFICATION

The distribution of ALC grades identified in the survey area is detailed in Table 2 and shown on the accompanying ALC map. The information is correct at the scale shown but any enlargement would be misleading.

Table 2 Distribution of ALC grades: Poundbury Farm

Grade	Area (ha)	% of Survey Area	% of Agricultural Land	
2	77.5	68.5	72.0	
3a	19.0	16.8	17.7	
3b	7.4	6.6	6.8	
4	2.6	2.3	2.4	
5	1.2	1.0	1.1	
Urban	3.5	3.1		
Non-agricultural	0.6	0.5		
Agric buildings	1.3	1.2		
TOTAL	113.1	100.0	100.0	(107.7 ha)

Grade 2

A total of 77.5 ha of land was found to be Grade 2 (very good quality). This relates to the well drained (Wetness Class 1) deep clayey profiles with small amounts of flint. These soils have a slight workability limitation to agricultural use imposed by medium silty clay loam topsoils and the relatively high field capacity days. A slight drought limitation is experienced in profiles where chalk is found at 50-60 cm depth.

Subgrade 3a

A total of 19 hectares was found to be of good quality land. These soils are similar to those described above, however the heavy silty clay loam topsoils impose a moderate limitation on the workability of these soils. Similarly there are localised areas where chalk was found at approximately 30 cm depth. This reduces the depth of rootable material to approximately 70 cm imposing a moderate drought limitation.

Subgrade 3b

The area of 3b land to the north-west of the site comprises moderately steep slopes of between 9 and 11°. It is graded 3b due to the limiting effect such slopes have on the use of some types of agricultural machinery.

Grades 4 and 5

The steep slope sloping areas of land have limited use for agriculture due to the restrictions imposed on the safe use of farm machinery. Grade 4 land has slopes of approximately 15° and Grade 5, slopes of 18 to 21°. The earthworks associated with the Roman aqueduct also impose a micro relief limitation.

Urban and non-agricultural

Roads and residential areas have been shown as urban on the ALC map and the two small areas of non-agricultural land relate to silage storage and excavation associated with nearby development.

07-94 Poundbury Farm, Dorchester

	HA	ACRES	% AGRICULTURAL LAND	% TOTAL LAND
Grade 1	0.0	0.0	0.0	0.0
Grade 2	77.5	191.6	72.0	68.5
Subgrade 3a	19.0	47.0	17.7	16.8
Subgrade 3b	7.4	18.2	6.9	6.6
Grade 4	2.6	6.4	2.4	2.3
Grade 5	1.2	2.9	1.1	1.0
Total Agri. Land =	107.7	266.1	100	95.2
Urban	3.5	8.7	-	3.1
Non-Agricultural	0.6	1.5	-	0.5
Woodland	0.0	0.0	-	0.0
Ag-Buildings	1.3	3.3	-	1.2
Open Water	0.0	0.0	-	0.0
Land Not Surveyed	0.0	0.0	-	0.0
Total Site Area =	113.1	279.6	-	100.0