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HACKPEN FARM, BARBURY, Nr WROUGHTON, WILTS

AGRICULTURAL LAND CLASSIFICATION

Report of survey

1. INTRODUCTION

Twelve hectares of land at Hackpen Farm, Barbury were graded using the Agricultural Land Classification (ALC) System in January 1993. The survey was carried out for MAFF as part of its statutory role in response to an ad hoc planning application made to Thamesdown Borough Council. Part of the site had already had earth movement carried out on it and an enforcement notice issued. The survey was carried out in such a way as to provide an indication of the situation prior to modifications.

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 15 borings 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: Hackpen Farm

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
2	9.0	72.6	73.8
3A	3.2	25.8	26.2
Non Agric	0.2	1.6	
TOTAL	12.4	100%	100% (12.2ha)

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 an overall climatic limitation across the site which prevents the land from being any better than Grade 2.

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: Hackpen Farm

Grid Reference	SU 140 774
Height (m)	185
Accumulated Temperature (days)	1324
Average Annual Rainfall (mm)	815
Overall Climatic Grade	2
Field Capacity (Days)	174
Moisture Deficit, Wheat (mm)	86
Potatoes (mm)	71

3. RELIEF

The site is virtually flat with an elevation of about 185m OD. The area is on a plateau with land rising to the south and falling to the north.

4. GEOLOGY AND SOILS

The site is underlain by Lower Chalk as shown on the British Geological Survey map sheet 266. (1:50,000)

The soils across the site are slightly variable. The topsoils are mainly heavy clay loams with a few pockets of medium clay loam. The soils become heavier with depth. Over part of the site the underlying weathered chalk is near to the surface (about 25cm), but elsewhere it is found at a much greater depth. The soils are well drained.

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.

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 survey area has been classified as Grade 2. These soils are well drained and can be assigned to Wetness Class I. The topsoils are mainly heavy clay loams although there are occassional medium clay loams. In some of the profiles chalk is found within 120cm. There are few stones in the soil. The limitation to these soils is the climate and also the combination of the topsoil texture, Field Capacity Days and the Wetness Class. Both these limitations restrict the land to Grade 2.

Subgrade 3a

A small area of the site has been downgraded to Subgrade 3a because here the chalk is found in the profile at 25cm. This restricts the water available to growing crops and thus reduces the versatility of the soil. The resulting droughtiness limits the soil to Subgrade 3a.