

AGRICULTURAL LAND CLASSIFICATION

DORSET MINERALS AND WASTE LOCAL PLAN
SG8 DUDMOOR FARM

REPORT OF SURVEY

1. SUMMARY

The site, an area of 20.25 ha of land at Dudmoor Farm, Christchurch, was graded using the Agricultural Land Classification (ALC) system in July 1993. The survey was carried out on behalf of MAFF as part of its statutory role in the preparation of the Dorset Minerals and Waste Local Plan. Dudmoor Farm (SG8) is a preferred area for sand and gravel extraction.

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 14 auger borings and a soil profile pit 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: Dudmoor Farm

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
3a	9.1	44.9	76.5
3b	2.8	13.8	23.5
Urban	1.25	6.2	
Non Agric	7.1	35.1	
TOTAL	20.25	100%	100% (11.9 ha)

The survey area is a level site, the southern part comprises a golf course and is shown on the map as non-agricultural land. The remaining agricultural land is permanent grazing. Soils comprise shallow sandy loam topsoils over loamy medium sand and then medium sand at approximately 50 cm depth. The coarse textures reduce the available water for plant growth restricting the land to 3a with a drought limitation. There are two small areas where the drought limitation is moderately severe limiting the land to Subgrade 3b.

2. INTRODUCTION

An area of 20.25 hectares of land at Dudmoor Farm, Christchurch, was surveyed on behalf of MAFF, as part of its statutory role in the preparation of the Dorset Minerals and Waste Local Plan. The survey was carried out in July 1993 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 14 borings were supplemented by a soil inspection pit 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 this area (MAFF 1973) shows much of the site to be Grade 4, with small areas of Grade 5 and non-agricultural land west and south-western parts of the site. The current survey supersedes any previous surveys 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 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 were interpolated from the Agricultural Climate Dataset (Meteorological Office 1989). The parameters used for assessing overall climatic limitation 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.

No locally limiting 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. These data are used in assessing the soil wetness and droughtiness limitations referred to in Section 6.

Table 1 Climatic interpolations: Dudmoor Farm, Christchurch

Grid Reference	SZ 150 960
Height (m)	6
Accumulated Temperature (day deg)	1564
Average Annual Rainfall (mm)	779
Overall Climatic Grade	1
Field Capacity (Days)	161
Moisture Deficit, Wheat (mm)	118
Potatoes (mm)	114

4. RELIEF AND LANDCOVER

The site occupies a level area of 5 m AOD on the edge of the river Avon Valley. The southern part of the site is used as a golf course and is marked as non-agricultural land on the accompanying map. The remainder of the site is permanent grazing except the buildings at Dudmoor Farm which is shown as urban, and a dressage ring shown as non-agricultural.

5. GEOLOGY AND SOILS

The published 1:50,000 scale solid and drift geology map, sheet 329 (Geological Survey of England and Wales 1976) shows the entire site to be underlain by Valley gravel.

The Soil Survey of England and Wales mapped the soils of the area in 1983, at a reconnaissance scale of 1:250,000. This map shows the soils in the south east of the site to comprise Frome Association* and the north-western part Sollon 2 Association**.

The recent survey indicates there is one soil type across the site. Soils typically comprise medium sandy loam topsoils over loamy medium sand and occasionally medium sand to a depth of 50-60 cm below which subsoils comprise stoneless medium sand. In the single field south of the riding school subsoils are very stony (approximately 50% at 35 cm).

*Frome Association

Shallow calcareous and non-calcareous loamy soils over flint gravel affected by groundwater. Small areas of peat. Risk of flooding.

**Sollon 2 Association

Deep often stoneless and very acid, humose sandy soils with bleached subsurface horizon, affected by groundwater. Well drained very acid sandy soils on slopes. Some sandy over fine loamy soils with slowly permeable subsoils and slight seasonal waterlogging.

6. AGRICULTURAL LAND CLASSIFICATION

The distribution of ALC grades identified in the survey area is detailed in Table 3 and shown on the accompanying ALC map. This shows three quarters of the agricultural land to be best and most versatile land.

Table 2 Distribution of ALC grades: Dudmoor Farm

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
3a	9.1	44.9	76.5
3b	2.8	13.8	23.5
Urban	1.25	6.2	
Non Agric	7.1	35.1	
TOTAL	20.25	100%	100% (11.9 ha)

Subgrade 3a

Three quarters of the agricultural land has been graded 3a. The soils described in section 4 experience a moderate drought restriction due to the coarse subsoils which have a low available water content. This droughtiness restricts the land to grade 3a.

Subgrade 3b

The land graded 3b relates to the stony profiles and deep medium sand profiles described in section 5. Here the high stone contents and coarse textures of the subsoil severely restrict the water available to roots. This imposes a droughtiness limitation on the land and it is thus graded 3b.

Non-agricultural and Urban Land

The southern part of the site comprises a golf course, there is also a small dressage area in the north, marked as non-agricultural. The buildings at Dudmoor Farm are marked as urban.

APPENDIX 1

REFERENCES

GEOLOGICAL SURVEY OF ENGLAND AND WALES (1976) Solid and Drift edition. Sheet 329, Bournemouth 1:50,000 scale

MAFF (1973) Agricultural Land Classification Map Sheet 179 Provisional 1:63,360 scale

MAFF (1988) Agricultural Land Classification of England and Wales (revised guidelines and criteria for grading the quality of land) Alnwick

METEOROLOGICAL OFFICE (1989) Published climatic data extracted from the agroclimatic dataset, compiled by the Meteorological Office

SOIL SURVEY OF ENGLAND AND WALES (1983) Sheet 5 Soils of South West England 1:250,000 scale