2004-011-91

AGRICULTURAL LAND CLASSIFICATION

LAND AT SHOLDEN, DEAL

REPORT OF SURVEY

Ministry of
Agriculture
Fisheries
and Food

AGRICULTURAL LAND CLASSIFICATION

LAND AT SHOLDEN, DEAL

1. BACKGROUND

1.1 This 7.35 ha site lies between the A258 and the village of Sholden to the west of Deal in Kent. It is bounded by the A258 to the west, a minor road and a track, to the south and north respectively, and a small area of woodland to the east.

1.2 The site was surveyed on the 26th April 1991 using a 120 cm Dutch soil auger, with samples being taken at approximately 100 m intervals. In addition a soil profile pit was examined to enable more detailed soil description.

Land Use

1.3 At the time of survey the site was under winter cereals.

2. PHYSICAL FACTORS AFFECTING LAND QUALITY

Relief

2.1 The site lies between approximately 5 and 20 m A.O.D. with land falling gently towards the north-east. Gradient nor altitude are significant factors in terms of land quality at this locality.

Climate

2.2 Estimates of climatic variables were obtained by interpolation from a 5 km grid database (Met. Office, 1989) for a representative location in the survey area.

Climatic variables

Grid Reference	TR 6356 1527
Altitude (m, A.O.D.)	12
Accumulated temperature (degree days, Jan-June)	1480
Average annual rainfall (mm)	688
Field capacity days	141
Moisture deficit, wheat (mm)	124
Moisture deficit, potatoes (mm)	123

2.3 The important parameters in assessing an overall climatic limitation are, accumulated temperature, which provides a measure of the warmth of a locality, and average annual rainfall, which provides a measure of the degree of wetness of a locality. With a high accumulated temperature and low average annual rainfall, this site is relatively warm and dry, both in regional and national terms. However, no overall climatic limitation to the agricultural land quality exists at this locality.

Geology and Soils

2.4 British Geological Survey, Sheet 290 (1977) Dover, shows the site to comprise Head Brickearth deposits.

2.5 Soil Survey of England and Wales, Sheet TR35 (1972) Deal, maps the site as the Hamble Series. These soils are described as, 'deep, stoneless, silty soils, which are well drained' (SSEW, 1984).

2.6 Detailed field examination of the soils confirms the above, with one soil type being identified.
Profiles typically comprise non-calcareous, stoneless silt loam topsoils which overlie similar textures or silty clay loams in the subsoil. The soils are well-drained, there being no evidence of drainage impedence across the site, and they are thereby assigned to wetness class I. Profiles are non-calcareous and stonefree throughout.

3. AGRICULTURAL LAND CLASSIFICATION

3.1 This site has no or very minor limitations to agricultural use and has therefor been assigned to Grade 1 as shown below:

Grade	Area (ha)	% of total agricultural area
1	7.35	100
Total area of site	7.35	

3.2 Appendix 1 gives a general description of the grade identified in this survey.

3.3 Grade 1

Land of this quality has been mapped across the entire area surveyed.

Profiles typically comprise silt loam topsoils which are stoneless and non-calcareous. These overlie similar texture or medium silty clay loam in the subsoil. Occasional profiles pass to heavy silty clay loam in the lower subsoil below about 60-75 cm. The soils are well drained, exhibiting no evidence of impeded drainage, and they are assigned to wetness class I accordingly. These soils have good reserves of available water and are easily worked. No significant limitation affects this land which is capable of supporting a wide range of agricultural and horticultural crops at high yields.

May 1991
Ref: 2004/011/91

MICHELE LEEK
Resource Planning Group
Reading Regional Office

SOURCES OF REFERENCE

BRITISH GEOLOGICAL SURVEY (1977) Sheet 290, Dover.

MAFF (1988) Agricultural Land Classification of England and Wales; Revised guidelines and criteria for grading the quality of agricultural land.

METEOROLOGICAL OFFICE (1989) Climatological datasets for agricultural land classification.

SOIL SURVEY OF ENGLAND AND WALES (1972) Sheet TR35, Deal.

SOIL SURVEY OF ENGLAND AND WALES (1984) Bulletin 15 - Soils and their use in South-East England.

APPENDIX 1

DESCRIPTION OF THE GRADES AND SUBGRADES

The ALC grades and subgrades are described below in terms of the types of limitation which can occur, typical cropping range and the expected level and consistency of yield. In practice, the grades are defined by reference to physical characteristics and the grading guidance and cut-offs for limitation factors in Section 3 enable land to be ranked in accordance with these general descriptions. The most productive and flexible land falls into Grades 1 and 2 and Subgrade 3a and collectively comprises about one-third of the agricultural land in England and Wales. About half the land is of moderate quality in Subgrade 3b or poor quality in Grade 4. Although less significant on a national scale such land can be locally valuable to agriculture and the rural economy where poorer farmland predominates. The remainder is very poor quality land in Grade 5, which mostly occurs in the uplands.

Descriptions are also given of other land categories which may be used on ALC maps.

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 includes 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 can 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: golf courses, 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.

Woodland

Includes commercial and non-commercial woodland. A distinction may be made as necessary between farm and non-farm woodland.

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.

FIELD ASSESSMENT OF SOIL WETNESS CLASS

SOIL WETNESS CLASSIFICATION

Soil wetness is classified according to the depth and duration of waterlogging in the soil profile. Six revised soil wetness classes (Hodgson, in preparation) are identified and are defined in Table 11.

Table 11 Definition of Soil Wetness Classes

Wetness Class	Duration of Waterlogging[1]
I	The soil profile is not wet within 70 cm depth for more than 30 days in most years[2].
II	The soil profile is wet within 70 cm depth for 31-90 days in most years *or*, if there is no slowly permeable layer within 80 cm depth, it is wet within 70 cm for more than 90 days, but not wet within 40 cm depth for more than 30 days in most years.
III	The soil profile is wet within 70 cm depth for 91-180 days in most years *or*, if there is no slowly permeable layer within 80 cm depth, it is wet within 70 cm for more than 180 days, but only wet within 40 cm depth for between 31 and 90 days in most years.
IV	The soil profile is wet within 70 cm depth for more than 180 days but not within 40 cm depth for more than 210 days in most years *or*, if there is no slowly permeable layer within 80 cm depth, it is wet within 40 cm depth for 91-210 days in most years.
V	The soil profile is wet within 40 cm depth for 211-335 days in most years.
VI	The soil profile is wet within 40 cm depth for more than 335 days in most years.

[1] The number of days specified is not necessarily a continuous period.

[2] 'In most years' is defined as more than 10 out of 20 years.

Soils can be allocated to a wetness class on the basis of quantitative data recorded over a period of many years or by the interpretation of soil profile characteristics, site and climatic factors. Adequate quantitative data will rarely be available for ALC surveys and therefore the interpretative method of field assessment is used to identify soil wetness class in the field. The method adopted here is common to ADAS and the SSLRC.