

8FCs 4726

47/92

SOUTH SOMERSET LOCAL PLAN: WINCANTON

AGRICULTURAL LAND CLASSIFICATION

Report of Survey

1. INTRODUCTION

One hundred and sixty three hectares of land around Wincanton were graded under the Agricultural Land Classification (ALC) System in September 1992. The survey was carried out for MAFF as part of its statutory role in the preparation of the South Somerset Local Plan.

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 previous surveys of this area at 1" and the 1983 and 1984 surveys, being at a more detailed level and carried out under the Revised Guidelines and Criteria for grading the quality of agricultural land (MAFF 1989). A total of 101 borings and 5 soil pits 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: Wincanton

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
1	14.4	8.8	10.4
2	18.3	11.2	13.2
3A	49.0	30.2	35.4
3B	40.5	24.8	29.2
4	12.6	7.8	9.1
5	3.8	2.3	2.7
Non Agric	8.7	5.3	100% (138.6ha)
Urban	12.7	7.8	
Farm Bdgs	3.0	1.8	
TOTAL	163.0	100%	

Over half of the agricultural land has been classified as best and most versatile.

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 climatic limitation across 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: Wincanton

Grid Reference	ST 718 290	ST 705 280
Height (m)	140	75
Accumulated Temperature (days)	1406	1481
Average Annual Rainfall (mm)	916	877
Overall Climatic Grade	1	1
Field Capacity (Days)	191	185
Moisture Deficit, Wheat (mm)	89	99
Potatoes (mm)	77	90

3. RELIEF

Wincanton is dissected by the River Cale valley. The land to the east and west rises up from the River. The lowest parts of the survey area are at 75m rising up to 140m at Windmill Hill in the east and 125m in the west towards Abergavenny.

4. GEOLOGY AND SOILS

Several types of geology are represented in the survey area as shown on BGS sheet 297. These are Cornbrash limestone, Oxford clay with Kellaway Beds and Forest Marble (mainly clay).

Several soil types exist in the survey area. On the higher land around Windmill Hill the soils are light in texture with medium sandy silt loam topsoils. These soils become slightly heavier with depth. They are free draining. Soils in the lower lying parts of the area below New Barns Farm and Bayford Hill Farm are much heavier with clay or heavy

clay loam topsoils. These soils have restricted drainage and are stone free. The remaining areas have medium clay loam topsoils which become heavier with depth. Some of these soils are stoney and some show evidence of restricted drainage. Some of the soils are also calcareous.

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 1

Two areas of Grade 1 land have been identified in the survey area. These soils are free draining and are virtually stone free. The qualify for Wetness Class I and with the medium silty clay loam topsoils are eligible for Grade 1. These soils remain light in texture throughout the profile.

Grade 2

Three areas of Grade 2 land have been identified in the area. These soils have slightly heavier topsoils. They are mostly medium clay loams and medium silty clay loams. Some of the soils are calcareous and work as a lighter texture. The eastern area of Grade 2 is a free draining soil with low stone content. The soils become heavier with depth. The soils in the west are stoney. The soft limestone increases in content with depth reaching a measured level of 50% below 45cm in a soil pit. The stone content does not impose a significant droughtiness limitation. These soils are also free draining and qualify for Wetness Class I. In both these types of soil the main limitation to agricultural use is the combination of topsoil texture and the local climatic situation. This workability limitation limits the soil to Grade 2.

Subgrade 3a

Many parts of the area surveyed have been classified as Subgrade 3a. Two main types of profile exist in these areas. The first is limited by topsoil texture. The heavy clay loams provide a more limiting situation than that described under Grade 2. These soils are mainly found in the west of the survey area near New Barns where there are high stone contents. The other Subgrade 3a soils show evidence of wetness. These soils mainly have evidence of restricted drainage at lower depths and are placed into Wetness Class II and III. The soils have medium clay loam topsoils. The combination of these factors in addition to the local climatic situation restrict the soils to Subgrade 3a. Some of the soils are stoney. Soil pits were dug in these soils.

Subgrade 3b

Parts of the survey area have restrictive gradients. On these slopes the type of machinery that can be used is limited in terms of safety. Gradients are between 7 and 11 degrees and are found primarily to the north.

The remaining areas of 3b land have poor drainage which is more severe than that described above. The soils are gleyed in the top 40cm and have slowly permeable layers within 52cm. These slowly permeable layers were confirmed in a soil pit. These soils must be placed into Wetness Class IV and with medium clay loam topsoils are limited to Subgrade 3b. The soils contain few stones.

Grade 4

The small areas of Grade 4 land are limited to this grade by gradient. The slopes are between 11 and 18 degrees. Here safety limits still further the type of machinery and thus the versatility of the land. The risk of soil erosion is also increased by cultivating steep slopes.

The larger area of Grade 4 to the south has poor drainage similar to that described for Subgrade 3b. Here the topsoils are heavier, heavy clay loam and heavy silty clay loam. With the heavier topsoil these soils are less versatile and are thus downgraded.

Grade 5

The small areas of Grade 5 have gradients over 18 degrees. This land has severe restrictions to agricultural use and is only suitable for permanent pasture or rough grazing.

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 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: 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.