8FCS 4726

48/92

SOUTH SOMERSET LOCAL PLAN: BRUTON

AGRICULTURAL LAND CLASSIFICATION

Report of Survey

1. INTRODUCTION

Over two hundred and fifty hectares of land around Bruton, South Somerset were graded under the Agricultural Land Classification (ALC) System in July and August 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 in 1977 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 88 borings and 4 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: Bruton

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
1	10.0	3.9	5.5
2	54.1	21.3	29.9
3A	16.3	6.4	9.0
3B	54.6	21.5	30.1
4	35.2	13.8	19.4
5	11.0	4.3	6.1
Non Agric	40.1	15.8	100%(181.2ha)
Urban	29.9	11.7	
Farm Bdgs	3.4	1.3	
TOTAL	254.6	100%	

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 overall climatic limitaion

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: Bruton

Grid Reference	ST 675 350	ST 675 342
Height (m)	120	55
Accumulated Temperature (° days)	1427	1501
Average Annual Rainfall (mm)	894	833
Overall Climatic Grade	1	1
Field Capacity (Days)	188	179
Moisture Deficit, Wheat (mm)	90	101
Potatoes (mm)	79	93

3. RELIEF

The area around Bruton is much dissected by valleys. The west side of the town has much steeper slopes. Some of the survey area is on flatter land.

4. *GEOLOGY AND SOILS*

There are several types of geology underlying the area as shown on BGS sheet 297. The types represented are Midford Sands, Inferior Oolitic Limestone, Fullers Earth and Fullers Earth Rock.

The soils across the survey area are variable. There are medium sandy silt loams in the western part of the survey area. The rest of the area has mainly medium clay loams with some area having heavy clay loam topsoils. The soils become heavier with depth. Some parts have quite high stone contents. Parts of the area have free draining soils whilst

others have slowly permeable layers which restrict the drainage.

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

Three small areas of Grade 1 land have been identified. These are separated by restricting slopes. These soils are virtually stone free and are free draining. These soil profiles remain reasonably light in texture to depth, but this does not impose a droughtiness limitation. A soil pit confirmed the findings. The soils can be placed into Wetness Class I and with a medium sandy silt loam topsoil can be classified as Grade 1.

Grade 2

Large parts of the survey area have been classified as Grade 2. These areas are divided up by areas with greater limitations. The Grade 2 land is limited to this grade by a workability limitation. The soil profiles have medium clay loam and medium silty clay loam topsoils. Many of the profiles have high stone contents. Soil pits dug in these areas showed that the stone content was as high as 55% in parts of the subsoil. The percentage of stone in the horizons varied but the stones did not impose a restriction on available water greater than the limitation imposed by the combination of topsoil texture and the local FCD value. The soils were free draining and can be assigned to Wetness Class I. The workability limitation means that for part of the year when the soils are at field capacity accessing the soil may cause damage to the soil structure which in turn may cause poor drainage.

Subgrade 3a

There are small areas of Subgrade 3a scattered across the survey area. The area to the east of New House Farm has heavy clay loam topsoils, but the profiles are free draining. The topsoil texture limits the soils to 3a in terms of a workability limitation. The remaining areas of Subgrade 3a experience minor wetness problems. The topsoils are medium clay loams or medium silty clay loams. The soils show evidence of wetness in the form of gleying below 40cm and this is caused by a slowly permeable layer at depth. The degree of wetness means that the soils are placed into Wetness Class III, which with the topsoil texture and FCD value limit the soils to Subgrade 3a.

Subgrade 3b

Areas have been classed as Subgrade 3b for two reasons. Mainly in the south and west there are slopes over 7 degrees. Those slopes which do not exceed 11 degrees are downgraded to Subgrade 3b. The type of machinery that can be safely used is limited by the slope and so the versatility of the land is reduced. The remaining areas of 3b have been downgraded because of poor drainage. These soils have a greater drainage problem than the soils described under Subgrade 3a. The soils show gleying in the top 40cm of the profile and this is caused by a slowly permeable layer beginning by 51cm. The soils must therefore be placed into Wetness Class IV and with medium clay loam topsoils cannot be graded higher than Subgrade 3b.

Grade 4

There are several areas of land classified as Grade 4. The two areas in the east, north of Brewham Road have been down graded because of wetness. These soils have a similar wetness regime as those descibed under Subgrade 3b, but the profiles have heavy clay loam topsoils. With this heavier topsoil the opportunities to get onto the land without causing structural damage to the soil are further restricted and so these areas are downgraded. The remaining areas of Grade 4 are downgraded on the basis of slope. These slopes have gradients over 11 dgrees but not over 18 degrees. The types of machinery that can be safely used are further restricted by these slopes. In addition the risk of soil erosion is greatly increased if cultivation takes place.

Grade 5

There are some slopes in the survey area which are over 18 degrees. Here the land is only suitable for grazing and occasional pioneer forage crops.

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.

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.

ALC SURVEY INFORMATION

SITE NAME: Broton

LOCALITY: S. Somerset

1:50,000 SHEET NO: 183

GRID REFERENCE: 685 345

JOB NUMBER: 48/92

FILE NUMBER:

AREA (ha):

AIR PHOTOS:

REASON FOR SURVEY: S. Somerset D.C. Local Plan

CLIMATE: ATO:

AAR:

MD WHEAT:

MD POTS:

FCD:

BEST CLIMATIC ALC: Grade 1

ALTITUDE: MAXIMUM:

MINIMUM:

GEOLOGY: SHEET/SCALE: 1:50,000 297

SOLID:

DRIFT:

ALC: PROVISIONAL 1" MAP:

OTHER SURVEYS:

SOILS: SHEET/SCALE: Sheet 5 1:250,000

ASSOCIATION/DESCRIPTION:

ANCILLARY SOILS:

REQUESTED BY/VIA:

ACCESS OK?:

DEADLINE:

OWNER/OCCUPIER:

OTHER: