

SOUTH SOMERSET DISTRICT PLAN : MARTOCK

AGRICULTURAL LAND CLASSIFICATION, REPORT OF SURVEY

1. Summary

As part of MAFF's statutory input to the preparation of the South Somerset District Plan, MAFF was asked to provide a statement of land quality on areas of land where adjacent to the 1985 Agricultural Land Classification map. Since the production of this ALC map MAFF has introduced revised guidelines and criteria for grading the quality of agricultural land. As a result of this, additional fieldwork has been undertaken to check the grading on the original map. The 1985 map has now been fully revised and the 1992 edition stands as MAFF's definitive statement on land quality around the village. The 1985 map showed significant areas of Grade 2 land around the eastern and southern fringe of the village. Recent survey information has confirmed only a small portion of this Grade 2 land and most of the area has been reclassified as Sub-grade 3A as a result of a more detailed assessment of the wetness and workability limitations which effect these soils. The fieldwork was carried out by members of the Resource Planning Group (South West Region) at a scale of 1:10,000 (ie approximately one soil observation per hectare in the additional areas) and this information has been extrapolated to grade the rest of the 1985 map units with some additional field checking around the whole village.

The table below provides the details of the ALC statistics by grade, and the attached ALC map shows the distribution of the grade.

<u>Grade</u>	<u>Area (ha)</u>	<u>% of Survey Area</u>	<u>% of Agricultural Area</u>
1	5.6	2.3	4.3
2	18.0	7.3	13.9
3A	80.5	32.7	62.1
3B	25.5	10.4	<u>19.7</u>
Non Agric	6.5	2.6	100% (129.6 ha)
Agric Blds	1.2	0.5	
Urban	<u>108.7</u>	<u>44.2</u>	
TOTAL	246.0 ha	100%	

2. Climate

The climatic criteria are concerned first when classifying land as they may be overriding in the sense that severe climatic limitations will restrict land to low grades irrespective of favourable soil or site conditions. A detailed estimate of the prevailing climate has been made by interpolation from a Met. Office 5 km dataset.

The parameters used in assessing the impact of overall climate are accumulated temperature (a measure of the relative warmth of the locality), and average annual rainfall (a measure of overall wetness). A total of 4 climatic interpolations were requested and details of these are attached. These show that there is no overall climatic limitation affecting the site. The area is climatically Grade 1, is moderately droughty and has a field capacity range of 159-162 days. No local climatic factors are important on the site.

3. Agricultural Land Classification

Grade 1 : Two minor areas of this grade have been identified in the south of the survey area, these soils are deep, free draining and have adequate available water in the profile to qualify for Grade 1. The lower subsoils may show signs of gleying, but the profiles are still placed in Wetness Class I (ie the soil profile is not wet within 70 cm depth for more than 30 days in most years).

Grade 2 : Pit 3 is typical of these soils (details attached) and represents soils which fall into Wetness Class II as a result of evidence of gleying below 40 cm with slowly permeable layers in the lower subsoil. The topsoil textures are Medium Clay Loams and this, combined with the prevailing FC days, produces a wetness/workability limitation of Grade 2.

Sub-grade 3A : Pits 1 and 2 are representative of the range of soils which fall into this category. Soil wetness is the main physical limitation. Wetness Class III is the most appropriate class for these soils which show shallower evidence of gleying and SPLs and, therefore, a more significant wetness limitation.

Sub-grade 3B : This grade represents the lowest grade soils that occur in the survey area and are located on the western fringe and to the north of the village. Some of these soils are placed in Wetness Class IV as a result of gleying and SPLs occurring below the topsoil. Others qualify for a better Wetness Class but have Heavy Clay Loam topsoils which create a significant workability limitation.

CLIMATIC INTERPOLATIONS: MARTOCK

Grid Reference	ST 469195	ST 458198	ST 469189	ST 465207
Altitude (m)	40	15	20	25
Average Annual Rainfall (mm)	751	728	731	736
Accumulated Temperate (° days)	1530	1559	1553	1547
Field Capacity (days)	162	158	159	159
Moisture Deficit, Wheat (mm)	109	113	112	112
Moisture Deficit, Potatoes (mm)	102	108	106	106
Overall Climatic Grade	1	1	1	1

MARTOCK

Pit Number : 1P

Grid Reference : ST34661188 Average Annual Rainfall : 751 mm
Accumulated Temperature : 1530 degree days
Field Capacity Level : 162 days
Land Use : Ploughed
Slope and Aspect : degrees S

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 35	MCL	10YR53 00	0	0		
35- 45	HCL	25Y 64 00	0	0	C	
45- 80	HCL	25Y 62 00	0	0	M	MAB

Wetness Grade : 3A Wetness Class : III
Gleying : 035 cm
SPL : 045 cm

Drought Grade : 2 APW : 117 mm MBW : 5 mm
APP : 119 mm MBP : 13 mm

FINAL ALC GRADE : 3A
MAIN LIMITATION : Wetness

MARTOCK

Pit Number : 2P

Grid Reference : ST34681196 Average Annual Rainfall : 751 mm
Accumulated Temperature : 1530 degree days
Field Capacity Level : 162 days
Land Use : Permanent Grass
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 30	MCL	10YR42 00	0	0		
30- 40	HCL	10YR53 00	0	0	C	MCSAB
40- 90	C	25 Y64 00	0	0	M	MMP

Wetness Grade : 3B Wetness Class : IV
Gleying : 030 cm
SPL : 040 cm

Drought Grade : 3A APW : 111 mm MBW : -1 mm
APP : 109 mm MBP : 3 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

MARTOCK

Pit Number : 3P

Grid Reference : ST34681198 Average Annual Rainfall : 751 mm
Accumulated Temperature : 1530 degree days
Field Capacity Level : 162 days
Land Use : Cereals
Slope and Aspect : 02 degrees SE

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 30	MCL	25Y 52 00	0	0		
30- 50	MCL	10YR53 00	0	0		MCSAB
50- 65	C	10YR61 00	0	0	M	MCSAB
65- 80	C	10YR61 00	0	0	A	MMP

Wetness Grade : 2

Wetnesss Class : II
Gleying : 050 cm
SPL : 065 cm

Drought Grade : 3A

APW : 109 mm MBW : -3 mm
APP : 117 mm MBP : 11 mm

FINAL ALC GRADE : 2

MAIN LIMITATION : Wetness

SECTION 2

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.