58/95

Blunsdon St Andrew

Agricultural Land Classification

Prepared for MAFF by
G M Shaw
ADAS Statutory Unit
Bristol

ADAS
FOOD, FARMING, LAND & LEISURE

Ministry of Agriculture, Fisheries and Food
Land Use Planning Unit

MAFF

BLUNSDON ST ANDREW

AGRICULTURAL LAND CLASSIFICATION

CONTENTS

BLUNSDON ST ANDREW

AGRICULTURAL LAND CLASSIFICATION SURVEY

SUMMARY

The survey was carried out by ADAS on behalf of MAFF as part of its statutory role in the preparation of the Thamesdown Local Plan. The fieldwork north of Lady Lane, Blunsdon St Andrew was completed in September 1995 at a scale of 1:10,000. Data on climate, soils, geology and from previous Agricultural Land Classification (ALC) Surveys was used and is presented in the report. The distribution of grades is shown on the accompanying ALC map and summarised below. Information is correct at this scale but could be misleading if enlarged.

Distribution of ALC grades: Blunsdon St Andrew

Grade	Area (ha)	% of Survey Area	% of Agricultural Land (24.8ha)
3a	24.8	100	100
TOTAL	24.8	100	100

The whole is mapped as subgrade 3A. These soils experience a moderate workability limitation with clay topsoils. The stony soils also have a minor droughtiness limitation.

1. INTRODUCTION

An Agricultural Land Classification (ALC) Survey was carried out in September 1995 north of Lady Lane, Blunsdon St Andrew on behalf of MAFF as part of its statutory role in the preparation of the Thamesdown Local Plan. The fieldwork covering 24.8 ha of land was conducted by ADAS at a scale of 1:10,000 with approximately one boring per hectare of agricultural land. A total of 26 auger borings were examined and 1 soil profile pit used to assess subsoil conditions.

The published provisional one inch to the mile ALC map of this area (MAFF 1973) shows the grade of the site at a reconnaissance scale, as Grade 3.

The recent survey supersedes this map having been carried out at a more detailed level and using the Revised Guidelines and Criteria for grading the quality of agricultural land (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.

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 a lower grade despite other favourable conditions.

Estimates of climatic variables were interpolated from the published agricultural climate data set (Meteorological Office 1989). The parameters used for assessing overall 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 1 indicate there is no overall limitation.

Table 1: Climatic Interpolations: BLUNSDON ST ANDREW

Grid Reference		SU 134 900
Altitude (m)		130
Accumulated Temperature (day °)		1381
Average Annual Rainfall (mm)		696
Overall Climatic Grade		1
Field Capacity Days		156
Moisture deficit (mm):	Wheat	100
	Potatoes	90

Climatic data on Field Capacity Days (FCD) and Moisture Deficits for wheat and potatoes are also shown. These data are used in assessing the soil wetness and droughtiness limitations referred to in later sections.

3. RELIEF AND LANDCOVER

The site forms part of a plateau, dropping away slightly to the west. The altitude range is 131-145m AOD. At the time of survey the fields had cereal stubble covering them. An area of the eastern field has been fenced off surrounding a mast.

4. GEOLOGY AND SOILS

The geology of the site is shown on the published 1:63,360 scale geology map, sheet 252 (Institute of Geological Sciences 1974.) This shows the whole site to be under lain with Upper Corallian, Coral Rag.

The soils were mapped by the Soil Survey of England and Wales in 1983 at a reconnaissance scale of 1:250,000 This maps the whole site as the Sherborne Association which is described as shallow well drained brashy calcareous clayey soils over limestone associated with slowly permeable calcareous clayey soils.

The soils were found during the recent survey were well drained brashy soils typical of the mapped association.

5. AGRICULTURAL LAND CLASSIFICATION

The distribution of ALC grades is shown in Table 2 and on the accompanying ALC map. This information could be misleading if shown at a larger scale.

Table 2: Distribution of ALC grades: BLUNSDON ST ANDREW

Grade	Area (ha)	% of Survey Area	% of Agricultural Land (24.8ha)
3a	24.8	100	100
TOTAL	24.8	100	100

Subgrade 3a

All of the site is mapped as Subgrade 3a with a moderate workability limitation imposed by clay topsoils. The soils are well drained and Wetness Class I (See Appendix 3). The soils are stony imposed with 19% limestone in the topsoil (1%>2cm) rising to 47% by volume in the clay subsoil. The soils experience a slight droughtiness limitation.

Resource Planning Team
Taunton Statutory Unit
September 1995

APPENDIX 1

REFERENCES

INSTITUTE OF GEOLOGICAL SCIENCES (1974) Edition, Sheet 252, Swindon 1:63.360.

MAFF (1973) Agricultural Land Classification Map, Sheet 157, Provisional 1:63,360 scale.

MAFF (1988) Agricultural Land Classification of England and Wales (Revised Guidelines and Criteria for grading the quality of agricultural land), Alnwick.

METEOROLOGICAL OFFICE (1989) Climatological Data for Agricultural Land Classification.

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

APPENDIX 2

DESCRIPTION OF GRADES AND SUBGRADES

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 most 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 park land, 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 landcover types, eg buildings in large grounds, and where may be shown separately. Otherwise, the most extensive cover type will usually be shown.

Source: MAFF (1988) Agricultural Land Classification of England and Wales (Revised Guidelines and Criteria for Grading the Quality of Agricultural Land), Alnwick.

BLUNSDON ST ANDREW

AGRICULTURAL LAND CLASSIFICATION SURVEY

SUMMARY

The survey was carried out by ADAS on behalf of MAFF as part of its statutory role in the preparation of the Thamesdown Local Plan. The fieldwork north of Lady Lane, Blunsdon St Andrew was completed in September 1995 at a scale of 1:10,000. Data on climate, soils, geology and from previous Agricultural Land Classification (ALC) Surveys was used and is presented in the report. The distribution of grades is shown on the accompanying ALC map and summarised below. Information is correct at this scale but could be misleading if enlarged.

Distribution of ALC grades: Blunsdon St Andrew

Grade	Area (ha)	% of Survey Area	% of Agricultural Land (24.8ha)
3a	24.8	100	100
TOTAL	24.8	100	100

The whole is mapped as subgrade 3A. These soils experience a moderate workability limitation with clay topsoils. The stony soils also have a minor droughtiness limitation.

SITE NAME	PROFILE NO.	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Blunsdon St Andrew	Pit 1	0°	Cereal stubble	Av Rainfall: 696 mm ATO: 1381 day °C	Coral Rag
JOB NO.	DATE	GRID REFERENCE	DESCRIBED BY	FC Days: 156 Climatic Grade: 1 Exposure Grade: 1	SOIL SAMPLE REFERENCES
58/95	5/9/95	SU1399005	GMS		-

Horizon No.	Lowest Av. Depth (cm)	Texture	Matrix (Ped Face) Colours	Stoniness: Size, Type. and Field Method	Mottling Abundance, Contrast, Size and Colour	Mangan Concs	Structure: Ped Development Size and Shape	Consistence	Structural Condition	Pores (Fissures)	Roots: Abundance and Size	Calcium Carbonate Content	Horizon Boundary: Distinctness and form
1	28	C	10YR42	1% >2 cm SLST 18%>2 mm SLST 10% SLST TOTAL	None	None	WDFSAB	Friable	-	Good	MVF	Yes	Gradual Wavy
2	60+	C	10YR54	5% >2 cm SLST 42%>2 mm SLST 47% SLST TOTAL	None	None	WDMSAB	Friable	Good	Good	CVF	Yes	

Profile Gleyed From: Not gleyed

Depth to Slowly Permeable Horizon: No SPL

Wetness Class: I

Wetness Grade: 3a

Available Water Wheat: 97 mm

Potatoes: 95 mm

Moisture Deficit Wheat: 100 mm

Potatoes: 90 mm

Moisture Balance Wheat: -3 mm

Potatoes: 5 mm

Droughtiness Grade: 3a (Calculated to 80 cm)

Final ALC Grade: 3a

Main Limiting Factor(s): Workability

Remarks:

Some very large stones remaining in pit in horizon 2.
Pit dug to 60 cm.