

AGRICULTURAL LAND CLASSIFICATION  
REPORT OF SURVEY  
WEST WILTSHIRE LOCAL PLAN  
OBJECTOR SITES  
Warminster Westbury  
Melksham Bradford-on-Avon

Resource Planning Team  
Taunton Statutory Unit

# WEST WILTSHIRE DISTRICT LOCAL PLAN

## AGRICULTURAL LAND CLASSIFICATION

### Report of Survey

#### 1 SUMMARY

The sites around the Wiltshire towns of Warminster Westbury Melksham and Bradford on Avon have been proposed by objectors for inclusion in the above Plan. These areas were graded using the Agricultural Land Classification (ALC) system in March 1991 and August 1993. The survey was carried out on behalf of MAFF as part of its statutory role in the preparation of the West Wiltshire District 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 this scale but any enlargement would be misleading. The distribution of ALC grades identified in the survey areas is detailed below and illustrated on the accompanying maps.

#### Distribution of ALC grades - West Wiltshire

##### WARMINSTER

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
1	24.8	29.6	34.4
2	8.5	10.1	11.8
3a	12.8	15.3	17.7
3b	12.4	14.8	17.2
4	13.6	16.2	18.9
Non agric	6.4	7.6	
Urban	2.0	2.4	
Farm bldgs	0.4	0.5	
Unsurveyed	3.0	3.5	
TOTAL	83.9	100% 83.9 ha	100% 72.1 ha

Grade 1 land was found around Bugley Barton Farm (H1/256 H1/889a and H1/458) and also at Butlers Coombe Farm (H1/248). These soils are derived mainly from the Cretaceous Chert beds and comprise well drained deep slightly stony sandy loam profiles. These soils experience no significant drought or wetness limitation. Soils at Butlers Coombe Farm site B (H1/247) and part of the land north of Victoria Road have been graded 2. These soils are similar to those described above but heavier topsoils restrict the workability to Grade 2. The 3a land relates to slightly less well drained soils (Wetness Class II) with medium clay loam topsoils.

The sites at Brick Hill and north of West Street experience severe wetness limitations imposed by slowly permeable subsoils and heavy clay loam topsoils. The site at Henford Marshes was not surveyed due to difficulties in arranging access.

## WESTBURY

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
2	5.55	7.2	7.6
3a	35.55	46.4	49.1
3b	28.7	37.5	69.6
4	2.65	3.6	3.7
Non agric	1.8	2.3	
Urban	2.4	3.1	
TOTAL	<u>76.65</u>	<u>100%</u> 76.65 ha	<u>100%</u> 72.45 ha

Grade 2 land was found south of Bratton Road (H1/860) and at Chalford (H1/860). These soils are derived from the Greensand beds and comprise well drained sandy loam soils with medium clay loam topsoils imposing a slight workability limitation. Land graded 3a relates to soils derived from Pleistocene and Recent Head deposits. These soils comprise heavy clay loam topsoils over well drained chalky clay loam subsoils. Soils are assessed as Wetness Class I and II but topsoil textures impose a moderate workability limitation. Land graded 3b and 4 relate to poorly drained (Wetness Class IV) clayey profiles with heavy topsoil textures.

## MELKSHAM

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
2	7.0	23.7	24.8
3b	21.2	71.9	75.2
Non agric	0.6	2.0	
Urban	0.7	2.4	
TOTAL	<u>29.5</u>	<u>100%</u> 29.5 ha	<u>100%</u> 28.2 ha

Grade 2 land was found at the sites of Northbrook Road (H1/461) Roundponds Farm (H1/591) and at Berryfield (H1/424). These soils are derived from the river terrace gravels and comprise well-drained stony profiles with heavy clay loam topsoils. The heavy topsoil texture imposes a slight workability limitation thus limiting the land to Grade 2.

The entire site at Bowerhill (H1/660) most of the land at Berryfield and a small area of land at Roundponds Farm has been graded 3b. This land relates to soils derived from Oxford Clay and Head deposits. Soils comprise poorly drained clayey profiles which are restricted to Subgrade 3b with a wetness limitation.

## BRADFORD-ON AVON

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
3a	2.5	80.6	80.6
3b	0.6	19.4	19.4
TOTAL	<u>3.1</u>	<u>100%</u>	<u>100%</u>

Nearly all the land at Bradford on Avon (H1/090) has been graded 3a. Soils comprise well drained stony profiles with medium clay loam topsoils. Soils are moderately droughty and thus limited to Subgrade 3a. A small area of poorly drained land has been graded 3b with a wetness limitation.

## 2 INTRODUCTION

The sites around the Wiltshire towns of Westbury Warminster Melksham and Bradford on Avon have been proposed by objectors for inclusion in the above Plan These areas were graded using the Agricultural Land Classification (ALC) system in March 1991 and August 1993 The survey was carried out on behalf of MAFF as part of its statutory role in the preparation of the West Wiltshire District 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) Details of distribution of grades and subgrades are given below for each town separately and illustrated on the accompanying ALC maps The information is accurate at the scale shown but any enlargement would be misleading

The current survey supersedes any previous surveys and was undertaken to provide a more detailed representation of the agricultural land quality using the Revised Guidelines and Criteria (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

## 3 WARMINSTER

An area of 83.5 ha was surveyed around Warminster A total of 73 borings and 4 soil pits were described The area had been surveyed previously at 1 25 000 scale but the level of fieldwork was considered inadequate for local plan purposes and the site has been fully resurveyed at 1 10 000 scale This recent survey now supersedes any previous ALC information and indicates there is a total of 46.1 ha of best and most versatile land

### Climate

The grade of 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

Climatic data for the site were interpolated from the Agricultural Climate Dataset (Meteorological Office 1989) The parameters used for assessing overall climatic limitation 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 that there is no overall climatic limitation

**Table 1 Climatic Interpolation**

Grid Reference	ST 852 450	ST 871 440
Altitude (m)	130	125
Accumulated Temperature (days)	1407	1413
Average Annual Rainfall (mm)	867	883
Field Capacity (Days)	193	195
Moisture Deficit Wheat (mm)	90	90
Potatoes (mm)	79	78
Overall Climatic Grade	1	1

## Relief and Landcover

The land at Brick Hill occupies a level grassland site of approximately 130 m AOD. The sites north of West Street and Victoria Road and sites at Folly and Bugley Barton Farms occupy gently sloping and level land which at the time of survey was being used for grass leys. Land around North Lane associated with residential gardens etc is marked as non agricultural. This land rises from 114 m AOD in the most easterly areas of the site to 150 m AOD at Folly Farm in the south west corner of the site. The site at Butters Coombe Farm occupies the top of a hill (140 m AOD) and is used for grass leys. The site adjoining Lower Marsh Road occupies part of a south easterly facing arable field which rises from 112 m AOD to 132 m AOD in the western corner. The site at Boreham has the appearance of being derelict agricultural land and is therefore marked as non agricultural.

## Geology and Soils

The geology of the towns dealt with in this report is shown on the published one inch scale solid and drift geology map sheet 281 (Geological Survey of England and Wales 1976). Similarly the soils were mapped by the Soil Survey of England and Wales in 1983 at a reconnaissance scale of 1:250 000.

The site of Brick Hill comprises head deposits in the southern part and lower chalk in the northern part of the site. The soils were mapped as belonging to the Blewbury Association\*. The recent survey identified clayey profiles with heavy clay loam topsoils and poorly drained clay subsoils.

The land north of West Street as far west as North Lane is mapped as alluvium with soils of the Frome Association\*\*. The survey in 1991 found clayey soils comprising medium and heavy clay loam topsoils over clayey subsoils with some areas of organic silty clay loam topsoils.

The soils north of Victoria Road are derived from Upper Greensand geology and are mapped as Frome Association. The survey in 1991 found medium and heavy clay loam topsoils over gleyed clay subsoils on the land corresponding to 3a in this area. The land shown as Grade 2 comprises medium clay loam topsoils over well drained heavy clay loam subsoils.

---

### \* Blewbury Association

Well drained calcareous clayey and fine silty over clayey soils over argillaceous chalk. Some fine silty over clayey soils with slowly permeable subsoils and slight seasonal waterlogging.

### \*\* Frome Association

Shallow calcareous and non calcareous loamy soils over flint gravel affected by groundwater. Small areas of peat. Risk of flooding.

The land around Bugley Barton and Folly Farms is mapped as chert bed geology overlain by Bromsgrove Association\*\*\* soils. The recent survey found a single soil type comprising medium sandy loam and medium sandy silt loam topsoils over well-drained slightly stony sandy loam upper subsoils and clay lower subsoils.

The two sites north of Butlers Coombe are mapped as Bromsgrove soils derived from chert beds and Upper Greensand. The recent survey found sandy soils similar to those described at Bugley Barton Farm.

### Agricultural Land Classification

The distribution of ALC grades identified in the survey area is detailed in Table 2 and illustrated on the accompanying ALC maps. The information is correct at the scale shown but any enlargement would be misleading.

**Table 2 Distribution of Grades**

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
1	24.8	29.6	34.4
2	8.5	10.1	11.8
3a	12.8	15.3	17.7
3b	12.4	14.8	17.2
4	13.6	16.2	18.9
Non agric	6.4	7.6	
Urban	2.0	2.4	
Farm bldgs	0.4	0.5	
Unsurveyed	3.0	3.5	
<b>TOTAL</b>	<b>83.9</b>	<b>100%</b> 83.9 ha	<b>100%</b> 72.1 ha

#### Grade 1

A total of 24.8 ha of land mostly in the west of the survey area and small areas near Church Street and at Lower Marsh Road have been classified as Grade 1. These light soils are well drained, show no evidence of wetness and do not suffer from a droughtiness limitation.

#### Grade 2

The Grade 2 soils are similar to those found in the area of Grade 1 but are slightly heavier and hence are restricted by topsoil workability to Grade 2. The topsoils are medium clay loams. There is no evidence of wetness and the soils can be placed in Wetness Class I.

---

#### \*\*\* Bromsgrove Association

Well drained reddish coarse loamy soils mainly over soft sandstone but deep in places. Associated fine loamy soils with slowly permeable subsoils and slight seasonal waterlogging.

### Subgrade 3a

There are two areas of Subgrade 3a. The smaller area near to Bugley Barton Farm is in a depression. This small low lying area of land with intermittent surface ponding is characterised by a medium silty clay loam or medium sandy silt loam topsoil with a gleyed horizon within 40 cm and a slowly permeable layer (SPL) from approximately 55 cm. The soils are therefore placed in Wetness Class III and with the prevailing 193 FCD value the soil is limited to subgrade 3a.

The larger area of 3a does not have such a wetness limitation. The topsoils in this area are medium clay loams with porous heavy clay loam and clay subsoils. However a slight drainage problem restricts the soils to Wetness Class II and thus subgrade 3a on workability.

### Subgrade 3b

The area of Subgrade 3b has a more severe wetness problem than the 3a land. Soils are gleyed with slowly permeable layers beginning above 52 cm and are thus assessed Wetness Class IV and subgrade 3b.

### Grade 4

The two areas of Grade 4 account for 12.4 ha of the survey area and experience a severe wetness limitation. These poorly drained clayey soils are assessed as Wetness Class IV and Grade 4 on the basis of soil wetness and poor workability.

## 4 WESTBURY

The three blocks of land around Westbury total 76.6 ha. A total of 81 borings and 4 soil pits were described. The distribution of grades is detailed in Table 4.

Some of the sites had been surveyed previously at 1:10,000 scale using MAFF's original ALC system and this indicated the presence of some high quality land. It was felt to be important to confirm these grades and as a result the sites were resurveyed (at a similar scale) using MAFF's Revised ALC system and locating soil pits in the main map units to examine the main limitations in detail. Results from the 1991 and 1993 surveys now supersede any previous ALC information.

### Climate

A climatic interpolation as previously described was carried out for Westbury. The results (shown in Table 3) reveal that there is no overall climatic limitation across the survey area and no local climatic limitations such as exposure were observed.

**Table 3 Climatic Interpolation**

Grid Reference	ST 878 520	ST 881 517
Altitude (m)	60	70
Accumulated Temperature (days)	1483	1472
Average Annual Rainfall (mm)	783	789
Field Capacity (Days)	175	176
Moisture Deficit - Wheat (mm)	104	103
Potatoes (mm)	96	95
Overall Climatic Grade	1	1



## Relief and Landcover

All the survey land between Bratton Road and the railway line (north of Westbury) slopes gently north westwards from 75 m AOD to the lowest point of 55 m AOD. All this land is used for grass leys. The single field south of Fair View Farm has a highest point of 95 m AOD and is used for arable crops.

The site stretching south from the railway line to Black Horse Lane at Westbury Leigh lies at approximately 70 m AOD. Most of the land was under arable cropping at the time of survey with a single grass ley field north of Penleigh Road.

The site at Chalford slopes gently north rising from 85 m AOD to 98 m AOD. This land was used for arable cropping except the field at Fourways which was used for horse grazing.

## Geology and Soils

Soils to the north of Westbury at Coach Road Farm and Frogmore Farm are derived from Kimmeridge clay beds and have been assessed as Denchworth Association<sup>+</sup> by the Soil Survey. The recent survey found a single soil type comprising heavy clay loam and clay topsoils over poorly drained clay subsoils.

Land between Coach Road Farm and Fair View Farm and the land between Penleigh Road and Black Horse Lane at Westbury Leigh is mapped as head deposits with small areas of gault clay. The Soil Survey mapped these areas as Block Association<sup>++</sup>. The recent survey found well drained chalky clay loam subsoils with heavy clay loam topsoils. The site at Chalford comprises alternate bands of Upper Greensand, chert beds and lower chalk. The Greensand gives rise to the Ardington Association<sup>+++</sup>. During the recent survey these soils were identified as comprising medium clay loam topsoils over deep well drained stone free sandy loam and loamy sand subsoils. The southern part of the site is mapped as Blewbury Association. The recent survey identified a variable soil type but typically profiles comprised heavy clay loam topsoils over clay upper subsoils which overlie sandy loam lower subsoils below approximately 50 cm.

---

### <sup>+</sup> Denchworth Association

Slowly permeable seasonally waterlogged clayey soils with similar fine loamy over clayey soils

### <sup>++</sup> Block Association

Moderately permeable calcareous loamy soils over chalky gravel variably affected by groundwater

### <sup>+++</sup> Ardington Association

Deep well drained fine and coarse loamy soils. Some valley bottom soils affected by groundwater. Locally perennially wet.

## Agricultural Land Classification

The distribution of ALC grades identified in the survey area is detailed in Table 4 and illustrated on the accompanying ALC maps

**Table 4 Distribution of Grades**

<b>Grade</b>	<b>Area (ha)</b>	<b>% of Survey Area</b>	<b>% of Agricultural Land</b>
2	5.55	7.2	7.6
3a	35.55	46.4	49.1
3b	28.7	37.5	69.6
4	2.65	3.6	3.7
Non agric	1.8	2.3	
Urban	2.4	3.1	
<b>TOTAL</b>	<b>76.65</b>	<b>100%</b> 76.65 ha	<b>100%</b> 72.45 ha

### Grade 2

There are two blocks of land which have been identified as Grade 2. These are the southernmost part of the site at Fair View Farm and the northern part of the site at Chalford. These deep well drained coarse textured soils are assessed as Wetness Class I but have a slight workability limitation imposed by medium clay loam topsoils and are thus graded 2.

### Subgrade 3a

Over half the agricultural land has been assigned to this grade. This relates to the chalky clay loam soils described above. Although these soils are gleyed this is due to groundwater problems as opposed to the presence of a slowly permeable layer. These soils are thus placed in Wetness Class II and graded 3a.

### Subgrade 3b

The three areas of 3b have a more severe wetness problem than the subgrade 3a. Heavy clay loam topsoils overlie gleyed stone free clay subsoils with a slowly permeable layer from 38 cm. This places the soil into Wetness Class IV resulting in a 3b grade with workability as the main limitation.

### Grade 4

There is one small area of Grade 4 north of Frogmore Farm where soils have organic clay topsoils with silty clay subsoils from 20 cm. The subsoil is slowly permeable and the soils are placed in Wetness Class IV. The organic clay topsoil limits these soils to Grade 4. The site north of Penleigh Road comprises similar soils although the slightly higher FC days (176 days) limits the mineral clay topsoils to Grade 4.

## 5 MELKSHAM

An area of 29.5 ha was surveyed around the town of Melksham. A total of 30 borings and one soil pit was examined. The distribution of grades found is detailed in Table 6.

### Climate

The results of the climatic interpolation for Melksham are shown in Table 5. They reveal that there is no overall climatic limitation across the survey area and no local climatic limitations were observed.

**Table 5 Climatic Interpolation**

Grid Reference	ST 897 653	ST 918 621
Altitude (m)	38	45
Accumulated Temperature (days)	1502	1495
Average Annual Rainfall (mm)	745	733
Field Capacity (Days)	167	165
Moisture Deficit Wheat (mm)	107	106
Potatoes (mm)	100	98
Overall Climatic Grade	1	1

### Relief and Landcover

All the sites occupy level land of between 38 m and 50 m AOD altitude. All were growing grass leys at the time of survey.

### Geology and soils

Sites at Northbrook Road, Roundponds Farm and the southern half of land at Berryfield are mapped as terrace gravel beds on available geology maps. These are overlain by soils belonging to Badsey 1 and 2 Associations♦. The recent survey found well-drained stony profiles comprising heavy clay loam topsoils over variable subsoils typically clay over very stony (43% gravel) clay and medium sandy loam lower subsoils.

Soils at Bowerhill are derived from head deposits and the northern part of the site at Berryfield is derived from Upper Jurassic Oxford Clay. Soils at Bowerhill were mapped by the Soil Association as Denchworth Association♦♦.

---

#### ♦ Badsey 1 Association

Well-drained calcareous and non calcareous fine loamy soils over limestone gravel. Some deep fine loamy soils, some over gravel and similar but shallower soils affected by groundwater.

#### ♦ Badsey 2 Association

Well-drained calcareous fine loamy soils over limestone gravel. Some similar soils affected by groundwater.

#### ♦♦ Denchworth Association

Slowly permeable seasonally waterlogged clayey soils with similar fine loamy over clayey soils.

The recent survey found similar soils at both sites which comprise heavy clay loam topsoils over deep slowly permeable clay subsoils which are generally stone free. There is a narrow band of soils similar to these at Roundponds Farm adjacent to Southbrook.

### Agricultural Land Classification

The distribution of ALC grades identified in the survey area is detailed in Table 6 and illustrated on the accompanying maps.

**Table 6 Distribution of Grades**

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
2	7.0	23.7	24.8
3b	21.2	71.9	75.2
Non agric	0.6	2.0	
Urban	0.7	2.4	
<b>TOTAL</b>	<u>29.5</u>	<u>100%</u> 29.5 ha	<u>100%</u> 28.2 ha

### Grade 2

The three areas of Grade 2 land comprise the well-drained stony profiles described above. These soils are assessed as Wetness Class I but have a slight workability limitation imposed by medium clay loam topsoils. There is also a slight drought limitation due to the stony subsoils.

### Subgrade 3b

All the agricultural land at Bowerhill and a large proportion of land at Berryfield have been graded 3b with a wetness limitation. Subsoils are gleyed and slowly permeable from within 40 cm, thus limiting the soils to Wetness Class IV Grade 4 with a moderately severe wetness limitation. A small area of similar 3b land was also found at Roundponds Farm.

## 6 BRADFORD ON AVON

An area of just over 3 ha to the west of Bradford on Avon was surveyed. Four auger borings were examined. The area has previously been surveyed at 1:25,000 scale using the original guidelines. The recent survey supersedes any previous information having been done at detailed level and using the revised guidelines.

### Climate

The results for the climatic interpolation for Bradford on Avon are shown in Table 7. They reveal that there is no overall climatic limitation across the survey area and no local climatic limitations were observed.

**Table 7 Climatic Interpolation**

Grid Reference	ST 834 610
Altitude (m)	65
Accumulated Temperature (days)	1475
Average Annual Rainfall (mm)	796
Field Capacity (Days)	176
Moisture Deficit Wheat (mm)	99
Potatoes (mm)	89
Overall Climatic Grade	1

**Relief and Landcover**

The site occupies a gentle south easterly facing slope the highest point being 65 m AOD and the lowest 55 m AOD The land was being used for grass leys at the time of survey

**Geology and Soils**

The southern part of the site is mapped as Jurassic Cornbrash limestone whilst the northern part is mapped as Jurassic Forest Marble on the published geology sheet The soils of the area are mapped as Evesham Association● on the eastern part of the site with the remainder mapped as urban The recent survey found slowly permeable clayey soils with heavy clay loam topsoils in the east of the site along Cemetery Lane whilst the rest comprises well drained shallow clay loam soils with stony subsoils

**Agricultural Land Classification**

The distribution of ALC grades identified in the survey area is detailed in Table 6 and illustrated on the accompanying ALC maps

**Table 6 Distribution of Grades**

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
3a	2.5	80.6	80.6
3b	0.6	19.4	19.4
TOTAL	<u>3.1</u>	<u>100%</u>	<u>100%</u>

**Subgrade 3a**

Nearly all the land has been graded 3a This relates to the well drained shallow soils described above The shallow stony subsoils reduce the water available to plant roots and so limit this land to 3a with a drought limitation

---

● **Evesham 1 Association**

Slowly permeable calcareous clayey soils associated with shallow well drained brashy calcareous soils over limestone

Subgrade 3b

The small area of 3b land relates to the poorly drained clayey profiles. The slowly permeable subsoils restrict the soils to Wetness Class IV and thus Grade 4.

## REFERENCES

GEOLOGICAL SURVEY OF ENGLAND AND WALES (1976) Solid and Drift edition  
Sheet 281 1 50 000 scale

MAFF (1988) Agricultural Land Classification of England and Wales (revised guidelines and  
criteria for grading the quality of land) Alnwick

METEOROLOGICAL OFFICE (1989) Published climatic data extracted from the agroclimatic  
dataset compiled by the Meteorological Office

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

## APPENDIX 2

### DESCRIPTION OF THE 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 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

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

## APPENDIX 3

### DEFINITION OF SOIL WETNESS CLASSES

#### Wetness Class I

The soil profile is not wet within 70 cm depth for more than 30 days in most years

#### Wetness Class 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

#### Wetness Class 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

#### Wetness Class 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

#### Wetness Class V

The soil profile is wet within 40 cm depth for 211-335 days in most years

#### Wetness Class VI

The soil profile is wet within 40 cm depth for more than 335 days in most years

**Notes** The number of days specified is not necessarily a continuous period. 'In most years' is defined as more than 10 out of 20 years

**Source** Hodgson J M (in preparation) Soil Survey field Handbook (revised edition)

SITE NAME Warmminster		PROFILE NO Pit 1		SLOPE AND ASPECT 0°		LAND USE Grass ley		Av Rainfall 877 ATO 1388 FC Days 194 Chmatic Grade 1			PARENT MATERIAL Cretaceous Chert Beds		
JOB NO 64/93		DATE 28/8/93		GRID REFERENCE ASP 9		DESCRIBED BY N A Done Graham Clark							
Horizon Number	Lowest Av Depth (cm)	Matrix and Ped Face Colours	Texture	Stoniness Size Shape Type and Field Method	Mottling Abundance Contrast Size and Colour	Structure Development Size and Shape	Pores and Fissures	Structural Condition	Consistence	Roots Abundance Size and Nature	Calcium Carbonate Content	Mangan Concs etc	Horizon Boundary Distinctness and form
1	25	10YR33	MSZL	2% HR	Few 75YR56					Many fine and v fine			Clear/ smooth
2	50	10YR56	MSZL	11% HR Total sieved		Mod CSAB	Many pores	M	Friable	Many fine		None	Gradual/ smooth
3	120	75YR56	C	15% HR (est)		Weak CSAB	Many pores earthworm channels	M	Firm	Many roots		None	

Profile Gleyed From

Depth to Slowly Permeable Horizon

Wetness Class 1

Wetness Grade 1

Available Water Wheat 126

Potatoes 105

Moisture Deficit Wheat 88

Potatoes 75

Moisture Balance Wheat +36

Potatoes +27

Droughtiness Grade 1

Final ALC Grade 1

Main Limiting Factor(s)

Remarks