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North Cornwall District Local Plan

**AGRICULTURAL LAND CLASSIFICATION
REPORT OF SURVEY**

Resource Planning Team
Taunton Statutory Unit

April 1994

ADAS 

NORTH CORNWALL DISTRICT LOCAL PLAN

AGRICULTURAL LAND CLASSIFICATION

Report of Surveys

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NORTH CORNWALL DISTRICT LOCAL PLAN

AGRICULTURAL LAND CLASSIFICATION

Report of Surveys

1. SUMMARY

Land at three towns within North Cornwall District was surveyed using the MAFF Agricultural Land Classification (ALC) system in April 1994. The surveys were carried out on behalf of MAFF as part of its statutory role in the preparation of the North Cornwall District Local Plan. The sites were at Launceston, Bude and Wadebridge.

The fieldwork was carried out by ADAS (Resource Planning Team, Taunton Statutory Unit) at a scale of 1:10,000. The information is correct at the scale shown but any enlargement would be misleading.

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

Distribution of ALC grades: Launceston

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
3a	0.8	3.9	4.4
4	17.1	85.3	95.6
Urban	0.4	1.9	0.0
Non-agricultural	1.8	8.9	0.0
TOTAL	20.1	100	100 (17.9 ha)

Only a very small proportion of the agricultural land that was surveyed was found to be best and most versatile, with about 95% being Grade 4.

The Subgrade 3a land is found at the extreme western site and consists of medium clay loam stony topsoils over bedrock or very stony subsoil.

Grade 4 land is found over the entirety of the eastern site where heavy clay loam topsoils occur over slowly permeable heavy clay loam subsoils.

Distribution of ALC grades: Bude

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
2	10.3	54.0	55.1
3a	7.1	37.6	38.3
3b	1.2	6.4	6.5
Urban	0.4	2.0	0.0
TOTAL	19.0	100	100 (18.6 ha)

Almost 95% of the agricultural land in the area is best and most versatile, with a small area of Grade 3b land limited by wetness. The Grade 2 land is limited by workability, whilst wetness also imposes a slight limitation on the land graded 3a.

Distribution of ALC grades: Wadebridge East

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
3a	5.1	59.2	92.5
3b	0.4	4.8	7.5
Non-agricultural	3.1	36.1	0.0
TOTAL	8.6	100	100 (5.5 ha)

92% of the agricultural land surveyed was found to be best and most versatile. This comprises 5 ha of Subgrade 3a land which although well drained is limited by workability. The rest of the land is downgraded on the basis of gradient.

Distribution of ALC grades: Wadebridge West

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
3a	9.4	90.6	90.6
3b	1.0	9.4	9.4
TOTAL	10.4	100	100 (10.4 ha)

90% of the agricultural land surveyed was found to be best and most versatile, this being an area of 3a land limited, like the other Wadebridge site, by workability. Again the Subgrade 3b land was downgraded on grounds of gradient.

2. INTRODUCTION

Land at three towns within North Cornwall District was surveyed using the Agricultural Land Classification (ALC) system in April 1994. The surveys were carried out on behalf of MAFF as part of its statutory role in the preparation of the North Cornwall District Local Plan. The sites were at Launceston, Bude and Wadebridge.

The fieldwork was carried out by ADAS (Resource Planning Team, Taunton Statutory Unit) at a scale of 1:10,000 (approximately one auger sample point per hectare). The information is correct at the scale shown but any enlargement would be misleading. The findings of the surveys and distribution of grades are detailed within this report for each of the areas surveyed.

These recent surveys supersede any previous work and were undertaken to provide a more detailed representation of the agricultural land quality 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 its 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. CLIMATE

The grade of the agricultural land is determined by the most limiting factor present. The overall climate is considered first as it can have an overriding influence on restricting land to a lower grade despite other favourable conditions.

Estimates of climatic variables were obtained for each site by interpolation from the Agricultural Climatic Dataset (Meteorological Office, 1989) and are shown in the details for each site.

The parameters used for assessing overall climatic conditions are accumulated temperature (a measure of the relative warmth of a locality) and the average annual rainfall (a measure of overall wetness). Climatic data on Field Capacity Days (FCD) and Moisture Deficits for wheat (MDW) and potatoes (MDP) are also shown. These data are used in assessing the soil wetness and droughtiness limitations referred to in later sections. A description of the Wetness Classes used in quantifying the degree of wetness can be found in Appendix 3.

4. LAUNCESTON

4.1 An area of 20 ha south-west and south-east of Launceston was surveyed in April 1994. The published provisional 1" to the mile national ALC map series; sheet 186 (MAFF, 1970), shows the site as being entirely Grade 3.

The only previous detailed survey was carried out as part of the Launceston Local Plan, in 1984, under the Original Guidelines and at a scale of 1:25,000. The information that was gained from this survey is not adequate to make an accurate assessment of the land quality under the Revised Guidelines. This recent survey now supersedes all previous ALC surveys having been undertaken at a more detailed level and using the Revised Guidelines and Criteria for Assessing the Quality of Agricultural Land (MAFF, 1988).

During the survey a total of 19 soil auger points and one soil inspection pit were examined.

4.2 Climate

Climatic data for the site were interpolated as described in Section 3. The results are shown in Table 1 and indicate that there is a Grade 2 climatic limitation for the site.

Table 1: Climatic Interpolation - Launceston

Grid Reference	SX 318834	SX 337835
Altitude (m)	130	135
Accumulated Temperature (day °)	1469	1463
Average Annual Rainfall (mm)	1282	1270
Overall Climatic Grade	2	2
Field Capacity Days	250	248
Moisture deficit (mm): Wheat	64	65
Potatoes	47	47

4.3 Relief and Landcover

The site is in two parts. The western part is comprised of mainly flat land after the landfill of a narrow valley and ranges in height from about 137 m to 130 m AOD. The larger eastern area occupies a south and south-east facing convex valley side which is steep on the east but gentler sloping to the west. Here the height ranges from 145 m AOD in the north to approximately 118 m AOD in the south.

At the time of survey the eastern site was under permanent pasture, whilst most of the western site was still unused landfill land except for a thin "finger" of permanent pasture.

4.4 Geology and Soils

The geology of the site is mapped on the published 1:50,000 drift geology map, sheet 337 (Geological Survey of England and Wales, 1977). This shows that the site is entirely underlain by the shales and grits of the Culm Measures.

The Soil Survey of England and Wales mapped the area in 1983 at a reconnaissance scale of 1:250,000. This shows that the site consists entirely of Denbigh 2 soils. These are described as well drained fine loamy soils over slate or slate rubble. Some of these soils are variably affected by groundwater.

Generally the soils found in this survey were similar to those described above though less well drained with clay loam profiles showing evidence of wetness at varying depths.

4.5 Agricultural Land Classification

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

Table 2: Distribution of ALC grades - Launceston

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
3a	0.8	3.9	4.4
4	17.1	85.3	95.6
Urban	0.4	1.9	0.0
Non-agricultural	1.8	8.9	0.0
TOTAL	20.1	100	100 (17.9 ha)

Subgrade 3a

The agricultural land in the western part of the site comprises the small area of 3a. The soils here are well drained (Wetness Class I), medium clay loams over stony subsoils impenetrable to the auger from about 30 cm. Due to the high FCD these soils experience a workability limitation.

Grade 4

The eastern site is mapped entirely as Grade 4 on grounds of wetness. These soils are moderately to poorly drained (Wetness Classes III to V) with heavy clay loam topsoils and subsoils and slowly permeable layers typically starting at around 40 cm depth. This general profile was confirmed by a

soil inspection pit. Scattered throughout the Grade 4 land are small patches of better drained (Wetness Class I) heavy clay loam soil which are graded 3b on workability. These have been incorporated into the Grade 4 unit.

Other Land

Withnoe Farm and the sewage works comprise the small area of urban land at the site. The landfill site at Quarry Lane is classed as non-agricultural along with a small area at Hurdon Way.

5. BUDE

5.1 An area of 19 ha at three sites east of Bude was surveyed in April 1994. The published provisional 1" to the mile national ALC map series, sheet 174 (MAFF, 1974), shows the agricultural land at these sites to be entirely Grade 3. There have been no detailed surveys carried out on these sites. This recent survey now supersedes the previous 1" to the mile survey, having been undertaken at a more detailed level and using the Revised Guidelines and Criteria for Assessing the Quality of Agricultural Land (MAFF, 1988).

During the survey a total of 18 soil auger points and one soil inspection pit were examined.

5.2 Climate

Climatic data for the site were interpolated as described in Section 3. The results are shown in Table 3 and indicate that there is no overall climatic limitation for the site.

Table 3: Climatic Interpolation - Bude

Grid Reference	SS 219064	SS 220060	SS 220053
Altitude (m)	45	50	45
Accumulated Temperature (day °)	1559	1553	1559
Average Annual Rainfall (mm)	871	871	859
Overall Climatic-Grade	1	1	1
Field Capacity Days	180	179	177
Moisture deficit (mm): Wheat	101	100	101
Potatoes	92	91	92

5.3 Relief and Landcover

The northernmost area occupies the gently sloping land of a small stream valley which ranges in height from 50 metres to 35 metres AOD. The other two sites lie on flatter land. The area at Cleavelands lies between 45 and 55 metres AOD on very gently sloping south-west facing land. The

southernmost site lies on gently sloping west-facing land and ranges in height from 43 to 50 metres AOD.

At the time of survey, all three sites were under permanent pasture, except for the northernmost fields which were fallow.

5.4 Geology and Soils

The geology of the site is mapped on the published 1:50,000 scale solid and drift maps, sheets 323 and 308 (Geological Survey of England and Wales, 1974). These show that the three sites are underlain by rocks of the Bude Formation which are mainly sandstones.

The Soil Survey of England and Wales mapped the area in 1983 at a reconnaissance scale of 1:250,000. This shows that the site consists entirely of soils of the Neath Association. These are described as being well drained fine loamy soils often over rock, although small patches of similar soils with slowly permeable subsoils and slight seasonal waterlogging also occur.

The range of soils that were found during the survey fit this general description very well as most of the soil is loamy and well drained but some lower and upper subsoils are slowly permeable.

5.5 Agricultural Land Classification

The distribution of ALC grades identified in the survey areas is detailed in Table 4 and shown on the accompanying ALC map. The information is correct at the scale shown but any enlargement would be misleading.

Table 4: Distribution of ALC grades: Bude

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
2	10.3	54.0	55.1
3a	7.1	37.6	38.3
3b	1.2	6.4	6.5
Urban	0.4	2.0	0.0
TOTAL	19.0	100	100 (18.6 ha)

Grade 2

Most of the agricultural land in the northern area and all in the southernmost site has been mapped as Grade 2. These soils have medium clay loam topsoils. Generally subsoils have a similar texture although some medium sandy loam and heavy clay loam horizons were observed. These soils are well drained (Wetness Class I), only occasionally showing signs of wetness

in the lower subsoil below 50 cm. The FCD around Bude in combination with these topsoil textures imposes a workability limitation on these soils.

Subgrade 3a

The site at Cleavelands has been mapped entirely as Subgrade 3a. Here, medium clay loam topsoils are found typically over heavy clay loam and clay upper and lower subsoils respectively. These soils are not as well drained as the Grade 2 soils. They typically show signs of wetness and are slowly permeable from around 50 cm depth, making them Wetness Class III. Overall these soils are limited by wetness although some droughty profiles were observed.

Subgrade 3b

A small area of Subgrade 3b land was observed in the south-western corner of the northernmost site. Here, medium clay loam topsoils typically overlie medium clay loam and heavy clay loam subsoil horizons. These soils display signs of wetness within the top 20 cm of soil (Wetness Class IV) and are poorly drained, slowly permeable layers occurring within the top 30 cm. Such conditions limit these soils to Subgrade 3b on a wetness limitation. This grade was confirmed by a soil inspection pit.

6. WADEBRIDGE EAST

- 6.1 An area of 8 ha at three sites east of Wadebridge was surveyed in April 1994. The published provisional 1" to the mile national ALC map series, sheet 185 (MAFF, 1961), shows the agricultural land at these sites to be Grade 2.

There has been only one previous detailed survey carried out on these sites, in 1982, under the Original Guidelines and at a scale of 1:25,000. The information that was gained from this survey is not adequate to make an accurate assessment of the land quality under the Revised guidelines. This recent survey now supersedes all previous ALC surveys having been undertaken at a more detailed level and using the Revised Guidelines and Criteria for Assessing the Quality of Agricultural Land (MAFF, 1988).

During the survey a total of 6 soil auger points were examined.

6.2 Climate

Climatic data for the site were interpolated as described in Section 3. The results are shown in Table 5 and indicate that there is no overall climatic limitation for the site.

Table 5: Climatic Interpolation - Wadebridge East

Grid Reference	SW 998730	SX 001729	SW 995724
Altitude (m)	43	53	35
Accumulated Temperature (day °)	1581	1569	1590
Average Annual Rainfall (mm)	1039	1064	1028
Overall Climatic Grade	1	1	1
Field Capacity Days	205	209	204
Moisture deficit (mm): Wheat	92	90	93
Potatoes	82	78	82

6.3 Relief and Landcover

The three sites are situated on the eastern side of the River Camel. The site at Trenant Girt occupies part of the south facing steep slopes of the valley and ranges in height from 15 to 40 metres AOD. Further north, the two other sites are situated on south-west facing slopes of undulating land around Ball. They range in height from 35 m to 55 m and 45 to 55 m AOD.

At the time of survey the agricultural land in these areas was under permanent pasture with part of the northernmost site being used as a football field.

6.4 Geology and Soils

The geology of the site is mapped on the published 1:50,000 solid and drift map, sheet 335/336 (Geological Survey of England and Wales, 1976). This shows that the three sites are entirely underlain by grey slates with diabase and epidiorite intrusions

The Soil Survey of England and Wales mapped the area in 1983 at a reconnaissance scale of 1:250,000. This shows that the sites consist of two soil types. The northern two sites are overlain by soils of the Trusham Association. These are well drained fine loamy soils which are found over deeply weathered rock locally, although they are sometimes shallow. The southern site consists of soils from the Powys Association which are shallow, well drained loamy soils over rock often associated with steep slopes.

The soils that were found during the survey are similar to these descriptions in that they are well drained, loamy and generally shallow.

6.5 Agricultural Land Classification

The distribution of ALC grades identified in the survey areas is detailed in Table 6 and shown on the accompanying ALC map. The information is correct at the scale shown but any enlargement would be misleading.

Table 6: Distribution of ALC grades: Wadebridge East

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
3a	5.1	59.2	92.5
3b	0.4	4.8	7.5
Non-agricultural	3.1	36.1	0.0
TOTAL	8.6	100	100 (5.5 ha)

Grade 3a

Most of the agricultural land in the site was mapped as Subgrade 3a. This means that there are moderate limitations to the agricultural operations which can be undertaken. All of the auger borings in the site had heavy clay loam topsoils and subsoils. A soil inspection pit dug in similar soil on the west side of Wadebridge revealed increasing stone content with depth (up to 67% silty rock in the lower subsoil). However, this did not impose any droughtiness limitation on these soils which are well drained, display no signs of wetness and are therefore Wetness Class I. It is the relatively high FCD at Wadebridge in combination with the heavy clay loam topsoils which imposes a workability limitation of Subgrade 3a on these soils.

Subgrade 3b

A small area of Subgrade 3b land was found in the extreme south of the site. Here, the limitation is the steep slopes, measured at 10°, which imposes a slight limitation on the type of agricultural machinery which can be used safely.

Other Land

The rest of the site was mapped as non-agricultural land which refers to the playing fields east of the school in the northernmost part of the survey area.

7. WADEBRIDGE WEST

- 7.1 An area of 10 ha at three sites west of Wadebridge was surveyed in April 1994. The published provisional 1" to the mile national ALC map series, sheet 185 (MAFF, 1961), shows the agricultural land at these sites to be Grade 3.

There has been only one previous detailed survey carried out on these sites, in 1982, under the Original Guidelines and at a scale of 1:25,000. The information that was gained from this survey is not adequate to make an accurate assessment of the land quality under the Revised Guidelines. This recent survey now supersedes all previous ALC surveys having been

recent survey now supersedes all previous ALC surveys having been undertaken at a more detailed level and using the Revised Guidelines and Criteria for Assessing the Quality of Agricultural Land (MAFF, 1988).

During the survey a total of 12 soil auger points and one soil inspection pit were examined.

7.2 Climate

Climatic data for the site were interpolated as described in Section 3. The results are shown in Table 7 and indicate that there is no overall climatic limitation for the site.

Table 7: Climatic Interpolation - Wadebridge West

Grid Reference	SW977725	SW 984727	SW 984723
Altitude (m)	80	30	60
Accumulated Temperature (day °)	1539	1596	1562
Average Annual Rainfall (mm)	1066	1014	1052
Overall Climatic Grade	1	1	1
Field Capacity Days	209	201	207
Moisture deficit (mm): Wheat	85	94	88
Potatoes	73	85	77

7.3 Relief and Landcover

The site has several obvious relief characteristics. The three areas are situated on the western valley side of the River Camel, with two of the sites occupying steep, north-east facing slopes and ranging in height from 15 to 47 metres and from 45 to 70 metres AOD. The westernmost area lies on higher and flatter land ranging in height from 75 to 85 metres AOD.

At the time of survey the western area was under ley grassland, whilst the other two sites on the steeper land were under permanent pasture.

7.4 Geology and Soils

The geology of the site is mapped on the published 1:50,000 solid and drift map, sheet 335/336 (Geological Survey of England and Wales, 1976). This shows that the entire site is underlain by grey slates with the geology of the western site dating from the Mid-Devonian period, and the others from the Upper Devonian period.

The Soil Survey of England and Wales mapped the area in 1983 at a reconnaissance scale of 1:250,000. This shows that the site consists entirely of soils from the Powys Association. These soils are shallow well drained loamy soils over rock often associated with steep slopes.

The soils that were found during the survey are very similar to this description in that they are well drained, loamy and generally shallow.

7.5 Agricultural Land Classification

The distribution of ALC grades identified in the survey areas is detailed in Table 8 and shown on the accompanying ALC map. The information is correct at the scale shown but any enlargement would be misleading.

Table 8: Distribution of ALC grades: Wadebridge West

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
3a	9.4	90.6	90.6
3b	1.0	9.4	9.4
TOTAL	10.4	100	100 (10.4 ha)

Subgrade 3a

Most of the agricultural land in the site was mapped as Subgrade 3a, meaning that moderate limitations exist on the agricultural operations which can be undertaken. All the auger borings in the site had heavy clay loam topsoils and, generally, subsoils were also of this texture. Stone content increased with depth and this was confirmed at a soil inspection pit where the lower subsoil contained 67% silty rock. Stone content, however, did not impose a droughtiness limitation. These soils were found to be well drained, displaying no signs of wetness, making them Wetness Class I. The relatively high FCD at Wadebridge in combination with the heavy clay loam topsoil textures imposes a workability limitation of Subgrade 3a on these soils. Slight evidence of exposure was noted but this does not impose a greater limitation than already exists.

Subgrade 3b

A small area in the north-east of the site was found to be Subgrade 3b due to the steep slopes occurring there (between 8° and 13°). Slopes of this steepness impose a slight limitation on the type of agricultural machinery which can be safely operated on them.

APPENDIX 1

REFERENCES

GEOLOGICAL SURVEY OF ENGLAND AND WALES, 1977, Drift edition, sheet 337, Tavistock, 1:50,000 scale

GEOLOGICAL SURVEY OF ENGLAND AND WALES, 1974, Solid and Drift edition, sheet 323, Holsworthy, 1:50,000 scale

GEOLOGICAL SURVEY OF ENGLAND AND WALES, 1974, Solid and Drift edition, sheet 307/308, Bude, 1:50,000 scale

GEOLOGICAL SURVEY OF ENGLAND AND WALES, 1976, Solid and Drift edition, sheet 335/336, Trevoze Head and Camelford, 1:50,000 scale

MAFF (1970) Agricultural Land Classification Map, sheet 186, Provisional 1:63,360 scale

MAFF (1974) Agricultural Land Classification Map, sheet 174, Provisional 1:63,360 scale

MAFF (1961) Agricultural Land Classification Map, sheet 185, 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), 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 ALC 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.

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 Wadebridge West		PROFILE NO. Pit 1	SLOPE AND ASPECT 0°		LAND USE Ley		Av Rainfall: 1066 mm ATO: 1539 day °C		PARENT MATERIAL Slate				
JOB NO. 35/94		DATE 7/4/94	GRID REFERENCE ASP 4, SW976 725		DESCRIBED BY GMS		FC Days: 209 Climatic Grade: 1 Exposure Grade: N/A		SOIL SAMPLE REFERENCES GMS/384				
Horizon No.	Lowest Av. Depth (cm)	Matrix (Ped Face) Colours	Texture	Stoniness: Size, Type, and Field Method	Mottling Abundance, Contrast, Size and Colour	Structure: Ped Development Size and Shape	Pores (Fissures)	Structural Condition	Consistence	Roots: Abundance and Size	Calcium Carbonate Content	Mangan Concs	Horizon Boundary: Distinctness and form
1	30	10YR43	HCL	14% >2mm ZR sieved/ displ	none	MCSAB	Good	-	Friable	Few fine + v. fine	Not tested	none	Clear smooth
2	45	7.5YR34	HCL	23% ZR sieved/displ	none	WMSAB	Good	Good	Friable	Few fine	Not tested	none	Clear smooth
3	80+	7.5YR54	HCL	67% ZR sieved/displ	none	Determined by stones	Good	Moderate	Friable	none	Not tested	none	-

Profile Gleyed From: Not gleyed

Depth to Slowly

Permeable Horizon: No SPL

Wetness Class: I

Wetness Grade: 3a

NL336

Available Water Wheat: 129 mm

Potatoes: 103 mm

Moisture Deficit Wheat: 85 mm

Potatoes: 73 mm

Moisture Balance Wheat: 44 mm

Potatoes: 30 mm

Droughtiness Grade: 1 (Calculated to 120 cm)

Final ALC Grade: 3A

Main Limiting Factor(s): Wetness

Remarks: