A D A S

A35 Tolpuddle/Puddletown By-pass

Dorset

REPORT OF SURVEY

Agricultural Land Classification

Alternative Routes

Resource Planning Group
South West Region
Bristol

May 1991

PROPOSED A35 TOLPUDDLE/PUDDLETOWN BYPASS, DORSET
AGRICULTURAL LAND CLASSIFICATION OF ALTERNATIVE ROUTES

REPORT OF SURVEY

1. INTRODUCTION

In May 1991 the Resource Planning Group (South West Region) carried out a detailed agricultural land classification survey of the proposed alternative routes of the Tolpuddle/Puddletown bypass in Dorset. The survey was carried out under commercial contract to the Department of Transport, Exeter.

The survey area for the most part consists of a 200 metre wide strip along the proposed bypass route. The total area surveyed was 197 ha. Observations were made by hand auger at 157 sites on a 100 metre grid, and eleven soil pits were dug and described. The classification follows MAFFs revised guidelines and criteria for grading the quality of agricultural land (1988).

The accompanying ALC maps show the distribution of the various grades. The soil pit descriptions are given as an appendix.

2. CLIMATE

Estimates of the relevant climatic variables were obtained by interpolation from a five kilometre grid database. This was done at four points along the route, and the variables are given below:

Grid Reference (SY -)	757937	778942	808945	75936
Altitude (m)	42	49	65	63
Accumulated Temperature (^{O}days)	1489	1524	1505	1508
Average Annual Rainfall (mm)	1003	941	917	927
Field Capacity Days (days)	201	191	188	189
Moisture Deficit, Wheat (mm)	93	100	98	98
Moisture Deficit, Potatoes (mm)	83	91	89	89

The main parameters used in the assessment of an overall climatic limitation are accumulated temperature and average annual rainfall. The accumulated temperature is a measure of the relative warmth of a locality and the average annual rainfall is a measure of the overall wetness. The values for the survey area show that overall climate is not a limiting factor. No evidence of any limiting local climatic factor, such as exposure, was found along the route.

The field capacity days determine the influence of climate on soil wetness and workability. The moisture deficits are used in the calculation of the droughtiness limitation.

3. AGRICULTURAL LAND CLASSIFICATION

The overall results of the surveys are given below:

Purple Route

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
1	22	10	12
2	109	52	57
3a	18	8	9
3b	40	19	21
4	2	1	1
Urban	10	5	-
Non-Ag	11	5	-
Total	212	100	100

Orange Route

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
1	17	8	9
2	130	61	69
3a	20	10	11
3b	20	10	11
4	-	-	-
Urban	13	6	-
Non-Ag	11	5	-
Total	211	100	100

Grade 1

The grade 1 land consists of soils with a texture of sandy loam throughout the profile. The soils are deep, freely draining, and slightly stoney. There are no limiting factors. Pit 12 is typical of this mapping unit.

Grade 2

There are two soil types within the grade 2 land. To the west and south of Puddletown the soils are predominantly stoney, calcareous medium clay loam overlying chalk. The soil is of variable thickness with the chalk typically occurring at about 40 cm depth. The most limiting factor is workability due to the interaction of the field capacity days and the medium clay loam topsoil texture. Locally droughtiness is also a limiting factor. These soils also occur to the east of Tolpuddle. Pits 4 and 7 are typical of this unit.

The rest of the grade 2 land between Puddletown and Tolpuddle, is predominantly deep, freely draining slightly stoney with a medium clay loam topsoil over medium or heavy clay loam. Loamy sand or sandy loam is sometimes encountered at depth. Pits 1, 2, 5, 6, 9 and 10 represent this unit, which is the most common in the survey area.

Grade 3a

The grade 3a land lies within the area previously surveyed for the northern route, and is described in that report. It has a texture of medium sandy clay loam and is slightly stoney, over chalk at 30-35 cm deep. The limiting factors are droughtiness and depth.

Grade 3b

The areas of 3b land west of Athelhampton and north/east of Tolpuddle are downgraded due to slopes of 8-11°.

The two areas of 3b land on the flood plain of the river Piddle at Burleston and south east of Tolpuddle consists of a complex of soils downgraded due to wetness. Typically the soils consist of a medium silty clay loam topsoil over a clay loam or silt loam subsoil. Some sites are moderately stoney whilst others are stone free. The soils are gleyed from 15-20 cm and may have a slowly permeable layer. Pits 8 and 11 are examples of the soils occurring in this unit.

Grade 4

One small area of grade 4 land was mapped due to slopes in excess of 11°.

APPENDIX

Soil Pit Descriptions

SOIL PROFILE DESCRIPTIONS: EXPLANATORY NOTE

(i) TEXTURE:-

Soil texture classes are denoted by the following abbreviations (all Upper case*):

S	Sand
LS	Loamy Sand
SL	Sandy Loam
SZL	Sand Silt Loam
ZL	Silt Loam
MZCL	Medium Silty Clay Loam
MCL	Medium Clay Loam
SCL	Sandy Clay Loam
HZCL	Heavy Silty Clay Loam
HCL	Heavy Clay Loam
SC	Sandy Clay
ZC	Silty Clay
C	Clay

For the sand, loamy sand, sandy loam and sandy silt loam classes the predominant size of sand fraction may be indicated by the use of prefixes, thus:

F	fine (more than $\frac{2}{3}$ of sand less than 0.2 mm)
C	coarse (more than $\frac{1}{3}$ of sand greater than 0.6 mm)
M	medium (less than $\frac{2}{3}$ fine sand and less than $\frac{1}{3}$ coarse sand)

The sub-divisions of clay loam and silty clay loam classes according to clay content are indicated as follows:-

M	medium (less than 27% clay):
H	heavy (27-35% clay)

Other possible texture classes include:

P	Peat
SP	Sandy Peat
LP	Loamy Peat
PL	Peaty Loam
PS	Peaty Sand
MZ	Marine Light Silts

* There are two exceptions to the Upper Case rule:-

- The prefix **"Calc"** is used to identify naturally calcareous soils containing more than 1% Calcium Carbonate
- For organic mineral soils, the texture of the mineral fraction is prefixed by **"Org"**.

(ii) STRUCTURE:-

Nature and size of structural units are denoted by the following abbreviations:

SAB	Subangular Blocky
AB	Angular Blocky
P	Prismatic

(single grain, granular and platy are not abbreviated)

F	Fine
M	Medium
C	Coarse
VC	Very Coarse

eg Weak **MSAB** = Weakly developed medium subangular blocky

(iii) OTHER

f	= few	=	less than 2% of the matrix or surface described
c	= commom	=	2-20% of the matrix or surface described
m	= many	=	20-40% of the matrix or surface described
vm	= very many	=	+40% of the matrix or surface described

f	= faint	=	indistinct mottles, evident only on close examination
d	= disinct	=	although not striking, the mottles are readily seen
p	= prominent	=	the mottles are conspicuous, and the mottling is one of the outstanding features of the horizon
gm	= grey mottling		
om	= ochreous mottling		

eg **cdom** = common distinct ochreous mottles

rrc =	rusty root channels
ppf =	pale ped faces
mn =	manganese

st =	stones 6 cm
sst =	stones 2-6 cm
vsst=	stones 2 cm

WC =	Wetness Class (use Roman numerals, eg WC IV)
SPL =	Slowly Permeable Layer
WT =	Water Table
I =	Impenetrable if used in Depth Column
IMP =	Impenetrable if used in soil profile notes

(**IMP 2 x 40 cm** = 2 additional borings, both impenetrable at 40 cm)

ASP = Auger Sample Point

SITE NAME	PROFILE NUMBER	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Tolpuddle/Puddletown Bypass Alternatives	1	2°		Av Rainfall :- 927 ATO :- 1508 FC Days :- 189 Climatic grade:- 1	Chalk
	DATE	GRID REFERENCE	Ley		
	30/4/91	SY 787 937			

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	28	10YR42	MCL	1%		N/A		N/A	N/A				
2	66	10YR43	HCL	10%		Weak, coarse, Sub Angular Blocky		Moderate	Friable				
3	120	75YR46	C	5%	Few ochreous	Weak, coarse, Sub Angular Blocky		Moderate	Firm				

Depth to Slowly Permeable Horizon :- -

Wetness Class :- I

Wetness Grade :- 2

RPG23/WJC

Available Water Wheat :- 164

Potatoes :- 120

Moisture Deficit Wheat :- 98

Potatoes :- 89

Moisture Balance Wheat :- 66

Potatoes :- 31

Droughtiness Grade :- 1

Final ALC Grade :- 2

Main Limiting Factor(s) :- Workability

Remarks :-

SITE NAME	PROFILE NUMBER	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Tolpuddle/Puddletown Bypass Alternatives	2	6°		Av Rainfall :- 1003 ATO :- 1489 FC Days :- 201 Climatic grade:- 1	Chalk
	DATE	GRID REFERENCE	Ley		
	1/5/91	SY 760 938			

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	31	10YR44	MSL	1%		N/A		N/A	N/A				
2	59	10YR56	HCL	0		Weak, Coarse, Sub Angular Blocky		Moderate	Friable				
3	120	10YR56 (Ped faces 10YR53)	MSL	0		Weak, Moderate, Sub Angular Blocky		Moderate	Friable				

Depth to Slowly Permeable Horizon :- -

Wetness Class :- I

Wetness Grade :- 2

RPG23/WJC

Available Water Wheat :- 159

Potatoes :- 114

Moisture Deficit Wheat :- 93

Potatoes :- 83

Moisture Balance Wheat :- 66

Potatoes :- 31

Droughtiness Grade :- 1

Final ALC Grade :- 2

Main Limiting Factor(s) :- Wetness

Remarks :-

SITE NAME

Tolpuddle/Puddletown Bypass Alternatives

PROFILE NUMBER
4

DATE
1/5/91

SLOPE AND ASPECT
4°

GRID REFERENCE
SY 758 937

LAND USE
Ley

Av Rainfall :- 1003
ATO :- 1489
FC Days :- 201
Climatic grade:- 1

PARENT MATERIAL
Chalk

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	22	10YR43	MCL	1%									
2	120	-	Chalk	-									

Depth to Slowly Permeable Horizon :- -

Wetness Class :- I

Wetness Grade :- 2

RPG23/WJC

Available Water Wheat :- 116
Potatoes :- 87

Moisture Deficit Wheat :- 93
Potatoes :- 83

Moisture Balance Wheat :- 23
Potatoes :- 4

Droughtiness Grade :- 2

Final ALC Grade :- 2

Main Limiting Factor(s) :- Droughtiness and workability

Remarks :-

SITE NAME	PROFILE NUMBER	SLOPE AND ASPECT	LAND USE	Av Rainfall :- 1003	PARENT MATERIAL
	5	4°		ATO :- 1489	
Tolpuddle/Puddletown Bypass Alternatives	DATE	GRID REFERENCE	Permanent Grass	FC Days :- 201	Chalk
	1/5/91	SY 753 939		Climatic grade:- 1	

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	38	10YR42	MSL	0		N/A							
2	93	10YR46	LMS	2%		Weak, Coarse, Angular Blocky		Moderate	Very Friable				
3	120	10YR66	LMS	0	Few ochreous	Single Grain		Moderate	Loose				

Depth to Slowly Permeable Horizon :- -

Wetness Class :- I

Wetness Grade :- 1

RPG23/WJC

Available Water Wheat :- 106

Potatoes :- 96

Moisture Deficit Wheat :- 93

Potatoes :- 83

Moisture Balance Wheat :- 13

Potatoes :- 4

Droughtiness Grade :- 2

Final ALC Grade :- 2

Main Limiting Factor(s) :- Droughtiness

Remarks :-

SITE NAME	PROFILE NUMBER	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Tolpuddle/Puddletown Bypass Alternatives	6	7°		Av Rainfall :- 1003 ATO :- 1489 FC Days :- 201 Climatic grade:- 1	Chalk
	DATE	GRID REFERENCE	Ley		
	2/5/91	SY 764 938			

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	26	10YR44	MSL										
2	60	10YR56	LMS			Weak, Coarse Sub Angular Blocky		Moderate	Very Friable				
3	120	10YR83	MS		Common ochreous	Single Grain		Moderate	Loose				

Depth to Slowly Permeable Horizon :- -

Wetness Class :- I

Wetness Grade :- 1

RPG23/WJC

Available Water	Wheat	:- 90
	Potatoes	:- 74
Moisture Deficit	Wheat	:- 93
	Potatoes	:- 83
Moisture Balance	Wheat	:- -3
	Potatoes	:- -9
Droughtiness Grade		:- 3a

Final ALC Grade :- 3a

Main Limiting Factor(s) :- Droughtiness

Remarks :- Not of sufficient occurrence to be mapped separately, so included in Grade 2 mapping unit.

SITE NAME	PROFILE NUMBER	SLOPE AND ASPECT	LAND USE	Av Rainfall :- 941	PARENT MATERIAL
Tolpuddle/Puddletown Bypass Alternatives	7	4°		ATO :- 1524	
	DATE	GRID REFERENCE	Cereals	FC Days :- 191	Chalk
	2/5/91	SY 781 945		Climatic grade:- 1	

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	28	10YR42	MCL	2%									
2	38	10YR53	HCL	10%		Weak, Medium, Sub Angular Blocky		Moderate	Friable				
3	120	-	Chalk	-		-		-	-				

Depth to Slowly Permeable Horizon :- -

Wetness Class :- I

Wetness Grade :- 2

RPG23/WJC

Available Water Wheat :- 137

Potatoes :- 109

Moisture Deficit Wheat :- 100

Potatoes :- 91

Moisture Balance Wheat :- 37

Potatoes :- 18

Droughtiness Grade :- 1

Final ALC Grade :- 2

Main Limiting Factor(s) :- Workability

Remarks :-

SITE NAME	PROFILE NUMBER	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Tolpuddle/Puddletown Bypass Alternatives	8	0°		Av Rainfall :- 941 ATO :- 1524 FC Days :- 191 Climatic grade:- 1	Alluvium
	DATE	GRID REFERENCE	Permanent Grass		
	2/5/91	SY 776 940			

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	15	10YR33	OMZCL	0									
2	29	10YR42	MCL	1%	Common ochreous	Moderate, Coarse prismatic		Moderate	Friable				
3	65	10YR52	HCL	45%	Common ochreous	-		-	-				
4	120	10YR62	SCL	15%	-	-		-	-				

Depth to Slowly Permeable Horizon :- -

Wetness Class :- 4

Wetness Grade :- 3b

RPG23/WJC

Available Water Wheat :- N/A
Potatoes :-

Moisture Deficit Wheat :- 100
Potatoes :- 91

Moisture Balance Wheat :- N/A
Potatoes :-

Droughtiness Grade :-

Final ALC Grade :- 3b

Main Limiting Factor(s) :- Wetness

Remarks :- Downgraded to 3b due to ground water within 40 cm for more than 91 days in most years.

SITE NAME	PROFILE NUMBER	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Tolpuddle/Puddletown Bypass Alternatives	9	5°		Av Rainfall :- 1003 ATO :- 1489 FC Days :- 201	Chalk
	DATE	GRID REFERENCE	Ley	Climatic grade:- 1	
	2/5/91	SY 751 940			

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	45	10YR43	MSL										
2	120	75YR46	LMS			Weak, Coarse Sub Angular Blocky		Moderate	Very Friable				

Depth to Slowly Permeable Horizon :- -

Wetness Class :- I

Wetness Grade :- 1

RPG23/WJC

Available Water Wheat :- 114

Potatoes :- 95

Moisture Deficit Wheat :- 93

Potatoes :- 83

Moisture Balance Wheat :- 21

Potatoes :- 12

Droughtiness Grade :- 3

Final ALC Grade :- 2

Main Limiting Factor(s) :- Droughtiness

Remarks :-

SITE NAME	PROFILE NUMBER	SLOPE AND ASPECT	LAND USE	Av Rainfall :- 927	PARENT MATERIAL
	10	2°		ATO :- 1508	
Tolpuddle/Puddletown Bypass Alternatives				FC Days :- 189	Chalk
	DATE	GRID REFERENCE	Ley	Climatic grade:- 1	
	3/5/91	SY 798 937			

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	33	10YR32	MCL	5%									
2	60	10YR33	HCL	15%		Moderate, Coarse, Sub Angular Blocky		Moderate	Friable				
3	120	10YR44	HCL	25%		Moderate, Coarse, Sub Angular Blocky		Moderate	Friable				

Depth to Slowly Permeable Horizon :- -

Wetness Class :- I

Wetness Grade :- 2

RPG23/WJC

Available Water Wheat :- 139

Potatoes :- 112

Moisture Deficit Wheat :- 98

Potatoes :- 89

Moisture Balance Wheat :- 41

Potatoes :- 23

Droughtiness Grade :- 1

Final ALC Grade :- 2

Main Limiting Factor(s) :- Workability

Remarks :-

SITE NAME	PROFILE NUMBER	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Tolpuddle/Puddletown Bypass Alternatives	11	0°		Av Rainfall :- 917 ATO :- 1505 FC Days :- 188 Climatic grade:- 1	Alluvium
	DATE 3/5/91	GRID REFERENCE SY 800 939	Permanent Grass		

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	9	10YR42	MZCL										
2	34	10YR52	MZCL		Common ochreous	Moderate, Coarse, Angular Blocky	<0.5%	Moderate	Friable				
3	55	10YR41	ZL		Many ochreous	Moderate, Coarse, Prismatic	<0.5%	Moderate	Friable				
4	80	10YR41	ZL		Common ochreous	Moderate, Coarse, Angular Blocky	<0.5%	Moderate	Friable				

Depth to Slowly Permeable Horizon :- 35 cm

Wetness Class :- 4

Wetness Grade :- 3b

RPG23/WJC

Available Water Wheat :- 144
Potatoes :- 147

Moisture Deficit Wheat :- 98
Potatoes :- 89

Moisture Balance Wheat :- 46
Potatoes :- 58

Droughtiness Grade :- 1

Final ALC Grade :- 3b

Main Limiting Factor(s) :- Wetness

Remarks :-

SITE NAME	PROFILE NUMBER	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Tolpuddle/Puddletown Bypass Alternatives	12	4°		Av Rainfall :- 941 ATO :- 1524 FC Days :- 191 Climatic grade:- 1	Chalk
	DATE 3/5/91	GRID REFERENCE SY 772 939	Permanent Grass		

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	10YR44	MSL	2%									
2	120	10YR46	MSL	6%		Moderate, Coarse, Sub Angular Blocky		Moderate	Friable				

Depth to Slowly Permeable Horizon :- -

Wetness Class :- I

Wetness Grade :- 1

RPG23/WJC

Available Water	Wheat :-	157
	Potatoes :-	113
Moisture Deficit	Wheat :-	100
	Potatoes :-	91
Moisture Balance	Wheat :-	57
	Potatoes :-	22
Droughtiness Grade :-		1

Final ALC Grade :- 1

Main Limiting Factor(s) :-

Remarks :-

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.