

PYNE'S HILL (2), EXETER DEVON  
AGRICULTURAL LAND CLASSIFICATION

REPORT OF SURVEY

1. Introduction

In December, 1988, a detailed Agricultural Land Classification (ALC) survey was carried out over a 9.8 hectare site at Pyne's Hill, Exeter in Devon. Field survey work was conducted by members of the Resource Planning Group using MAFF's Revised ALC Guidelines.

The distribution of the ALC grades and sub-grades is outlined in Table 1, and illustrated in the accompanying ALC map.

Table 1: The Distribution of Grades and Sub-grades

Grade	Area (ha)	% of Survey Area
2	8.1	82.7
3B	1.6	16.3
Farm Buildings	0.1	1.0
	9.8 ha	100%

The site occupies the gentle southern footslopes of Pyne's Hill where altitudes range from 30-50 m.

2. Climate

Estimates of important climatic variables have been obtained by interpolation from a 5 kilometre grid database and are detailed in Table 2 below. The main parameters used in assessing an overall climatic limitation are average annual rainfall (as a measure of overall wetness) and accumulated temperature (as a measure of the relative warmth of a locality). Together, these parameters suggest that for the site as a whole, overall climate is not a limiting factor.

Table 2: Climatic Interpolations

Accumulated Temperature (ATO)	:	1555°days
Average Annual Rainfall (AAR)	:	871 mm
Moisture Deficit, Wheat (MD Wheat)	:	106 mm
Moisture defecit, Potatoes (MD Pots)	:	99 mm

No evidence of exposure was found at the site.

### 3. Agricultural Land Classification

**Grade 2:** The majority of the site has been placed in this grade; droughtiness is the single most limiting factor. Soils are typically deep medium clay loams with topsoil stone contents approximately 5% (2 mm-2 cm), increasing to over 25% below 40 cm. Profiles therefore suffer from a slightly negative moisture balance which precludes the site being graded higher than Grade 2. Irrigation potential does not exist; it is not current practice and has not been practised in the recent past.

**Sub-grade 3B** Two limited areas of this sub-grade have been mapped. In the north west a shallow soil with relatively high stone content has been placed in 3B due to a significant increased drought risk. In the south east an area of locally steep gradients and an adjacent area of shallow soils are also down-graded to 3B.

### 4. Comparison with Previous Classification

In August, 1988, an adjoining 4.62 hectares was surveyed using the ALC guidelines given in Technical Reports 11 and 11/1. The majority of this site was classified as Grade 2 under these guidelines. A slight exposure risk and limited profile depths precluded Grade 1. A small disturbed section was placed in sub-grade 3B.

Soil textures were slightly sandier (medium sandy loams as compared to medium clay loams) in this adjacent area but would not be significantly different from the present site from the point of view of droughtiness; they would also be graded no higher than Grade 2.

Together with this adjacent site surveyed in August, 1988, the present area would therefore form a block of Grade 2 land under the Revised ALC Guidelines.

## Soil Profile Descriptions: Explanatory Note

Soil texture classes are denoted by the following abbreviations:

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

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:

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

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".

Other notation:

st	stones ( 6 cm)
sst	small stones (2 cm - 6 cm)
vsst	very small stones (2 mm - 2 cm)
Mn	manganese
cdom/cfom	common distinct/feint ochreous mottles
mpom	many prominent ochreous mottles (VMPOM = very many ..)
Few = 1-5%; common = 6-15%; many = 16-35%; very many = +35%	

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PYNE'S HILL (II), EXETER, DEVON

SOIL PROFILE DESCRIPTION

Date of Survey 7.12.88

NO	TEXTURE	COLOUR	DEPTH (CM)	SOIL PROFILE NOTES	TOPOGRAPHY NOTE
1	MCL	5YR33	0-50	2% vsst; 5-10% vsst from 30 cm	
	M/HCL	2.5YR34	50-95	+ 20% vsst	
			I		
2	MCL	2.5YR34	0-35	10% vsst	
	MCL	10R34	35-40	25% vsst	
			I	(2nd boring Impenetrable at 43 cm)	
3	MCL	2.5YR34	0-35	10% vsst	
	MCL	2.5YR34/44	35-97	15-20% vsst; + 30% vsst from 50 cm	
			I		
4	MCL	2.5YR34	0-30	3% vsst	
	MCL	2.5YR44	30-40	20% vsst	
	MCL	2.5YR54	40-60	25%	
			I		
4.i	MCL	2.5YR34	0-30	3% vsst	
	MCL	2.5YR44	30-40	20% vsst	
	MCL	2.5YR54	40-50	25% vsst	
	HCL	2.5YR54	50-100+	25% vsst	
5	MCL	5YR34	0-35	<5% vsst	
	MCL	2.5YR34	35-50	10-15% vsst	
	M/HCL	2.5YR54	50-88	20-25% vsst	
			I		
6	MCL	5YR34	0-30	5% vsst	
	M/HCL	2.5YR44	30-92	25% vsst; into HCL and 33% vsst	
			I	at tip	
7	MCL	5YR33	0-15	2% vsst, silty	
	MCL	10YR53	15-30	cdom; 5-10% vsst	
	MCL	2.5YR44	30-60	15% vsst; stonier at tip	
			I	(2nd boring Imepentrable at 45cm)	
8	MCL	5YR44	0-20	2% vsst	5°
	MCL	2.5YR44	20-50	15-20% vsst	
			I	(2nd boring Impenetrable at 45cm)	

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SOIL PROFILE DESCRIPTION

Date of Survey

NO	TEXTURE	COLOUR	DEPTH (CM)	SOIL PROFILE NOTES	TOPOGRAPHY NOTE
9	MCL	5YR44	0-25	7% vsst	
	MCL	5YR44/54	25-60	10-15% vsst	
	HCL	2.5YR44	60-85	10-15% vsst	
			I		
10	MCL	7.5YR44	0-40	2% vsst	
	MCL	5YR46	40-55	5% vsst	
	MCL	5YR54	55-100+	5% vsst	
11	MCL	7.5YR44	0-40		
	MCL	5YR44	40-50		
	FSL	5YR54	50-100+		
12	MCL	7.5YR44	0-35	5% vsst	
	MCL	7.5YR54	35-50	5-10% vsst	
	MCL	7.5YR54	50-90	15-20% vsst; up to 30% vsst at	
			I	tip.	