

CALLINGTON AND GUNNISLAKE LOCAL PLAN
 AGRICULTURAL LAND CLASSIFICATION: REPORT OF SURVEY

1. INTRODUCTION

In June 1991 a detailed Agricultural Land Classification (ALC) survey was carried out around 65 hectares at Callington in Cornwall together with a further 5 hectares at Drakewalls near Gunnislake. The survey was requested by Caradon District Council and formed part of MAFF's statutory input to the preparation of the Callington and Gunnislake Local Plan.

Fieldwork was conducted by members of the Resource Planning Group (South West Region) using MAFF's revised guidelines and criteria for grading agricultural land (operational since January 1989). The distribution of the grades and sub-grades is shown on the accompanying ALC maps, and the location of the soil observation points is shown on the auger sample point map.

2. CALLINGTON SURVEY AREA

No high quality land was found throughout the survey area; the land was graded mostly as sub-grade 3B, with a minor element of grade 4 land (see Table 1 below).

A total of 38 soil borings and 1 soil pit was examined. The density is therefore less than one boring per hectare (approximately 1 per 1.75 ha) and relates to the fact that a climatic limitation restricts much of the area to sub-grade 3B; as high quality land was not involved the density of observations was reduced.

Table 1: Distribution of Grades and Sub-grades

Grade	Area (ha)	% of Survey Area	% of Agricultural Area
3B	64.0	86.7	98
4	<u>1.3</u>	<u>1.8</u>	<u>2</u>
	65.3	88.5	100%
Urban	3.9	5.3	
Non-Agric	4.1	5.6	
Farm Bldgs	<u>0.5</u>	<u>0.6</u>	
	73.8 ha	100%	

The overall climatic limitation is illustrated in Table 2 below which presents data on the prevailing climate based on interpolations from a MAFF/Met Office 5 km dataset. The combination of rainfall and temperature restrict land above approximately 135 m to 3B; land below this level may qualify for 3A.

Table 2: Climatic Interpolations

Grid Reference	SX358703	SX367701	SX356694
Altitude (m)	135	187	153
Average Annual Rainfall (mm)	1429	1465	1455
Accumulated Temperature (°days)	1469	1409	1449
Field Capacity Days	273	278	276
Moisture Deficit, Wheat (mm)	63	55	59
Moisture Deficit, Potatoes (mm)	45	34	40
Climatic Grade	3A/3B	3B	3B

A minor area of land on the western fringe of the survey area lies at less than 135 m and qualifies for 3A on the basis of overall climate; this area, however, has been placed in sub-grade 3B due to localised steep gradients and evidence of wetness in the profiles (gleyed within 40 cm, no slowly permeable layer, Wetness Class III).

Soils vary little throughout the survey area. Typical profiles exhibit a medium clay loam topsoil and upper subsoil overlying a heavier (HCL) stony subsoil. The soils show no evidence of either a wetness or droughtiness limitation and are downgraded throughout on the basis of the prevailing climate.

The areas of Grade 4 land indicate areas of locally steep gradient.

3. DRAKEWALLS SURVEY AREA

This small area has been mapped predominantly as Sub-grade 3A with a minor area of 3B slope. The soils are similar to those described above for Callington but have been graded higher due to the less severe climatic limitation (see Table 3 below).

Table 3: Climatic Interpolations, Drakewalls

Grid Reference	SX426713	SX425712
Altitude (m)	165	170
Average Annual Rainfall (mm)	1375	1378
Accumulated Temperature (°days)	1433	1427
Field Capacity Days	265	265
Moisture Deficit, Wheat (mm)	61	61
Moisture Deficit, Potatoes (mm)	43	42
Climatic Grade	3A	3A/3B

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.