

**POPLAR FARM, KENNY HILL,
MILDENHALL, SUFFOLK**

**Agricultural Land Classification
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**Resource Planning Team
Huntingdon Statutory Group
ADAS Cambridge**

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AGRICULTURAL LAND CLASSIFICATION REPORT

POPLAR FARM, KENNY HILL, MILDENHALL, SUFFOLK

Introduction

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 30.4 ha of land at Poplar Farm, Kenny Hill, Mildenhall, Suffolk. The survey was carried out during June 1996.
2. The survey was commissioned by the Ministry of Agriculture, Fisheries and Food (MAFF) Land Use Planning Unit, Cambridge in connection with an application to build a golf course at the site. This survey supersedes previous ALC surveys on this land.
3. The work was conducted by members of the Resource Planning Team in the Huntingdon Statutory Group in ADAS. The land has been graded in accordance with the published MAFF ALC guidelines and criteria (MAFF, 1988). A description of the ALC grades and subgrades is given in Appendix I.
4. At the time of survey the land use on the site was mainly as an extensive golf course, with small areas of set-aside land or donkey paddocks.

Summary

5. The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:10 000 it is accurate at this scale but any enlargement would be misleading.
6. The area and proportions of the ALC grades and subgrades on the surveyed land are summarised in Table 1.

Table 1: Area of grades and other land

Grade/Other land	Area (hectares)	% Total site area
3b	16.47	55
4	13.7	45
Total site area	30.4	100

7. The fieldwork was conducted at an average density of one boring per hectare. A total of 31 borings and one soil pit were described.
8. The agricultural land at the site is of either moderate quality (subgrade 3b) or poor quality (grade 4). The main restriction to this land is a droughtiness limitation which is a function of climate and soil water holding capacity.

Factors Influencing ALC Grade

Climate

9. Climate affects the grading of land through the assessment of an overall climatic limitation and also through interactions with soil characteristics.

10. The key climatic variables used for grading this site are given in Table 2 and were obtained from the published 5km grid datasets using the prescribed interpolation methods (Met. Office, 1989).

Table 2: Climatic and altitude data

Factor	Units	Values
Grid reference	N/A	TL 675785
Altitude	m, AOD	3
Accumulated Temperature	day°C (Jan-June)	1451
Average Annual Rainfall	mm	583
Field Capacity Days	days	103
Moisture Deficit, Wheat	mm	121
Moisture Deficit, Potatoes	mm	117

11. The climatic criteria are considered first when classifying land as climate can be overriding in the sense that severe limitations will restrict land to low grades irrespective of favourable site or soil conditions.

12. The main parameters used in the assessment of an overall climatic limitation are average annual rainfall (AAR), as a measure of overall wetness, and accumulated temperature (AT0, January to June), as a measure of the relative warmth of a locality.

13. The combination of rainfall and temperature at this site mean it is relatively warm and dry. Climate imposes no overall limitation at this site and the climatic grade is therefore grade 1.

Site

14. The land at the site is virtually flat and lies at an altitude of approximately 3 m AOD. Therefore, neither gradient nor altitude impose limitation to land quality.

Geology and soils

15. The published 1:50 000 scale geology map, sheet 173 (British Geological Survey, 1980) shows the whole site as comprising first and second terrace river gravel.

16. The 1:63 360 scale published soils map, sheet 173, Ely (Soil Survey of England and Wales, 1973) maps the site as comprising mainly a Isleham-Adventurers-Willingham Complex (often associated with a micro-relief of hummocks and hollows, with sandy Isleham soil on

ridges, and hollows containing peat or peaty loam of the Adventurers Series), with a small area of sandy Isleham Series soils in the south.

17. The present, more detailed survey of the site identified only one soil type. Profiles typically comprise medium sand or occasionally loamy medium sand topsoils over medium sand subsoils. Profiles are typically only very slightly stony throughout and free-draining and hence are assessed as wetness class I (for description of wetness classes see Appendix II).

Agricultural Land Classification

18. The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 1, page 1.

19. The location of the auger borings and pits is shown on the attached sample location map.

Subgrade 3b

20. The majority of the site is graded 3b and this occurs in association with the sandy soils described in paragraph 17 which typically have either deep medium sand topsoils (to 40 cm) or loamy medium sand topsoils (to 35 cm). These soils have only moderate reserves of soil water due to their sandy nature and are therefore the land is limited to subgrade 3b (moderate quality agricultural land) due to significant droughtiness limitations.

Grade 4

21. The remainder of the land at the site is graded 4 and occurs in conjunction with the sandy soils described in paragraph 17 but which typically have shallow medium sand or loamy medium sand topsoils. These light textured soils have a reduced available water capacity due to shallower depths of topsoil and therefore the land is limited to grade 4 (poor quality agricultural land) due to severe droughtiness limitations.

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SOURCES OF REFERENCE

British Geological Survey (1980) *Sheet No.173, Ely*. BGS: London.

Ministry of Agriculture, Fisheries and Food (1988) *Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of agricultural land*. MAFF: London.

Met. Office (1989) *Climatological Data for Agricultural Land Classification*. Met. Office: Bracknell.

Soil Survey of England and Wales (1973) *Sheet 173, Ely*. SSEW: Harpenden.

APPENDIX I

DESCRIPTIONS 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 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 or horticultural crops can usually be grown but on some land of this 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 land.

Grade 3: Good to Moderate Quality Land

Land with moderate limitations which affect the choice of crops, the timing and type of cultivation, harvesting or the level of yield. When 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 the level of yields. It is mainly suited to grass with occasional arable crops (e.g. 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 severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

APPENDIX II

SOIL WETNESS CLASSIFICATION

Definitions of Soil Wetness Classes

Soil wetness is classified according to the depth and duration of waterlogging in the soil profile. Six soil wetness classes are identified and are defined in the table below.

Wetness Class	Duration of waterlogging ¹
I	The soil profile is not wet within 70 cm depth for more than 30 days in most years. ²
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 only wet within 40 cm depth for 30 days in most years.
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 present within 80 cm depth, it is wet within 70 cm for more than 180 days, but only wet within 40 cm depth for between 31-90 days in most years.
IV	The soil profile is wet within 70 cm depth for more than 180 days but not wet within 40 cm depth for more than 210 days in most years or, if there is no slowly permeable layer present within 80 cm depth, it is wet within 40 cm depth for 91-210 days in most years.
V	The soil profile is wet within 40 cm depth for 211-335 days in most years.
VI	The soil profile is wet within 40 cm depth for more than 335 days in most years.

Assessment of Wetness Class

Soils have been allocated to wetness classes by the interpretation of soil profile characteristics and climatic factors using the methodology described in *Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of agricultural land* (MAFF, 1988).

¹ The number of days is not necessarily a continuous period.

² 'In most years' is defined as more than 10 out of 20 years.