

**Brookmead Farm, Stagsden,
Bedfordshire.**

**Agricultural Land Classification
ALC Map and Report**

August 1998

**Resource Planning Team
Eastern Region
FRCA Cambridge**

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AGRICULTURAL LAND CLASSIFICATION REPORT

Brookmead Farm, Stagsden, Bedfordshire.

INTRODUCTION

1. This report presents the findings of a detailed, Agricultural Land Classification (ALC) survey of 61.2 ha of land at Brookmead Farm, Stagsden, Bedfordshire. The survey was carried out during August 1998.
2. The survey was carried out by the Farming and Rural Conservation Agency (FRCA) for the Ministry of Agriculture, Fisheries and Food (MAFF), in connection with a proposed golf course application. This survey supersedes previous ALC information for this land.
3. The work was conducted by members of the Resource Planning Team in the Eastern Region of FRCA. 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 cereals and grassland. The areas mapped as 'Other land' include two areas of woodland a sewage treatment works, and associated access road.

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)	% surveyed area	% site area
3a	34.4	58	56
3b	24.8	42	41
Other land	2.0	N/A	3
Total surveyed area	59.2	100	97
Total site area	61.2	-	100

7. The fieldwork was conducted at an average density of 1 boring per hectare. A total of 59 borings and 3 soil pits was described.
8. Land mapped as subgrade 3a (good quality agricultural land) occurs along the western boundary and on the eastern side around Oxleys. It is restricted to this subgrade due to a moderate wetness and workability limitation.

9. Land mapped as subgrade 3b (moderate quality agricultural land) occurs in the northeast and through the centre of the site in a south westerly direction. In the northeast land is restricted to this subgrade due to a severe wetness and workability limitation, through the centre of the site due to slopes being in excess of 7°, and in the southwest due to microrelief limitations.

FACTORS INFLUENCING ALC GRADE

Climate

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

11. 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 standard interpolation procedures (Met. Office, 1989).

Table 2: Climatic and altitude data

Factor	Units	Values	
Grid reference	N/A	SP 994 497	SP 993 488
Altitude	m, AOD	40	75
Accumulated Temperature	day°C (Jan-June)	1438	1398
Average Annual Rainfall	mm	585	598
Field Capacity Days	days	106	109
Moisture Deficit, Wheat	mm	117	112
Moisture Deficit, Potatoes	mm	111	105
Overall climatic grade	N/A	1	1

12. 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.

13. 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.

14. The combination of rainfall and temperature impose no overall limitation to land quality and hence the site has a climatic grade of 1.

Site

15. The site is bounded in the east by woodland and treelines, the west by the A422 road, and the north and south by open farmland. The area occupies the northwestern side of a ridge falling from a maximum altitude of 77 m AOD at Half Grown Spinney to approximately 38 m AOD in the valley feature on the northwestern boundary. In some places slopes are in excess of 7°. The valley feature contains a small tributary of the River Great Ouse. Land in the southwest is level near to the road but around, and to the east of the small aircraft radio beacon station there many minor banks and hummocks.

Geology and soils

16. The published 1:250 000 scale geology map for the area (IGS, 1983) shows the whole area to comprise Oxford Clay. The published 1:625 000 scale geology map (IGS, 1977) shows no drift deposits for the area.

17. The 1:250 000 scale reconnaissance soil map (SSEW, 1983) shows the site to comprise soils of the Evesham 3 Association in the west and soils of the Hanslope Association in the east. The former are briefly described as slowly permeable calcareous clayey, and fine loamy over clayey soils with some seasonally waterlogged non-calcareous clayey soils. The latter are briefly described as slowly permeable calcareous clayey soils with some slowly permeable non-calcareous clayey soils.

18. During the current survey one main soil type was encountered.

19. Profiles typically comprise very slightly stony clay topsoil over very slightly stony clay upper subsoil. Lower subsoils comprise very slightly stony slowly permeable clay. Gleying and a slowly permeable layer usually occurred at less than 40 cm depth. Profiles in the north of the site are non-calcareous, whilst those over the remainder of the site are calcareous throughout.

AGRICULTURAL LAND CLASSIFICATION

20. 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.

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

Subgrade 3a

22. Just over half the site is mapped as subgrade 3a which occurs on the western boundary and on the eastern side of the site around Oxleys. This land corresponds to the calcareous soils described in paragraph 19. The imperfectly drained (Wetness Class III) calcareous clayey soils are restricted to this grade due to a moderate wetness and workability limitation. A few profiles in the east of the site were of better quality but were too dispersed to be able to mapped as a discrete unit.

Subgrade 3b

23. Land mapped as subgrade 3b occurs in the northeast and centrally through the site in a southwesterly direction. In the northeast it corresponds to the non-calcareous soils described in paragraph 19. The imperfectly drained (Wetness Class III) non-calcareous clayey soils are restricted to this subgrade due to a more severe wetness and workability limitation.

24. In the central 'corridor' land is restricted to this subgrade due to slopes being in excess of 7°, which makes the safe handling and efficiency of agricultural machinery more.

25. Land around and to the east of the aircraft radio beacon station is limited to this subgrade due to microrelief limitations.

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SOURCES OF REFERENCE

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