

**Land North of Bishop's Stortford
Hertfordshire.**

Site - ASR 5

**Agricultural Land Classification
ALC Map and Report**

April 1998

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Eastern Region
FRCA Cambridge**

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AGRICULTURAL LAND CLASSIFICATION REPORT

Land North of Bishop's Stortford, Hertfordshire. Site - ASR 5

INTRODUCTION

1. This report presents the findings of a detailed, Agricultural Land Classification (ALC) survey of 18.8 ha of land north of Bishop's Stortford, Hertfordshire. The survey was carried out during April 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 the East Hertfordshire District Local Plan. 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 was under cereals..

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

Grade/Other land	Area (hectares)	% site area
2	2.9	15
3a	15.9	85
Total site area	18.8	100

7. The fieldwork was conducted at an average density of 1 boring per hectare. A total of 19 borings and 2 soil pits was described.
8. Land in the southeast corner of the site has been mapped as grade 2 (good quality agricultural land) due to a minor droughtiness limitation.
9. The remainder of the land has been mapped as subgrade 3a (good quality agricultural land) due to a moderate droughtiness limitation.

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 5 km grid datasets using the standard interpolation procedures (Met. Office, 1989).

Table 2: Climatic and altitude data

Factor	Units	Values
Grid reference	N/A	TL 494 233
Altitude	m, AOD	75
Accumulated Temperature	day°C (Jan-June)	1398
Average Annual Rainfall	mm	637
Field Capacity Days	days	124
Moisture Deficit, Wheat	mm	112
Moisture Deficit, Potatoes	mm	106
Overall climatic grade	N/A	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 on all sides by roads. To the north the boundary is formed by the A120. From a high point of approximately 80 m AOD in the west the land slopes gently in a southeasterly direction meeting the B1004 at a height of 65 m AOD.

Geology and soils

16. The published 1:50 000 scale geology map (BGS, 1990) shows the majority of the site to comprise boulder clay with head material on the eastern boundary.

17. The 1:63 360 scale soil map of the area (SSEW, 1968), shows the whole site to comprise soils of the Thundridge Association. The 1:250 000 scale reconnaissance soil map (SSEW, 1983) shows the site to comprise soils of the Melford Association. These latter soils

are briefly described as deep well drained fine loamy over clayey, coarse loamy over clayey and fine loamy soils, some with calcareous clayey subsoils.

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

19. Profiles typically comprise variably calcareous, slightly stony medium clay loam (occasionally heavy clay loam or sandy clay loam) topsoils over moderately stony, permeable clay (occasionally heavy clay loam or sandy clay loam) upper subsoils. Lower subsoils comprise moderately stony clay. Several auger borings were impenetrable at depths varying between 40 cm and 85 cm. A less stony variant occurs in the southeast corner of the site.

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.

Grade 2

22. Land mapped as grade 2 occurs in the southeast corner of the site. It corresponds to the less stony variant soils described in paragraph 19. These profiles are well drained (Wetness Class I) and this combines with the fine loamy topsoils and slightly stony subsoils to restrict land to grade 2 due to a minor droughtiness limitation.

Subgrade 3a

23. Land mapped as subgrade 3a occurs over the remainder of the site and corresponds to the stonier soils described in paragraph 19. These profiles with fine loamy topsoils and moderately stony subsoils are well/moderately well drained (Wetness Class I/II). The degree of stoniness in the subsoil in combination with profile textures reduces the amount of available water to the crop, thus imposing a moderate droughtiness limitation restricting the land to subgrade 3a.

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SOURCES OF REFERENCE

British Geological Survey (1990) *Sheet No. 222, Great Dunmow. Solid and Drift. 1:50 000*
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 (1968) *Sheet 148, Saffron Walden. 1:63 360*
SSEW: Harpenden.

Soil Survey of England and Wales (1983) *Sheet 4, Soils of Eastern England. 1:250 000*

Soil Survey of England and Wales (1984) *Soils and their Use in Eastern England*
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.