LAND NORTH OF TAMWORTH

Agricultural Land Classification
ALC Map and Report
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A.I. Cooke
Resource Planning Team
Northern Region
FRCA Wolverhampton

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AGRICULTURAL LAND CLASSIFICATION REPORT
LAND NORTH OF TAMWORTH

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey on 260.4 hectares of land. The results of this survey supersede any previous ALC information for this land. The land is located to the north of Tamworth, between the flood plain of the River Tame in the west and the Derby-Birmingham Railway in the east. The survey was in connection with the Staffordshire and Stoke on Trent Structure Plan.

2. The survey was undertaken on behalf of the Ministry of Agriculture, Fisheries and Food (MAFF) in March and April, 1998 by the Resource Planning Team of the Farming and Rural Conservation Agency (FRCA)- Northern region of FRCA.

3. The land has been graded in accordance with the publication "Agricultural Land Classification of England and Wales - Revised guidelines and criteria for grading the quality of agricultural land" (MAFF 1988) .

4. At the time of survey the agricultural land on this site was under stubble, potatoes, winter cereals, sugar beet, oil seed rape and pasture.

SUMMARY

5. The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:10000 with an average auger boring density of 1 per hectare. The ALC map is only accurate at this base map scale and 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
2	17.1	8	7
3a	105.5	50	40
3b	89.3	42	34
Agricultural land not surveyed	2.0	N/A	1
Other land	46.5	N/A	18
Total surveyed area	211.9	100	-
Total site area	260.4	-	100

7. The agricultural land on this site has been classified as Grade 2 (very good quality), Subgrade 3a (good quality) and Subgrade 3b (moderate quality). The key limitations to the agricultural use of this land are droughtiness, soil wetness and topsoil stone content.

8. The area of very good quality land is located to the south and east of Wigginton village and to the west of Windmill Farm. The soils commonly comprise a sandy clay loam topsoil overlying either a sandy clay loam or medium clay loam subsoil, occasionally with clay at depth.

9. Areas of good quality land are mapped throughout the site. East of the A513 Tamworth-Burton Road and around Windmill Farm these soils typically comprise either a medium clay loam or sandy clay loam topsoil overlying either heavy clay loam or sandy clay loam upper subsoils passing to a clay lower subsoil. Across the rest of the site these soils typically comprise a medium sandy loam topsoil overlying loamy sand and sand subsoils.

10. Areas of moderate quality land are mapped throughout the site. To the west of the London-Glasgow Railway and around Comberford Hall Subgrade 3b has been mapped where the soils comprise a medium sandy loam topsoil passing to stony horizons of loamy sand and sand. In the west of the site Subgrade 3b has been mapped where the soils typically comprise a medium clay loam topsoil passing to a clay subsoil.

FACTORS INFLUENCING ALC GRADE

Climate

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

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

Table 2: Climatic and altitude data

Factor	Units	Values	
Grid reference	N/A	SK 185 058	SK 201 063
Altitude	m, AOD	57	69
Accumulated Temperature	day°C (Jan-June)	1412	1398
Average Annual Rainfall	mm	638	643
Field Capacity Days	days	144	144
Moisture Deficit, Wheat	mm	105	104
Moisture Deficit, Potatoes	mm	96	94
Overall climatic grade	N/A	Grade 1	Grade 1

13. 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.

14. 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.

15. The combination of rainfall and temperature at this site means that there is no overall climatic limitation. The site is climatically Grade 1.

Site

16. The site lies at an altitude of 57 to 78 metres AOD. The land rises gradually from the River Tame in the west to the ridge of Wigginton village, falling away again to the east. Within this overall pattern of relief a valley runs through the site from west to east.

17. The three site factors of gradient, microrelief and flooding are considered when classifying the land.

18. These factors do not impose any limitations on the agricultural use of this land.

Geology and Soils

19. The solid geology of the area is comprised of Triassic Keuper Marl. This outcrops at the surface east of the A 513. West of the A 513, the marl is overlain by drift, either Boulder Clay in the centre of the site or First Terrace deposits closer to the River Tame - British Geological Survey (1954).

20. The soils that have developed on the marl are generally of a clay loam texture overlying clay; those on the boulder clay are generally of variable texture overlying clay at depth, whilst those on the terrace deposits are of a sandy loam texture over loamy sands and gravels.

Agricultural Land Classification

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

Grade 2

22. Land of very good quality occupies 17.1 hectares (7%) of the site area and is found on higher ground around Wigginton and west of Windmill Farm.

23. The soil has a sandy clay loam texture over either sandy clay loam or heavy clay loam, occasionally with clay at depth. Observations of the depths to gleying and the slowly permeable layer place these soils in Wetness Class II and Grade 2.

24. The main limitation to the agricultural use of this land is soil wetness.

Subgrade 3a

25. Land of good quality occupies 105.5 hectares (40%) of the site area and is found in two distinct units.

26. In the north and west of the site the soil predominantly has a medium sandy loam or sandy clay loam texture overlying sandy loam or loamy sand upper subsoils passing to sand lower subsoils. The topsoils and subsoils are slightly to moderately stony. The moisture balance places these soils in Subgrade 3a.

27. The main limitation to the agricultural use of this land is soil droughtiness.

28. In the south and east of the site the soil has a medium clay loam or sandy clay loam texture overlying an upper subsoil of varying texture (sandy clay loam, medium/heavy clay loam, sandy loam) passing to a clay lower subsoil. Observations of the depths to gleying and the slowly permeable layer place these soils in Wetness Class III and Subgrade 3a.

29. The main limitation to the agricultural use of this land is soil wetness.

Subgrade 3b

30. Land of moderate quality occupies 89.3 hectares (34%) of the site area and is found in several units.

31. In the east of the site the soil has a medium clay loam topsoil texture passing either to a heavy clay loam upper subsoil and a clay lower subsoil or directly to clay. Observations of the depth to gleying and the slowly permeable layer place these soils in Wetness Class IV.

32. The main limitation to the agricultural use of this land is soil wetness.

33. In the west of the site the soil has a medium sandy loam topsoil texture overlying sandy loam or loamy sand upper subsoils passing to sandy lower subsoils. The topsoils and subsoils are moderately to very stony. The moisture balance places these soils in Subgrade 3b.

34. The main limitation to the agricultural use of this land is soil droughtiness.

35. East of Comberford Hall, the soils were found to have in excess of 15% topsoil stones greater than 2 cm limiting them to Subgrade 3b.

36. The main limitation to the agricultural use of this land is topsoil stoniness.

Other Land

37. Other land occupies 46.5 hectares (18%) of the site area and is found as farm buildings, gardens, roads, railways, developed land and a sewage works.

Resource Planning Team
Northern Region
FRCA Wolverhampton

SOURCES OF REFERENCE

British Geological Survey (1954) Sheet 154, Lichfield Solid and Drift Edition.
1:63 360 Scale.
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.
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