

**ALREWAS SOUTH**

**Agricultural Land Classification  
ALC Map and Report**

**June 1999**

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Northern Region  
FRCA Wolverhampton**

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## AGRICULTURAL LAND CLASSIFICATION REPORT ALREWAS SOUTH

### INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 34.3 ha of land at Alrewas. The site is situated to the east of Alrewas and the A38 Trunk Road. The survey was carried out during June 1999.
2. The survey was undertaken by the Farming and Rural Conservation Agency (FRCA)<sup>1</sup> on behalf of the Ministry of Agriculture, Fisheries and Food (MAFF). The survey was carried out in connection with MAFF's input to the Minerals Plan. This survey supersedes any previous ALC information for this land.
3. The work was conducted by members of the Resource Planning Team in the Northern 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 on the site was being used to grow carrots. There is a reservoir in the centre of the survey area which is used to supply water for the irrigation of this land. The site is traversed by a conveyor line which links an area of mineral extraction to the south of the site, with the processing plant to the north of the site. An area immediately to the east of the conveyor, near the southerly underpass, remains fallow and is used for manure storage.

### 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
1	-	-	-
2	-	-	-
3a	-	-	-
3b	32.3	100	94
4	-	-	-
5	-	-	-
Agricultural land not surveyed	-	N/A	-
Other land	2.0	N/A	6
Total surveyed area	32.3	100	-
Total site area	34.3	-	100

<sup>1</sup> FRCA is an executive agency of MAFF and the Welsh Office

7. The fieldwork was conducted at an average density of 1 boring per hectare of agricultural land. In total three soil pits and thirty four borings were described on the site.
8. The agricultural land on this site has been classified as Subgrade 3b (moderate quality). The key limitation to the agricultural use of this land is soil droughtiness.
9. The area of moderate quality land is mapped over the majority of the site. The soils have a loamy sand topsoil texture over loamy sand and sand to depth.

## 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	SK 177 145
Altitude	m, AOD	53
Accumulated Temperature	day°C (Jan-June)	1413
Average Annual Rainfall	mm	651
Field Capacity Days	days	144
Moisture Deficit, Wheat	mm	105
Moisture Deficit, Potatoes	mm	96
Overall climatic grade	N/A	Grade 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. The site is climatically Grade 1.

### **Site**

14. The site is relatively level, ranging in altitude from 52 to 54 metres AOD. There are a number of subtle rises which form small 'islands' of higher land within this altitude range.
15. The three site factors of gradient, microrelief and flooding are considered when classifying the land.
16. These factors do not impose any limitation on the agricultural use of this land.

### **Geology and soils**

17. The solid geology of the area is comprised of red marls which are overlain with deposits of first terrace gravels - British Geological Survey (1964 & 1966).
18. The soils that have developed on this geology are generally of a loamy sand texture overlying sand and gravel (SSEW 1984).

### **AGRICULTURAL LAND CLASSIFICATION**

19. 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.

#### **Subgrade 3b**

20. Land of moderate quality occupies 32.3 hectares (94%) of the site area.
21. The main limitation to the agricultural use of this land is soil droughtiness.
22. The soils have either a loamy medium sand, medium sandy loam or a sandy clay loam topsoil texture over loamy medium sand and sand to depth. Occasionally there are lenses of either sandy clay loam or peaty textures in the subsoil, particularly in the lower lying areas to the north and north east of the irrigation reservoir. These soils are slightly to moderately stony in the topsoil with between 5% and 15% being greater than 2cm in size. Subsoils are often moderately to very stony and only occasionally is the volume of stones less than 5%. The moisture balance places these soils in Subgrade 3b. There are isolated auger borings of Subgrade 3a which cannot be shown separately at this scale of mapping.
23. In the low lying areas to the north and north east of the irrigation reservoir, groundwater was encountered at approximately 50cm depth, resulting in an isolated soil wetness limitation (Wetness Class IV).

Martin Wood  
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## SOURCES OF REFERENCE

British Geological Survey (1964) *Sheet No.154 Lichfield Solid Edition*  
*Scale 1:63 360.*

BGS: London.

British Geological Survey (1966) *Sheet No.154 Lichfield Drift Edition*  
*Scale 1:63 360.*

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 (1984) *Sheet 3, Map of Midland and Western England.*

SSEW: Harpenden.

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