0202-065-88

AGRICULTURAL LAND CLASSIFICATION

MOORES FARM, PINGEWOOD

(Minerals Application)

Background

The site lies to the south of Pingewood in Berkshire, just south of the M4 motorway near Reading. The site is bounded to the north by former gravel workings, to the west by Pinge Wood and a minor road, to the south by a disused railway line and to the east by the Reading to Basingstoke railway line.

The site was surveyed using a 110cm Dutch auger, with samples being taken at approximately 100m intervals.

Land Use

At time of survey (February 1988) all of the site was pastureland.

Physical Factors Affecting Land Quality

Relief

The site lies at approximately 39m OD and is relatively level. Gradient was not a significant factor in relation to land quality at this site.

Climate

The average annual rainfall for this area is 663mm/annum of which approximately 45% falls in the summer months of April to September inclusive. Soils are at Field Capacity for 139 days/annum with the average length of growing season being 285 to 295 days. The median accumulated temperature above zero degrees C for January to June is 1486 day degrees. The area is not likely to be frost prone or exposed.

Geology and Soils

The Geological Survey of Great Britain Sheet 268 shows all of the site to be underlain by pre Devensian River Valley Gravel. The Soil Survey of Great Britain "Soils of the Reading District" shows the site to be composed of 3 soil series, the south and west of the site is shown to belong to the Loddon series (non calcareous gley soils) with much of the remainder of the site belonging to the Hurst series (typical argillic gley soils). At the north west of the site, a small area of the Sonning series (paleo argillic brown earths) is shown to exist.

Agricultural Land Classification

Appendix 1 gives a generalised description of the grades used in this classification.

Grade 3a

A small area of this grade occurs at the centre of the site. profiles are typically composed of medium clay loam topsoils, generally overlying fine sandy clay in the subsoil which commonly grades into fine sandy clay loam at c.60cm depth. Profiles in this grade fall into Soil Wetness Class 3 which coupled with their topsoil textures in this range of Field Capacity Days has resulted in their allocation to this grade on the grounds of potential problems in relation to wetness and workability.

Grade 3b

This grade is dominant over the site. Profiles are typically composed of medium or heavy clay loam topsoils directly overlying clay in the subsoil. Less commonly, subsoils are composed of fine sandy clay, commonly grading into fine sandy clay loam in the lower reaches of the profile. In many profiles, gravelly horizons were present at depth. Profiles in this grade fall chiefly into Soil Wetness Class 4, though occasional profiles fall into Wetness Class 3. Coupled with their topsoil textures in this range of Field Capacity Days, the land has been allocated to grade 3b on the grounds of wetness and relatively difficult workability.

Areas of Grades

Total area of site	31.1ha
Areas primarily in non agricultural usage	0.2ha
Total area of agricultural land	30.9ha

Grade 3a	3.2ha	(10% total)
Grade 3b	27.7ha	(90% total)

STATEMENT OF PHYSICAL CHARACTERISTICS

Overlays accompanying the ALC map illustrate the pattern of topsoil and subsoil resources present at the site. It should be emphasised that this is not a soil stripping map but merely an illustration of the resources available for restoration.

One topsoil unit was identified, composed of 25cm of dominantly medium and heavy clay loam textures.

Three subsoil units were identified. Unit 1 is dominant over the site, composed of 62cm of dominantly clay textures. Unit 2 lies along the north of the site composed of 54cm of dominantly fine sandy clay and less frequently fine sandy clay loam textures. Unit 3 lies at the east of the site, composed of 75cm of fine sandy clay textures grading into fine sandy clay loam at depth in the subsoil unit.

Subsoil Units 2 and 3 have been separated from Unit 1 chiefly on grounds of depth, textural difference and better subsoil structural conditions.

When considering these details it is important to remember that:

a) Profiles were only sampled to a depth of 1m during this survey. In some cases soil resources may extend below this depth.

b) There will naturally be some wastage of soil materials (at least 10%) during earth movement and storage.

References

MAFF 1988 Agricultural Land Classification of England and Wales. Revised guidelines and criteria for the grading of agricultural land.

Met Office (publ due 1989) Climatic Data Sets for Agricultural Land Classification

Met Office (undated) Meteorological Survey of NE Hampshire and West Surrey with parts of S.Berkshire and W.Sussex. (OS map 169).

Geological Survey of Great Britain 1966 Sheet 268 "Reading" 1:63360

Soil Survey of England and Wales 1967 Soils of The Reading District 1:63360

IAN RUGG
RESOURCE PLANNING GROUP
SOUTH EAST REGION

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APPENDIX 1

DESCRIPTION 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 and horticultural crops can usually be grown but on some land in the 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.

Grade 3 – good to moderate quality agricultural land

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