

AGRICULTURAL LAND CLASSIFICATION

FIELD FARM, SULHAMSTEAD

Background

The site covers approximately 8.3ha and lies immediately south east of Sulhamstead in Berkshire. The site lies between Kingston Lane and Sulhamstead Hill [road] , being bounded to the south by a track and the north by a field margin.

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

Land Use

At time of survey (January 1988) all of the site surveyed was under cereal cultivation.

Physical Factors Affecting Land Quality

Relief

The site lies at approximately 88m OD. Gradient was not a significant factor in relation to land quality over the area surveyed.

Climate

The average annual rainfall at this site is c.715mm. Soils are at Field Capacity for 149 days/annum with the moisture deficits for wheat being 107mm and potatoes being 100mm. The median accumulated temperature above 0 degrees C for January to June is 1427 day degrees. The average length of growing season is c.270 to 280 days and the area is not likely to be frost prone or exposed.

Geology and Soils

The Geological Survey of Great Britain Sheet 268 shows all the site to be underlain by Recent and Pleistocene Plateau Gravel. The Soil Survey of Great Britain "Soils of the Reading District" shows the soils present to belong to the St Albans series. These are described as well drained, strongly leached brown earths (sols lessives) derived from high level gravelly drift.

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

Grade 3b

All of the land surveyed falls into this grade. Profiles are typically composed of sandy loam topsoils overlying similar textures in the subsoil which tend to grade towards loamy sand at approximately 40cm depth. Such subsoils grade into gravel at c.65cm depth. It should be noted that stone contents are high throughout the topsoil and subsoil. Topsoil stone content was typically c.18% stones of c. 2-5cm size whilst subsoil stone content was typically 50-60% stones of c. 2mm-5cm.

Profiles are limited jointly by moderately high topsoil stone contents along with the associated problems of drought stress likely to occur through the high stone content present in the subsoil. This factor was confirmed by the relatively high soil moisture deficits found to exist for soils at this site.

### Areas of Grades

Total area of site	8.3ha
Total area of agricultural land	8.3ha
Grade 3b	8.3ha

### STATEMENT OF PHYSICAL CHARACTERISTICS

The site surveyed is relatively small with a simple pattern of topsoil and subsoil resources. As such, topsoil / subsoil overlays have not been prepared, instead a description of physical characteristics is given below.

One topsoil unit was identified, composed of c.30cm of sandy loam textures. Stone content in this unit is moderately high (typically c.18% stones of c. 2-5cm size).

One subsoil unit was identified. This is composed of sandy loam textures which tend to grade towards loamy sand textures at depth. The unit overlies gravel at c.65cm from the existing soil surface. Again, stone contents in this unit are high, typically c.50-60% stones of c.2mm to 5cm size being present.

When considering these details it is important to remember that:

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

2) The high stone contents present at this site made auger penetration normally impossible below topsoil depth. As such, information relating to subsoil characteristics has had to be extrapolated from soil pit data. It may thus be possible that some variation from the subsoil properties described may exist at this site though it is considered that this should be minimal.

References

- MAFF 1988 Agricultural Land Classification of England and Wales  
Revised guidelines and criteria for grading the quality  
of agricultural land
- Meteorological Office (Publication due 1989) Climatological data  
for agricultural land classification
- Meteorological Office 1969 Meteorological survey of west  
Berkshire and south east Oxfordshire
- Geological Survey of Great Britain 1946 Sheet 268 (Reading)  
1:63360
- Soil Survey of Great Britain 1967 Soils of the Reading District  
1:63360 (plus accompanying memoir)

RESOURCE PLANNING GROUP  
JANUARY 1988

Ref: 0202/54/88

## 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.