4202-050-88

AGRICULTURAL LAND CLASSIFICATION

HAM MANOR, ANGMERING

Background

The site covers approximately 60 7ha and lies to the west of Angmering in West Sussex The site is bounded largely to the south by the Chichester to Worthing railway line and to the east by South Drive along with the housing around Ham Manor Whilst the site is bounded to the north by the Ham Manor golf course the remainder of the site to the west of Old Brook Barn is bounded by field margins

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

Land use

At time of survey (November 1988), the majority of the site was under cereal cultivation though with pasture dominant to the west of Old Brook Barn and a small area of brussel sprouts alongside South Drive

Physical Factors Affecting Land Quality

Relief

The majority of the site lies at approximately 5m OD To the west of Old Brook Barn, on the pastureland, the level is slightly lower at c 2m OD Gradient was not a significant factor affecting land quality at this site

Climate

The average annual rainfall for this area is approximately 747mm The average length of the growing season is c 295 days/annum The area is not believed to be frost prone though may suffer mildly from exposure However, at this site the presence of the existing shelter belts would tend to alleviate this problem Soils are at field capacity for c 154 days/annum The median accumulated temperature above 0 degrees C for January to June is c 1540 day degrees

Geology

British Geological Survey Sheet 317 shows the majority of the site to the east of Old Brook Barn be underlain by Cretaceous Middle Chalk covered by Recent and Pleistocene Brickearth deposits West of the barn, however, the site is shown to be underlain by Recent and Pleistocene Alluvium deposits

Soils

The Soil Survey of Great Britain "Soils of the West Sussex Coastal Plain" shows the site to be composed of three soil series The majority of the site is shown to be belong to the Hamble series (sols lessivés normally associated with silty drifts), whilst land to the west of Old Brook Barn is shown to belong to the Arundel Complex (ground water gley soils normally associated with loamy estuarine alluvium) At the junction of these two series a small strip fo the Lyminster series is shown to occur which also extends partway along the southern boundary of the site This series is decribed as brown earths (sols lessivés) normally associated with loamy, pebbly, marine drifts

Field examination of the soils found profiles to fall into three broad groups Group 1 is composed of the majority of soils lying to the east of Old Brook Barn Profiles are typically composed of silt loam topsoils overlying medium silty clay loam in the subsoil Group 2 soils lie largely to the west of Old Brook Barn and are typically composed of medium silty clay loam topsoils overlying silty clay at quite shallow depth in the subsoil Group 3 soils occur immediately south of Old Brook Barn and are typically composed of fine sandy silt loam topsoils overlying fine sandy clay in the subsoil Where agricultural limitations exist, profiles are chiefly limited by drainage status

Agricultural Land Classification

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

Grade 1

This grade occurs east of Old Brook Barn and is dominant at the site Profiles are typically composed of silt loam topsoils but at the western fringe of the grade fine sandy loam or less commonly fine sandy silt loam topsoils were noted to occur Such topsoils typically overlie medium silty clay loam in the subsoil, though in some cases silt loam or borderline silt loam/silty clay loam textures extended to varying depth in the subsoil At the western fringe of this grade, however, medium fine sandy clay loam textures were commonly noted in the subsoil Such profiles fall into soil wetness class 1, which coupled with their topsoil textures in this range of field capacity days has resulted in their allocation to this grade

Grade 3a
A small area of this grade occurs to the south of Old Brook Barn Profiles are typically composed of fine sandy silt loam topsoils overlying fine sandy clay in the subsoil Occasionally, medium sandy clay loam textures were noted to occur in the immediate subsoil Such profiles fall into soil wetness class 4, 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 wetness and workability status

Grade 3b
This grade is dominant to the west of Old Brook Barn Profiles are typically composed of medium silty clay loam topsoils overlying silty clay at quite shallow depth in the subsoil However, on the narrow strip of this grade running along the south west of the site subsoils tend to be composed of medium silty clay loam textures overlying clay at depth Such profiles fall into soil wetness class 4, which combined with their topsoil textures in this range of field capacity days, has resulted in their allocation to this grade due to problems of relatively difficult workability

Areas of Grades

Total area of site		60 78ha
Woodland		0 69ha
Areas primarily in urban use		0 05ha
Areas not surveyed		0 35ha
Grade 1	44 84ha	(76% total)
Grade 3a	2 83ha	(5% total)
Grade 3b	11 33ha	(19% total)
Total area of agricultural land	59 00ha	

References

MAFF 1988 Agricultural Land Classification of England and Wales (Revised guidelines for the grading the quality of agricultural land)

Meteorological Office 1969 Meteorological survey of West Sussex and South East Hampshire (OS Map 181)

Meteorological Office (publication due 1989) Climatological data for Agricultural Land Classification

British Geological Survey 1972 Sheet 317 (Chichester) 1 63360

Soil Survey of Great Britain 1967 Soils of the West Sussex Coastal Plain 1 25 000 (plus accompanying memoir)

Soil Survey of England and Wales 1983 Soils of South East England Sheet 6 1 250 000 (plus accompanying memoir)

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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