

AGRICULTURAL LAND CLASSIFICATION

OLDLANDS FARM, SOUTH BERSTED, BOGNOR

An Agricultural Land Classification on behalf of Mr James
Langmead

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Background

At the request of Mr James Langmead, the area of land to the north of Oldlands Farm near South Bersted was surveyed. The area requested is bounded to the west by the A29 Shripney road and largely to the south by the track leading to Oldlands Farm buildings. The eastern boundary is formed by the Barnham to Bognor railway line. As requested, a strip of c.175 metres width running parallel to the farm track was surveyed (Area A), though the area to the north of this was also included to link in with existing field boundaries (Area B).

The site was surveyed using a 110cm Dutch auger with samples being taken at approximately 100m intervals. However, supplementary borings were taken where appropriate in areas of soil complexity in order to correctly establish the boundary between grades.

Land use

At the time of survey (December 1988), the majority of the site was under cereal cultivation, with grassland occupying much of the lower lying land at the east of the site.

Physical factors affecting land quality

Relief

The majority of the site lies at approximately 4m OD, though the land under grass at the east of the site lies at a slightly lower level. Gradient was not a significant factor affecting land quality at this site.

Climate

The average annual rainfall for this area is approximately 744mm. The average length of growing season is c.295 days/annum and the area is not believed to suffer from frost or exposure. Soils are at field capacity for 151 days/annum. The median accumulated temperature above 0 degrees C for January to June is 1545 day degrees.

Geology

British Geological Survey sheet 332 shows the majority of the site to be underlain by Upper Cretaceous Upper Chalk, capped by Brickearth deposits from the Recent and Pleistocene. Land at the east of the site, however, coinciding with the areas of grassland, is shown to be underlain by Recent and Pleistocene Alluvium.

Soils

The Soil Survey of Great Britain "Soils of the West Sussex Coastal Plain" shows the site to belong to four soil series. Much of the west of the site is shown to belong to the Hamble series. Such soils are classified as brown earths (sols lessivés) and normally constitute some of the most versatile and productive land in the country. This series is surrounded with a skirt of the Hook series, classified as brown earths (sols lessivés) with gleying. Both series are largely coincident with the best quality agricultural land found on this site.

Along the junction of the Brickearth and Alluvium deposits a narrow band of the Park Gate series (non-calcareous gley soils) is identified. All remaining land, largely associated with the Alluvium, is shown to belong to the Arundel complex (Ground water gley soils). The Arundel complex is largely associated with the poorest quality agricultural land identified.

Field examination of the soils found them to be composed of two broad types. Group 1 occupies the majority of the higher level land, being typically composed of silt loam topsoils, generally overlying similar textures in the subsoil and commonly grading into medium silty clay loams at varying depth. Soils in group 2 generally occur on the lower level pastureland and are typically composed of medium silty clay loam topsoils overlying silty clay at quite shallow depth in the subsoil. Where agricultural limitations exist, profiles are chiefly limited by their drainage status.

Agricultural Land Classification

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

Grade 1

This grade is dominant on the higher level land at the west of the site. Profiles are typically composed of silt loam topsoils, generally overlying similar textures in the subsoil and commonly grading into medium silty clay loams at varying depth. Profiles in this grade fall into soil wetness class 1, which combined with their topsoil texture in this range of field capacity days, has resulted in their allocation to grade 1 agricultural land.

Grade 3b

Land in this grade occupies the majority of the lower lying land at the east of the site, though does extend westwards forming a fringe around Oldlands Farm and immediately west of the ditch running north from the farm. Profiles are typically composed of medium silty clay loam topsoils overlying silty clay at quite shallow depth. However, on the area of this grade immediately around the farm buildings, profiles are typically composed of silt loam or medium silty clay loam topsoils overlying medium silty clay loam in the subsoil.

Profiles in this grade fall into soil wetness class 4, the result of poor structural conditions accompanied by features of wetness at quite shallow depth in the subsoil. On the land around the farm buildings the poor structural conditions are probably partly due to former disturbance. This wetness class, when combined with the topsoil textures present in this range of field capacity days, has resulted in their allocation to grade 3b agricultural land on the grounds of relatively difficult workability.

Areas of grades

1) Area A

Total area	8.7ha
Agricultural buildings	0.33ha
Grade 1	4.49ha (54% total agric)
Grade 3b	3.88ha (46% total agric)

Total area of agricultural land (Area A) 8.37ha

2) Total area surveyed (Areas A and B combined)

Total area of site	16.71ha
Agricultural buildings	0.33ha
Grade 1	10.52ha (64% total agric)
Grade 3b	5.86ha (36% total agric)

Total area of agricultural land (Areas A and B combined) 16.38ha

References

MAFF 1988 Agricultural Land Classification of England and Wales
(Revised guidelines for 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 1975, Sheet 332 (Bognor) 1:50 000

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.

