

Report of the MAFF Agricultural Land Classification Survey (1988) - Newbold Manor Farm, Barton-under-Needwood (1988 (2) application)

1. **Summary:**

The land has been classified following the Agricultural Land Classification of England and Wales - revised guidelines and criteria for grading the quality of agricultural land (MAFF, 1988). All the land (2.3 ha) has been classified as sub-grade 3b (Grid reference SK201193).

2. **Climatic Limitations:**

The main parameters used in the assessment of the climatic limitations are average annual rainfall (AAR), as a measure of overall wetness and accumulated temperature (ATO), as a measure of the relative warmth of the locality. The figures of AAR and ATO indicate that there are no climatic limitations on this site.

3. **Site Limitations:**

The assessment of site factors is primarily concerned at the way in which topography influences the use of agricultural machinery and hence the cropping potential of the land. There are no site limitations affecting the use of the land.

4. **Soil Limitations:**

The main soil properties which affect the cropping potential and management requirements of land are texture, structure, depth, stoniness and chemical fertility. These may act as limitations separately, in combination or through interactions with climate or site factors. The physical limitations which result from interactions between climate, site and soil wetness, droughtiness and erosion. Soil wetness, which expresses the extent to which excess water imposes restrictions on crop growth, is the main interacting limitation affecting the grading on this site. Soil wetness is assessed in the field by identifying the depth to any slowly permeable soil horizon, which is defined in terms of soil texture, structure and gleying and relating this to the texture of the top 25cms. Combining the soil wetness class and the field capacity days (FCD) a land classification grade is arrived at. Reference will be made to this limitation in Section 6.

5. **Agricultural Land Use:**

At the time of the survey, December 1988, part of the field had been ploughed and the remainder was cereal stubble.

6. **Agricultural Land Quality (Appendix 1):**

All the land has been classified as sub-grade 3b. The soil has either a clay loam texture overlying clay at depths of between 15 and 28cms or clay extending from the surface to at least 100cms. Observations of gleying and depth to the slowly permeable layer combined with a field capacity day figure of 146 indicate wetness class IV and grade 3b.

Soil wetness is the main limitation to the agricultural use of this land.

**Resource Planning Group
January 1989**

**NOTE OF SOIL RESOURCES FOR LAND AT NEWBOLD MANOR FARM, BARTON-UNDER-NEEDWOOD
(APPLICATION 1988 (2))**

Following the Agricultural Land Classification Survey of land at Newbold Manor Farm (Grid Ref SK201193) soils of a similar texture have been grouped together in soil units.

Two soil units are identified, the first being predominantly clay over loamy sand and sand depth and the second one being clay to depth. For each unit a representative soil pit was dug to examine the physical characteristics such as structure.

Unit I

At the eastern field boundary the soil has a clay texture extending to 40 cm and overlies sand with pockets of loamy sand present. The topsoil, dark greyish brown in colour, has a moderately developed medium angular blocky structure. The soil is gleyed from the surface and is moderately porous. Few stones are present above 40cm, although a stony layer is present just below this depth.

Below 40cm the soil has a sand texture with pockets of loamy sand, and becomes grey with depth. The soil has a single grain structure, is very porous and there are fewer stones with depth. Below 40cm the stone content was assessed at being no more than 15%. Plant roots are common in the top 40cm, with occasional ones below this depth.

Unit II

This unit covers most of the site.

Soil has either heavy clay loam texture or clay texture extending to depth. From soil pit observations the clay texture, being dark greyish brown in colour and with abundant ochreous mottles, extends to 25cm. The soil has a moderately developed medium angular blocky structure and is very porous with no stones present. Between 25 and 35 cm the soil colour becomes light brownish grey with further signs of gleying. The structure becomes massive, breaking down into medium angular blocks and the soil is very porous. Below 35cm the soil becomes grey in colour. Numerous plant roots are found in the top 35cm becoming fewer with depth. There was evidence of earthworm activity in the profile.

RESOURCE PLANNING GROUP
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