

AGRICULTURAL LAND CLASSIFICATION  
FOSS FARM, WILBERFOSS, YORK

LAND USED FOR TURF PRODUCTION AND STRIPPING

ADAS  
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Introduction

The site is located around National Grid Reference SE 745511, north of the A1079(T) near the village of Wilberfoss, about 14 km east of York. It covers an area of approximately 30.7 hectares.

Survey work was carried out in April 1989 when soils were examined to a depth of 1 metre using a hand auger at points predetermined by the National Grid. The density of borings was approximately one per hectare. Land quality assessments were made using the revised guidelines published by MAFF in 1988.

All of the land is under, or has recently been stripped of high quality lawn turf, except for the detached field north west of Foss Farm. This is in arable use at present, but will be sown to turf in the future. It is intended to produce turf continuously from the site for several years. The long term effect on land quality of removing small amounts of topsoil along with the turf is considered below.

Climate

Mean annual rainfall in the area is approximately 640 mm (25.2 inches). Accumulated temperature above 0°C (January to June) is 1387°C and the land is at field capacity for approximately 148 days each year. Although these figures indicate that there is no overall climatic limitation on ALC grade, soil moisture deficits are large in this area and droughtiness will be slightly limiting on light sandy soils.

Relief

The site is virtually level at an altitude of approximately 12 m a.o.d.

## Geology and Soils

Soils over most of the site are formed on post glacial fine sand (blowing sand) which forms a cover a metre or so in thickness over the underlying lacustrine clay. Clay occurs at or close to the surface only in the detached part of the site north west of Foss Farm.

Topsoils are generally of loamy fine sand passing into similar or lighter subsoils. Heavier land, consisting of medium clay loam topsoils over slowly permeable heavy clay loam and clay subsoils, occurs only in the southern part of the detached field north west of Foss Farm.

## Drainage

The sandy soils contain no slowly permeable layer and thus fall within Wetness Class I. The heavier textured soils north west of Foss Farm, however, are slowly permeable below about 35 cm depth and meet the criteria for Wetness Class IV.

## AGRICULTURAL LAND CLASSIFICATION

Grade	Area (ha)	Percentage of total
3a	29.5	96%
3b	<u>1.2</u>	<u>4%</u>
Total	30.7	100%

### Subgrade 3a

This grade is dominant and consists mainly of freely drained (Wetness Class I) loamy fine sand topsoils over similar or lighter subsoils.

Soils of this type are subject to wind erosion (blowing) in early spring as well as slight summer droughtiness and they are limited to subgrade 3a for these reasons.

### Subgrade 3b

To the north west of Foss Farm the post glacial sand cover is patchy and the underlying lacustrine clay occurs at the surface in places. The resulting heavier textured soils are subject to a significant soil wetness limitation which downgrade the south eastern part of the detached field to 3b.

### THE LONG TERM EFFECT OF FREQUENT TURF STRIPPING ON AGRICULTURAL LAND GRADE

Turf is grown and stripped from the site at intervals varying from 10 to 15 months depending on the season and demand. Each layer of turf, which is cut by special machine, is no more than about 1 cm in thickness. Most of this consists of a root mat containing relatively little soil and it would seem that stripping could be carried out for a number of years with little apparent effect on topsoil depths. Removing turf, however, will gradually lower the organic level of the soil and reduce the phosphate content. The long term effect of this will be to reduce soil fertility leaving a lighter looser soil more at risk of wind erosion. If stripping continued long enough to expose the fine sand subsoil the areas affected would be downgraded to subgrade 3b as sand surface soil is not eligible for grades higher than 3b.

Turf stripping should therefore be seen as an operation which will do little harm in the short term but which would eventually have a detrimental effect on land quality. After several years of stripping the land should be returned to permanent grass for a number of years in order to restore soil fertility.

### Reference

Revised guidelines and criteria for grading the quality of agricultural land (MAFF) 1988.

Resource Planning Group  
May 1989