

4/89

8FCS 2904

## TAUNTON LOCAL PLAN FIRST ALTERATION

## AGRICULTURAL LAND CLASSIFICATION OF ALTERNATIVE SITES

## Report of Survey

## 1. Introduction

Agricultural Land Classification surveys were carried out at 3 sites around Taunton, Somerset, in response to a statutory planning consultation. Field work was carried out during February 1989 by the Resource Planning Group, Bristol. Auger observations were carried out at each site on a 100 m grid, and 8 pits were described overall. The results of the surveys are summarised below and illustrated in the accompanying maps.

<u>Site Location</u>	<u>Grade</u>	<u>Area (ha)</u>	<u>% of Survey Area</u>
1. Staplehay	2	1.8	26
	3a	5.2	74
2. Comeytrow Manor	3a	11.9	53.4
	3b	8.3	37.2
	Non Ag	0.3	1.3
	Urgan	0.2	0.9
	Ag Bldgs	1.6	7.2
3. Norton Fitzwarren	1	14.4	90
	Non Ag	1.3	8
	Urban	0.3	2
4. Staplegrove	2	9.6	100

## 2. Climate

Climatic variables were interpolated from a 5 km grid database as follows:-

	<u>Site 1</u>	<u>Site 2</u>	<u>Site 3</u>	<u>Site 4</u>
Altitude (m)	61	61	30	30
Accumulated Temperature ( $^{\circ}$ days)	1511	1510	1545	1544
Average Annual Rainfall (mm)	863	811	788	774
Moisture Deficit, wheat (mm)	101	103	107	107
Moisture Deficit, potatoes	92	94	99	99
Field Capacity Days (days)	182	173	170	167

Accumulated temperature is a measure of the relative warmth of a locality, and average annual rainfall is a measure of the overall wetness. In combination, these two parameters determine climatic limitations. Climate was not found to be limiting at any of these sites. The other climatic variables are used for soil wetness and droughtiness assessments.

### 3. Agricultural Land Classification

#### Site 1 - Staplehay

**Grade 2:** The eastern part of the site was classified as grade 2. Soil pit No 3 is representative of this eastern area (see appendix 2 for detailed pit descriptions). The soils are deep heavy clay loams with a medium clay loam topsoil. The profile is slightly stoney throughout, the stone content increasing from approximately 4% at the surface to 7% below 20 cm. The colours are reddish, and distinct ochreous mottles occur in the subsoil, with gleying below 60 cm. No slowly permeable layer was found. A medium textured soil, gleyed at 60 cm, with no slowly permeable layer above 80 cm, and 182 field capacity days, has a wetness class of I. The combination of a medium clay loam surface texture and 182 field capacity days lead to a classification as grade 2, with soil wetness as the most limiting factor.

#### **Sub-Grade**

**3a:** The remainder of the site was classified as sub-grade 3a. Most of the area is represented by pit No 2 (see appendix 2). The soils are similar to the grade 2 soils with gleying occurring at 60 cm, but a slowly permeable layer occurs above 70 cm, leading to a wetness class of III, and hence a grade of 3a.

A small area near the southern boundary consists of an infilled depression. Here the surface stoniness (>5% stones larger than 6 cm) led to the classification of sub-grade 3a. Droughtiness is not a limitation.

#### Site 2 - Comeytrove Manor

#### **Sub-grade**

**3a:** Much of the eastern and central area of the site has been placed in this grade. Wetness is the most limiting factor in these predominantly red soils. Topsoil textures are medium clay loams which grade into heavy subsoils. Mottling is usually not evident, but gleying can be assessed by the presence of pale ped faces and common manganese. The soils typically fall into wetness class III at this FCD level (171 days) either as a result of shallow gleying in association with slowly permeable layers (SPL's) occurring around 50 cm, or no clear evidence of gleying in these red soils but with SPL's occurring above 60 cm and extending to depth.

#### **Sub-grade**

**3b:** The western and southern area of the site has been classified as 3b. Here, the topsoil textures are significantly heavier than elsewhere (heavy clay loams), and this, therefore, restricts the grade to 3b for both wetness class III and IV soils. The subsoils are again typically red clays and the final wetness class therefore depends upon the presence or absence of distinct gleying and the exact depth to an SPL (typically above 50 cm).

The isolated map unit of 3b in the east has been identified as a result of locally steep slopes. Part of the main 3b unit in the west also contains slopes in the 3b range.

### Site 3 - Norton Fitzwarren

**Grade 1:** The entire site, with the exception of 1.6 hectares of urban and non agricultural land, was classified as grade 1. The soils are deep heavy clay loams with a medium clay loam topsoil. Colours are brown with no mottling occurring above 60 cm and no gleying occurring above 100 cm. The soils are generally stone free, with a stoney layer occasionally occurring below 80 cm. The site is flat, and a small area near the eastern edge may be subjected to occasional short winter flooding. This would lead to a classification of grade 2 for that part of the site, but insufficient data is available to map it as such.

### Site 4 - Staplegrove

**Grade 2:** The entire site was classified as grade 2. Two soil pits were described (see appendix 2). The soils are deep heavy clay loams or clays, with a medium clay loam topsoil. Colours are brown to reddish. The topsoil is slightly stoney (approximately 3% stones), and a stoney layer was encountered at about 30-40 cm deep in places. Measurement of the stone content of this layer by sieving showed a content of 25% stones. The overall stone content led to a droughtiness assessment of grade 2 for pit No 1, which is considered representative of the site.

Gley characteristics occurred at most observation points at approximately 40 cm, but no slowly permeable layer was identified. This led to a wetness assessment of class I, borderline to class II. This puts the site at the grade 1/2 borderline for wetness. Overall, therefore, the site is classified as grade 2 due to droughtiness and possibly due to wetness.

TAUNTON SITE 1 - SOIL PIT DESCRIPTIONS

Pit No 3

Topsoil      0-20 cm  
 Medium clay loam  
 7.5YR3/2 dark brown  
 Slightly stoney (4%)

Subsoil 1    20-60cm  
 Heavy clay loam  
 5YR4/4 reddish brown  
 Few distinct ochreous mottles  
 7% stone content (sieve method)  
 Moderate medium subangular blocky structure; friable

Subsoil 2    60-90+ cm  
 Heavy clay loam  
 5YR5/4 reddish brown  
 Common distinct ochreous mottles and pale ped faces (gley)  
 No slowly permeable layer  
 Moderate medium subangular blocky structure; friable  
 7% stone content (assumed)

Droughtiness calculation:

AP wheat

0-20	TAV 18 stones	4%	=	35 mm	
20-50	TAV 21 stones	7%	=	59 mm	
50-120	EAV 14 stones	7%	=	92 mm	

186 mm

MD Wheat = 101

AP potatoes

0-20	TAV 18 stones	4%	=	35 mm	
20-70	TAV 21 stones	7%	=	98 mm	

134 mm

MP potatoes = 92

## TAUNTON SITE 3 - SOIL PIT DESCRIPTION

### Pit No 1

Topsoil	0-20 cm Medium clay loam 7.5YR4/2 dark brown Weak medium granular structure; very friable
Subsoil 1	20-50 cm Medium clay loam 7.5YR5/4 brown Moderate medium and coarse subangular blocky structure; friable
Subsoil 2	50-100 m Heavy clay loam 7.5YR5/4 brown Moderate medium and coarse subangular blocky structure; friable

**TAUNTON SITE 4 : SOIL PIT DESCRIPTIONS**

**Pit No 1**

Topsoil	0-25 cm Medium clay loam 7.5YR4/2 dark brown slightly stoney (3%)
Subsoil 1	25-35 cm Medium clay loam 7.5YR4/4 dark brown Weak medium subangular blocky; friable Slightly stoney (3%)
Subsoil 2	35-50 cm Medium clay loam 7.5YR5/4 brown Moderate coarse granular; friable Stoney (25% by sieving)
Subsoil 3	50-70 cm continuing Heavy clay loam 7.5YR5/4 brown Weak coarse granular; friable Stoney (35% estimated)

Droughtiness calculation:-

AP wheat

0-25	TAV 18	Stones 3%	=	44 mm	
25-35	TAV 21	Stones 3%	=	20 mm	
35-50	TAV 21	Stones 25%	=	24 mm	
50-120	EAV 10	Stones 35%	=	48 mm	
				136 mm	MD wheat = 107

AP potatoes

0-50	as for wheat	=	88 mm		
50-70	TAV 15	Stones 35%	=	22 mm	
				110 mm	MD potatoes = 99

TAUNTON SITE 4 - SOIL PIT DESCRIPTIONS

Pit No 2

Topsoil	0-20 cm Medium clay loam 7.5YR3/2 dark brown Slightly stoney
Subsoil 1	20-30 cm Heavy clay loam 7.5YR5/4 brown
Subsoil 2	30-70 cm Heavy clay loam 7.5YR4/4 brown Common distinct ochreous mottles Moderate coarse subangular blocky; friable
Subsoil 3	70-90 cm continuing Heavy clay loam 10YR5/3 brown Many distinct ochreous mottles - gleyed Moderate medium subangular blocky; friable

Wetness Class I borderline II  
Grade 1 borderline to 2

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## TAUNTON LOCAL PLAN: DRAFT FIRST ALTERATION

## ASSESSMENT OF 1987 ORIGINAL ALC SURVEY INFORMATION UNDER REVISED ALC GUIDLINES

## Pool Farm:

4/89c

this site was surveyed in 1987 with an approximate auger example density of 1 boring per 200m. The original ALC identified ~~cores~~<sup>areas</sup> of grade 2 and sub-grade 3A. In order to re-evaluate the site under the revised criteria two soil pits were examined either side of one of the main 2/3A boundaries (see attached map).

The pits confirmed the original classification. In the light of this, we see no need, given current resources and the fact that MAFF is not objecting to development, to do a more detailed re-survey of the site.

## Priorswood:

4/89d

originally surveyed in similar fashion to the Pool Farm area. A classification of sub-grade 3A resulted for the site. The soil records, however, show that the site was borderline 3A/2 but that 3A was deemed the most appropriate classification given the scale of mapping.

Subsequent discussions with representatives from Boddington's soil consultants produced an agreed statement in which MAFF recognised the site as variable (Boddington had classified part of the site as Grade 2), and that the variability was within grades 3A and 2.

In order to re-evaluate the site under the revised criteria three soil pits were examined (see attached map).

The pits confirmed the borderline nature of the land quality but that, given a close examination of stoniness, soil structure and wetness throughout the profile, the land would be more appropriately classified as Grade 2. As a result, a new map for the Priorswood site proposed in the Local Plan has been produced identifying the site as Grade 2.

This decision may have a knock-on effect for adjacent areas east of Nerrols Farm which were also classified as 3A in 1987. Given current resources MAFF does not intend to re-survey this area (or dig soil pits) because, at present, the area is outside the Local Plan. However, any future applications on this site would necessitate MAFF re-assessing its original classification before possible objection to development.

## Monkton Heathfield:

this ~~side~~<sup>site</sup> was classified originally as 3A. MAFF wished to confirm this classification by digging one soil pit but was refused permission for access by the farmer. In the light of this refusal, MAFF has not been able to re-assess its position in the field and would therefore presume that there is no significant difference between original and revised classifications. The land is, therefore, best and most versatile.