

ASSESSING THE SOIL AT THE CEREAALS EVENT



The topsoil here at Bygrave Woods is a clay loam soil. The field has a predominantly combinable crop rotation with grass included, in part, due to its use as an event site.

2023: Winter wheat 2022: Grass 2021: Oilseed rape 2020: Winter wheat

Over the past four years the field has received three applications of poultry manure (6 t/ha), applied before the combinable crops.

The soil sits on top of chalk, formed around 100 million years ago during the Cretaceous period from marine life settling on an ancient sea floor. While chalk often provides relatively free-draining soil, suitable for cropping, it can also lead to high pH and calcium content, posing a risk of nutrient lock-up.

Topsoil sample analysis results

Nutrients and soil organic matter

P, K, and Mg levels are all good (index 2s or 3s), thanks to repeated manure applications, which will help buffer the effect on accessibility from a high pH (8.1) and calcium content (3,702 ppm) (Figure 1).

Soil organic matter content is 2.6%, slightly below target levels for this soil type and region. However, the inclusion of grass and repeated applications of manures should help maintain and increase organic matter over time.

Earthworm activity

Earthworm counts are below the benchmark of 9 per spadeful of soil. However, earthworm counts can be variable and should be repeated over several seasons, ideally in moist, warm soils at the start of autumn. Can you see evidence of earthworm activity in the Soil Hole?

Soil structure

The Visual Evaluation of Soil Structure (VESS) score (Figure 2) shows good soil structure. The inclusion of grass with fibrous root systems and regular applications of manure helps support good soil structure. Other practices including cover cropping, appropriate cultivations and avoiding working the soil in sub optimal conditions all help maintain a good soil structure. Can you see any differences in the roots of the plants growing in the soil hole?

Figure 1. AHDB Soil Health Scorecard for Bygrave Woods, sampled in May 2024. Broad spectrum soil health report carried out by Lancrop Laboratories

Physical	Chemical				Biology		
	VESS	pH	P (mg/l)	K (mg/l)	Mg (mg/l)	SOM (%)	Earthworm count (20 cm spade)
	1.6	8.1	28	208	98	2.6	3

■ = Investigate
 ■ = Review
 ■ = Continue rotational monitoring

Figure 2. Visual Evaluation of Soil Structure (VESS) soil profile

