

P2007349: Assessment and analysis at AHDB Strategic Cereal Farms

Strategic Cereal Farm West: Work package 10 – Repeat baselining

10.1 Trial background

In March 2019, in the first year of the Strategic Cereal Farm West project, topsoil properties were assessed and results were compared to the draft Soil Biology and Soil Health Partnership soil health scorecard.

Fields were divided into soil management zones according to the underlying soil variability identified using the farm soil texture maps. Samples were taken from with each zone. The bulked samples were analysed for pH, extractable P, K & Mg, organic matter, respiration and potentially mineralisable N (PMN) to quantify the chemical status and microbial activity of the soils. At each sampling location, a soil pit (c. 20 x 20 x 25cm deep) was dug for Visual Assessment of Soil Structure (VESS assessment) and earthworm counts and bulk density at 5-10cm was determined by taking an intact soil core.

We would like to repeat the assessments on three fields for harvest 2021.

Aim: To quantify the chemical, physical and biological properties of the soil.

10.2 Trial design – multiple fields

Two field have been selected for repeat baselining, specifically Field 16 (Figure 10.1a) and Field 49 (Figure 10.1b). The zones in Figure 10.1 refer to the soil type identified using farm soil texture maps.

Field 16 is clay soil (42% clay zone 1; 66% clay zone 2). In Field 49 (Figure 10.1b), zone 1 is a sandy clay loam (25% clay), and zone 2 is a sandy clay loam (21% clay).

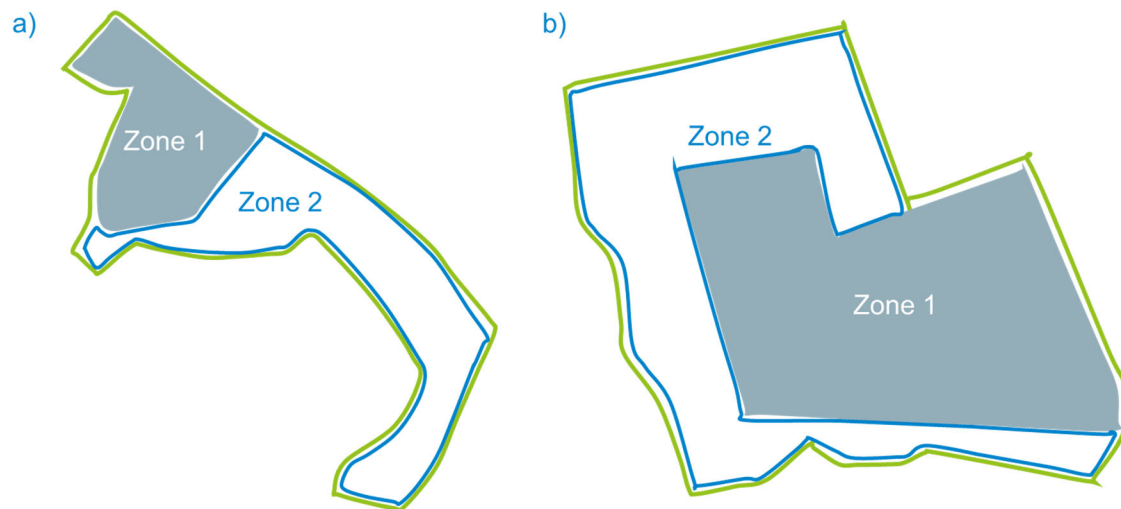


Figure 10.1 Soil type in a) Field 16 and b) Field 49 at Strategic Cereal Farm West

10.3 Assessments

Topsoil sample (0-15 cm) analysed for pH, extractable P, K & Mg, organic matter, respiration and potentially mineralisable N (PMN). At each sampling location, complete a soil pit (c. 20 x 20 x 25cm deep) dug for Visual Assessment of Soil Structure (VESS assessment), earthworm counts and bulk density at 5-10cm.