

# THE IMPACT OF MANAGEMENT PRACTICES ON SOIL HEALTH

The AHDB Farm Excellence platform features a network of inspirational farmers who open their doors to others to learn, share and create new ideas. This helps farmers and growers drive innovation and increase productivity. At AHDB Strategic Cereal Farm South, the W heatsheaf Farming Company's David Miller, has been implementing a range of regenerative management practices for the past 10 years. Regenerative agriculture is characterised by reduced intensity cultivation (usually no till) and other management strategies, such as the use of cover crops and targeted inputs.

The AHDB Strategic Cereal Farm South has recently taken on some new land that has been farmed conventionally. On behalf of AHDB, NIAB is monitoring the differences between the farm's two differing crop management systems in terms of soil health and impacts on crop nutritional value.

Visual Evaluation of Soil Structure (VESS) scores recorded in three fields managed using regenerative principles (70 Acres – rye, Old Park – cover crop, Rye Furlong – cover crop) compared with a cover crop in a field which was previously conventionally managed (Typhrees) (Figure 1).

NIAB has established a soil monitoring programme across the farm to investigate the factors influencing soil health. In the first year, the Soil Health Scorecard, developed by the AHDB/BBRO Soil Biology and Soil Health Partnership, was used to establish benchmarks for on-farm monitoring (Figure 2).

**Figure 1. VESS scores across AHDB's Strategic Farm South. 70 Acres (rye), Old Park (cover crop) and Rye Furlong (cover crop) have been managed under regenerative agriculture practices for the past 10 years. Until this year, Typhrees (cover crop) had been managed under conventional practices and achieved a poorer VESS score**



**Figure 2. Soil Health Scorecard for monitored fields at AHDB Strategic Cereal Farm South. Soils are naturally calcareous with high pH and low natural levels of Mg. Different field histories and management as well as differences in soil texture affect soil physical, chemical and biological properties**

Field name	Physical		Chemical				Biological			
	Texture	VESS	pH	p	k	Mg	Earthworms	SOM %	Microbial activity	
									PMN	CO <sub>2</sub> burst
Big Grange	Medium – stony	3	7.5	38	222	65	5	3.2	103	154
Ashen Grove	Medium – stony	1	7.8	28	185	41	5	4.0	80	119
Piggery	Light silt – stony	1	7.7	87	296	50	6	5.2	92	137
Waltham Marks	Light silt – stony	1	7.8	37	147	43	7	4.7	78	119

■ = Investigate    
 ■ = Review    
 ■ = Continue rotational monitoring