



Practical solutions to unlock your soils full potential

growing through innovation

# Agrovista **Soil Health**

Healthy soils are essential for human survival. Not only do they support plant and animal production, but they also play a major role in shaping our planet.

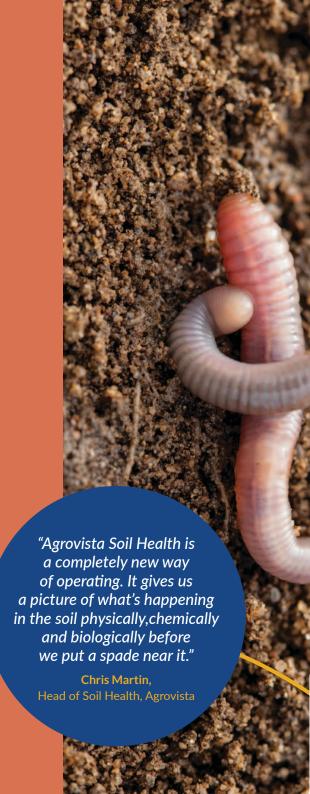
They can absorb rainwater acting like a buffer against both floods and droughts. They are the living upper part of the earth's crust and play an integral part of the element cycles.

Fundamentally soil is the ultimate digestive system, decomposing all that lived and recycling it to enable new life.

However, soils are facing unprecedented pressures, as a result of climate change, population growth, pesticide resistance, competitive commodity markets and the need to balance production whilst being sympathetic to the environment.

According to UK Government figures up to 2.9 million tonnes of topsoil are estimated to be lost to water and wind erosion annually in the UK.

You only have to look at the height of an old village church yard with centuries of undisturbed soil to see how much higher it lies than surrounding farmland to see that whilst this sheet erosion appears to be insignificant on a yearly basis, over a generation it soon becomes very significant.





Fortunately, nature is resilient, and we can with care and skill regenerate and restore our soils to health. Such soils are essential for future crop and livestock production, farm profitability and the long-term sustainability of farming.

Agrovista's comprehensive soil health report is designed to help growers focus on all aspects of soil health and provide the chemical, physical and biological solutions necessary to manage soils for the benefit of farm profitability and soil stability.

Some of the key focus areas are demonstrated in the following diagram.

- Measure and maintain correct pH
- Measure, understand and maintain correct nutrient balance
- Apply nutrients at the right time and place
- Maximise use of 'free' nutrients

- Measure and monitor and influence soil biology
- Drive across and move soil only when you have to
- Capture all available sunlight - no bare ground
- Feed soils with appropriate organic matter and wide diversity of plants

Chemical

**Biological** 

- Understand soil textures and capabilities
- Have a look use Precision to target specific areas
- Understand lands limits to trafficking/ workability
- Maximise water use efficiency drainage / irrigation etc
- Maintain natural structure move soil only when you have to
- Remove compaction and open porosity using as little metal as possible

### **Physical**

#### **Fixed Site Factors:**

- Climate
- Topography
- Geology
- Hydrology

### Step 1 Data collection

Understanding why your soils are performing the way they are



Soil Variation
Scanning

Satelite Biomass Imagery Imagery throughout the season combined with yield data Decision Support team will over lay all the data to highlight areas to target

### **Agrovista Decision Support**

Helping you make the right decisions for you and your farm

## agrovista decision support

### Soil Variation Scanning

Soil variation scanning is the entry level soil scan offer from Agrovista, offering some very useful information at a competitive cost.

#### Service use:

- Variable rate seed
- Slug pellet zones
- Nutrient sampling zones (soil sampling not included).

Soil variation scanning uses one of two types of technology – electromagnetic induction (EM38 mk2) or electroconductivity. Both services create the same variation map.

The operator drives up and down the field parallel to tramlines. In a 24m tramline system they will travel at 12m intervals and in a 36m system at 18m, avoiding travelling on tramlines.

Good soil moisture levels are required to capture the best data and each field must be scanned all at once and not across different days.

### **Biomass Imagery**

#### Service use:

- Variable rate nitrogen
- Intelligent crop walking

Satellite images provide us with NDVI images that indicate how photosynthetic a crop is. To receive biomass images, we need field locations.

Once set up on the system, view dates need to be requested.

For variable rate nitrogen we would use the newest cloudless image possible, we would then require information on the nominal rate to be applied and a tolerance to work to. Common variance would be 10-20%.

We will continue to run satelite imagery throughout the season at key growth stages.

### Step 2 Soil health analysis

Four options - Bronze, Silver, Gold or Platinum

### Bronze

#### Basic soil test

 Minimum crop assurance requirement

### Silver

### Broad spectrum soil health test

 Full nutritional, physical & biological soil analysis

### Gold

### Broad spectrum soil health test and practical interpretation

 Complete nutritional, physical and biological soil analysis and detailed report providing practical solutions

### **Platinum**

### Comprehensive whole farm soil health report

- Comprehensive physical, biological and chemical soil analysis
- Farm soil potential investigation focussing on drainage, rotation and weed issues
- Visual evaluation of soil structure including aggregate, size, shape and distribution analysis
- Measurement of soil infiltration
- Measurement of soil stability
- Evaluation of existing farm machinery and its interface with the soil
- Detailed report including practical solutions to help maintain and improve soil health





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