



We build ecology, profitability and beauty
on farms around the world

soils.vidacycle.com



Soils Advisor:
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Visual Evaluation Soil Structure (VESS)



Rhizosheath Coverage



Earthworm Count



Infiltration Rate



% Broadleaf, Grasses, Undesirables



Slake Test

Soilmentor

Learn what healthy soils and flourishing biodiversity look like on your land.

Understand changes on a plot of land above & below ground, make informed decisions and keep everyone in the loop.

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Dung Beetle Protocols



3.4 Dung beetle count



3.5 Dung quality



3.6 Time taken for dung to break down

Earthworm Counter

Average by management

Cropping

12

Grassland

8

Unknown

4

How do my fields compare with UK benchmarks?

We use the [AHDB benchmarks](#) to show where your fields stand. Hover over a dot to see which field is which!

Cropping



Grassland



Biodiversity Indicator

Biodiversity recorded across the farm



Top species

Most frequently spotted species

Name	Sightings	Last seen	Last seen in field
Red kite	2	25 Oct 2019	Withy Pump
Bird (other)	2	18 Oct 2019	Barn Field
Muntjac	1	11 Oct 2019	Withy Pump
Swallow	1	11 Oct 2019	Withy Pump
Wood pigeon	1	11 Oct 2019	Withy Pump

Number of species spotted

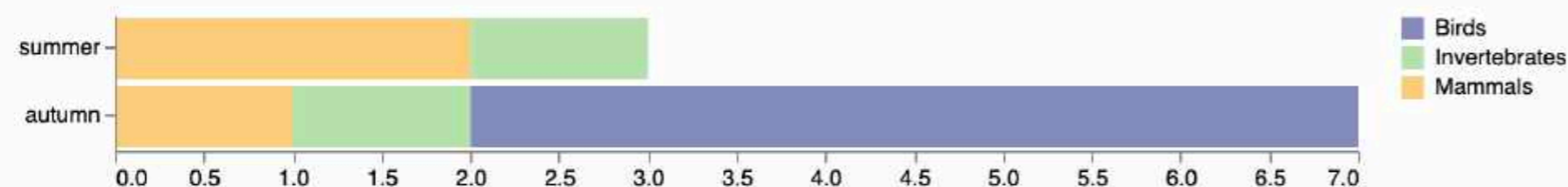
Per field



Least frequently spotted species

Name	Sightings	Last seen	Last seen in field
Hare	1	13 Sep 2019	Withy Pump
Dragonfly	1	13 Sep 2019	Withy Pump
Field vole	1	13 Sep 2019	Withy Pump
Kestrel	1	04 Oct 2019	Withy Pump
Crane fly	1	11 Oct 2019	Withy Pump

By season



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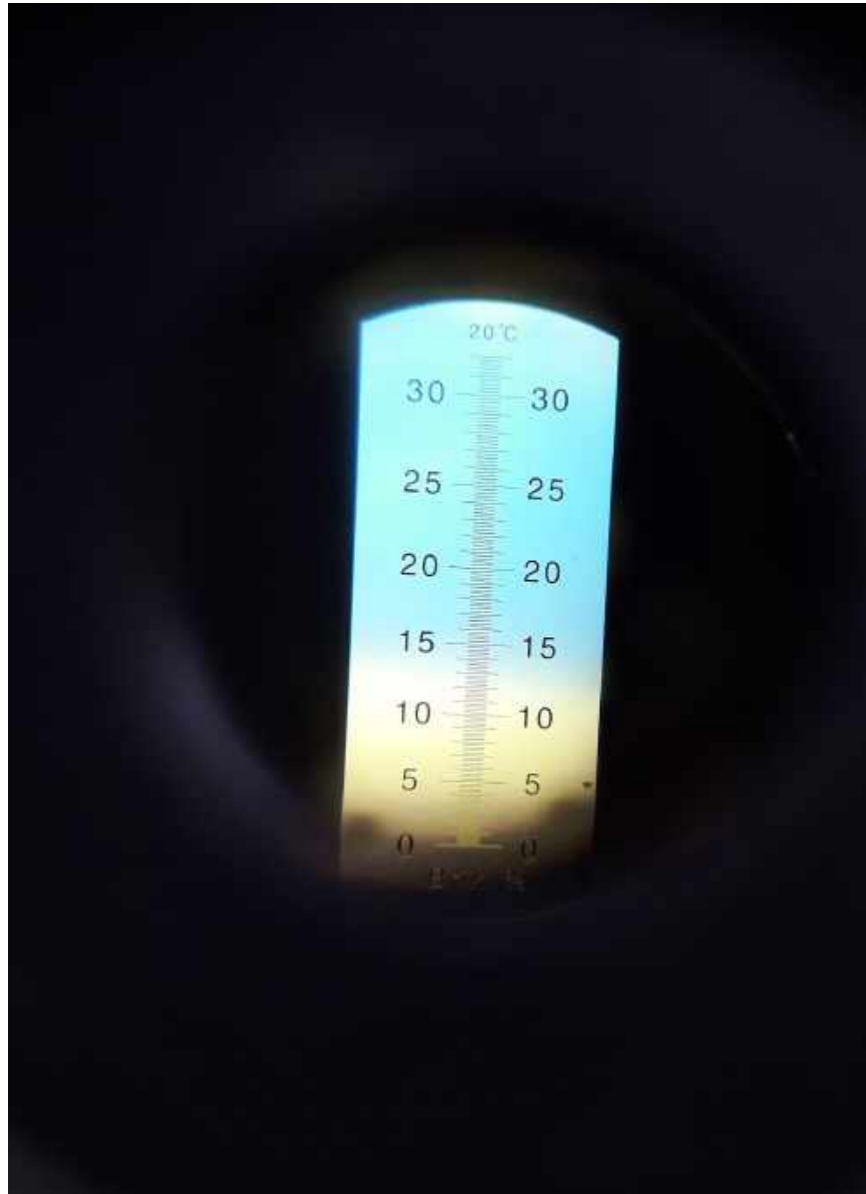




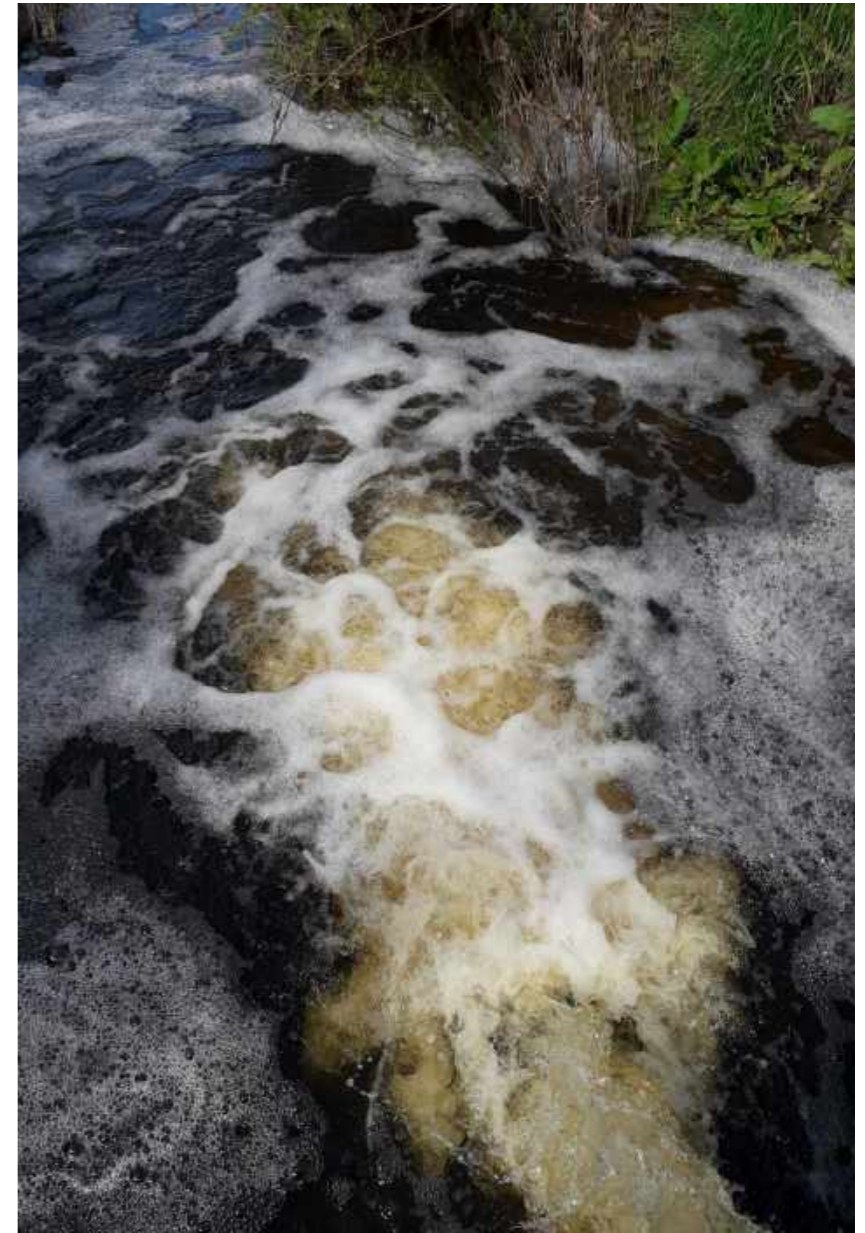
PASTORAL
COLLECTIVE



PASTORAL
COLLECTIVE



PASTORAL
COLLECTIVE



PASTORAL
COLLECTIVE

All land is
unique

May have similar
constraints

But not the
same field by
field or even
within a field



Soil type sets inherent limits
to physical properties
KNOW, MEASURE

Management modifies
properties
TAKE INFORMED ACTION

Picture from Kubiena (1953); Soils of Europe, Murby and Co, London

GREATSOILS

*Example of the new framework for OM – under evaluation –
see Report of P2 of the SBSH Partnership for further tables and more detail*

England - Cropping - low rainfall = Eastern England

LOI %	Light	Medium	Heavy
<1			
1 - 2			
2 - 3	Target		
3 - 4	High	Target	
4 - 5	High	Target	Target
5 - 6	High	High	Target
6 - 7		High	High
7 - 9		High	High
> 9			High

Testing the 'scorecard' – long-term OM additions experiment

Samples taken October 2017, Harper Adams,
2 year G/C ley before spraying & cultivation for WW in 2018

Attribute	Control	FYM (23yrs)	Slurry (23 yrs)	Green compost (13 yrs)	Green/food compost (6 yrs)	Food-based digestate (9 yrs)	<i>P</i>
pH	6.4	7.0	6.4	7.0	6.2	6.5	<0.001
Ext. P (mg/l)	56	73	53	60	59	65	<0.05
Ext. K (mg/l)	80	311	194	187	140	167	<0.001
Ext. Mg (mg/l)	44	87	75	63	66	48	<0.001
OM (%)	3.0	4.1	3.6	4.0	3.7	3.4	<0.01
Bulk density (g/cm ³)	1.40	1.34	1.43	1.29	1.46	1.43	NS
VESS score	1.2	1.4	1.3	1.1	1.3	1.5	NS
PMN (mg/kg)	22.9	90.2	23.8	43.1	37.7	42.5	<0.01


**Investigate
urgently**


**Investigate
further**


**Continue to
monitor**

Testing the 'scorecard' – on-farm sampling Cumbria grazing group, October 2019

		Physical	Chemical				Biological			Other	
		VESS	pH	P	K	Mg	Earthworms	OM	PMN	Ca	Na
Soil texture class											
Grassland - pp	Light	2	5.9	9.8	125	54	10.2	6.8	118.0	905	15
Grassland - pp	Light	2	6.3	7.2	102	71	14.3	5.5	59.2	1035	17
Grassland - pp	Light	2	6.5	5	50	158	4.3	7.3	61.2	855	10.5
Grassland - pp	Medium	2	6	3.6	27	28	2.0	8.3	54.9	756	9
Grassland - pp	Medium	2	5.2	5	59	46	1.7	14.9	138.6	410	20.5
Grassland - pp	Medium	4	5.8	10.2	44	34	1.3	11.3	119.5	725	5.5


Investigate
urgently


Investigate
further


Continue to
monitor

Same Soil Type??



Block, Cracked, Pale



Dark Brown

Same Soil Type – Yes



Arable



Grass Margin

Key Insights

- *Management affects soil structure*
- *Observation is the root of it*

Observations b4 Conclusions

- *Beware of jumping to conclusions*
 - That's farming, end of conversation
- *We can go beyond this*
 - Soil health principles

Oxfordshire Consultancy



Arable



Lawn

Thanks

Pasture Health - Infiltration



1" = 6/25 seconds

1" = 220 seconds

Soil Health - Infiltration



1" = 7 seconds

1" = 20+ mins

Infiltration – Pasture



Standing water, across the site. Flat, hill top, Shropshire

Infiltration – Pasture



Touch dry below > 2''

Permanent Pasture



- Infiltration: Very Slow
- Not accepting water



Under Grass - Infiltration



Touch dry at 2" and below

Maximise Diversity



- Cocktail Cover Crop
 - Species: x11
 - Diversity: High
 - Seeds: Cotswold Seeds



- Grazing Rye/Vetch
 - Species: x2
 - Diversity: Low