

06 June 2018

AHDB Strategic Farm West

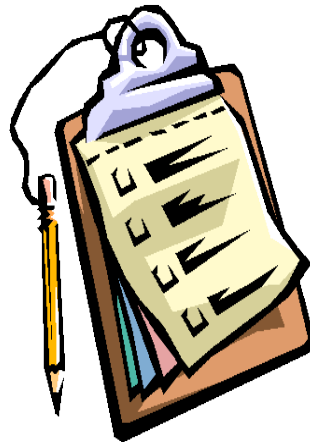
Robert Fox, Farm Manager, TI Evans & Son

Leamington Spa Monitor Farmer 2014 – 2017

Strategic Farmer West 2018 - 2024



Housekeeping





Monitor Farm debate: Is your rotation fit for the future?

- Join us on both days at Cereals (13/14 June) for our rotations debate
- Have your chance to discuss this key topic with farmers from across the whole Monitor Farm network
- Meet at 11:30 for the debate at 11:45 (finish by 12:30)
- Cereals Event stand 467
- A hog roast will be served after the event

AHDB/ADAS - Arable Connections

**Bromtrees Hall, Stoke Lacy,
Herefordshire HR7 4HZ**

19th June 2018 13:00 – 17:00

- **Early sown AHDB Recommended List trial**
- **Full AHDB Wheat Recommended List demonstration**
- **AHDB/BASF weed screen**
- **Fungicide performance for Yellow Rust and Septoria**
- **BYDV**
- **Optimum seed rates**
- **Yield Enhancement Network - Nitrogen Optiplots**
- **Cover crops**
- **Hereford Monitor Farm / FarmHerefordshire 6 plot cultivations demo**
- **Oilseed rape information stand**

Agenda

13:20	Welcome	Richard Meredith
13:25	What is a Strategic Farm?	Emily Smith
13:35	The Strategic Farm West	Rob Fox
13:50	Baselining	Richard Meredith & Rob Fox
14:00	Farm tour	All
15:30	Identifying priorities for Strategic Farm West	All
15:45	Feedback & discussion	All
16:00	Event close	

Phase 1 Monitor Farms 2014 - 2018



Leamington Spa Monitor Farm





What is a Strategic Farm, how does it differ from a Monitor Farm and why it could benefit you?

Emily Smith - Knowledge Transfer Manager Arable



Spot the difference?

2014 – Monitor Farm



2018 – Strategic Farm



Monitor Farms – Farmer Led, Farmer Driven

- Aimed at business, technical and personal development.
- 4 to 6 open meetings per year over 3 years, plus closed benchmarking sessions.

Strategic Farms - Putting research into practice

- Focus on improving arable productivity through the formal testing and demonstrating of innovative practices on a field or farm scale.
- Aim to drive the adoption of innovation.
- 3 open meetings per year over 6 years, plus closed group visits.

Rob Fox –
launched June
2018

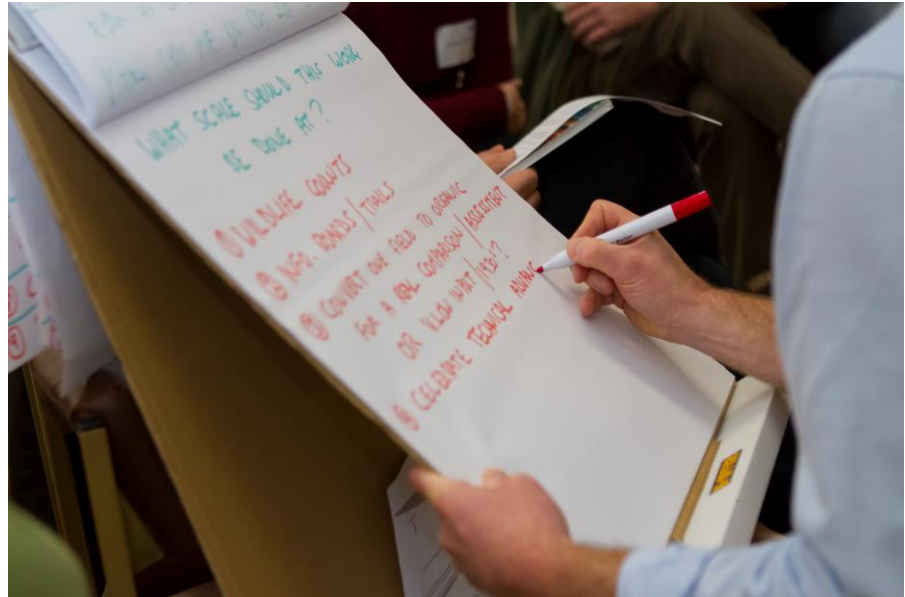


Brian Barker –
launched
November 2017



Steering Group

- Rob Fox
- Jock Willmott
- Ian Matts
- Colin Woodward
- Mark Wood
- Richard Meredith
- Emily Smith



How can we be prepared for the future?

1. Know that a change will be required. **Knowing something will force a change prepares you for a shift**, even if you don't know what the shift will be.
2. **Prepare for change**, to reduce your risk and increase your confidence.

Putting research into practice

“....it is the activity rather than biomass of soil organisms that is responsible for shaping improvements in structure....”




At the core of the programme: practical messages

FACTSHEET

GREATSOILS

How to count earthworms



Importance

Earthworms improve plant productivity, are principally responsible for engineering the soil environment and are an important food source for native birds such as the song thrush. There are up to 10 common earthworm species in agricultural soils and these can be grouped into three ecological types: epigeic, endogeic and anecic earthworms – each group having a unique and important function. Earthworms are an indicator of soil health, being impacted by pH, waterlogging, compaction, tillage, rotation and organic matter management.

How to identify earthworms

Epigeic (litter-dwelling earthworms)


- Dark red-headed worms
- Small (<8cm) in size, typically about the length of a matchstick
- Often fast-moving (most likely to escape from the worm pot!)

Sensitive to: Tillage (detrimental) and organic matter management such as manure applications (beneficial)

Roles: Carbon cycling and prey for native birds

What do earthworms tell us?

- A good presence of earthworms across a field means the benefits are likely to be widespread
- High numbers of earthworms indicate the potential for significant benefits to plant productivity
- The presence of each ecological group indicates the potential for specific earthworm benefits, such as carbon cycling, nutrient mobilisation and/or water infiltration




Endogeic (topsoil earthworms)

- Pale-coloured and green worms (not red)
- Small to medium size
- Often curl up when handled, and green worms may emit a yellow fil.
- The most common earthworm group found in arable fields

Sensitive to: Organic matter management (beneficial)

Roles: Soil aggregation and nutrient mobilisation for plants




Anecic (deep burrowing earthworms)

- Dark red or black-headed worms
- Large size (>8cm), typically similar size to a pencil
- Make deep vertical tunnels, up to 2m
- Often found below surface earthworm casts or midden residue piles
- Feed at night, foraging the soil surface around their burrow for litter
- Commonly found in grassland but often absent from ploughed fields and where there is no surface litter

Sensitive to: Tillage (detrimental) and organic matter management such as manure applications and straw return (beneficial)

Roles: Deep burrows that improve aeration, water infiltration and root development




Identifying adults and juveniles

Adult earthworms have a clearly developed saddle (reproductive ring) and juveniles do not.

You may need to rinse worms with water to determine if a saddle is present.

Size is not a good indicator of maturity as adult earthworms typically range in size from 2cm to 15cm, depending on species.



Assessing earthworm populations in just 60 minutes

When is it best to count earthworms?
Spring and autumn are the best times to carry out earthworm assessments.

Timing the sampling after warm, wet conditions often provides the best earthworm population estimates.

How to assess the earthworm populations
Tools: Spade, pot, bottle of water, mat and a record sheet available to download at ahdb.org.uk/greatsoils

Procedure: Dig 10 soil pits per field following a standard W-shape field-sampling pattern. Aim to spend five minutes hand-sorting the soil from each pit.

1

Dig out a soil pit (20cm x 20cm x 20cm) and place soil on mat

2

Hand-sort the soil, placing each whole earthworm into the pot

3

Count and record the total number of earthworms

4

Separate earthworms into adults and juveniles (see above)

5

Return juveniles to the soil pit

6

Count and record the number of each type of adult earthworm (see overleaf)

7

Return earthworms to the soil pit and backfill with soil

8

Repeat steps 1–7, until 10 soil pits per field have been assessed

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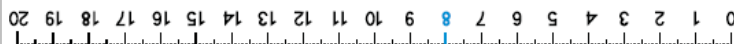
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Further information

For more information on soil management and increasing earthworm numbers, visit ahdb.org.uk/greatsoils



At the core of the programme: fully costed demonstrations



At the core of the programme: you!



Baselining

A minimum or starting point used for comparisons

Weather Station

- Rainfall
- Air temperature
- Wind speed and direction
- Soil temperature (surface and at depth)
- Soil moisture



Soil Sampling

- P index, K index, Mg index, active pH
- Boron, Manganese, Iron, Copper, Zinc, Molybdenum, Cobalt, Chloride, Sulphur
- Bulk density
- Buffer pH
- Soil organic matter (LOI)
- Organic carbon
- Biological analysis to include measures of bacteria, fungi; protozoa



Worm Activity

- Worm count
- Species mixture
- Biomass
- Score of “activity” (movement through the soil) in each field



Soil Electrical Conductivity Mapping

Soil Structure

Plant Counts and Biomass Assessments

Who am I?



- Rob Fox
- Originally from family dairy/arable farm
- HND at Seale Hayne Agricultural Collage
- Back home for 6 years
- 2 years as operator on 2500ac arable JV
- 8 years as Farm Manager at Squab Hall Farm
- AHDB Monitor Farmer 2014 – 2017
- AHDB Strategic Farmer 2018 – 2024

Squab Hall Farm

- 1000 acres arable
- 900ac cropped
- Part of 2500 acre Arable Joint Venture
- HLS Going into CSS Jan 2019
- Manager and 2 full time plus harvest casuals
- 90kw solar, looking into other renewables
- Extensive diversification in national/international removals, storage, document archiving/shredding & van hire



Squab Hall Farm

- Dairy until 1989
- Varied Soil type
 - Light to Medium Loams to very Heavy Clays
 - 15% to 65% clay
 - Wet impermeable with old drainage
- 5 year rotation
 - WW – OSR – WW - Sp. Barley - Sp. Beans
- Avg yields
 - WW 9.5t/ha – OSR 3.8t/ha – Sp. Barley 6t/ha
- Blackgrass, Heavy clays, high hp requirement



Squab Hall Farm

- Blackgrass
- Very Heavy clays
- Soils in good condition
- High HP requirement
- Very varied infield yield
 - WW Spot rates of 5.5t/ha to 15.5t/ha
 - OSR Spot rates of 1t/ha to 7.7t/ha
- Like Technology



Why did I become a Strategic Farmer?

- Share my experiences with others
- Learn from others and draw on their experiences
- Drive down costs
- Manage a better business
- Linking research to farm practice



Monitor Farm topic: Benchmarking

Cost of production 2017 (£/t)

	Feed Wheat	Spring Barley	Feed Barley	Oilseed Rape	Spring Beans
Variable Costs (excl rent & finance)	50	47	47	153	56
Fixed Costs (excl rent & finance)	57	80	71	135	131
Cost of Production (excl rent & finance)	107	128	119	289	187

Squab Hall Farm vision

- Farm must stand on its own two feet
- Must make a profit before Single Farm Payment

Don't get stuck in a rut!
Use monitor farms to help you manage your business better!!



A vibrant landscape photograph featuring a lush green field in the foreground, with a narrow path leading towards the horizon. The sun is setting or rising, creating a warm, golden glow across the sky and casting long, soft shadows. The sky is filled with scattered clouds, some of which are illuminated by the low sun. In the distance, rolling hills and a few small buildings are visible. The overall mood is peaceful and inspiring.

**‘Inspiring our farmers, growers
and industry to succeed in a
rapidly changing world’**