



The Farming Forum



Department for Environment Food & Rural Affairs



MAP OF AG



Post-Covid Knowledge exchange in agriculture: Evaluating current practice and Co-designing a digital solution to connect farmers and the AKIS &

Defra Farming Innovation Pathways project
Farm Performance Enhancement Partnerships – Farm-PEP FIP



Project 83787

www.farmpep.net

www.adas.uk

Dr Daniel Kindred Daniel.kindred@adas.co.uk

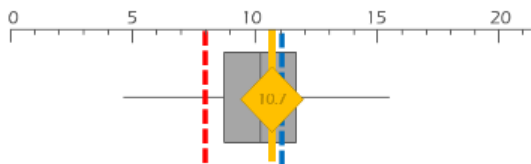
1. Introductions
2. Farmpep.net update & feedback
3. Farmpep.net engagement plans
4. Farmpep.net business model & opportunities
5. Farm-PEP FIP update & plans
6. Communication Plans
 - Cereals, Groundswell, Open Days, Norfolk show ...
7. AOB & future meetings



Innovate UK projects – supporting the YEN approach

Digital support for the YEN Family

- Collated YEN database
- Enabled data entry by YEN website
- Developed **Dynamic Benchmarking**



- Enabled initiation of YEN-Zero



November 2020- April 2021

Post-Covid Knowledge Exchange in Ag:

- KE Evaluation
- Co-designing **www.farmpep.net**
 - Knowledge Exchange platform

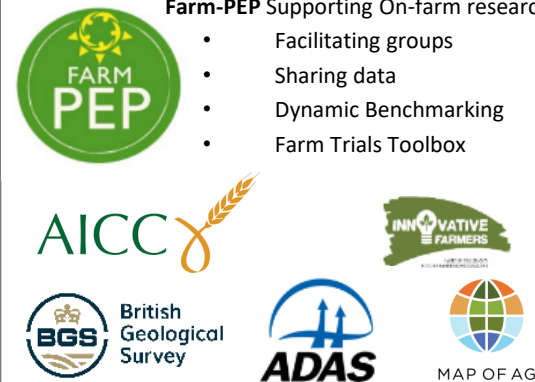


December 2020 – Feb 2022



Farm-PEP Supporting On-farm research

- Facilitating groups
- Sharing data
- Dynamic Benchmarking
- Farm Trials Toolbox



October 2021 – Sep 2023



Original Covid19 Farm-PEP Project Structure



External Steering Group

WP1 Stakeholder workshops & communications



WP2 KE Evaluation
Survey
Interviews



WP3 Farm-PEP
web solutions



WP4 Exploitation



Challenge Statement

COVID-19 has changed knowledge exchange with a significant increase in the adoption of digital tools. While online delivery offers scale and convenience, farmers and KE practitioners can be overwhelmed by content volume, fail to translate information into useful knowledge, and suffer from online fatigue. They would like to be able to...

- *Ensure information is authentic and reliable*
- *Filter out the noise and find what they want easily*
- *Choose from a variety of delivery and learning approaches*
- *Collaborate and interact effectively*
- *Engage at a level that recognises their digital skills and abilities*
- *Receive coaching and guidance for effective online delivery*
- *Work synergistically with face-to-face delivery*

...so that robust information can be translated into practice change at scale, to enable the UK agriculture sector to realise increased productivity and profitability in a sustainable way

Consultees on the web solution... >90 orgs... >300 people



ADAS
Agriculture
Agri-EPI
Agri-techE
Agri-techUK
Agri-food Charities Partnership
Agrimetrics
AHDB
AIC
AICC
Alpha Investments (Luke Halsey)
Anglia Water
APPG Science & Technology in Agriculture
Ask Valerie
Barclays Eagle Labs
BASE UK
BASF
Bayer
BASIS
BBSRC
BBRO
BGS

BOFIN (Tom Allen-Stevens)
Burleigh Dodds Publishing
Camgrain
Catchment Based Approach
CEIA
CEH
CHAP
CIEL
Conservation Evidence
Defra
Earlham Institute
Eureka / EU Farmbook
Farming Community Network
Farming Connect
Fieldmargin
FLIN
Food & Farming Futures
Forestry Commission`
FWAG
Geoff Dodson
GWCT
Groundswell

Hillsgreen
HSBC
Hartbury College
Hutchinsons
Innovation for Agriculture
Innovate UK / UKRI
Innovative Farmers
James Wallace
JP Dorgan
Julian Little
Keith Norman
KTN
Land Management 2.0
LEAF
Lincoln University
Mike Abram
National Library for Agrifood
Natural England
Nature Friendly Farming Network
NatureScot
NFU
NIAB

NRM
PGRO
Practical Farm Ideas
RAU
Richard Whitlock
Rivers Trust (Alex Adam)
Rothamsted
Satellite Application Catapult
Simon Ward
Soil Association Exchange
SRUC
Syngenta
The Farming Forum
The Greatest Online Agricultural Show
Table
The Ad Plain
TIAH
TMAF
University of Reading
Wageningen - Ask Valerie
WebinAg
What Works for Agriculture
Yara



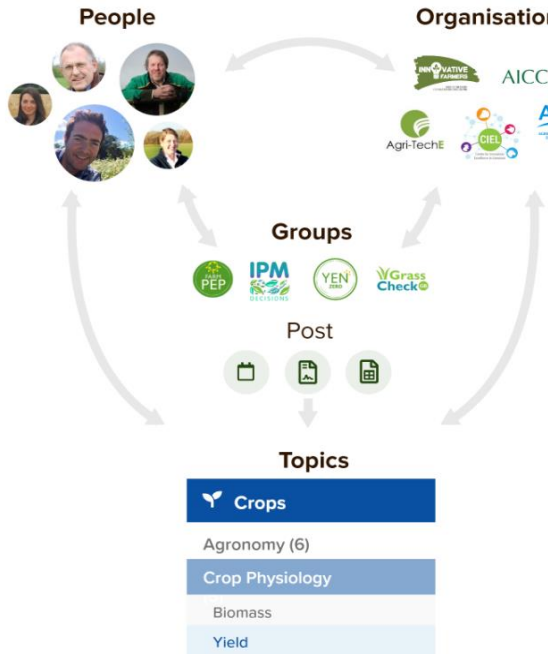
“Connecting across Agriculture”

~400 people registered so far

- >100 organisations
- ~200 Topic Pages
- ~130 Group Pages
- ~190 Posts

What do you think of it?

(Brutal honesty please!)



What is FarmPEP?

Connecting across agriculture

- “**Yellow Pages**” & **LinkedIn** for ag
- Farmers, advisors, industry, research, supply chain, policy & public
- All organisations, projects, networks ...
- Useful resources, websites, events...

Synthesised summaries of Topics

- **Wikipedia** style summaries written by Stewards
- Best Practice & ‘What Works’

Place to form groups & develop ideas

Access digital tools (data exchange, benchmarking, farm trials, carbon calculators, decision support...)



What FarmPEP is not



A discussion forum

- The Farming Forum does that

A library or repository

- National Library for Agrifood does that

A news site

- (though possibly could combine with F&FF newsletters?)

A duplicate or replacement of useful resources like AHDB, Agriculture, Farming Connect ...

- Make links & connections, not duplicates

Not really designed for threads or timelines

- More a Wikipedia style knowledge base



AGRICOLGY
SUSTAINABLE PRACTICAL FARMING

... FarmPEP supports the ecosystem

Business Model

- Site is always free to all individuals
- Ultimately Organisations pay to be on the site ... starting January 2023?
 - But only once we have proved value
 - Keep fees modest - £100 - £1000 depending on size of org
 - Clear that fees are to support the management and development of the PEP community
 - eg Enable synthesis summaries of Topics to be improved for priority areas
- Market size is >1000 orgs across agriculture
 - Looking to cover costs of ~£50k / year to employ a manager

- Seek sponsorship to draft Wikipedia style summaries by subject areas (need to be independent)
 - Charities? Tesco/Waitrose/Sainsbury's/ASDA/M&S ? Banks? WWF? Government? UKRI?
 - Water companies
 - AHDB, linking to website resources?
- Possible developments aligned to **What Works centre**
 - Could change name to suit (we've kept branding deliberately neutral)
- Proposal to Defra Farming Innovation Programme with The Farming Forum, NLA & Agtech Centres
 - Embedding AI and pushing native content ... with advertising
- Possibly monetise future newsletters of whats new on the site, with paid-for slots from BASF etc
- Future licensing of access to digital tools through the site
 - Data Exchange, Benchmarking, Farm Trials tool, Carbon Calculators...
- Other ideas?

Driving Engagement

Focusing on knowledge providers first,
rather than farmers

- ... chicken & egg

Universities, institutes, companies,
charities... open & free to all

How to get farmers engaged?

- Target key influencers
- Discussing with TAP & Hillsgreen

Focus building resources/discussion in a
few areas to create communities:

- Nutrients & fertiliser – YEN-Nutrition
- Net Zero - YEN-Zero
- Biostimulants
- Agritech
- Soil health
- ELMs – Woodland...

Communication Plans

Started to share publicly to get feedback

- twitter, LinkedIn

Ag Shows

- Cereals, Groundswell, Norfolk Show

Emails to ADAS lists, AgritechE members

- Innovative Farmers
- Food & Farming Futures
- AIC & AICC?

Press release in Summer to start targeting farmers

Do we need a proper marketing campaign?

New Innovate UK Farming Innovation Pathways project



October 2021-Sept 2023



Builds from Farm-PEP platform to enable farm-centric R&D:

- Supporting Groups of farmers, advisors, researchers and industry
- Tools to enable data sharing and 'Dynamic Benchmarking
- Tools to support on-farm trials – mapping and spatial analysis

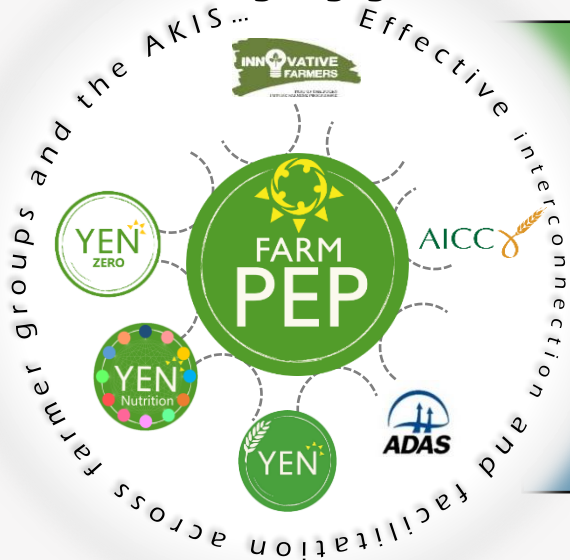
Farm-PEP – Performance Enhancement Partnerships

WP0 Project Management, liaison & communication



Innovate UK

WP1: Connecting Engaged communities



Dynamic Benchmarking
of performance metrics



WP2
Shared Metrics,
comparisons &
insights

Design & Test Decisions
Online Toolbox



British
Geological
Survey



Agronomics

WP3
Plan, manage &
analyse On-
Farm trials to
reach robust
conclusions

WP4 Exploitation & Perpetuation

Analysing & Summarising

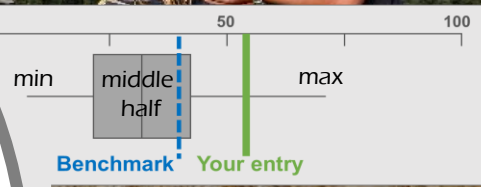
Competition & Benchmarking

Metrics

Knowledge

Growth Guides

ahdb.org.uk



FARM PEP

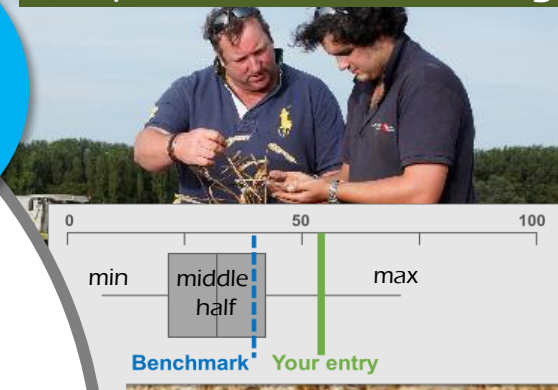
"Performance Enhancement Partnerships"

Tests

Ideas

Sharing & developing ideas

FIGs: Farm Innovation Groups
& Field Labs Multi-site Testing



1.
Knowledge



Innovate UK



www.farmpep.net

Sharing & connecting farming information and knowledge

Co-designing Knowledge Exchange web platform

Content connected by Topics

Stewarded Topic summaries

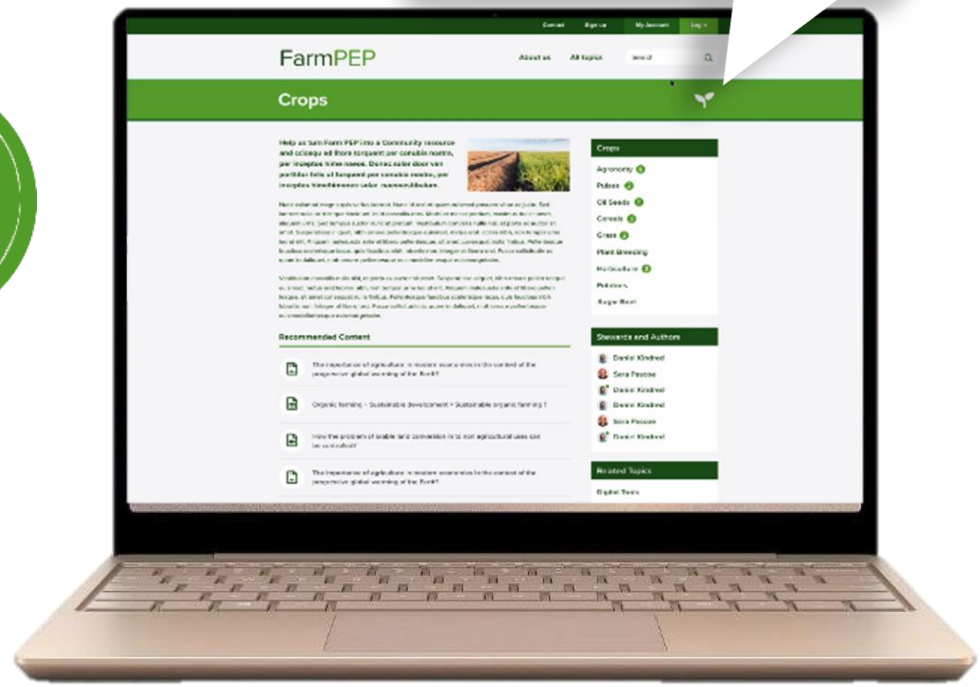
Connect Projects, People & Organisations

Launching spring 2022

-free to individuals, organisations pay

Complete the survey on line to sign-up

www.farmpep.net



2. Metrics

Sharing & Comparing Data

- Created YEN Database online
 - Accessible by YEN members via www.yen.adas.co.uk

- Direct data entry online now for
 - YEN Nutrition
 - YEN Zero



- Map of Ag Enabling sharing from Gatekeeper & Muddy Boots



The screenshot shows the 'ZEN Zero Agromonic Information' form. It includes a header with the YEN logo and navigation links (HOME, ABOUT, NEWS, NETWORKS, PROJECTS, SPONSORS, EVENTS, RESOURCES, CONTACT, JOIN, LOGIN). Below the header, there are instructions: 'Please create new fields where necessary. You can then select the new fields for the samples you wish to create. Please use the 'Save Changes' button to save the samples. You should use the 'Submit All Entries' button to submit your samples once you are happy. You will not be able to submit your samples more than once. When the samples are submitted order numbers will be created for each sample.'

The form is titled 'ZEN Zero Agromonic Information' and includes a sub-header: 'Please enter the Agromonic Information for your samples. You will need to save the changes after the data has been entered. The 'Save Changes' button will permit further edits. The 'Submit All Entries' information on the screen will not, making a request to ADAS.'

The form is divided into two main sections: 'Crop Information' and 'Field History'. The 'Crop Information' section has a table with columns for 'Field ID/Accession ID' and four 'ADAS' accession IDs (e.g., ADAS 101.1.2021, ADAS 101.1.2020, ADAS 101.1.2019, ADAS 101.1.2018). The rows include 'Crop type', 'Variety', 'Month of sowing', 'Seed rate', 'Crop yield', 'Crop residue content as % DM', 'Stem chopped or barked?', and 'Grain drying method'. The 'Field History' section has a table with columns for 'Field ID/Accession ID' and four 'ZEN' accession IDs (e.g., ZEN 101.1.2021, ZEN 101.1.2020, ZEN 101.1.2019, ZEN 101.1.2018). The rows include 'Previous crop - 1' and 'Previous crop - 2'.



2. Metrics

Dynamic Benchmarking

- Prototype developed for yield & grain nutrients – N, P, K, Mg, Mn



- Available to past YEN Members at

www.yen.adas.co.uk

- select your data & filter comparisons by region, soil type, crop type & Year

- Now developing for range of metrics & filters

- Will add 2021 data
- What metrics would you like to see?

- Try it out and feedback to us

... yen@adas.co.uk



The screenshot shows the YEN Dynamic Benchmarking web application. At the top, there is a navigation menu with links for HOME, ABOUT, NEWS, NETWORKS, PROJECTS, SPONSORS, EVENTS, RESOURCES, and CONTACT. The main heading is "YEN Dynamic Benchmarking". Below this is a placeholder text: "Lorem ipsum dolor sit amet, consectetur adipiscing elit. Praesent at sem fermentum, tincidunt urna quis, aliquet enim. Nullam molestie sapien eget augue mattis laoreet. Sed quam diam, fringilla nec nisi sit amet, tincidunt tincidunt urna. Pellentesque vestibulum arcu dignissim placerat egestas. Nunc ultrices est ante, sit amet bibendum mi placerat nec. Mauris ut ligula non velit sagittis congue eget malesuada est."

Step 1: "Select your fields to benchmark". It includes a "Show 10 entries" dropdown and a table of data. The table has columns for FARM NAME, PROJECT, YEAR, FIELD NAME, COUNTRY, and CROP. Two rows are visible, both highlighted in green.

FARM NAME	PROJECT	YEAR	FIELD NAME	COUNTRY	CROP
Andrew Bott	Cereal YEN	2017	Pit Field	England	Winter Wheat
Andrew Bott	Cereal YEN	2019	Second Langley	England	Winter Wheat

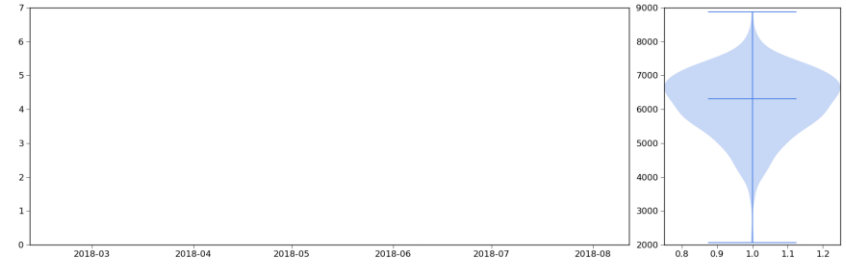
Step 2: "Filter the data to benchmark against". It includes dropdown menus for Crop Type, Soil Group, Location, and Year, and a "Get Data" button.

Step 3: "Your benchmarking results for the selected variables". It shows a box plot titled "Yield" comparing the "Pit Field" (yellow) and "Second Langley" (green) fields against the "YIELD" (orange) benchmark. The x-axis represents yield values from 0 to 18. The Pit Field and Second Langley data points are clustered around a value of 8, while the YIELD benchmark is centered around 10.



2. Metrics

Using Satellite data



■ Prof Lewis of UCL recently presented at COP26

- New UKSA project with Assimila to operationalise crop metrics from satellite data
 - Aiming to provide data to YEN 2021 entrants via Dynamic Benchmarking
 - Get involved in Crop Monitoring Club



3. Ideas

Facilitating Groups to develop & share Ideas

- Develop best practice for farmer & advisors working together in groups
- Get involved
 - Nutrition Clubs
 - Soil Carbon Clubs
- Possible opportunities for farmer-led Defra projects from June 2022



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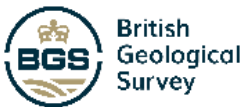
Sharing & developing ideas



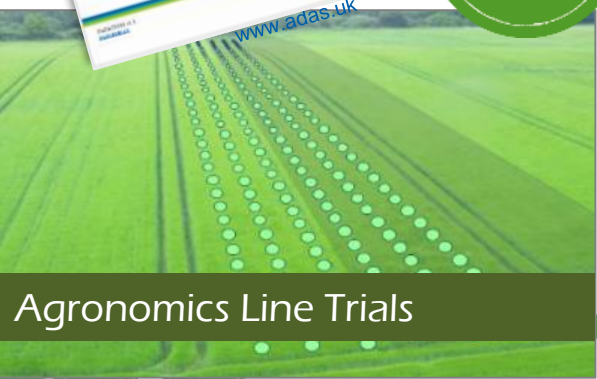
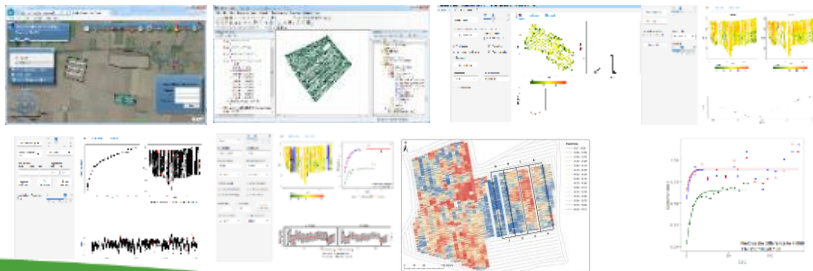
4. Tests

Rigorous on-farm testing

Agronomics



- ADAS Agronomics approach enables robust statistical analyses of on farm trials
 - now conduct over 200 Line Trials
 - ... using farmers yield map data
- Develop Farm Trials Tools to help farmers, advisors & groups set up their own trials



Agronomics Line Trials

Marchant, Rudolph, Roques, Kindred, Gillingham, Welham, Coleman & Sylvester-Bradley, 2018. Establishing the precision and robustness of farmers crop experiments. *Field Crops Research*. **230**, 31-45