

Agronomists' Induction: Session 3

Rose Riby, Arable Knowledge Exchange Manager (North East)



North East & Scotland



Chathill
Pip Robson



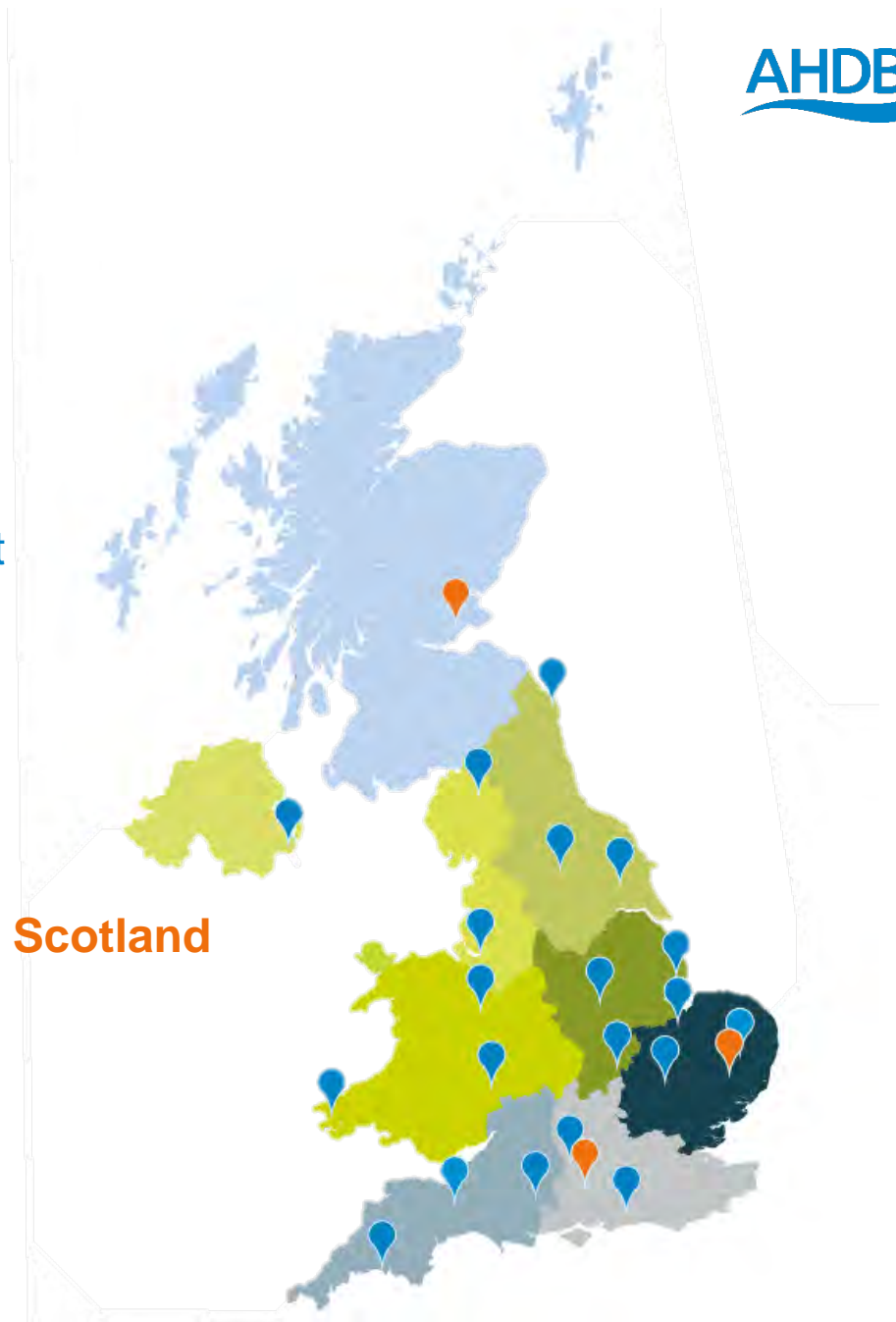
Ripon
Jonathan Fryatt



Huggate
Gary Shipley



Strategic Farm Scotland
David Aglen



Agronomists' Induction: Session 3

An introduction to BBRO

Georgina Barratt, Applied Crop Scientist, BBRO

An introduction to PGRO

Becky Howard, Research and Development Manager, PGRO

Overview of BBRO

AHBD Introduction to agronomists
26th October 2021

UK Sugar beet industry

- Around 3000 growers
- 100,000 ha of farmland (0.57% of agricultural land)
- Average yield of 70 t/ha with 16-18% sugar
- Single processor – British Sugar
- NFU sugar negotiate the price on behalf of all growers
- British Sugar and NFU sugar jointly set up BBRO



Facilities

- Office and lab facilities at Centrum building, Norwich Research Park
- Glasshouses at UEA
- Field team based at Bexwell near Downham market



Varieties and the recommended list

- BBRO is involved in testing sugar beet varieties for approval on the UK RL for sugar beet
- Traditionally the focus was on yield but disease resistance is also listed
- BBRO want to develop this further to test more traits such as virus yellows and drought resistance.



Areas of research focus

- Virus yellows
- BCN and FLN
- Herbicide strategies
- Foliar diseases
- Soil health and optimising seed bed
- Cover crops
- Drought



PhDs and KTPs

- BBRO is involved in numerous PhD studentships in collaboration with a number of institutions
- Two knowledge transfer partnership projects have also been undertaken with BBRO as the industrial partner





Attribute*	Field A; Farm 1	Field B; Farm 2	Field C; Farm 3
SOM (%)	3.4	2	2.2
pH	6.7	6.9	7.0
Ext. P (mg/l)	40.6	59.6	37.2
Ext. K (mg/l)	158	106	148
Ext. Mg (mg/l)	82	89	144
VESS score	2	2	2
Earthworms (Number/pit)	13	8	1

Investigate

Monitor

No action needed

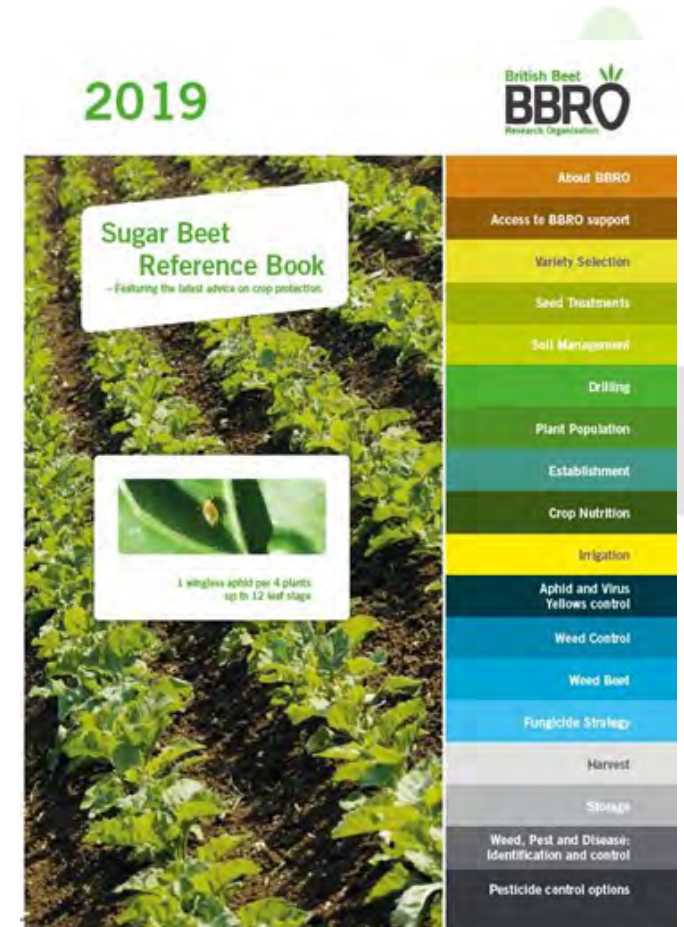
The next area of focus - Net zero

- 38% of emissions come from the on-farm production of sugar beet with **fuel**, **fertilisers** and **soil emissions** being the most significant contributors.
- Gap in knowledge of the ability of the crop to sequester carbon and the affect of retuning tops to the soil
- Improving crop husbandry though technology needs further exploration



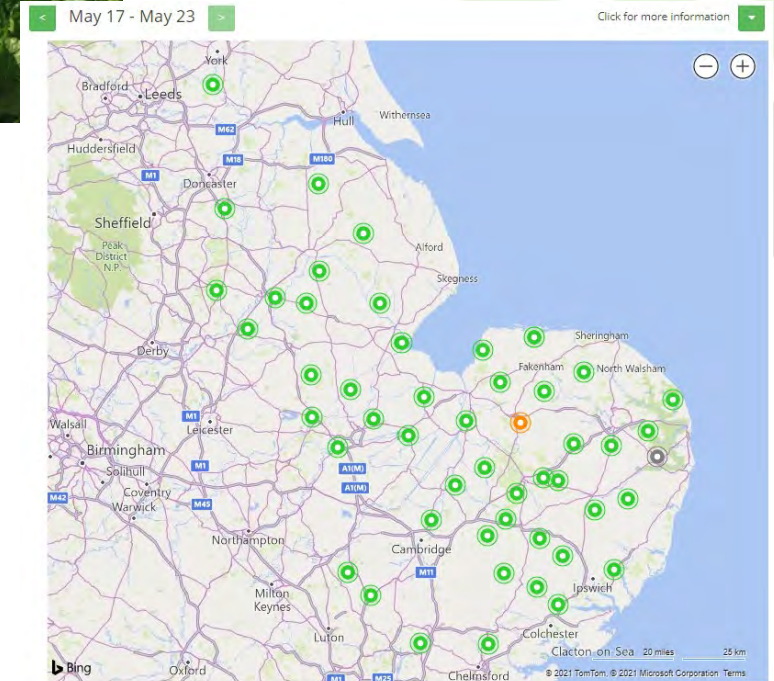
Useful resources – print and in person

- Reference guide
- Weekly bulletin
- Beet Review magazine (3x year)
- Podcast – BeetCast
- Winter technical meetings and on farm events throughout the season



Useful resources - online

- Cercospera warning map
- Yellow water pan network
- Yield benchmarking
- Beet Yield Tracker
- Publications



Useful contacts

				
<p>Dr Vicky Foster Head of BBRO vicky.foster@bbro.co.uk 07966 961504</p>	<p>Prof Mark Stevens Head of Science mark.stevens@bbro.co.uk 07712 822194</p>	<p>Dr Simon Bowen Head of Knowledge Exchange simon.bowen@bbro.co.uk 07718 422717</p>	<p>Dr Alistair Wright KTP Associate - Crop Protection alistair.wright@bbro.co.uk 07920 792249</p>	<p>Dr Georgina Barratt Applied Crop Scientist georgina.barratt@bbro.co.uk 07552402351</p>

Thank you for listening

Website: www.bbro.co.uk

Twitter: @BBRO_Beet



Introduction to PGRO

Becky Howard



Work and services



APPLIED RESEARCH
FOR GROWERS



LABORATORY
TESTING – SEED
AND SOIL



CONTRACT TRIALS
FOR VARIETY AND
EFFICACY
EVALUATION



FARM TRIALS



ADVISORY SERVICE



PLANT CLINIC



PEST MONITORING



Priorities



AGRICULTURAL PRODUCTIVITY, YIELD STABILITY and QUALITY



CROP PROTECTION and IPM/ IFM



SOIL HEALTH



CROP NUTRITION



ENVIRONMENTAL IMPACTS and CHANGE



POLICY UPDATES, PESTICIDE CHANGES and ENVIRONMENTAL REQUIREMENTS



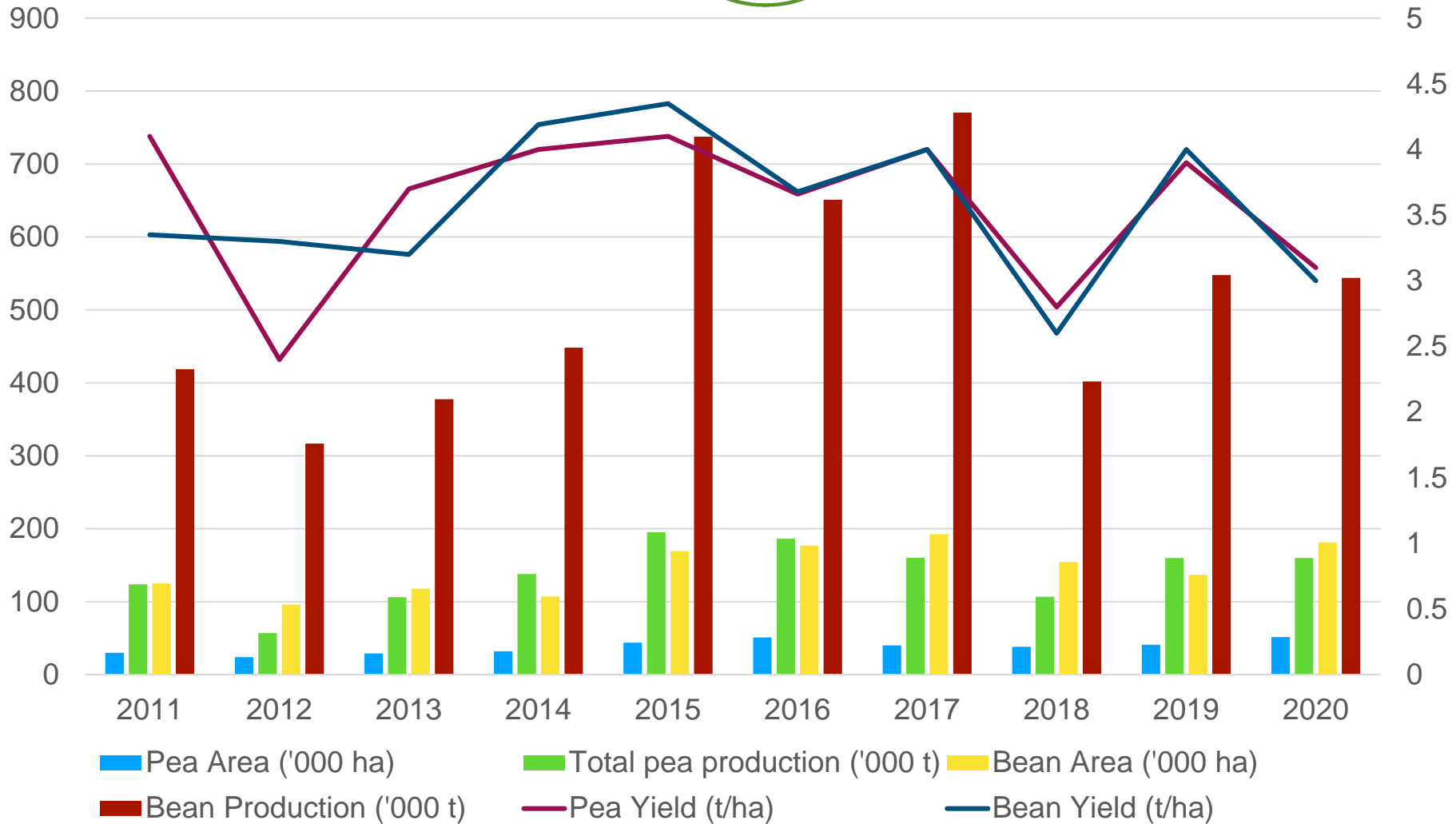
KNOWLEDGE EXCHANGE and EDUCATION



Crops



Crops



Pulses



Vegetable legumes



Rotational benefits



- Nitrogen fixing – require no N fertiliser and give N to the following crop (up to 0.8 t/ha benefit to winter cereal)
- Can improve soil structure and microbial population
- Disease break for oilseeds and cereals
- Spreads the workload
- On-farm protein for animal feed
- Opportunities for pollinators and beneficials



Biofumigant cover crops for stem and bulb nematode management



Brassica juncea (IM)
Brassica carinata (EM)
Sinapis alba (WM)
Fallow control (FC)



JOORDENS
ZADEN

RA-GT

Harper Adams
University

Trap cropping for weevil and bruchid management



EKHAGASTIFTELSEN

Weevil damage (with attractants)						Distance from trap crop		
	A	B	C	D	E		Average	
4	1.73	1.77	2.76	4.44	2.36	50m	2.61	Farm Track
3	8.67	6.91	10.23	8.88	10.72	20m	9.08	
2	17.67	16.04	18.51	20.73	22.95	10m	19.18	
1	22.79	26.76	27.84	26.92	28.63	5m	26.59	
TC	52.23	56.13	56.60	60.12	63.40	TC	57.70	

Bruchid damage (with attractants)								
	A	B	C	D	E			
4	7.00	21.46	9.73	15.19	13.58	50m	13.39	Farm Track
3	12.08	15.14	12.81	17.13	22.50	20m	15.93	
2	27.35	25.63	17.69	9.82	30.56	10m	22.21	
1	14.98	17.24	19.75	27.23	30.99	5m	22.04	
TC	44.60	38.36	35.13	45.07	51.27	TC	42.89	

Pea and bean Yield Enhancement Networks



- Bean YEN has been running since 2019
- Between 35 and 50 entries each year



- Pea YEN has been running since 2016
- Approximately 30 entries each year

- Entries are sponsored and include soil analysis for nutrition, soil rhizobia and foot rot in peas, tissue analysis and grain analysis



Thank you for listening

Any questions?

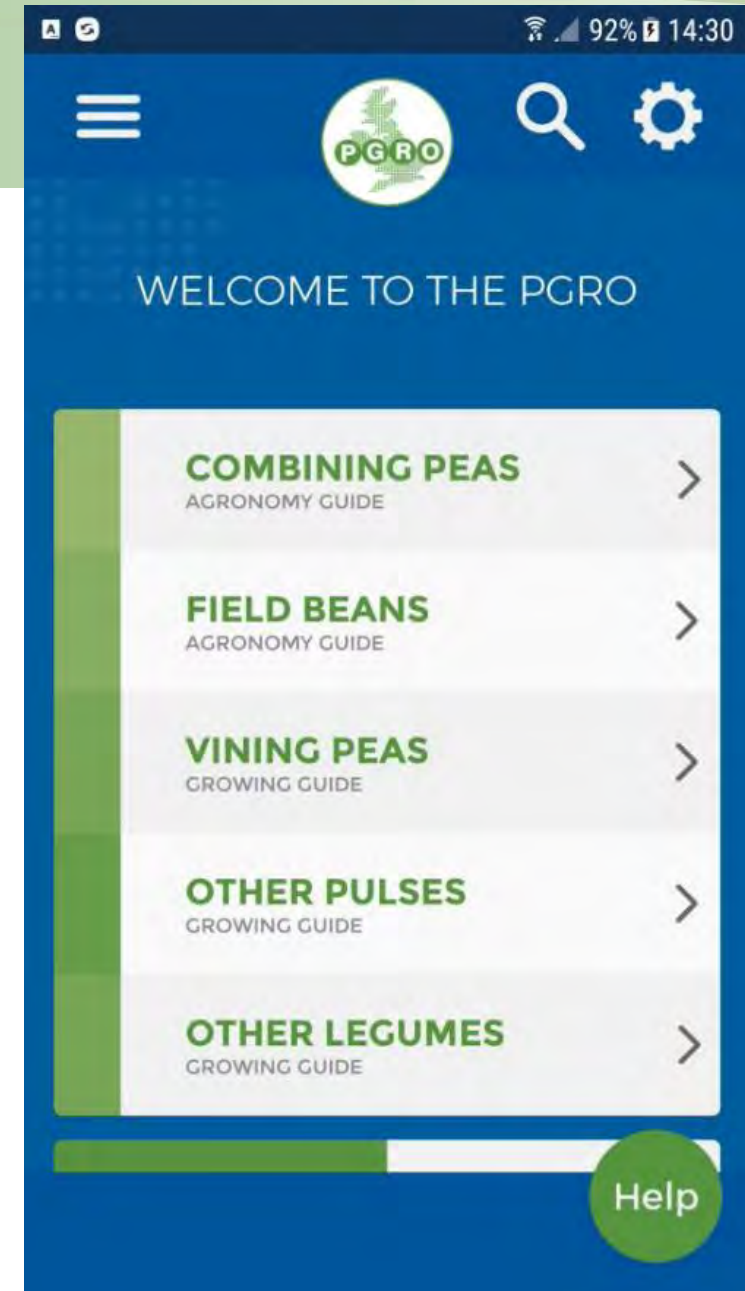
Becky Howard

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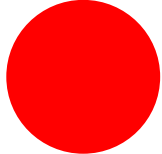
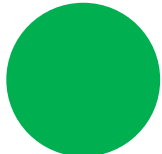

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PGRO telephone: 01780 782585

www.pgro.org



Day 1 Workshop – 16:40

-  Red Group – Seminar 2
-  Green Group – Emperor Suite
-  Blue Group – Seminar 1