

Agronomists' Induction 2021



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Richard Meredith, Head of Arable Knowledge Exchange



Housekeeping



Programme

Day 1: IPM

What's next for AHDB?

Pests and beneficials

Varieties and lower inputs

Workshop session

- How to ID pests and beneficials
- How to utilise variety choice
- How to apply chemicals; application techniques

Crop walking: weed and disease management

Strategic Potato Farm results

Workshop session

An introduction to BBRO

An introduction to PGRO

Workshop session

On-farm trials

Networking dinner

Day 2: Environment

Introducing flowering strips

Monitoring and measuring carbon

Workshop session

- How to assess and manage soil
- How to design a nutrient management plan
- How to run an on-farm trial

Crop nutrition

An introduction to BASIS

An Introduction to the Voluntary Initiative

Workshop session

Soil health

Livestock in the arable rotation

Workshop session

The future of farming: an agronomists' perspective

Lunch

AHDB – who are we

- Statutory levy board, funded by farmers, growers and others in the supply chain across the UK
- Arms-length body of Government (Defra), managed as an independent organisation
- Established to deliver activities for the good of the industry which they wouldn't otherwise fund themselves (preventing market failure)
- HQ at Stoneleigh in Warwickshire
- Field staff across the UK
- Other offices in France, Belgium & China

Common purpose and vision

We are here to “Inspire our farmers, growers and industry to succeed in a rapidly changing world”

to achieve “a world-class food and farming industry that is inspired by and competes with the best.”

West & Wales



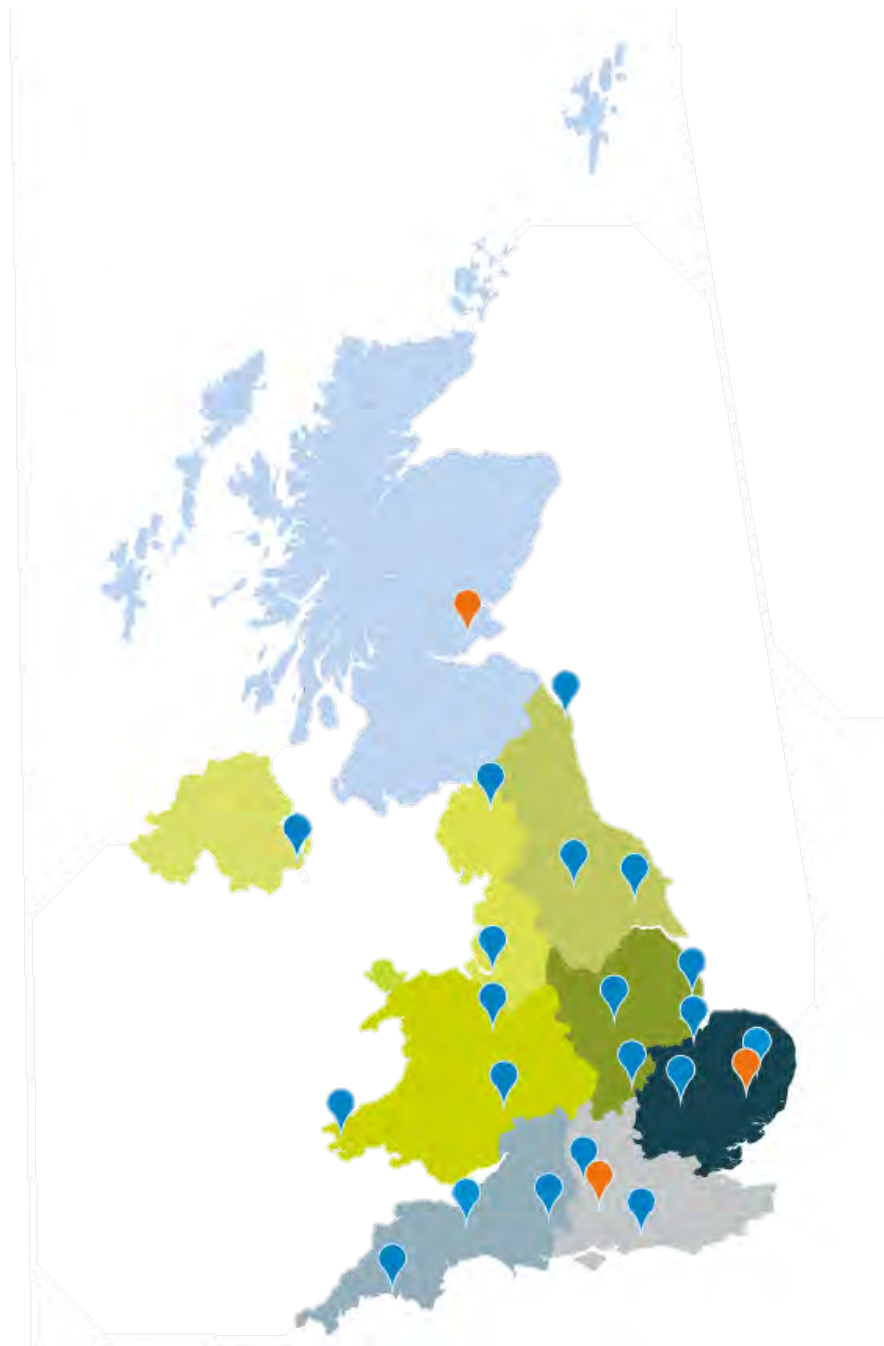
Loppington
Rory Lay



Pembrokeshire
Tom Rees



Hereford
Jack Hopkins, Rob Beaumont,
Martin Carr & Adam Lewis



Agronomists' Induction: Session 1

What's next for AHDB?

Martin Grantley-Smith, Sector Director (Cereals & Oilseeds), AHDB

Pests and beneficials

Sue Cowgill, Crop Protection Senior Scientist (Pests), AHDB

Varieties and lower inputs

Paul Gosling, Crop Production Systems Senior Scientist (Recommended Lists), AHDB

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What's next for AHDB?

Martin Grantley-Smith, Strategy Director (Cereals and Oilseeds), AHDB



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Pests and beneficials

Sue Cowgill, Crop Protection Senior Scientist (Pests), AHDB



Integrated Pest Management (IPM)

What is it?

- “the growth of a healthy crop with the least possible disruption to agro-ecosystems and encourages natural pest control mechanisms”
- “protecting crops while reducing the environmental impact of pesticides”

Why is IPM important (now)?



Reduced availability
of PPPs

Increased resistance
to active ingredients



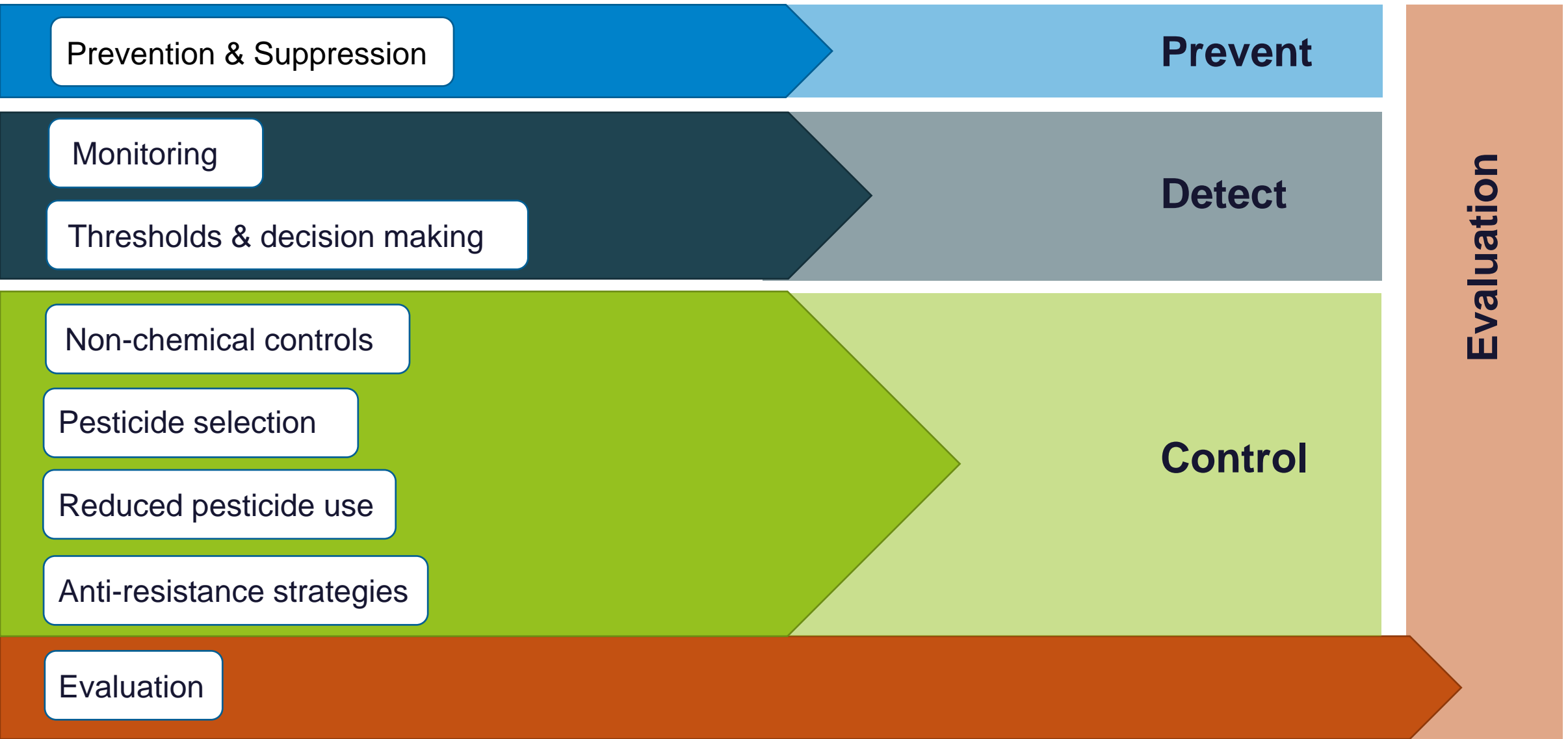
Non-target impacts



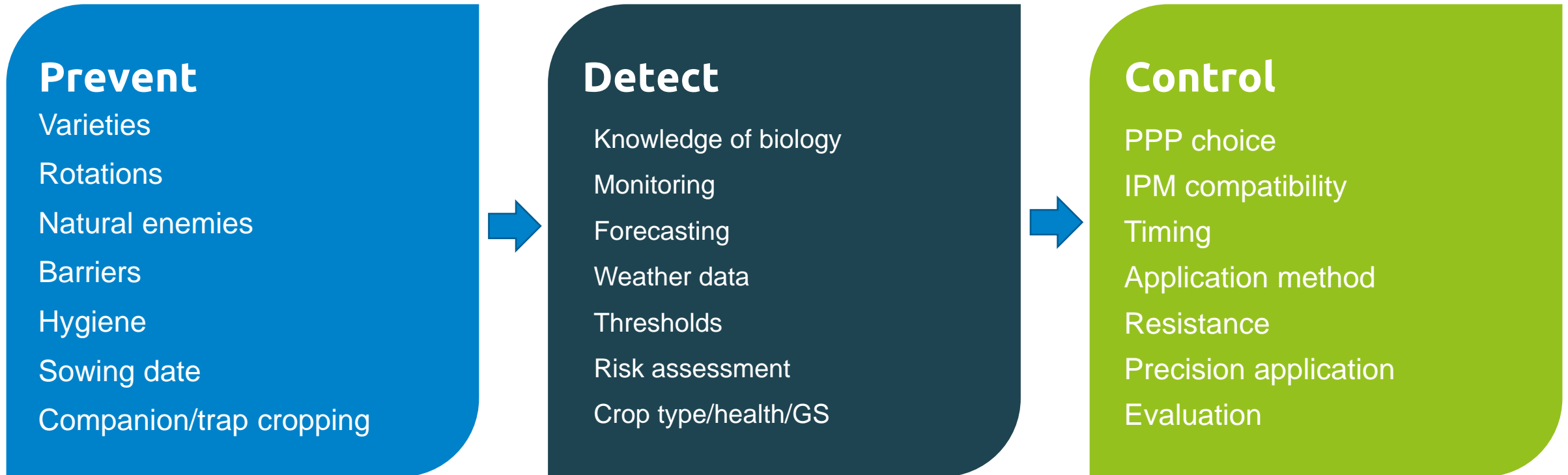
- ✓ Building resilient cropping systems
- ✓ Reducing reliance on chemicals

How is IPM achieved?

Sustainable Use Directive



IPM for insect pests



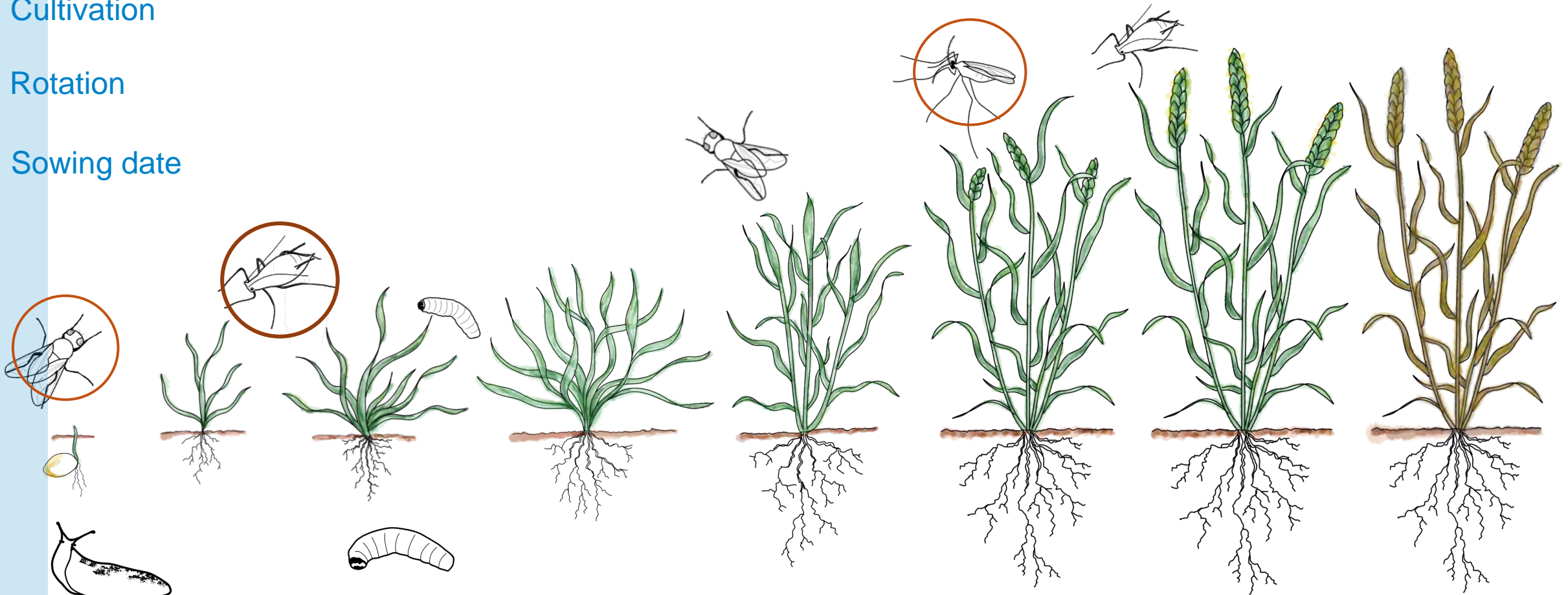
Insect pests of winter wheat: prevent

Variety

Cultivation

Rotation

Sowing date

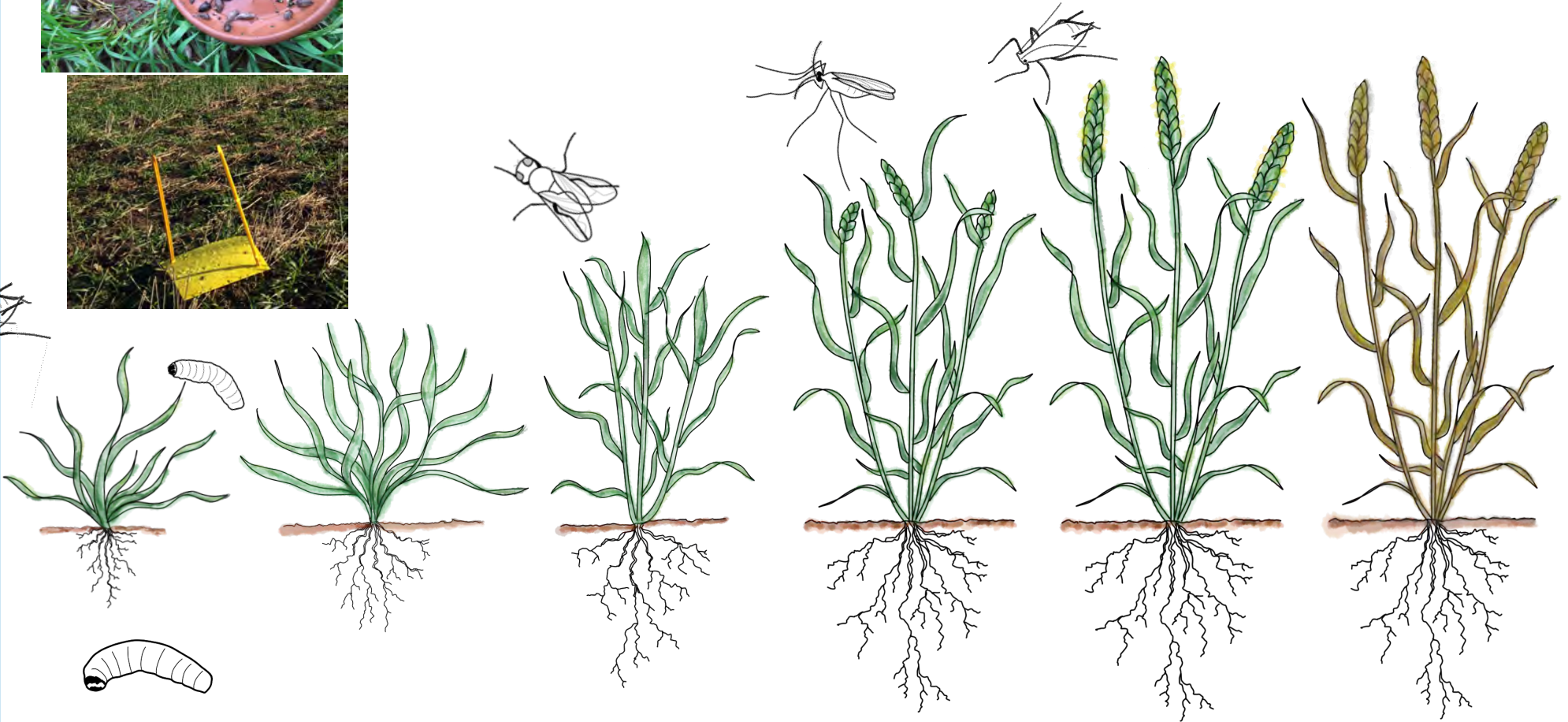


Pests of winter wheat: detect

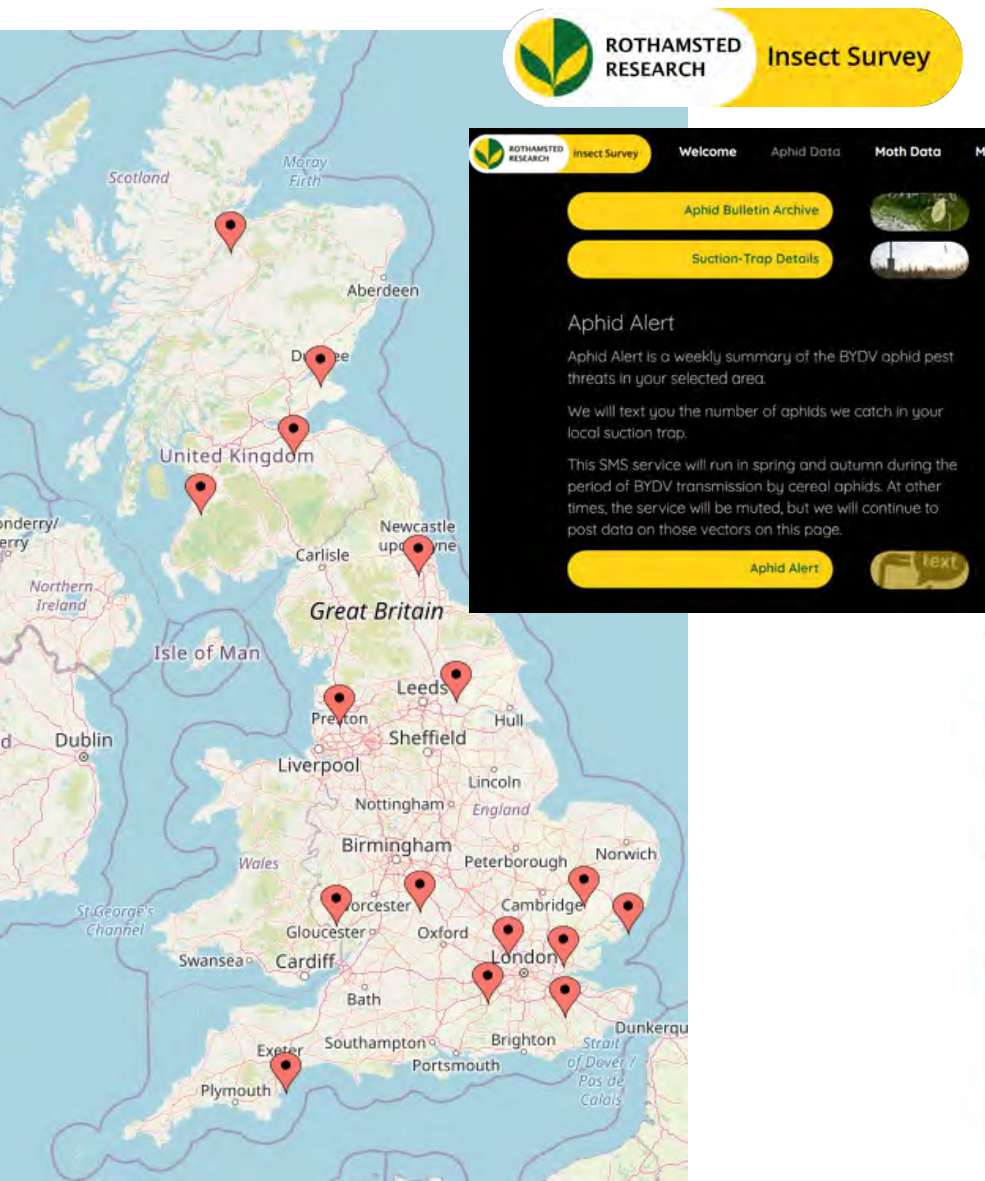
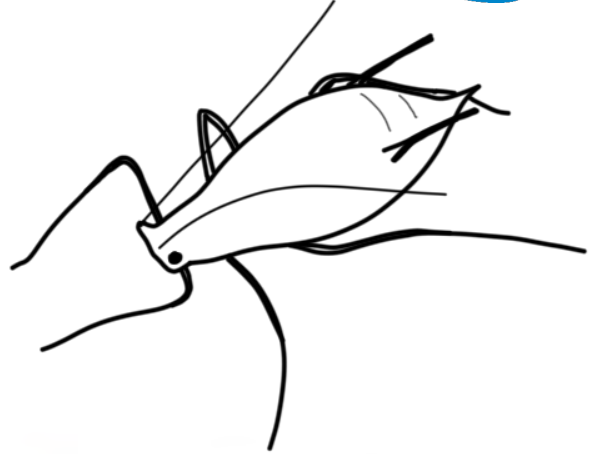
Slug monitoring & control



Aphid monitoring & control



Detect & Control: Aphid monitoring & BYDV tool



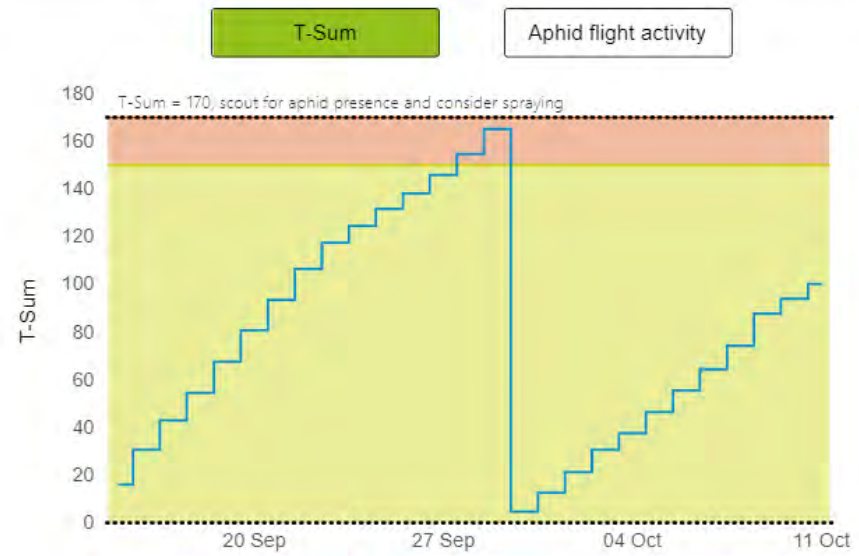
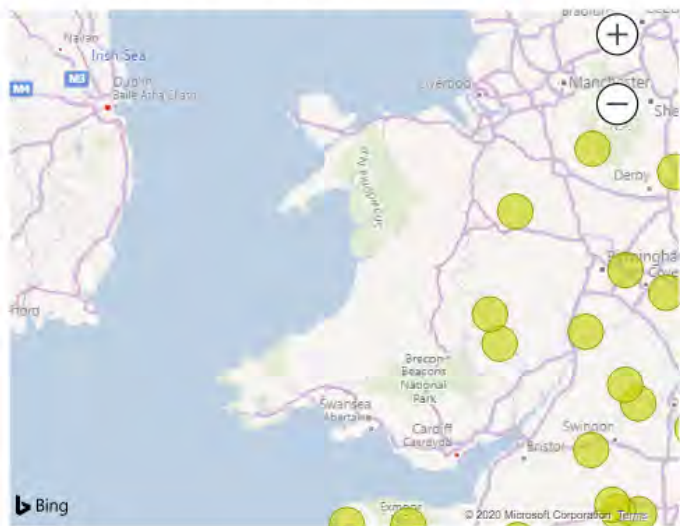
BYDV MANAGEMENT

Filter by: Region Multiple selections

T-Sum start date 15/09/2020 17/10/2020

Weather type Observed Observed + forecast

- T-Sum (day after tomorrow) > 150
- T-Sum (day after tomorrow) <= 150



This tool is powered by [AHDB WeatherHub](#) and uses observed weather data from the [MetOffice \(DataPoint\)](#) and forecast data from [MET Norway](#)

Detect: Wheat bulb fly survey

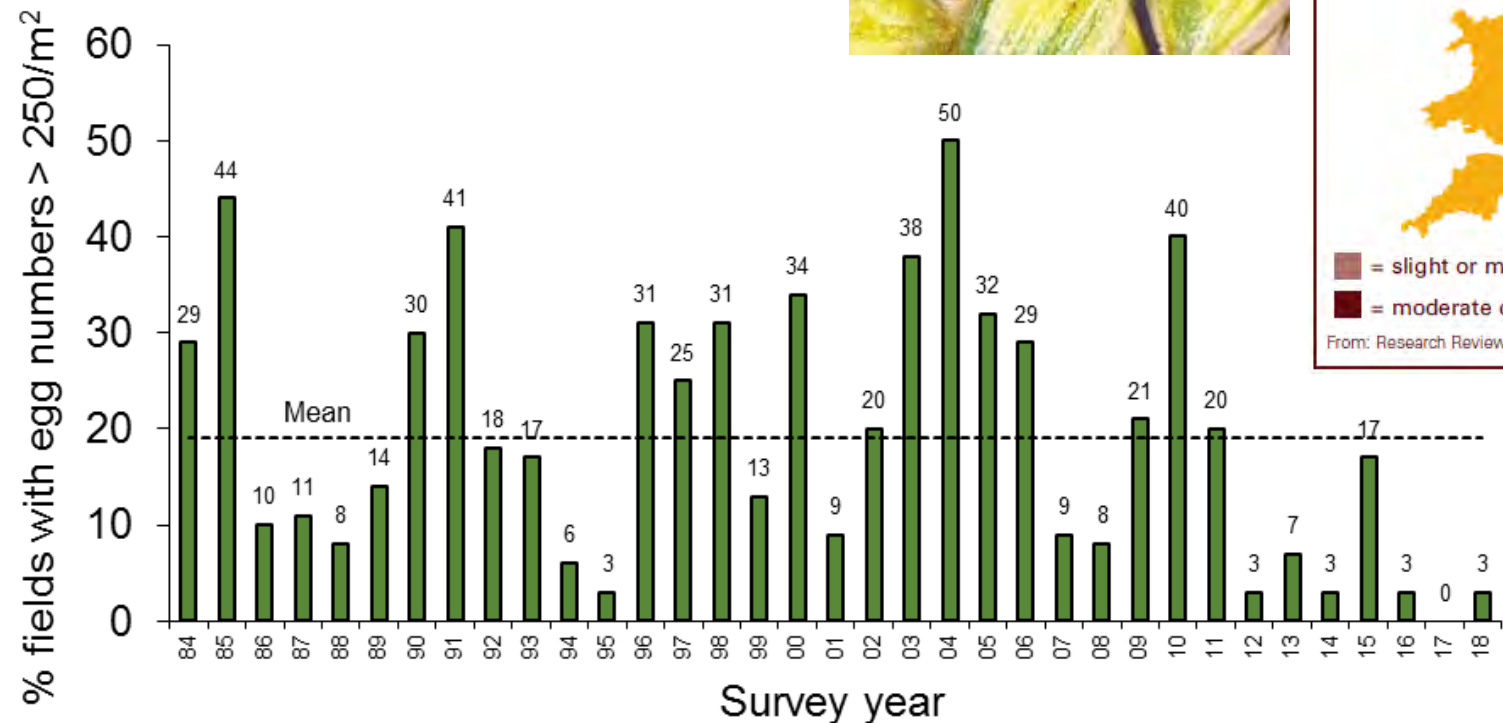
Informs the use of seed treatment

Helps determine risk

Later drilling
Higher egg count



Risk



Insect pests of oilseed rape: prevent



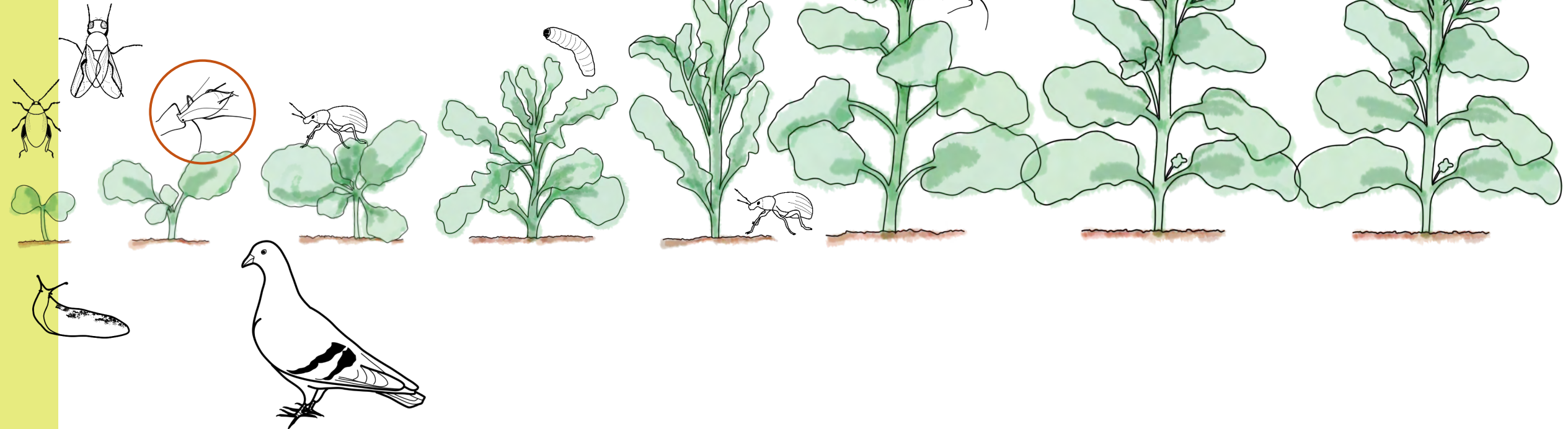
Variety

Cultivation

Rotation

Sowing date/ conditions

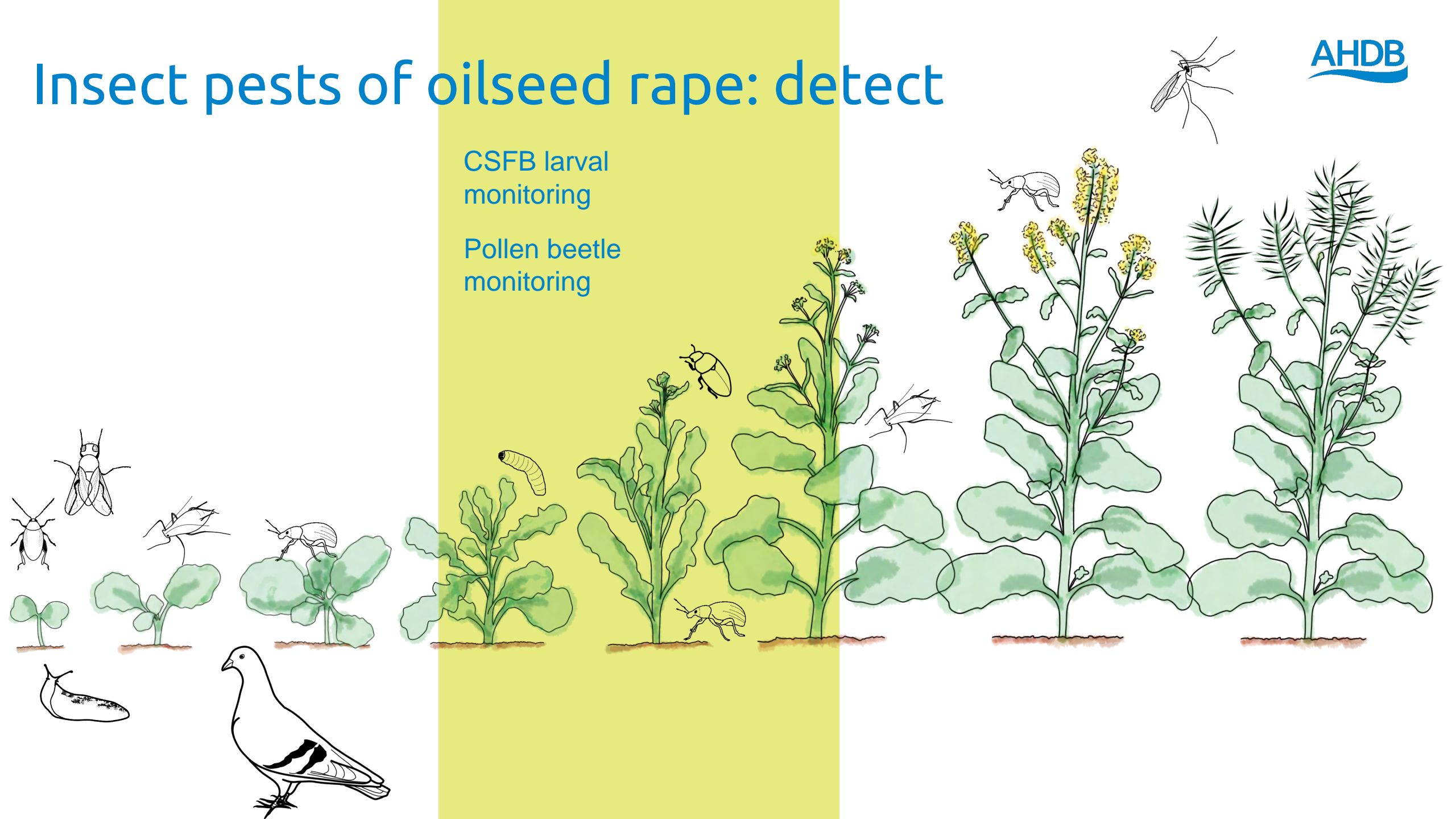
Companion/trap crops



Insect pests of oilseed rape: detect

CSFB larval
monitoring

Pollen beetle
monitoring

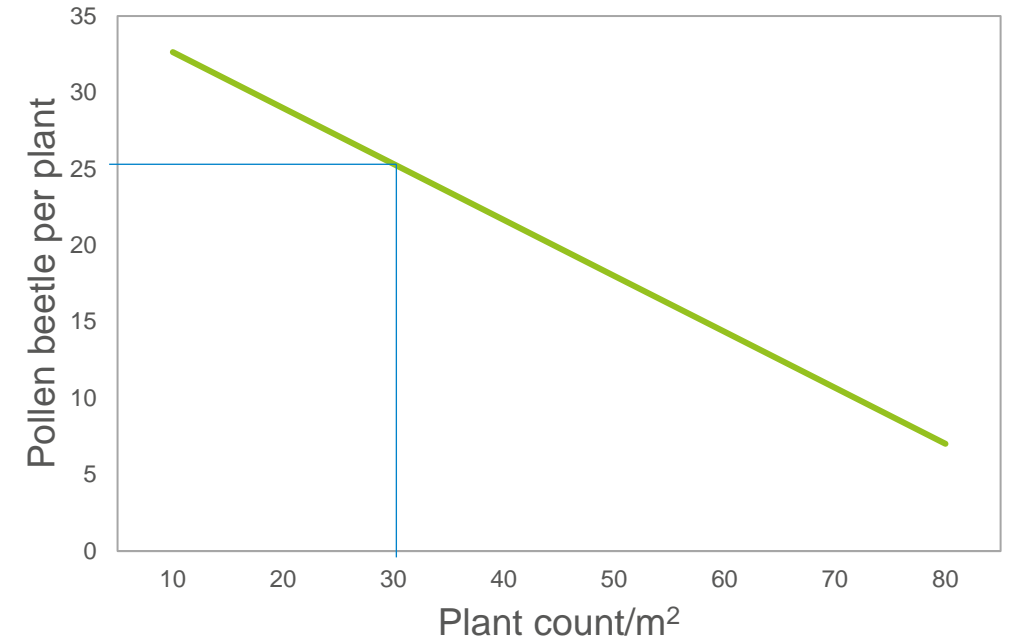


Detect: pollen beetle threshold

Treatment thresholds

Based on the number of beetles per plant at the green-to-yellow bud stage

Fewer than 30 plants/m ²	25
30-50 plants/m ²	18
50-70 plants/m ²	11
More than 70 plants/m ²	7

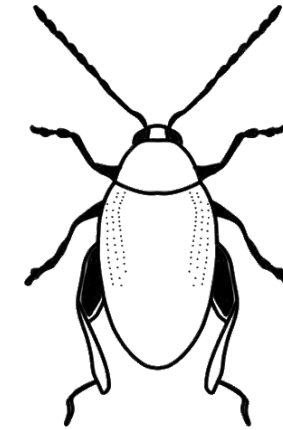
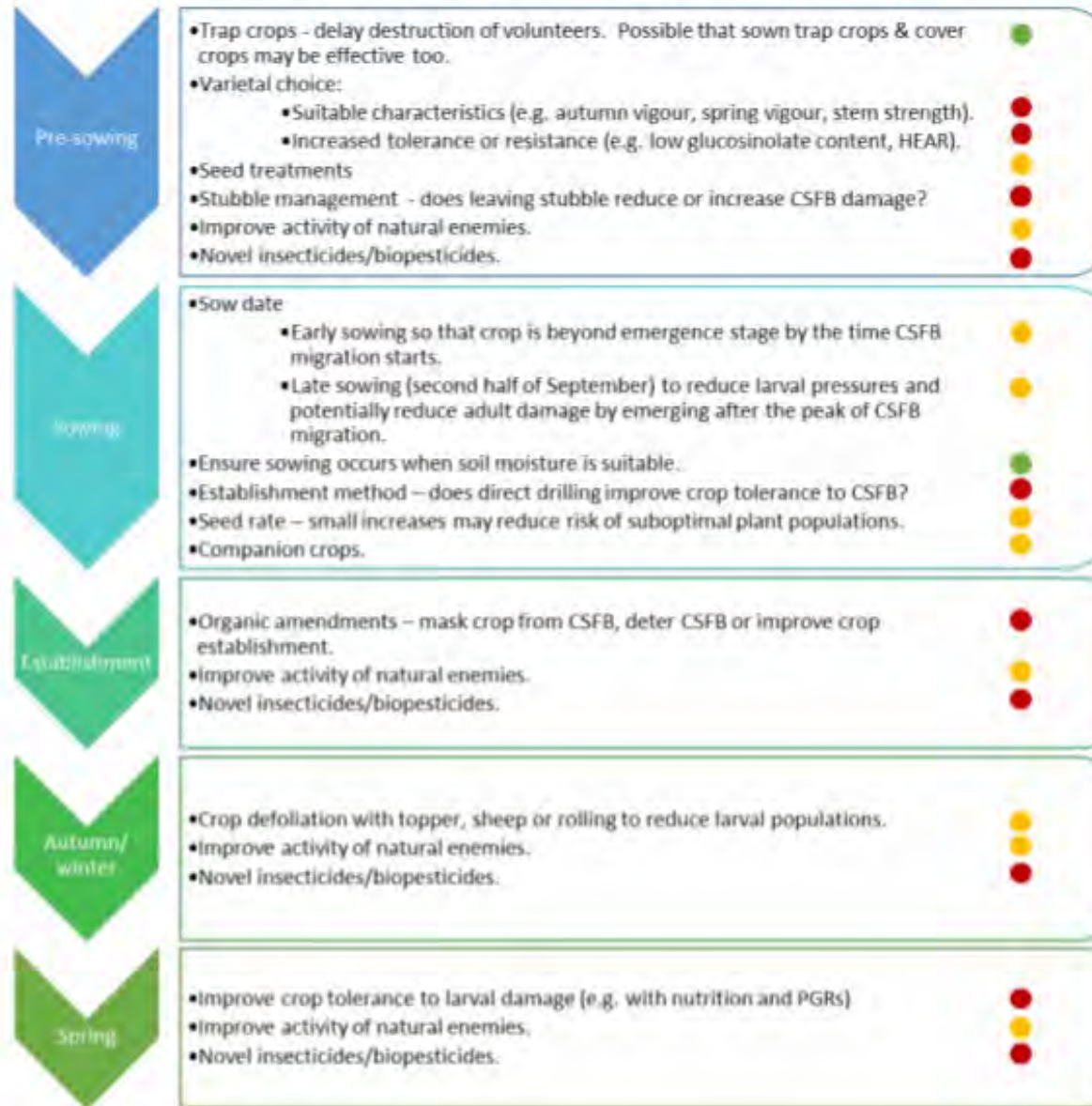


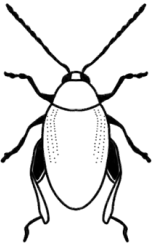
- Based on the average number of buds destroyed per beetle
- OSR produces excess buds
- Lower plant populations = more branching & more buds

Research to support IPM



Cabbage stem flea beetle IPM





Current research projects

CSFB

- Biology
 - migration, hatch
- Management options
 - companion crops, stubble length, organic amendments
- Breeding for resistance
- Novel control options (bioprotectants)



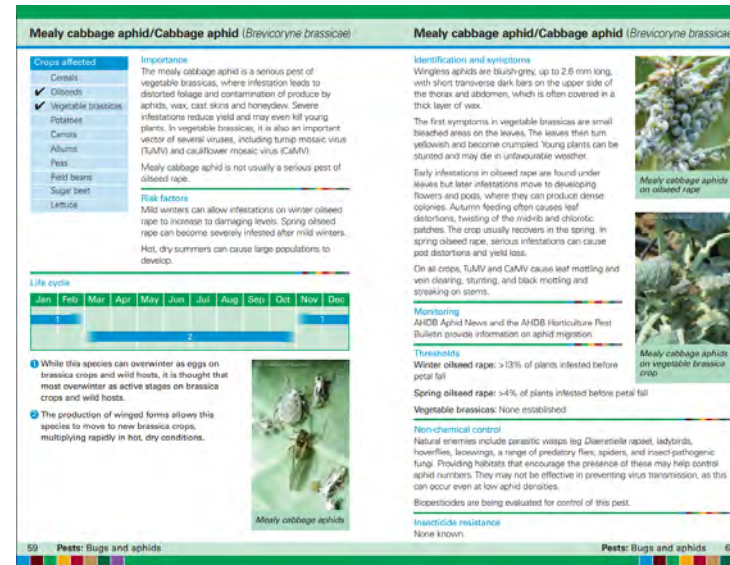
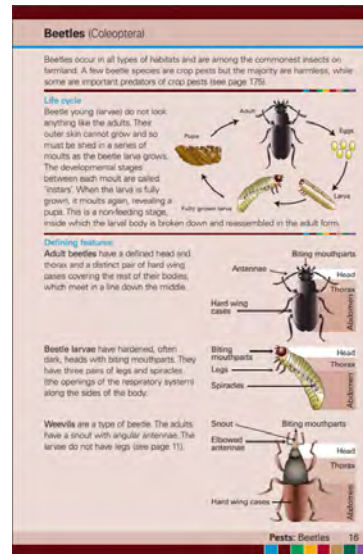
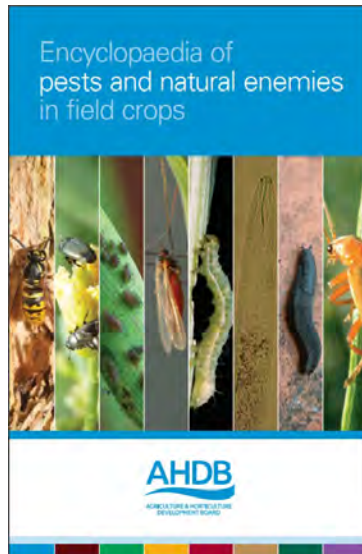
Current research projects

BYDV

- Monitoring
 - in-field & relationships to suction traps
 - BYDV testing
 - ➔ cost-effective and practical BYDV monitoring service for the industry
- Updating Decision Support Systems (DSS)

Key resources

- Pest encyclopaedia: ahdb.org.uk/pests
- Research Reports: ahdb.org.uk/research
- AHDB knowledge library: ahdb.org.uk/knowledge-library



Resistance Action Groups: IRAG, WRAG, FRAG

Agronomists' Induction 2021

Understanding the Recommended Lists

Paul Gosling, Recommended Lists Senior Scientist, AHDB



RECOMMENDED LISTS

AHDB Recommended Lists for cereals and oilseeds 2021/22 Summer edition

AHDB



RECOMMENDED LISTS

AHDB Recommended Lists for cereals and oilseeds 2018/19 Summer edition

AHDB



RECOMMENDED LISTS

AHDB Recommended Lists for cereals and oilseeds 2019/20 Summer edition

AHDB



Recommended Lists for cereals and oilseeds



HGCA Recommended Lists 2014/15 for cereals and oilseeds



AHDB Recommended Lists 2016/17 for cereals and oilseeds



HGCA Recommended Lists 2014/15 for cereals and oilseeds



AHDB Recommended Lists for cereals and oilseeds 2016/17 Summer edition

AHDB
CEREALS & OILSEEDS



Produced in partnership by:

AHDB
CEREALS & OILSEEDS

BSPB
British Society of Plant Breeders

MAFAB
Machinery Association of Great Britain

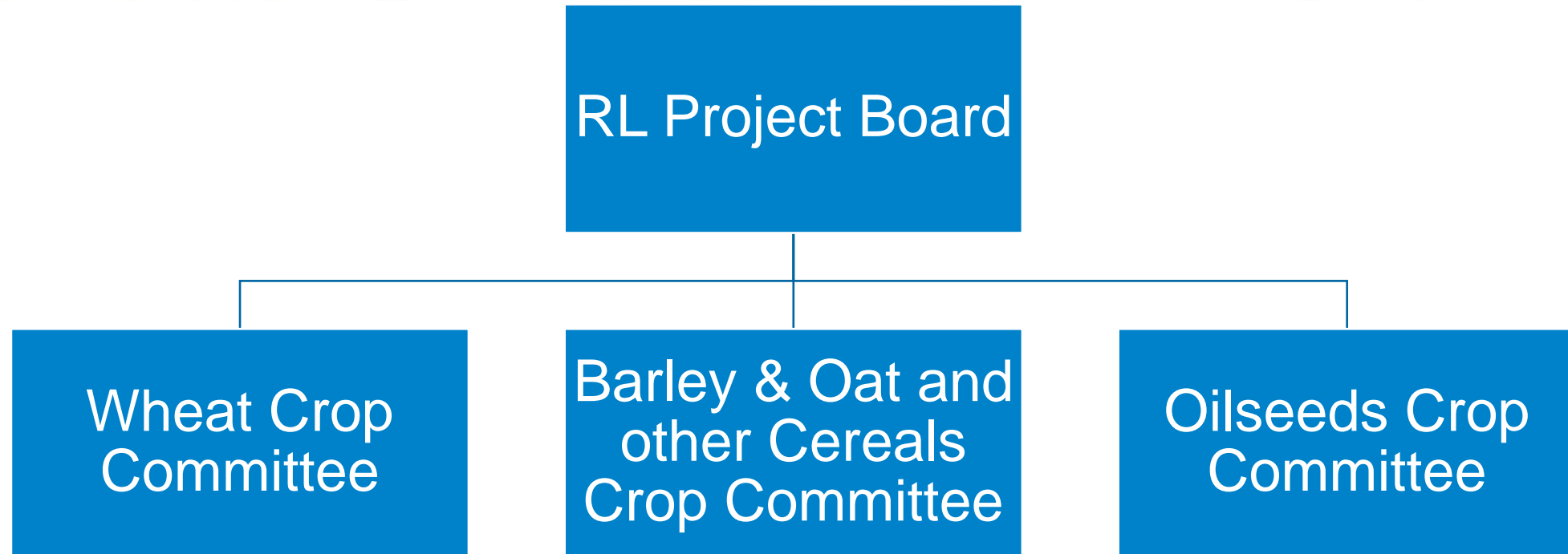
NABIM
National Association of British and Irish Millers

For more information, visit cereals.ahdb.org.uk/recommended-lists

Recommended List Purpose

- Identify new varieties which have a balance of features that are sufficiently better than existing varieties such that they could potentially provide a more economic return in the market
- Ensure that the supply chain has sufficient grain of the correct quality and consistency
- Carry out extensive trials and tests to enable selections be made for Recommended Lists
- It is the starting place for variety management

Recommended List structure

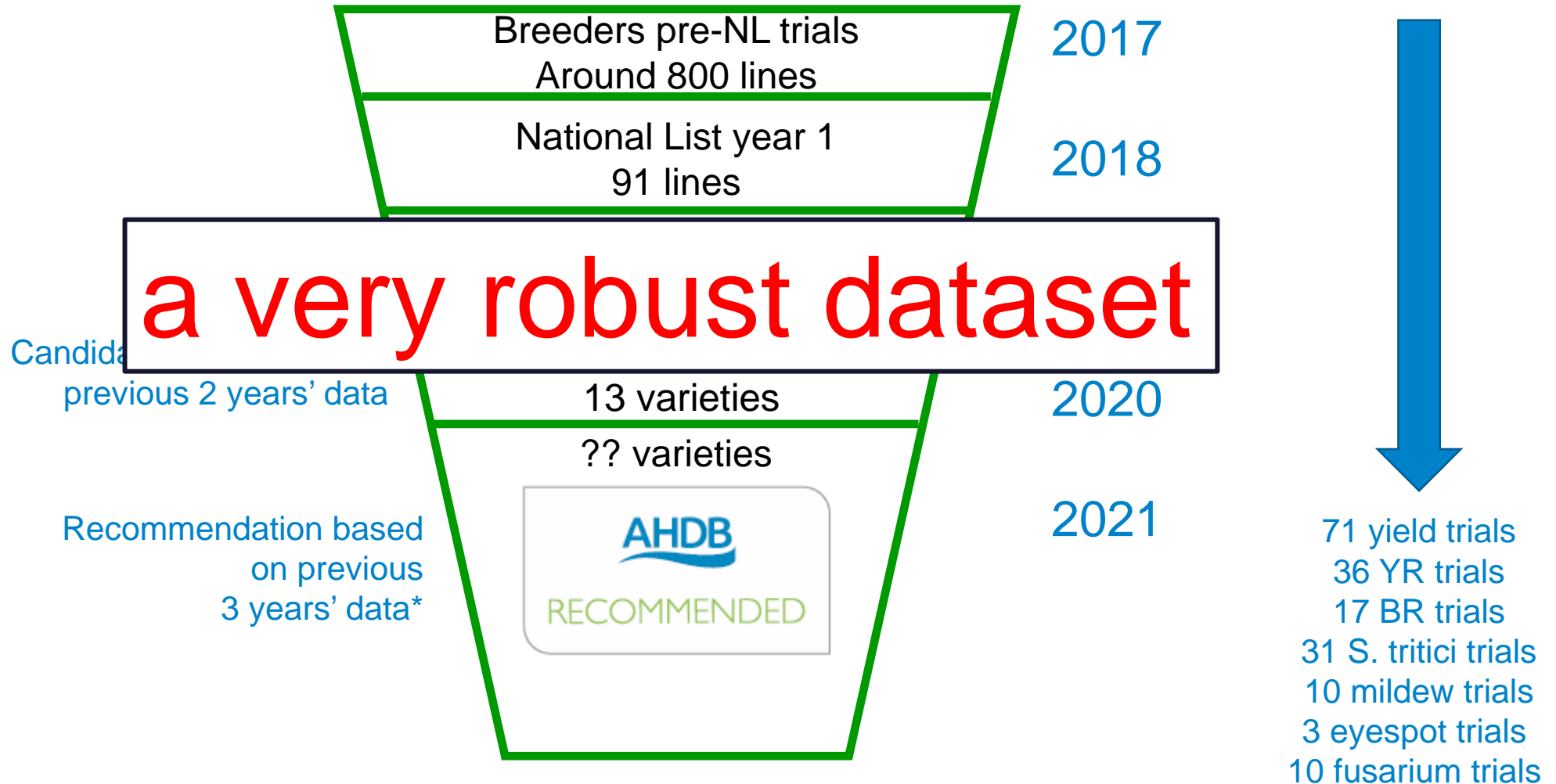


The AHDB RL Team

- Field or Technical Team (home based)
 - Inspect all the RL and NL trials to ensure they are fit for purpose
 - Validate the data coming from the trials
 - Run the trials program
- Data Team (Stoneleigh based)
 - Receive and collate all the data coming in from the trials
 - Analyse the data, producing reports for committees to consider
 - Produce the publications
- Consultant Statisticians (BioSS) Consultant pathologists (NIAB)

Trials behind the list

Pyramid of selection – Winter wheat



*Oat varieties spend two years as candidates

RECOMMENDED LISTS

Understanding the data

Yields

- Look at the LSDs
- Don't just look at the headline UK treated yields
- Yields are not comparable across regions

Graham	
Fungicide-treated grain yield (% treated control)	UK
United Kingdom (10.8 t/ha)	102
East Region (10.7 t/ha)	101
West region (10.9 t/ha)	105
North region (11.0 t/ha)	101

Pests and Disease

- Disease ratings are not linear
- A difference of one is larger at the bottom of the scale than the top
- 'Breeders claims' for resistance are based on clearly defined genetics – OWBM, BYDV, BaYMV, TuYV, pod shatter resistance
- Consider the pest and diseases important in your region, what can be controlled with chemistry and what your customer wants

Other characteristics to note

- Ripening days – differences are much larger in commercial practice than tables suggest
- Specific weight – measured on cleaned samples
- Latest safe sowing dates in winter wheat are conservative, speak to the variety breeder if you are in doubt
- Read the introductory pages and footnotes

Accessing the Recommended Lists

<https://ahdb.org.uk/rl>



Online tables

Wheat

Winter wheat

[Variety comments](#)

[Winter wheat variety selection tool](#)

[Winter wheat Recommended List 2020/21\(pdf\)](#)

[Winter wheat Recommended List 2020/21\(xls\)](#)

[Winter wheat Candid](#)

[Winter wheat Candid](#)

[Winter wheat not ad](#)

[Winter wheat not ad](#)

**Updated 5 February 2020*



Recommended Lists protocols

put how the RL is managed. The page includes information on the recommended lists (protocols) and the recommended lists.



Recommended Lists archive

Access historic data from the AHDB Recommended Lists for cereals and oilseeds (RL) from this archive



Direct access to the data

RECOMMENDEDLISTS

All the latest data and commentary from our Recommended Lists (RL) trials.

- This page features results from the current harvest year (2020/21).
- Our archive hosts data published since 2002.

✍ [Harvest Results archive \(includes 2019/20 harvest year data\)](#)

✍ [Sign up to get the latest results via email](#)

✍ [AHDB Recommended Lists home page](#)

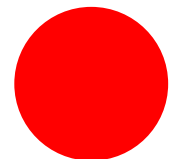
✍ [Harvest Results commentary](#)



A wide-angle landscape photograph featuring a vast field of bright yellow wildflowers in the foreground. In the background, a dark, stormy sky is pierced by a large, multi-colored rainbow that arches across the frame. A line of trees and a distant hill are visible on the horizon. The text "Thank you" is overlaid in a yellow font on the right side of the image.

Thank you

Day 1 Workshop – 14:00

 Red Group – Emperor Suite

 Green Group – Seminar 1

 Blue Group – Seminar 2