

Diss Monitor Farm

Meeting title: Boosting beneficials and IPM

Date: 11 February 2020

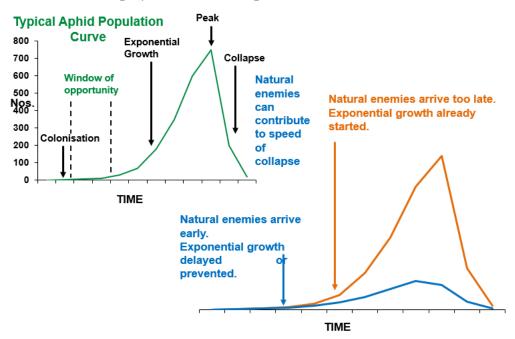
Speakers: John Holland (GWCT), Andy Barr (A & A Barr Farms)

and Richard Binks (Koppert)



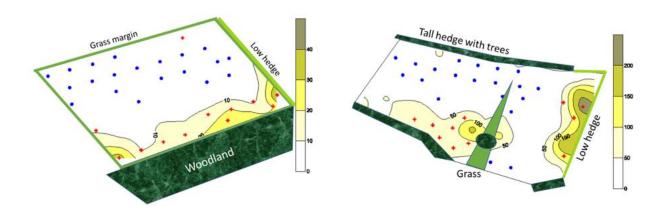
Using beneficials for Integrated Pest Management - John Holland

 When considering pests and natural enemies, have to consider the window of opportunity – need the natural enemies in the right place AND at the right time.



- There is a changing community of pests and predators/natural enemies we have seen a loss of robustness in the community with fewer species but more of these species
- Use the SAFE approach "diversity is what we're after":
 - Shelter
 - Alternative prey
 - Floral resources
 - Environment
- Aim to provide resources in every field
- Weeds can be beneficial if in a min-till/direct drilling situation, can you leave some weeds, eg annual meadowgrass, knotgrass and chickweed, which are known to be beneficial for predators?
- It has been found that most aphids land at the edge of the field initially (see diagram below) treat this area differently/consider this when monitoring. If using sticky traps for example, best to site at 5m and 70m.





Boosting beneficials and managing pests – an on-farm approach - Andy Barr

There is a need for change – climate change, public pressure, reducing availability of plant protection products, decline in biodiversity

The farm has employed a number of different techniques, including reduced cultivations, cover cropping, enhanced margins. These margins more recently are being trialled through the ASSIST programme, looking at strips around the outside of the crop and through the middle, every 100m.

Andy is aiming for these to cost approx. £70/ha. The key species to include are: common knap-weed, wild carrot, Yarrow, Field Scabious, Red clover, Red Campion, Ox-eye Daisy, Meadow Vetchling, Tufted Vetch and Birdsfoot trefoil. **Grasses:** Ideally include several of the following in roughly equal pro-portions: Crested Dogstail, Cocksfoot, Slender Red Fescue, Tall Fescue and Meadow Fescue. You may also consider including small amounts (< 2%) of Meadow Foxtail or Tufted Hair Grass.



Other methods are used, such as companion cropping, genetic traits, eg BYDV resistant wheat. Andy uses a variety of tools for monitoring, from sticky traps in-field and online resources, such as the AHDB BYDV management tool and Aphid News, along with CropMonitor and other systems.

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Andy's conclusion included:

Use biodiversity but also diversity of approaches?

Osr TuYV resistant

Companion crop - cover crop fallback?

Trap crop - turnip rape / kale

Designed margins and prepare to be flexible Do not spray for pollen beetle or seed weevil

BYDV / Midge resistant

Clover understory / keep osr & bean vols

Not too early / apply compost

No T0 fungicide Silica / Orange oil ??





Spraying pointless ?
Or parasitic fungi ?

Plant into rye /oats cover

crop mulch

Backed up by No-till

Compost / manure Urea / UAN / foliar nutrients Countryside Stewardship LEAF Marque e.g.

Field specific monitoring alerts

Patience, flexibility



Wheat



Embrace the complexity!

Beans

Take-home messages

- Learn the key pests and beneficials for your key crops
- Create an IPM plan for these key species
- Consider thresholds and impact on beneficials when spraying
- Remember that everything varies in the field embrace this complexity!

Further information

- Encyclopaedia of pests and natural enemies
- Encyclopaedia of cereal diseases
- Encyclopaedia of arable weeds
- FAR focus: Integrated Pest Management (New Zealand)
- Recommended Lists for cereals and oilseeds
- IPM: What's it all about? podcast
- Agricology
- Pest and disease monitoring tools can be found at ahdb.org.uk/tools

AHDB resources

- Understand your business costs with AHDB's benchmarking tool Farmbench at ahdb.org.uk/farmbench
- Monitoring tools are available at ahdb.org.uk/tools
- Sign up to market information and research newsletters at ahdb.org.uk/keeping-in-touch
- Find out what's going on at other Monitor Farms and Strategic Farms at <u>ahdb.org.uk/farm-excellence</u>
- All AHDB events can be found at <u>ahdb.org.uk/events</u>
- For guidance on how Brexit will impact your business, see <u>ahdb.org.uk/brexit</u>

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