

# Dereham Monitor Farm meeting report

Meeting 10: Fungicide efficacy, resistance and micronutrients

Speakers: Tim Boor (ADAS), Jonathan Blake (ADAS) and John Purslow (Farmacy)

Date: 20 February 2018

Location: Beetley Village Hall, Dereham, Norfolk NR20 4BX

For more information, visit: [cereals.ahdb.org.uk/dereham](http://cereals.ahdb.org.uk/dereham)



## Meeting summary – key messages

- Do not treat last year’s disease!
- Remember the importance of the leaf layer and spray timings
- Use fungicide performance work and recommendations when planning strategies for the season
- Wheat – keep the crop green and clean
- Barley – ensure early disease management

## Wheat fungicides

- Make use of AHDB’s independent [fungicide performance information](#) when planning your strategy
- Key findings for the main wheat diseases can be found below:

### Septoria tritici

- SDHIs are highly active but there is some evidence of decline in efficacy
- Elatus Era, Librax and Ascra are comparable for protection
- Use azoles and multisites to slow resistance development

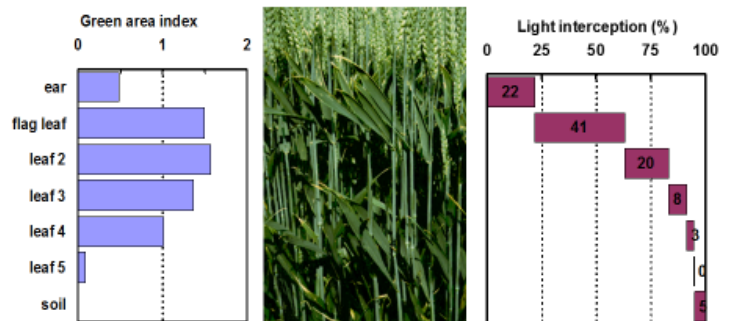
### On rusts

- Epoxiconazole highly effective in curative situations
- Pyraclostrobin showed good activity (especially on yellow rust)
- The new SDHI Elatus Era is highly effective on yellow and brown rust

### Fusarium

- Prothioconazole leads, metconazole, tebuconazole, and epoxiconazole is close behind

- Remember the importance of the leaf layer, both for light interception and for your spray timings – it is necessary to know what leaf layer is out at the time of spraying to identify whether you are in an eradicant/curative or protectant situation
- Choose resistant varieties where possible
- Match the programme with varietal resistance as a yield improvement is not always shown with two SDHI programmes



Light interception by leaf layer

## Barley fungicides

### Ramularia

- Protection is now a concern – 2017 analysis showed that no products had an effect apart from Bravo (chlorothanilil)
- If you have ramularia as a problem, definitely include CTL at T2
- Think about the R's for ramularia

### Net blotch

- SDHI's now all a step behind Proline
- Consider the use of Kayak

### Mildew

- Proline very effective
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### The 5Rs for identifying ramularia

- 1 Ringed with yellow margin of chlorosis
- 2 Rectangular shape
- 3 Restricted by the leaf veins
- 4 Reddish-brown colouration
- 5 Right through the leaf

For more information, click [here](#)

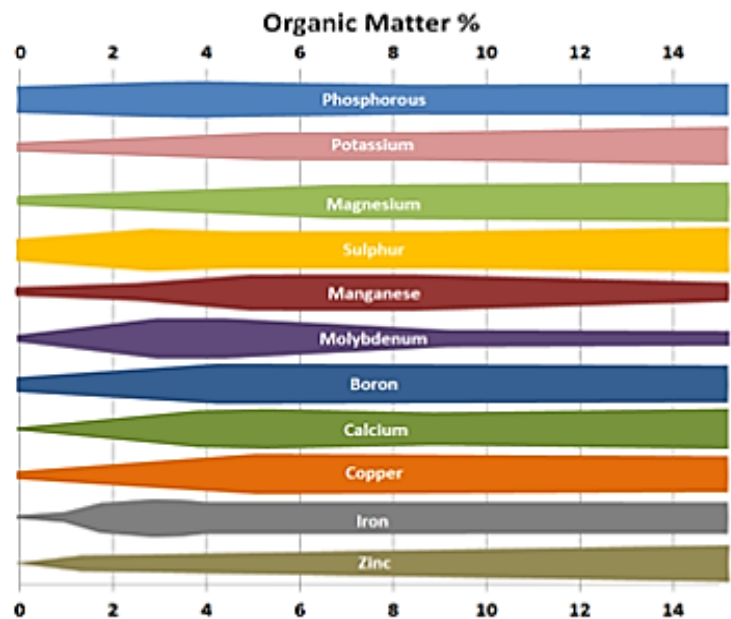
## Micronutrients

Research has shown that the future for fungicides is looking less unsure, with: low response years, more chemical needed for septoria control, increased resistance and a shorter latent period.

We know that the plant needs both macro and micro nutrients to reach its full potential. Soil organic matter can also affect nutrient availability (see chart to right).

Micronutrients have many beneficial properties, for example:

- Manganese: photosynthesis, assimilation of CO<sub>2</sub>, chlorophyll and nitrate assimilation
- Zinc: aids in the production of growth hormones (auxin), protein synthesis, starch formation, root formation and chlorophyll production
- Copper: aids seed production, chlorophyll production, enzyme activator, electron transport and cell wall metabolism



Source: Yara

The research carried out looking at a micronutrient programme has proven inconsistent for winter wheat to-date and unsuccessful for winter barley. However, there are benefits in using micronutrients as part of your strategy. Key questions to consider are:

- Do you know your micronutrient level? Carry out tissue testing for more information
- Choose your variety well – a resistant variety on a moderately yielding farm may respond well to micronutrient programmes
- Where you have known deficiencies, addition of micronutrients will bolster fungicides
- Consider micronutrient combinations eg. zinc and copper
- Micronutrients are cheap in comparison to fungicide spend!

## Fungicide futures



Fungicides are an essential component of many crop protection strategies. With limited chemistry entering the UK market and increased regulation, it is important to protect fungicide efficacy by using low-risk fungicide programmes. Fungicide Futures is an initiative led by AHDB and FRAG-UK to help put good anti-resistance practice at the heart of fungicide programmes. For more information, please visit: [cereals.ahdb.org.uk/fungicidefutures](http://cereals.ahdb.org.uk/fungicidefutures).

## Find out more – Links to AHDB information sheets or research

[Fungicide activity and performance in wheat](#)  
[Wheat disease management guide](#)

[Fungicide performance in barley](#)  
[Barley disease management guide](#)  
[Ramularia leaf spot in barley](#)  
[Identification and field scoring guide for ramularia leaf spot](#)

[Fungicide performance in oilseed rape](#)  
[Oilseed rape guide](#)

[United Kingdom cereal pathogen virulence survey \(UKCPVS\)](#)



## Next meeting

**Date:** 5 June 2018  
**Topic:** Summer meeting

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