Fungicide performance in wheat 2012 - 13
Weather: 2012 monthly rainfall totals (mm)

Data for Newmarket, Suffolk

2012 as % of 27 Year Mean

Rainfall (mm)

Jan  Feb  Mar  Apr  May  Jun  Jul  Aug  Sep  Oct  Nov  Dec

2012

% of Mean
Weather: 2012 average temperatures (°C)

Data for Newmarket, Suffolk

Temperature (°C)

2012

% of Mean

2012 as % of 27 Year Mean
# Septoria triticci trials: 2012 products & sites

<table>
<thead>
<tr>
<th>Product</th>
<th>Actives</th>
<th>Rosemaund</th>
<th>SRUC</th>
<th>NIAB TAG</th>
<th>Teagasc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bravo</td>
<td>chlorothalonil</td>
<td>0.5 only</td>
<td>0.5 only</td>
<td>0.5 only</td>
<td>0.5 only</td>
</tr>
<tr>
<td>Phoenix</td>
<td>folpet</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Ignite</td>
<td>epoxiconazole (epx)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Proline</td>
<td>prothioconazole (ptz)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Imtrex</td>
<td>fluxapyroxad</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Aviator</td>
<td>bixafen + ptz</td>
<td>✓ 235</td>
<td>✓ 235</td>
<td>✓ 235</td>
<td>✓ 225</td>
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<tr>
<td>Adexar</td>
<td>fluxapyroxad + epx</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Seguris</td>
<td>isopyrazam + epx (0.8)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
Use Imtrex only in mixture with at least one fungicide with an alternative mode of action and that has efficacy against the target pathogen.

NB results for Phoenix based on 1 year’s data only.
Septoria tritici eradicant 2012 (N=4)

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Use Imtrex only in mixture with at least one fungicide with an alternative mode of action and that has efficacy against the target pathogen.
Use Imtrex only in mixture with at least one fungicide with an alternative mode of action and that has efficacy against the target pathogen.

NB results for Phoenix based on 1 year’s data only.
Septoria tritici protectant 2010-12 (N=16)
Septoria tritici eradicant 2010-12 (N=10)
Rusts

Yellow rust
• Significant early yellow rust epidemics in 2012, especially in Oakley
• Other susceptibles include: Solstice, Gallant, Torch, Viscount, KWS Santiago, KWS Kielder

Brown rust
• Despite early observations, unfavourable conditions and delayed epidemics in 2012
• Half of RL varieties rated 5 or less for brown rust

2013
• Effects of late sowing, frosts (-5°C), snow…
Yellow rust 2012

3% yellow rust on last leaf to emerge (leaf 3) at the time of application

Use Imtrex only in mixture with at least one fungicide with an alternative mode of action and that has efficacy against the target pathogen.
Yellow rust 2011-12 (N=2)

Proline
Ignite
Comet

Seguris
Aviator235Xpro
Adexar
Brutus
Use Imtrex only in mixture with at least one fungicide with an alternative mode of action and that has efficacy against the target pathogen.
% Septoria tritici control with epoxiconazole


- **Half label rate**
  - $R^2 = 0.54$
  - $P = 0.002$

- **Full label rate**
  - $R^2 = 0.2684$
  - $P = 0.048$
% Septoria tritici control with epoxiconazole

Half label rate
$R^2 = 0.4251$
P=0.006

Full label rate
$R^2 = 0.5544$
P<0.001
% Septoria tritici control with prothioconazole
Historical trends (2001-2012): Protectant

Half label rate

R² = 0.57
P=0.004

Full label rate

R² = 0.3827
P=0.032
% Septoria tritici control with prothioconazole
Historical trends (2001-2012): Eradicant

Half label rate
\[ R^2 = 0.5874 \]
\[ P=0.004 \]

Full label rate
\[ R^2 = 0.5839 \]
\[ P=0.004 \]
Epoxiconazole and prothioconazole declining the same (eradicant control, half rates, 2001-12)

Epoxiconazole

\[ R^2 = 0.5377 \]

Prothioconazole

\[ R^2 = 0.5874 \]
Chlorothalonil - historical trend (1995-2012)
% control at half label rate - protectant

% control Septoria tritici

Chlorothalonil

P = 0.219
Conclusions: Wheat FP 2012

**Septoria tritici**

- Clear reduction in field performance of azoles over time
- SDHI mixtures all showed similar levels of protectant activity
- Aviator Xpro, Adexar (and Imtrex) were the leading eradicants
- Imtrex provided excellent control, but lower yielding than Adexar
  - *Use Imtrex only in mixture with at least one fungicide with an alternative mode of action and that has efficacy against septoria*
- Don’t rely on eradicant control
- Use SDHI’s with azoles, and use multisite protectants (where possible)
- Chlorothalonil remains effective in a protectant situation
Conclusions: Wheat FP 2012

Rusts

• SDHI’s add to the activity of their azole partners, especially against brown rust
• Best yellow rust control from epoxiconazole-based treatments (including Seguris and Adexar)
• Little difference between Adexar, Aviator Xpro and Seguris against brown rust
• Strobilurins e.g. pyraclostrobin still active against rusts
Fungicide performance in barley 2012 - 2013
<table>
<thead>
<tr>
<th>Product</th>
<th>Actives</th>
<th>1</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
<td></td>
<td>Rhyn</td>
<td>Net bl</td>
<td>Net bl</td>
<td>B.rust</td>
<td>Ram</td>
</tr>
<tr>
<td>Phoenix</td>
<td>folpet</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Comet</td>
<td>pyraclostrobin</td>
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<td>✓</td>
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<td>✓</td>
<td></td>
</tr>
<tr>
<td>Proline</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**SDHI fungicides**

| Imtrex | fluxapyroxad | ✓ | ✓ | ✓ | ✓ | ✓ |

**SDHI / azole formulated mixtures**

| Siltra Xpro | bixafen + ptz | ✓ | ✓ | ✓ | ✓ | ✓ |
| Adexar      | fluxapyroxad + epx | ✓ | ✓ | ✓ | ✓ | ✓ |
| Bontima     | isopyrazam+cyprodinil | ✓ | ✓ | ✓ | ✓ | ✓ |
Use Imtrex only in mixture with at least one fungicide with an alternative mode of action which has efficacy against the target pathogen.
Rhynchosporium eradicant (three years)

Use Imtrex only in mixture with at least one fungicide with an alternative mode of action which has efficacy against the target pathogen.

Note: Imtrex and Phoenix have only been in trial for 1 year.
Rhynchosporium protectant (three years)

Use Imtrex only in mixture with at least one fungicide with an alternative mode of action which has efficacy against the target pathogen.

Note: Imtrex and Phoenix have only been in trial for 1 year.
Ramularia protection 2012 (N=1)

Use Imtrex only in mixture with at least one fungicide with an alternative mode of action which has efficacy against the target pathogen.
Ramularia protection (three years)
Net blotch 2012 (N=1)

Use Imtrex only in mixture with at least one fungicide with an alternative mode of action which has efficacy against the target pathogen.
Net blotch protection (three years)
Mildew eradicant (three years)
Conclusions - FP barley 2012

• *Rhynchosporium*
  • Siltra Xpro and Adexar good performance and consistent with previous years
  • Proline performance remains strong and consistent with previous years
  • Phoenix performance – one year data, would normally be used in mixture with other fungicides

• *Ramularia*
  • Siltra Xpro performance good
  • SDHIs have inherently good activity and add to the ramularia activity of their azole partners. SDHIs must be used in mixture
  • Proline remains strong
Conclusions - FP barley 2012

- **Net blotch**
  - Siltra Xpro and Adexar good performance and consistent with previous years
  - SDHIs improve azole activity
  - Proline performance remains strong and consistent with previous years
  - Strobilurins remain effective against net blotch

- **Mildew**
  - Prothioconazole and SDHIs give protectant activity
  - Use specific mildewicide protectants in high risk crops

- **Brown rust**
  - No data gathered in 2012
Thank you

Jonathan Blake - ADAS
Fiona Burnett - SRUC
John Spink - Teagasc
Paul Gosling - HGCA
Fungicide performance in oilseed rape 2012 - 2013
HGCA OSR Fungicide performance sites 2010-2012

- Phoma control - 2 sprays (Boxworth and Terrington)

- Light leaf spot - 2 sprays (Aberdeen and Malton, North Yorkshire)

- Sclerotinia - 1 spray (Hereford and Essex/Kent)
## Fungicide products tested in 2010-2012

<table>
<thead>
<tr>
<th>Phoma</th>
<th>Light leaf spot</th>
<th>Sclerotinia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prosaro 1.0 l/ha</td>
<td>Prosaro 1.0 l/ha</td>
<td>Amistar 1.0 l/ha</td>
</tr>
<tr>
<td>Proline 0.63 l/ha</td>
<td>Proline 0.63 l/ha</td>
<td>Compass 3.0 l/ha</td>
</tr>
<tr>
<td>Sunorg Pro 0.8 l/ha</td>
<td>Sanction 0.8 l/ha</td>
<td>Filan 0.5 kg/ha</td>
</tr>
<tr>
<td>Sanction 0.8 l/ha</td>
<td>Poraz 1.1 l/ha</td>
<td>Proline 0.63 l/ha</td>
</tr>
<tr>
<td>Poraz 1.1 l/ha</td>
<td></td>
<td>Proso 0.7 l/ha</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Topsin 0.71 l/ha</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Galileo 1.0 l/ha</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tectura 1.0 l/ha</td>
</tr>
</tbody>
</table>
Phoma A v. Phoma B
L. maculans  L. biglobosa
Leaf phoma severity across 6 trials (2010 to 2012)
Phoma canker control and yield with moderately high canker severity in 2011 (2 experiments)
Low canker severity and yield - 4 trials (2010 to 2012)
Light leaf spot - increased risk for 2012/2013
Light leaf spot control similar with product and dose - High Mowthorpe 2011
Light leaf spot control similar with product and dose - High Mowthorpe 2012

Source: HGCA FP 2012
Light leaf spot control not improved by high doses of prothioconazole (2 experiments)
Phoma and Light leaf spot summary

- Phoma control - 2 sprays at half dose are robust
  - product selection should consider curative activity and pgr effects

- Light leaf spot - 2 sprays autumn + stem extension gave moderate control
  - be prepared to spray January/February and use 3 sprays
Sclerotinia control
Sclerotinia - products tested by end of flowering infection in 2010
High sclerotinia in 2012 - only late infection was controlled

Background level
Multiple infection events during flowering - sprayed 12 May Herefordshire site 2012
Positive yield effects at sites with very low levels sclerotinia - pgr and drought factors?
Sclerotinia control summary

- A wide range of different fungicides
- Product choice and dose important at high disease pressure
- Assume products give 3 weeks protection
- Two sprays required to protect crops during flowering at high risk sites
- Fungicide resistance threat - do not use single active ingredients more than once