Control of leaf diseases in grain maize
Different product and timing

- Spraying
- Late harvest
Northern Corn leaf blight
*Helmintosporium tucicum*

- Makes cigar shaped spots
- After flowering disease development can be fast
- Severe attack looks like frost damage
- Spread by debris
- Spores spread by wind across long distances
- Stimulated by moist conditions
- Moderate temp. 18-27°C
- Loss from early attack can be as big as 50%
Eyespot

*(Kabatiella Zea)*

- Small circular spots
- Might develop fast following flowering
- Latent time: 4-10 days
- Spread from debris
- Some differences in susceptibility
- Wet conditions stimulates
- Spores spread by rain
- Optimal temp 10-12 C
- Losses from early attack around 10%
Development of attack of Kabatiella in the crop

Kabatiella above cup

Titre de l'axe

above ESKE
above FLAK

gs 51  gs 63  gs 69  gs 73  gs 75  gs 79  gs 83
Control of Kabatiella in maize
Flakkebjerg

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 x 0.5 Comet 19/7 + 16/8</td>
<td>19/7</td>
</tr>
<tr>
<td>1.5 Opera 19/7</td>
<td></td>
</tr>
<tr>
<td>Untreated</td>
<td></td>
</tr>
</tbody>
</table>

![Corn field images]
Control of Kabatiella in maize
23 sept. 2011 Flakkebjerg

1,2 BAY F111
4/7

1,5 Opera
4/7

Untreated
%Control of Kabatiella – assessed 23/9
(37 days after last application)
(64 days after first application)
Leaves above cob - Flakkebjerg
Control from strobilurins - Eskebjerg
-assessed 27 sept - 3 month from spraying

1,0 Comet (5/7)

1,0 Aproach (5/7)
Control of Kabatiella – 15/9
(2 month after application)
Leaves above - Eskebjerg

![Bar chart showing control of Kabatiella with various treatments and timings.](image-url)
Correlation between attack of eyespot and yield increases

$R^2 = 0.8848$
Maize cobs – effect of eyespot on cob size

<table>
<thead>
<tr>
<th>Cob size</th>
<th>Untreated</th>
<th>Opera early</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untreated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 x Opera</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2 x Opera
## Impact on grain and cob size – average of 15 cobs

<table>
<thead>
<tr>
<th></th>
<th>Grain size TGW g</th>
<th>Cob weight g</th>
<th>Cob length cm</th>
<th>Cob filling %</th>
<th>Cob diameter, cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untreated</td>
<td>274 A</td>
<td>135 A</td>
<td>15,0 A</td>
<td>94,0 A</td>
<td>4,1 A</td>
</tr>
<tr>
<td>Opera vs 39</td>
<td>328 B</td>
<td>182 BC</td>
<td>15,8 B</td>
<td>96,3 BC</td>
<td>4,4 B</td>
</tr>
<tr>
<td>Opera vs 51-60</td>
<td>319 B</td>
<td>177 B</td>
<td>15,2 A</td>
<td>95,1 AB</td>
<td>4,5 BC</td>
</tr>
<tr>
<td>2 x Opera</td>
<td>339 B</td>
<td>194 C</td>
<td>16,0 B</td>
<td>97,3 C</td>
<td>4,6 C</td>
</tr>
</tbody>
</table>

Example:

- 75%
- 90%
- 95%
- 95%
Control of Kabatiella
4 trials 2011/2012 – assessed on leaves above cob

Control of eyespot gs 75-79
Yield increase in grain maize
4 trials 2011/2012

yield increases hkg/ha

Propulse 1.0, Propulse 0.8, Propulse 0.6, Opera 1.5
Conclusion

• Disease attack can be minimized by ploughing
• Both eyespot and northern leaf blight are common in DK
• Timing is important for optimal control – Late application gives weak control
• Split application give best control