Early Blight:
Influence of different varieties

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Early blight - review 2006

- Increasing diseases of early blight in Germany and also in Europe
- Nationwide monitoring documents rising occurrence of early blight
- Disease with significant yield losses; Germany 30%
- First early blight symptoms in June
- Slowly epidemic development of early blight due to hot temperatures in June and July with very low moisture and rainfall
- Strong increase of early and late blight during August
material and methods

- field trials with 8 potato varieties within different maturity groups

  early: Karlena (S), Marabell (S)
  medium: Solara (S), Agria (S), Albatros (W)
  late: Logo (W), Maxilla (W), Kuras (W)

- weekly fungicide treatments

- trials:
  control, Coverspray, Mancozeb (Max), Amistar-Shirlan (Max)

- weekly ratings done on single plants

- estimation of yield, starch content and tuber sortation
material and methods

rating:

- weekly rating of the necrotic leaf area

  Upper leaf level

  Main/middle leaf level

  Lower leaf level

- rating of: early blight, late blight,
  total necrosis: unspezific necrosis, seneszenz,

- 10 plants out of each replication
AUDPC in different varieties - untreated

Location Weihenstephan 2006
comparison of varieties: AUDPC Kuras, Logo, Maxilla
Field trial: Sept. 1st, 2006
Field trial: Sept 20th, 2006

- Solara
- Kuras
- Ranman
- Control
- Mancozeb
- Azoxystrobin
- Ranman
- Kuras
- Control
estimation of:

- tuber yield
- tuber size (<35, 35-55, >55)
- starch content
sortation Kuras

<table>
<thead>
<tr>
<th>Control</th>
<th>Coverspray</th>
<th>Amistar/Shirlan</th>
<th>Mancozeb</th>
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<tbody>
<tr>
<td>+ 20,7%</td>
<td>+ 11,6%</td>
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yield dt/ha

- < 35 mm
- 35-55 mm
- >55 mm
- total

sortation

+ 20,7%
+ 11,6%
Starch yield industrial varieties

Varieties:
- Albatros
- Maxilla
- Logo
- Kuras

Yield comparison:
- Control:
  - Albatros: +22.8%
  - Maxilla: +27.5%
  - Logo: +29.5%
  - Kuras: +34.2%

- Control early blight:
  - Albatros: +22.8%
  - Maxilla: +27.5%
  - Logo: +29.5%
  - Kuras: +34.2%

- Amistar/Shirlan:
  - Albatros: +22.8%
  - Maxilla: +27.5%
  - Logo: +29.5%
  - Kuras: +34.2%

- Mancozeb:
  - Albatros: +22.8%
  - Maxilla: +27.5%
  - Logo: +29.5%
  - Kuras: +34.2%
conclusion

- All tested varieties showed medium to high susceptibility against early blight.
- Early maturing varieties showed higher incidence in disease severity of early blight as late maturing varieties.
- Variety-dependent differences concerning early blight susceptibility were detected within the maturity group.
- Early blight affects yield relevant factors: tuber yield, starch content, tuber size.
- By the use of Azoystrobin tuber yield and starch content was significantly increased in comparison to application of mancozeb.
Thanks for your attention!