### Integrated Control Of Sclerotinia sclerotiorum In Sunflower

#### Background + Objectives
- Comparative testing within one trial of all methods available in Germany for control of soft rot (Sclerotinia sclerotiorum; worldwide important pathogen in many crops; more than 400 hosts)
- Evaluation of efficacy of products

#### Materials and Methods
- **Crop / cultivar:** Helianthus annuus `Valentin`  
  **MODEL PLANT!**
- **Period:** 2001 - 2003
- **Replicates:** 5 (ca. 500 plants each)
- **Plot size:** 15 m²
- **Trial design:** completely randomized block
- **Inoculation:** little sacks containing sclerotia
- **Location:** Horticultural Experiment Station Erfurt; loess loam; soil quality index: 72, pH: 7.0 - 7.3

#### Treatments
1. Check (untreated)
2. Contans WG
3. Basamid-Granulate
4. Lime-nitrogen
5. Rovral
6. Contans WG / Rovral

#### Disease Pressure and Weather
- **2001:** Severe disease pressure  
  warm; first half of trial period: little rain with dry periods; second half of trial period: heavy rains
- **2002:** Moderate disease pressure  
  initially cool, then moderately warm; heavy rains especially during first half of trial period
- **2003:** Low disease pressure  
  initially warm, then hot; very little rain all throughout the period of the trial

#### Results
- **Best efficacy**
  - **2001:** Lime-nitrogen and Contans WG / Rovral
  - **2002:** Contans WG / Rovral and Contans WG
  - **2003:** Contans WG and Contans WG / Rovral
- **Under wet conditions, efficacy of Contans WG was superior to that of the chemicals.**
- **Rovral was almost ineffective when applied alone.**
- **The combination Contans WG / Rovral was among the top two treatments every year.**

#### Control of Sclerotinia sclerotiorum in sunflower  
(% diseased plants at the end of the trial each year)

<table>
<thead>
<tr>
<th>Treatment / Year</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check (untreated)</td>
<td>17.8</td>
<td>11.6</td>
<td>6.3</td>
</tr>
<tr>
<td>Contans WG</td>
<td>13.3 *</td>
<td>8.3 *</td>
<td>3.9 *</td>
</tr>
<tr>
<td>Basamid-Granulate</td>
<td>8.6</td>
<td>10.6</td>
<td>5.4</td>
</tr>
<tr>
<td>Lime-nitrogen</td>
<td>6.2</td>
<td>14.4</td>
<td>5.8</td>
</tr>
<tr>
<td>Rovral</td>
<td>10.7</td>
<td>11.7</td>
<td>7.4</td>
</tr>
<tr>
<td>Contans WG / Rovral</td>
<td>8.4 *</td>
<td>8.1 *</td>
<td>4.9 *</td>
</tr>
</tbody>
</table>

1: Biocontrol agent: Coniothyrium minitans  
2: Dazomet: soil disinfectant, biocide  
3: Fertilizer: generates calcium cyanamide, also a biocide  
4: Iprodione: fungicide, mostly for foliar treatments  
5: Little sacks containing sclerotia for inoculation  
6: Contans WG: fungicide, mostly for foliar treatments

#### Conclusions 2003
- Contans WG, Basamid-Granulate and lime-nitrogen can be recommended for control of *S. sclerotiorum* soft rot.  
  (NOTE: BASAMIDE-GRANULATE WAS BANNED IN GERMANY IN 2006: MITC GENERATOR!)  
- The efficacy of products is heavily dependent on weather and disease pressure.
- The combination Contans WG / Rovral is promising for biologically / integrated control of *S. sclerotiorum.*