Crop Management
Diagnostic Clinics

Jackson

Use & Copyright
The materials in this document were developed by and for use by University of Nebraska–Lincoln Extension in the Institute of Agriculture and Natural Resources. The materials are copyrighted by the Board of Regents of the University of Nebraska–Lincoln on behalf of the University of Nebraska-Lincoln Extension. All rights are reserved. Copies may be printed for individual personal use; however, these materials cannot be republished in print, on another Web site or used commercially without prior written permission. To seek permission to print a publication for educational use, please email us at dpittman1@unl.edu.

Disclaimer
Reference to commercial products or trade names in these publications is made with the understanding that no discrimination is intended and no endorsement by University of Nebraska-Lincoln Extension is implied.

© 2013 University of Nebraska–Lincoln
Assessing Potential Nematode Damage in Corn

Historically
- Results of analyses reported based on number of each species (usually genus)
- Lacked consistency between labs
- May/may not include root extractions?
- Damage “thresholds” based on observations and little data
  - Single nematode – not mixed population
  - Often without regard to:
    - Nematode behavior & sampling timing
    - Field conditions & risk factors

Assessing Potential Nematode Damage in Corn

Revised Sampling Recommendations
- Up to V6 corn – any soil type – esp. sand
- 10+ soil cores to 12” deep
- Dig 4 – 6 plants
- V6 to R3 (milk)
- Soil only
- R4 (dough) to harvest
- Sampling not recommended
- After harvest – if NOT sandy

Assessing Potential Nematode Damage in Corn

Updated Nematode Action Levels
- TOTAL NEMATODE DAMAGE RISK INDEX –
  - to assess potential damage from all plant-parasitic nematodes known to feed on corn identified in the sample
  - Formula with weighted values according to nematodes’ relative damage

Assessing Potential Nematode Damage in Corn

Updated Nematode Action Levels
- SITE SENSITIVITY INDEX - to assess a field’s vulnerability to nematode damage on corn
  - Number of years corn grown
  - Predominant soil texture
  - Availability of irrigation
  - Use of conservation tillage
  - Occurrence of stand establishment and/or compaction problems
### Estimated Nematode Damage Potential in Corn (By V6)

<table>
<thead>
<tr>
<th>Species</th>
<th>Low</th>
<th>Moderate</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sting</td>
<td></td>
<td>&gt;1 (or equal to)</td>
<td></td>
</tr>
<tr>
<td>Needle</td>
<td>&gt;1 (or equal to)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesion</td>
<td>&lt;100</td>
<td>101-200</td>
<td>&gt;200</td>
</tr>
<tr>
<td>Lance</td>
<td>&lt;50</td>
<td>51-100</td>
<td>&gt;100</td>
</tr>
<tr>
<td>Stubby-root</td>
<td>1-50</td>
<td>51-200</td>
<td>&gt;200</td>
</tr>
<tr>
<td>Dagger</td>
<td>&lt;100</td>
<td>101-200</td>
<td>&gt;200</td>
</tr>
<tr>
<td>Spiral</td>
<td>&lt;500</td>
<td>&gt;500</td>
<td></td>
</tr>
<tr>
<td>Stunt</td>
<td>&lt;500</td>
<td>&gt;500</td>
<td></td>
</tr>
<tr>
<td>Ring</td>
<td>Any</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pin</td>
<td>Any</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Root knot</td>
<td>&lt;100 J2</td>
<td>101-300 J2</td>
<td>&gt;300 J2</td>
</tr>
</tbody>
</table>

#### Nematode Pathogenicity

- **Low risk to corn due to nematodes**: Sampling recommended if symptoms appear.
- **Low potential risk to corn due to nematodes**: Regular monitoring recommended.
- **High risk of damage to corn by nematodes**: Management is needed.

#### Damage to corn by nematodes is likely - management is advisable