Insects and Disease Affecting Canola Production in Texas

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2014 Winter Canola Field Day
Why Canola in Texas?

- We grow 6 million acres of wheat
- Few cool-season rotational crops available
- Grassy weeds tough to control in continuous wheat
- Canola is profitable!
Where is canola grown in Texas?

- >2000 acres
- 1000-2000 acres
- <1000 acres
Winter vs. Spring Canola
Canola Yield Potential in Texas

- **Etter**: 840-2952 lb/a
- **Vernon**: 1200-2200 lb/a
- **Prosper**: 498-998 lb/a
- **Hillsboro**: 647-1470 lb/a
- **College Station**: 754-1465 lb/a Winter, 648-1788 lb/a Spring
- **Beeville**: 499-2050 lb/a Winter, 741-3495 lb/a Spring
- **Corpus Christi**: 607-1970 lb/a
- **Uvalde**: 900 lb/a
- **Weslaco**: 875-1493 lb/a
Winter Canola Life Cycle in College Station

- **Oct 15 – Nov 15**: Seedling
- **Nov 15 – Dec 15**: Rosette
- **Dec 15 – Feb 15**: Dormant
- **Mar 15 – Apr 15**: Flowering
- **Apr 15 – May 15**: Pod Fill
- **May 15 – May 30**: Mature

**Important Dates:**
- Oct 15 – Nov 15: Dormant to Rosette
- Nov 15 – Dec 15: Rosette to Seedling
- Dec 15 – Feb 15: Maturity and dormancy phases
- Mar 15 – Apr 15: Flowering
- Apr 15 – May 15: Pod fill
- May 15 – May 30: Mature

*Illustrations depict canola life cycle stages.*
Canola Pests Observed in Texas

- Aphids
- Diamondback Moth Larvae
- False Chinch Bugs
- Flea Beetles
- Stinkbugs
- Birds
Aphids

- Well documented pest throughout Southern Great Plains

- Include Green Peach, Cabbage, and Turnip aphids
Aphids

Turnip Aphid

Cabbage Aphid
Green Peach/Turnip Aphid Management

- **Seed treatment**

- **Early insecticide applications may require additional applications**

- **Economic threshold:**

<table>
<thead>
<tr>
<th>Canola Price ($/lb)</th>
<th>Aphids/Plant*</th>
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<tbody>
<tr>
<td>0.30</td>
<td>50-100</td>
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<tr>
<td>0.25</td>
<td>60-120</td>
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<tr>
<td>0.20</td>
<td>70-140</td>
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<tr>
<td>0.15</td>
<td>80-160</td>
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<tr>
<td>0.10</td>
<td>90-180</td>
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</tbody>
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*Lower numbers during dry conditions*
Cabbage Aphid Management

- Scout often

- Open flower buds when scouting

- Economic threshold:
  - 15% infested racemes during budding, early or mid-bloom
Diamondback moth

Larvae  Pupa  Adult
Diamondback Moth

Mostly eat holes in leaves

Can migrate to crown of plant to overwinter
Diamondback Moth

- Little to no impact on healthy, unstressed plants
- Can further stress plants already injured by cold
Diamondback Moth Management

- Found world wide - very common canola pest

- Economic threshold:
  - Seedlings: 2-3 larvae/row ft
  - Rosette: “Significant leaf damage”

- Check crowns of overwintering plants

- Use high end of labeled insecticide rate
False Chinch Bug
False Chinch Bug

- Overwinter in wild mustards and other annual broadleaf weeds
- Mostly problematic during bloom/early pod set
- Worse in dry conditions
- Can “swarm” under right conditions
False Chinch Bug Management

- Economic thresholds:
  - Flower: 5-10/raceme
  - Pod set: 10-20/raceme

- Use high spray rate (more gal/a of water carrier)
  - >5 gal for aerial applications
Flea Beetle
Flea Beetle Management

- Keep plant density >7 plts/ft²
- Use seed treatments
- Use larger seeds at planting
- Economic threshold:
  - Seedling: 25-50% leaf damage
  - Consider not spraying if newer leaves are relatively untouched
Stinkbugs

- No economic thresholds established in canola
- Common on soybeans in SE TX
- Will these be significant pest???
  - Not so far....
Other Pests...

- Fall armyworm
- Beet armyworm
- Army cutworm
- Cabbage worms
- Loopers
- Root maggot
- Grasshopper
- Thrips
- Harlequin bug
- Lygus bug
- Red turnip beetle
- Wireworm
- Aster leafhopper
Canola Diseases

**Fungal**
- Blackleg
- Sclerotinia Stem Rot
- Alternaria Black Spot
- Downy Mildew
- Powdery Mildew

**Bacterial**
- Black Rot

**Viral**
- Aster Yellow
Black Rot

- Bacterial disease
- Mostly superficial (no yield loss)
- Likes moist conditions
Blackleg following freeze injury

- Normally does not impact stems
- Freeze injury creates wounds/entry point
- Bacteria enters through wound
Questions??

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