Blackbird Damage to Sunflower Crops in North Dakota

Funding provided by National Sunflower Association

Economic Impact of Blackbird Damage

- Study results indicate that the eight states lose $29.5 million annually due to bird damage to oilseed and confectionery, which causes a corresponding employment loss of 14 jobs.
- Average current damage per acre ranges from $13.77 in Oilseed to $19.44 in Confectionery in ND.
- Average percent bird damage in ND for oilseed sunflower fields are 4.2% and for confectionery sunflower fields are 4.5%.
- In all 50 states, blackbird damage is significant, with growers losing 2.8% and 1.8% per year of oilseed sunflower and confectionery production, respectively.

Surveyors stopped every 10,000-15,000 acres and estimated percent loss due to blackbird feeding in two random locations within the field. Annual acres harvested and average yield in each state was obtained from the National Agricultural Statistical Service (www.nass.usda.gov/Quick_Stats).

The average annual (direct + indirect) economic impact for bird damage to sunflower production in ND was $18.7 million and reduced employment by 7 jobs.

- Total economic impact was calculated using a model of the regional economy that predicts how a change in one industry can affect revenue and employment throughout the economy. These results illustrate how crop loss affects the region’s economy.
- Annually in North Dakota, blackbirds reduced oilseed sunflower yields by 4.2% valued at $8.7 million statewide in direct damages. Blackbirds reduced confectionery sunflower yields by 4.5% valued at $2 million statewide in direct damages.
- Overall, average annual direct blackbird damage cost to North Dakota’s sunflower growers was $10.7 million.
- Of the 8 surveyed states, North Dakota ranked 1st in bird damage to confectionery and 1st in bird damage to oilseed hybrids.

| Oilseed Sunflower | Confectionery Sunflower |
In summer 2009 to 2013, trained teams assessed 721 physiologically mature oilseed and 230 confectionery hybrid sunflower fields for yield and production limiting factors in ND, SD, KS, CO, MN, TX, NE, and VT. Table 1 displays the data collected by trained teams in North Dakota.

ND suffered highest economic damage with average annual loss of $18.7 million for direct and indirect damages to sunflowers.

### Data Collection Results:
- Blackbird damage came in 5th place in the limiting factors on production (plant spacing, disease, drought, and weeds).
- Biological issues ranked 3rd for bird damage (behind disease and weeds).

Note: Damage numbers are based on the survey done at physiological maturity. Additional damage could have occurred prior to harvest.

National average annual blackbird damage was $11.3 million for oilseed and $2.5 million for confectionery sunflower fields.

- In ND, cost of blackbird damage was $8.8 million higher for oilseed sunflower.

Calculated field estimate loss for North Dakota is $10.7 million in direct damages.

### Table 1. Average Annual Sampled Results of Sunflower Damage and Yield in North Dakota, 2009-2013

<table>
<thead>
<tr>
<th>ND</th>
<th>Mean Harvested (acre)</th>
<th>Mean Sampled (N)</th>
<th>Mean Yield (lbs/acre)</th>
<th>Lost to Bird Damage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oilseed</td>
<td>619,753</td>
<td>378</td>
<td>1,459</td>
<td>4.2</td>
</tr>
<tr>
<td>Confectionery</td>
<td>101,235</td>
<td>79</td>
<td>1,438</td>
<td>4.5</td>
</tr>
</tbody>
</table>