Look for:

• Stems without hairs

• Very long petioles

• Poinsettia type leaf arrangement
Palmer Amaranth

Waterhemp
Palmer Amaranth is Spreading Throughout the U.S.

Why?

© Dr. Kevin Bradley, University of Missouri
Missouri Counties With Palmer Amaranth (that we know about)

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contaminated
used equipment or custom harvesting crews from other regions

contaminated feed and/or seed from other regions
What Role Do Migratory Waterfowl Play in the Transport of Weed Seed?

Weed and Crop Species Recovered From Hunter-donated Ducks And Geese

**Ducks**
- Smartweeds: 24%
- Barnyardgrass: 38%
- Pigweeds: 30%
- Other: 8%
- Weeds Recovered: 14,395

**Geese**
- Smartweeds: 30%
- Corn: 46%
- Pigweeds: 9%
- Other: 15%
- Weeds Recovered: 86

What role do migratory waterfowl play in the transport of weed seed?
Recovery Rate of Fed Weed Seed

Bars followed by the same letter are not different, LSD=0.05.
We’ve Also Found that Waterfowl Transport Pigweed Seed!

- ~49 million ducks (U.S. Fish and Wildlife Service)
- In our study, an average of 18 pigweed seeds emerged per duck
- Potential of ~ 882 million pigweed seed transported!
- Mallards can maintain flight speeds of 48 mph for 38 hours
- Potential to move Palmer amaranth, waterhemp, etc. >1,000 miles
Other Sources?
Palmer Amaranth
A Weed Capable of a Hostile Takeover!

Table 2. Percentage of total cells (1-m²) infested by glyphosate-resistant Palmer amaranth in fields G2, G4, G5, and G6 in 2008, 2009, and 2010, at the University of Arkansas—Agriculture Research and Extension Center, Fayetteville, AR.

<table>
<thead>
<tr>
<th>Field</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>G2</td>
<td>0.58</td>
<td>14</td>
<td>&gt; 95</td>
</tr>
<tr>
<td>G4</td>
<td>0.56</td>
<td>31</td>
<td>&gt; 95</td>
</tr>
<tr>
<td>G5</td>
<td>0.60</td>
<td>24</td>
<td>&gt; 95</td>
</tr>
<tr>
<td>G6</td>
<td>0.51</td>
<td>12</td>
<td>&gt; 95</td>
</tr>
</tbody>
</table>

*Percentage of infestation calculated by dividing the number of 1-m² grid cells containing Palmer amaranth by the total number of cells for that field.*
Season-long competition by Palmer amaranth at 2.5 plants per foot of row can reduce soybean yield by as much as 79%.
Website: weedscience.missouri.edu

App: ID Weeds (free download)

Facebook: Mizzou Weed Science

Twitter: @ShowMeWeeds