2018 Texas High Plains Weed Management Update
West Texas Agricultural Chemicals Institute
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Two Scenarios – Side by Side
Consider Cultivation
Control Escaped Weeds
Auxin-Tolerant Cotton:

- XtendFlex™ and Enlist™ cotton was available in 2016
  - Xtendimax™ with VaporGrip™ - November, 2016
  - Engenia™ - December, 2016
  - Enlist Duo® with Colex-D technology® - January, 2017
  - FeXapan™ herbicide plus VaporGrip™ – Feb, 2017
Success in 2018…

- Started clean
- Used yellows – proper rate and incorporation
- Used PREs (per weeds present) / activated
- Timely POST applications that contained residuals
- Thorough spray coverage
- Managed “escapes”
- Several “modes of action” used
Be timely with POST applications
4-inch Palmer amaranth
Conventional Tillage

March - April At-Plant (May) + 21 days (June) + 28 days (July) Layby (August)

- yellow $5.00
- white $7.00
- RU + dicamba + EPost Residual $20.00
- ?
- layby $5.00
Where do we go from here?

• MUST HAVE ON-TARGET APPLICATIONS for the auxin technology to continue with this technology...
• Finish the job!
• EPA has not yet determined label 2019 label changes, which could range from none to slight to major to removal
Late-season Seed Production in Palmer amaranth

- Select 15 PA seedlings (<1 inch) on a weekly basis starting in Sept in 2014, late Aug in 2015, and mid-Aug in 2016 until the first hard frost
<table>
<thead>
<tr>
<th>Timing (Julian week)</th>
<th>College Station</th>
<th>Lubbock</th>
<th>Fayetteville</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Biomass (g/plant)</td>
<td>Avg. seed count/ plant</td>
<td>Biomass (g/plant)</td>
</tr>
<tr>
<td>32 (Aug 06-12)</td>
<td>-</td>
<td>-</td>
<td>110.31</td>
</tr>
<tr>
<td>33 (Aug 13-19)</td>
<td>1.19</td>
<td>525</td>
<td>27.89</td>
</tr>
<tr>
<td>34 (Aug 20-26)</td>
<td>1.12</td>
<td>353</td>
<td>14.65</td>
</tr>
<tr>
<td>35 (Aug 27-Sep 02)</td>
<td>0.85</td>
<td>193</td>
<td>17.51</td>
</tr>
<tr>
<td>36 (Sep 03-09)</td>
<td>0.69</td>
<td>177</td>
<td>9.89</td>
</tr>
<tr>
<td>37 (Sep 10-16)</td>
<td>0.56</td>
<td>147</td>
<td>3.59</td>
</tr>
<tr>
<td>38 (Sep 17-23)</td>
<td>0.21</td>
<td>54</td>
<td>3.30</td>
</tr>
<tr>
<td>39 (Sep 24-30)</td>
<td>0.16</td>
<td>35</td>
<td>2.23</td>
</tr>
<tr>
<td>40 (Oct 01-07)</td>
<td>0.28</td>
<td>24</td>
<td>2.03</td>
</tr>
<tr>
<td>41 (Oct 08-14)</td>
<td>-</td>
<td>-</td>
<td>1.18</td>
</tr>
<tr>
<td>42 (Oct 15-21)</td>
<td>-</td>
<td>-</td>
<td>1.28</td>
</tr>
</tbody>
</table>
Seedbank longevity of Palmer amaranth and Common Waterhemp

- Three locations: Lubbock, College Station, Corpus Christi
- Five year study
- Burial: March 31, 2016
- Two depths: 2- and 8-inches
- Retrieval times: 6, 12, 24, 36, 48, 60 months
- Two Hundred seed were placed in weed-free soil in nylon micromesh bags
Palmer amaranth seedbank longevity (% of original viable seeds) when buried at 5 or 25 cm deep, 2 years after burial

![Graph showing the longevity of Palmer amaranth seedbank at different depths and locations.](image-url)