Herbicides for Pecan Orchards
Preemergence herbicides
Why use a preemergence herbicide?

• Decrease number of postemergence herbicide applications per year
• Decrease the likelihood of building herbicide resistant populations
Weed emergence timing

Emergence of summer annuals:
- Morningglories
- Pigweed
- Spurge
- Goosegrass
Weed emergence timing

Carolina geranium
Henbit
C. chickweed
Annual bluegrass

Emergence of winter annuals
Weed emergence timing

Emergence of winter annuals

Emergence of summer annuals
Incorporating preemergence
Incorporating preemergence

- Incorporate 2 to 3 inches deep
  - Cultivation
  - Irrigation
  - Rainfall
- Within 24 hours
Incorporating preemergence

- Incorporate 2 to 3 inches deep
  - Cultivation
  - Irrigation
  - Rainfall
- Within 24 hours

Too Deep

Species specific
Little to none
Maximum emergence

Inches
0
1
2
3
4
Preemergence herbicide options

- **Alion**
  - 5 fl. oz.
- **Chateau**
  - 6 to 12 oz.
- **Devrinol**
  - 8 lbs. of 50DF-XT
  - 40 lbs. of 10G
- **Diuron, Karmex, Direx**
  - 2 lb. of 80 WDG
  - 2.2 qt. of 4L
- **Goal/GoalTender**
  - 5-6 pt. of 2EC
  - 2.5-4 pt. of 4E
- **Sandea**
  - 0.66 – 1 oz.
- **Solicam**
  - 1.25 – 3.75 lb.
- **Oryzalin, Surflan**
  - 2 – 6 qt.
- **Princep, Simazine**
  - 1.4 – 4 qt. of 90WDG
  - 1.6 – 4.4 lb. of 4L
Preemergence herbicide options - Newly Transplanted

- **Alion**
  - 5 fl. oz.
- **Chateau**
  - 6 to 12 oz.
- **Devrinol**
  - 8 lbs. of 50DF-XT
  - 40 lbs. of 10G
- **Diuron, Karmex, Direx**
  - 2 lb. of 80 WDG
  - 2.2 qt. of 4L
- **Goal/GoalTender**
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- **Oryzalin, Surflan**
  - 2 – 6 qt.
- **Princep, Simazine**
  - 1.4 – 4 qt. of 90WDG
  - 1.6 – 4.4 lb. of 4L
Chateau

- Flumioxazin
- 6 to 12 oz./A
- 60 days between sequential applications
- Bearing and nonbearing
- If less than one year protect with plastic covers or wraps
- After bud break and before final harvest use a shielded sprayer
  - Application pressure <30 PSI
  - Application speed <5 mph
Rely 115 fl. oz. (34 DAT)
Rely 115 fl. oz. + Chateau 9 oz
Alion

- Active ingredient: indaziflam (Group 29/L)
- 5 to 6.5 fl. oz./A.
- Do not apply more than 10.3 fl. oz./A./yr.
- Spanish nettle, chickweeds, pigweeds, horseweed, filaree, crabgrass, goosegrass, guineagrass
- Trees must be established for 3 years
Postemergence herbicides
Nonselective POST herbicides

• Glyphosate
  – Read label
• Firestorm/Gramoxone
  – 1.7-2.7 pt./2.5-4.0 pt
• Rely/Cheetah/Forfeit
  – 48 – 82 fl. oz./A
• Scythe
  – 3%-10% v/v
Glyphosate

• Glyphosate translocates through the weeds and the pecan tree
• Be careful apply to young trees with green bark or low hanging branches
• Plastic cover or nonporous wraps
Nonselective POST herbicides

• Glyphosate
  – Read label

• Firestorm/Gramoxone
  – 1.7-2.7 pt./2.5-4.0 pt

• Rely/Cheetah/Forfeit
  – 48 – 82 fl. oz./A

• Scythe
  – 3%-10% v/v
Rely 280

- Other trade names: Cheetah/Forfeit/Lifeline
- A.I.: glufosinate
- Grass and broadleaf control
- 48 to 82 fl. oz. based on the size of the weeds
- Not more than 82 fl. oz./application
- Not more than 164 fl. oz./12 mo. period
- Contact herbicide, coverage is key
- Tank mix with a PRE herbicide
- 14 day PHI
Boom Too Low
• Contact herbicides
  – Coverage is most important

Contact Herbicide
Paraquat (Gramoxone)
Broadleaf POST herbicides

- 2,4-D
  - Read label
- Aim
  - 0.5 – 2 fl. oz.
- Matrix
  - 2-4 oz./A
- Sandea
  - 0.66-1.0 oz.
Postemergence Grass herbicides

• Fusilade (16 to 24 fl. oz.)
  – Nonbearing\(^1\) and bearing trees

• Select (9 to 16 fl. oz.)
  – Nonbearing trees

• Select Max (9 to 16 fl. oz.)
  – Supplemental label for bearing crops

• Poast (1.5 to 2.5 pt.)
  – Nonbearing and bearing trees

\(^1\) Nonbearing trees are trees that will not produce fruit for 1 year after application
Herbicide resistance
Is the weed resistant?

- Proper calculation
- Correct surfactant
- Proper timing
- The right herbicide for the weed
Herbicide mode of action (MOA)

- Resistance management includes rotation of herbicide’s mode of action
# PRE herbicide MOA

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<tr>
<th>WSSA/HRA C</th>
<th>MOA</th>
<th>Trade name</th>
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<tr>
<td>3 / K1</td>
<td>Root growth inhibitor</td>
<td>Surflan, Oryzalin</td>
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<td>Sinbar</td>
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<td>Diuron, Karmex, Direx</td>
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<td>Pigment Synthesis Inhibitors</td>
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<td>14 / E</td>
<td>PPO Inhibitor</td>
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<td>29 / L</td>
<td>Cellulose Inhibitor</td>
<td>Alion</td>
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## POST herbicide MOA

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<td>1 / A</td>
<td>Lipid Synthesis Inhibitor</td>
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<td>Select Max, Arrow</td>
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<td>2 / B</td>
<td>Amino Acid Synthesis (ALS)</td>
<td>Matrix</td>
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<td>9 / G</td>
<td>Amino Acid Synthesis (EPSP)</td>
<td>Roundup, glyphosate</td>
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<td>10 / H</td>
<td>Nitrogen Metabolism Inhibitor</td>
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<td>14 / E</td>
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<td>22 / D</td>
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Questions.

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