

Pecan Weed Control

Lenny Wells
UGA Horticulture



extension.uga.edu | 1-800-ASK-UGA1



Herbicides

- **PRE Herbicides**
 - control germinating & emerging weeds
 - rainfall for activation
 - residual herbicides
 - when to apply is always the key
- **POST Herbicides**
 - controls actively growing emerged weeds
 - Application timing and weed size are critical



FOR ALL HERBICIDES CONSIDER THE OPTIONS??

- **What stage of trees?**
 - Newly planted
 - Established orchard
- **Are trees bearing?**
- **Nonbearing?**
- **What weeds do I have?**
- **How do I control them?**



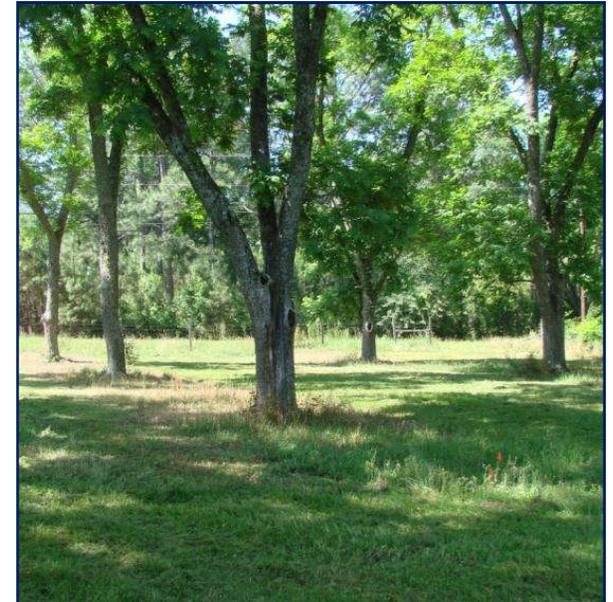
Yearly restrictions in new orchards

- Pre-emerge herbicides that can be use in orchards that are at least 1 year old or after soil has settled around roots (6 months)
 - Tuscany or Chateau
- Available only after Year 2
 - simazine
- Available only after Year 3
 - Diuron
 - Indaziflam



Established Orchard Management

- Many options available
- Restrictions
 - PHI
 - Non-bearing vs. Bearing
 - No grazing animals after some applications
- Available in Non-bearing trees only
 - bentazon (Basagran)
 - clethodim (Select)



Why do PRE herbicides work?

- Weed species are more susceptible to herbicides as seedlings or even prior to emergence
- Often takes lower concentration for control
- Continuous control
- Extended over time
 - Herbicide dependent
 - Environment dependent
- Need different MoAs



UGA
extension

extension.uga.edu | 1-800

PRE-Emerge products for Pecan Herbicide Strips

| Product | Active Ingredient | WSSA Group |
|---------------------------------|--|------------|
| Sandea Mission Matrix | Halosulfuron Flazasulfuron Rimsulfuron | 2 |
| Prowl, Prowl H2O, & Generics | Pendimethalin | 3 |
| Princep & others | Simazine | 5 |
| Karmex & others | Diuron | 7 |
| Chateau & Tuscany | Flumioxazin | 14 |
| Alion | Indaziflam | 29 |

POST-EMERGE products for Herbicide Strips

| Product | Active Ingredient | WSSA Group |
|--|-------------------|------------|
| Gramoxone Inteon & Generics | Paraquat | 22 |
| Rely | Glufosinate | 10 |
| Roundup WeatherMax & Generics | Glyphosate | 9 |
| Basagran | Bentazon | 6 |
| Carfentrazone | Aim | 12 |



POST only Herbicides – Group 1s

Annual and Perennial Grass Control

- **Fuazifop**

- Fusilade DX 2 EC



- **Sethoxydim**

- Poast 1.5 EC

- **Clethodim**

- Select 2 EC, Arrow 2 EC, Intensity 2 EC, Select Max, Intensity One

POST Herbicides

Broadleaf and Sedge Control

- **2, 4-D amine - 4**
 - Numerous generic formulation
- **Bentazon - 6**
 - Basagran 4 SL
- **Carfentrazone - 14**
 - Aim



Know the recommendations

- What is the rate of herbicide?
- Is application timing important?
 - ✓ Time of year to apply?
 - ✓ Late winter/early spring
- Mixing instructions?
- Rainfall or irrigation?
 - ✓ Bare soil or apply with contact?
 - Roundup?
 - Rely?
 - Gramoxone?



Resistant Weed Management

- Causes – over reliance on 1 MOA
- How to avoid
 - Keep rotating MoA's
 - tank mixing PRE herbicides
- Herbicide resistance in GA
 - Goosegrass
 - Prickly sida
 - Italian ryegrass
 - Palmer amaranth
 - Large crabgrass



Rotation of herbicide MoA

Look for MoA information on labels



Sandea Herbicide

SANDEA® is a selective herbicide for control of listed broadleaf weeds and nutsedge

ACTIVE INGREDIENT: Halosulfuron-methyl, methyl 3-chloro-5-(4,6-dimethoxypyrimidin-2-ylcarbamoylsulfamoyl)-1-methylpyrazole-4-carboxylate 75.0%
OTHER INGREDIENTS 25.0%
TOTAL 100.0%

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

*Si usted no entiende la etiqueta, busque a alguien para que se las explique a usted en detalle.
(If you do not understand the label, find someone to explain it to you in detail.)*

| FIRST AID | |
|---|--|
| IF IN EYES | <ul style="list-style-type: none"> Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call poison control center or physician for treatment advice. |
| IF SWALLOWED | <ul style="list-style-type: none"> Call poison control center or physician immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything to an unconscious person. |
| HOT LINE NUMBER | |
| Have the product container or label with you when calling poison control center, doctor or going for treatment. For emergency information concerning this product, call toll free 1-888-478-0798. | |

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION**

Causes moderate eye irritation. Harmful if swallowed. Avoid contact with eyes or clothing.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

ENGINEERING CONTROLS STATEMENTS: When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240 (d) (4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

- Users should:**
- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
 - Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

ENVIRONMENTAL HAZARDS

This product is toxic to non-target vascular plants. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

Halosulfuron-methyl is known to leach through soil into ground water under certain conditions as a result of label use. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

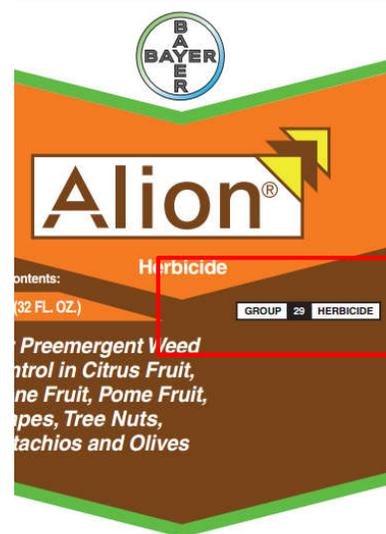
DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

NET CONTENTS: 10 OUNCES

Gowan

Produced For:
Canyon Group LLC,
C/O Gowan Company



ACTIVE INGREDIENT: Indaziflam® 19.05%
OTHER INGREDIENTS: 80.95%
TOTAL: 100.00%
 Contains 1.67 pounds of indaziflam per gallon.
 *(CAS No: 730979-19-8)

EPA Reg. No. 264-1106 EPA Est. No. 264-DEU-001

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

*FOR ADDITIONAL PRECAUTIONARY
STATEMENTS: See Inside Booklet.*

For **MEDICAL** And **TRANSPORTATION** Emergencies
ONLY Call 24 Hours A Day 1-800-334-7577
 For **PRODUCT USE** Information Call 1-866-998-BAYER
 (1-866-992-2937)

Produced for:
Bayer CropScience LP
P.O. Box 12014, 2 T.W. Alexander Drive
Research Triangle Park, North Carolina 27709
ALION is a registered trademark of Bayer.
©2013 Bayer CropScience
Product of Germany US80209568D 130226D 03/13

FIRST AID

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.
- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.
- Call a poison control center or doctor for further treatment advice.
- Call a poison control center or doctor immediately for treatment advice.

ENGINEERING CONTROLS STATEMENTS:

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240 (d) (4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS:

Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

1-800-ASK-UGA1



Options for herbicide rotation?

- If you use Alion in 2020
- Consider alternatives in 2021
 - Tuscany or Chateau
- Driven by your weed spectrum
- Prowl H2O & others
- Diuron/Direx/Karmex
- Surflan/Oryzalin
- Consider as many different MoA as possible
- Both PRE and POST options



UGA
extension

extension.uga.edu

1-800-ASK-UGA1