

TEXAS A&M AGRILIFE

Bearing with Burs – Evolving Strategies for an Old Problem

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sandbur
Cenchrus spp.



Annual? Perennial? Biennial?

Cenchrus spinifex

Field sandbur (potential perennial) is likely the most common.

Listed as “**annual**” that “**overwinters**” in “Weeds of the South” 1st ed. (Bryson and DeFelice 2009; Correll and Johnston 1970; Gould 1975; Shaw 2012)

That we know of, ***C. spinifex*** is this way. **Other** perennials are present. Not as **abundant?**

Listed as **biennial** in “Weeds of California and Other Western States” 1st ed. (DiTomaso & Healy 2007)

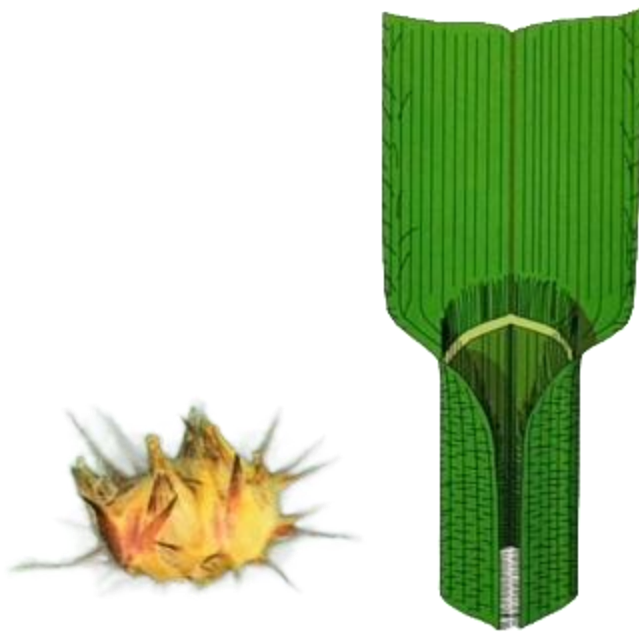
Are our winters **cold** enough to kill it?
South of I-40 – Generally **No!**

southern sandbur

Cenchrus echinatus

Fairly common throughout the south and coastal areas.

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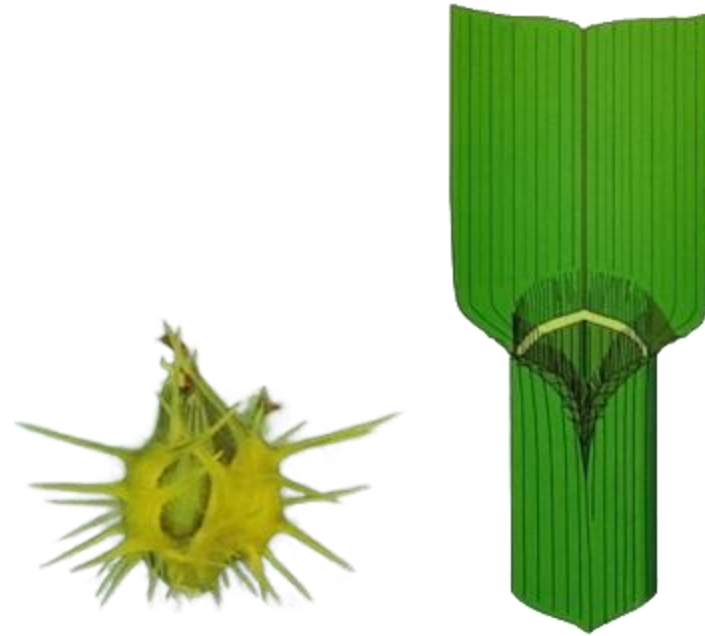


Hairy leaf; hairy sheath;
likely not rooting at nodes

Annual; 1-3 seed/bur;
flowering season long

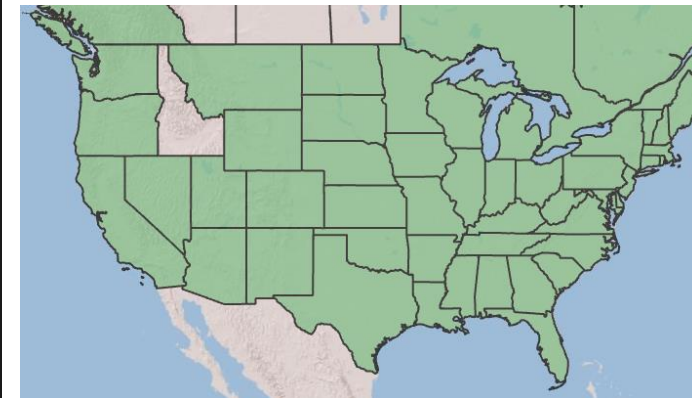


longspine sandbur



Smooth leaf; tight/closed sheath; may root at nodes

Annual; 1-3 seed/bur;
flowering season long; bur
not always green



Cenchrus longispinus

Most common throughout the country.

Others present?

Not in abundance.
Differences in burs
morphology not allowing for
affective distribution?

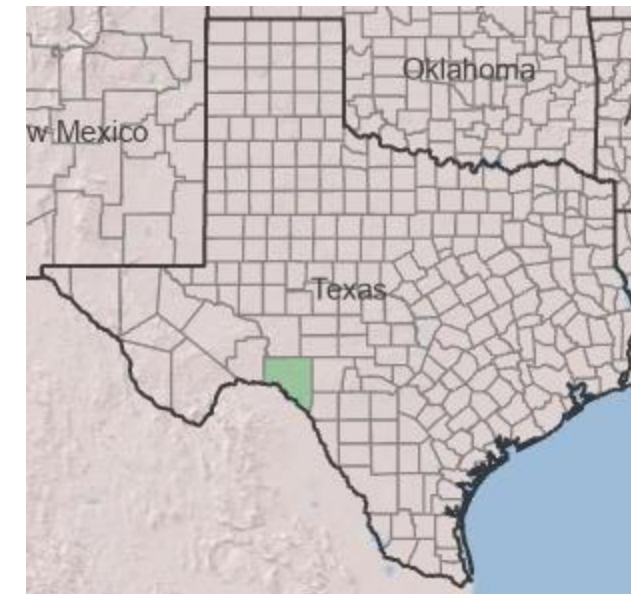
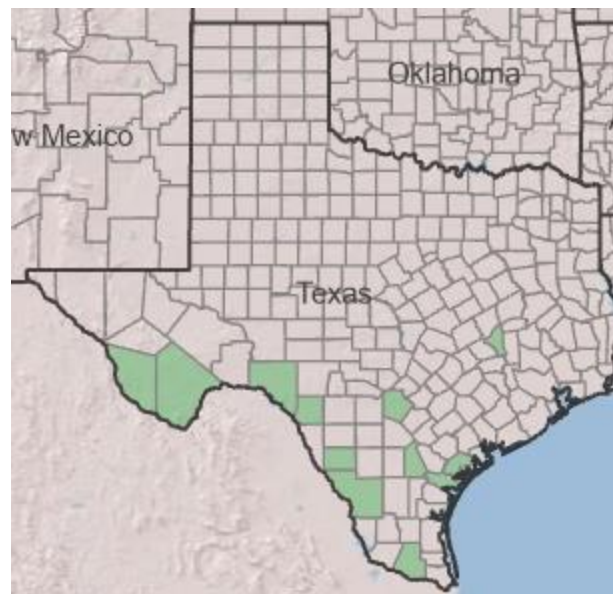
Cenchrus myosuroides

big sandbur

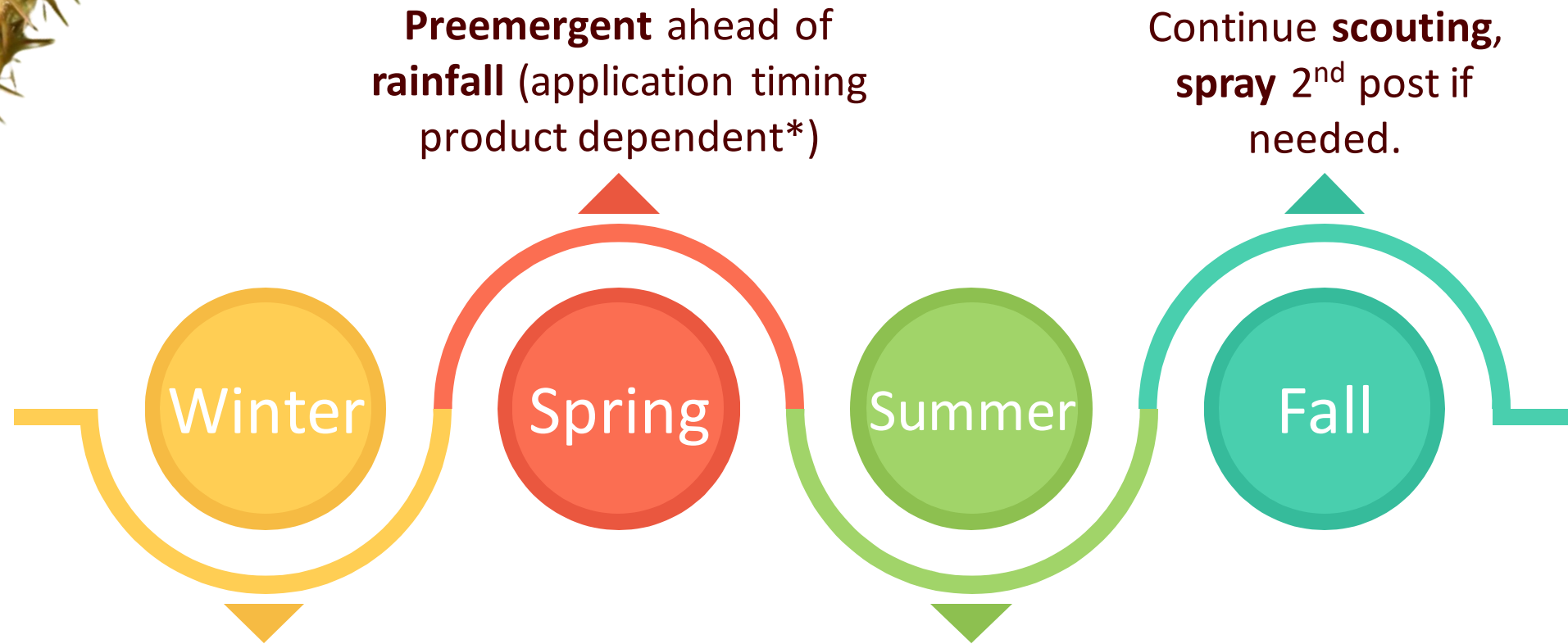
Cenchrus brownii

slimbristle sandbur

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Management Timeline



Preemergent ahead of rainfall (application timing product dependent*)

Continue scouting, spray 2nd post if needed.

Winter

Spring

Summer

Fall

Scout for **perennials**, map problematic areas

Scout for escapes – spray **post** and **2nd preemergent** accordingly after hay **cutting** or heavy **grazing**[#]

*See slides XX and XX.

[#] See slides XX and XX.

Multi Year Approach



Preemergent use;
postemergent use

1

Preemergent use;
Postemergent use as needed

2

Don't use preemergent
Postemergent use

3



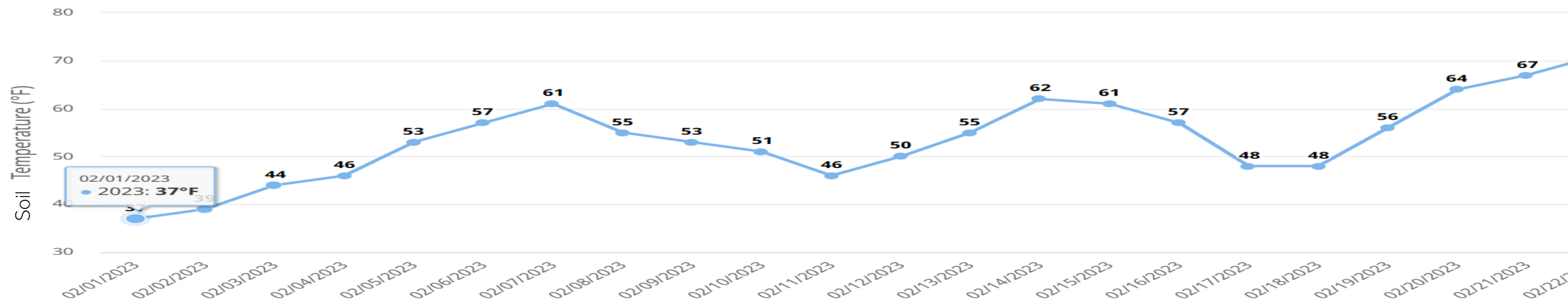
Field
sandbur



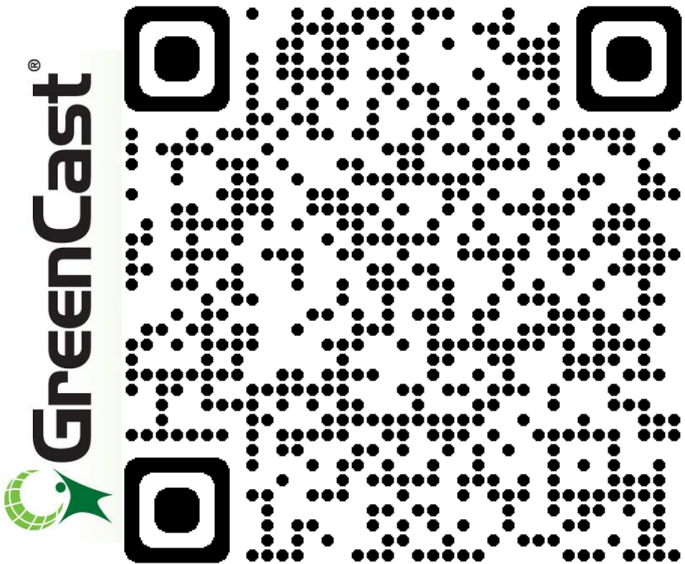
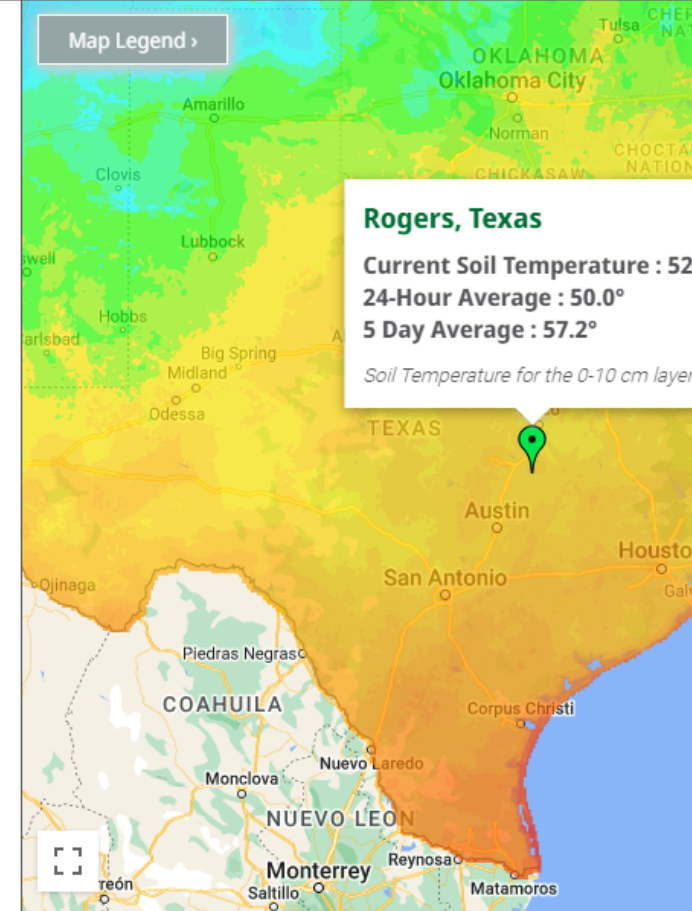
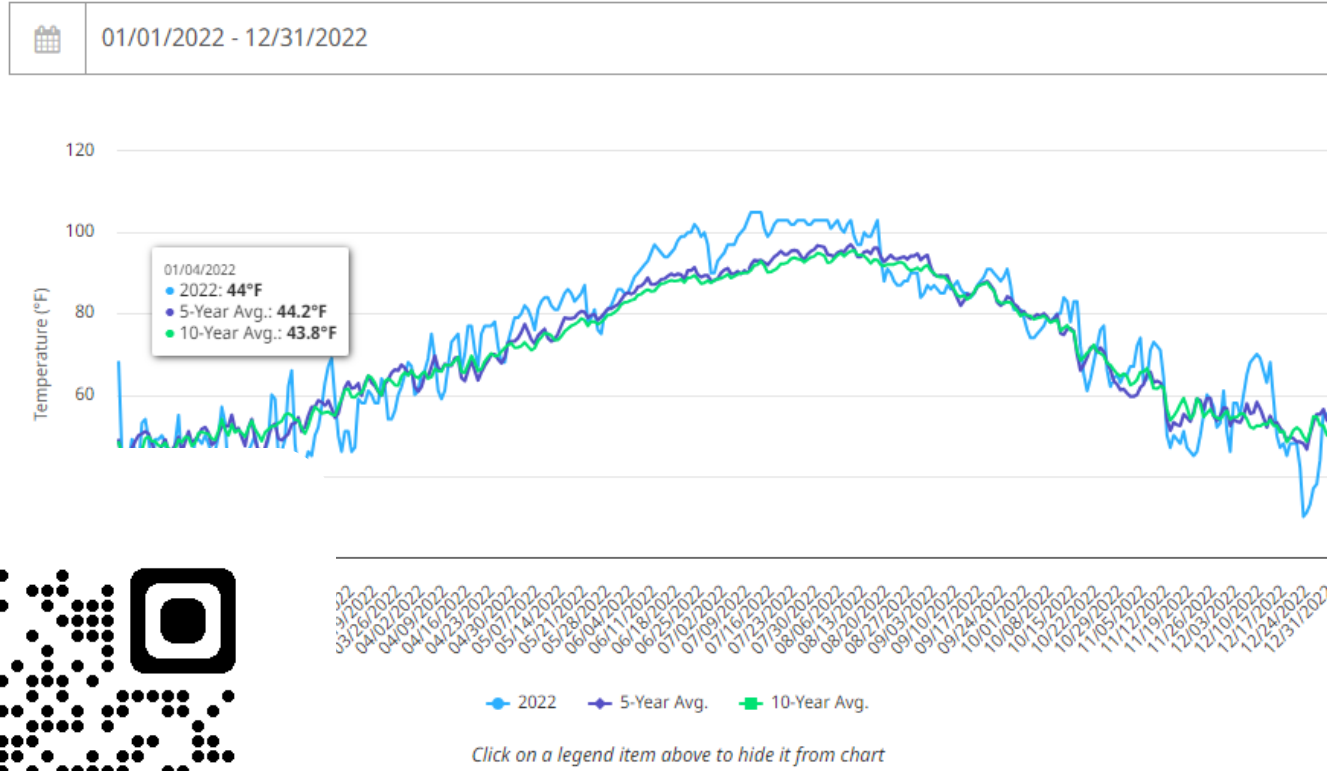
Identify the Perennial

Locate **carcass** in winter – w/ or w/out burs, **0.5-3in.** crown

Excavate, cut open the plant – look for **green tissue**



Average Soil Temperature in Rogers, Texas



**Germination is temperature driven. 52-74F range.
 Generally need one week of temps in germ. zone.
 Most seed germ. in spring, again in fall.**

Display Refreshed: 11:18 AM

Choose a precipitation parameter ▾

Soil Temperature 10 Cm Depth ▾

Current Temp	Wind Chill	Heat Index
Humidity	Dew Point	Sea Level Press
Wind	Wind Gust	Solar Radiation
River Flow	River Stage	Station

Current Radar Animated Radar

Historical Precipitation National Weather Service:

1 Hour	3 Hour	6 Hour
24 Hour	48 Hour	72 Hour

National Weather Service Forecasts and Alerts ▾

Toggle Map Layers ▾

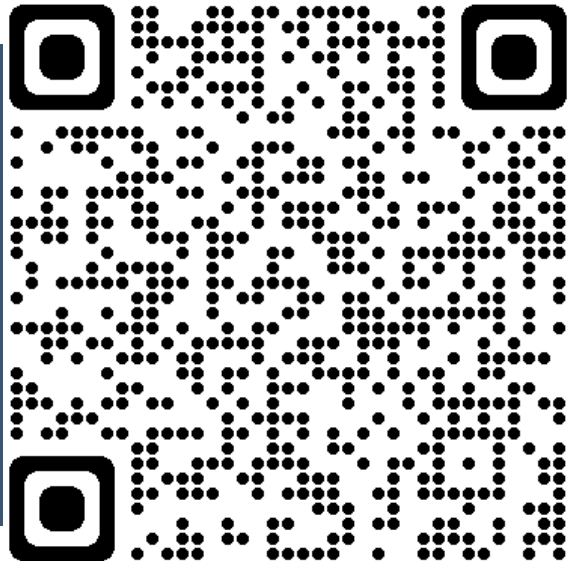
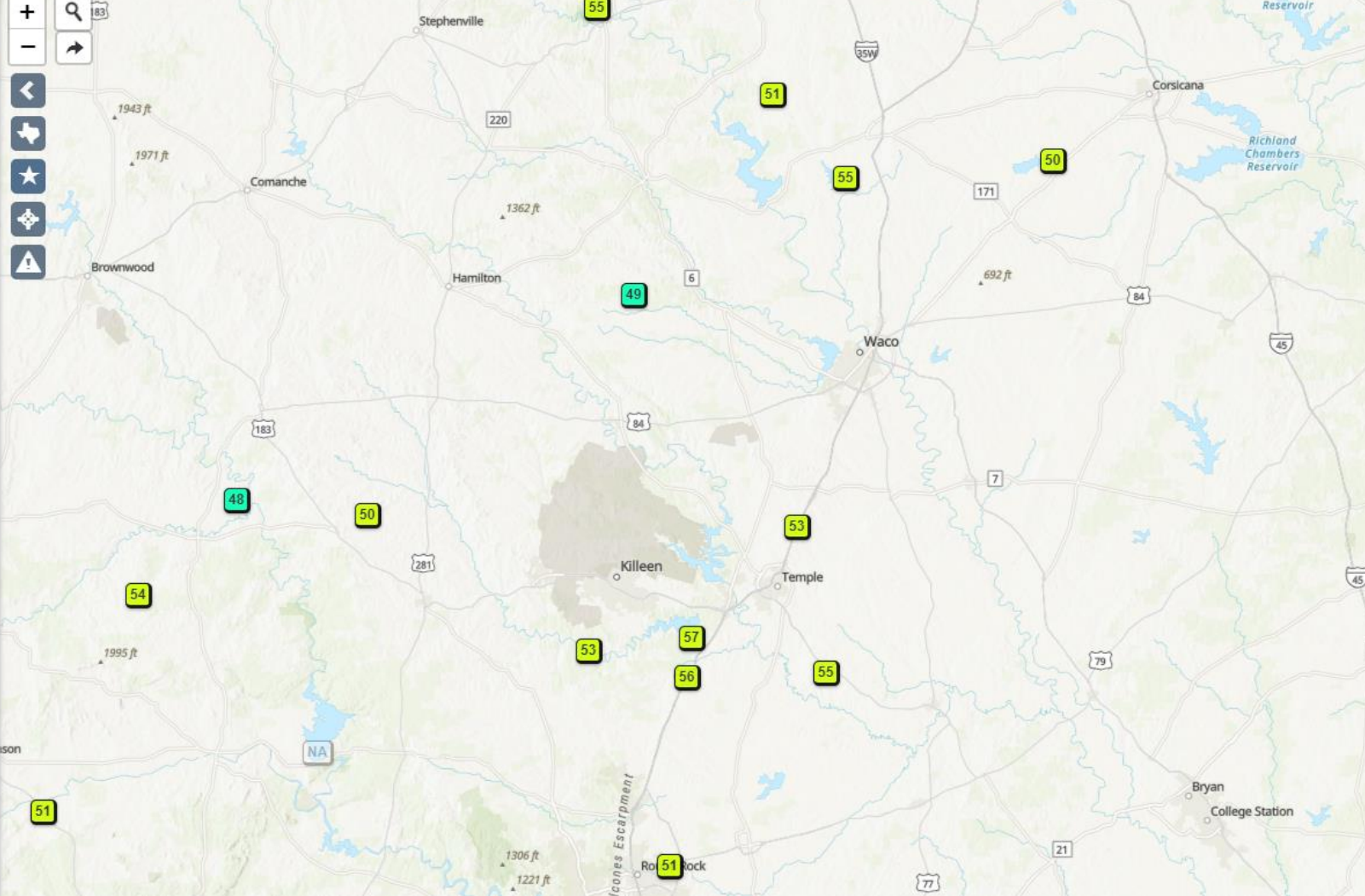
Filter by Mesonet:

Display all Mesonets ▾

Units of Measure:

US / Customary Metric

Streets



Germination is temperature driven. 52-74F range. Generally need one week of temps in germ. zone. Most seed germ. in spring, again in fall.



Where does it have a good fit?

Anywhere residual is needed for small seeded grasses.

- Sandbur
- Crabgrass
- Ryegrass
- Bromus spp.

Safe in established perennial forages

3-5 oz per acre use rate

0.25 – 0.50 in. rainfall incorporation within 28 days.

Use a boomed sprayer

Sandbur: 3 oz February (Valentine’s day); 3 oz after 1st or 2nd cutting or heavy grazing.

OR

5 oz February (Valentine’s day)



ACTIVE INGREDIENT:
 Indaziflam (CAS No: 730979-19-8) 19.05%
OTHER INGREDIENTS: 80.95%
TOTAL 100.00%
 EPA Reg. No. 432-1610
 Contains 1.67 pounds of indaziflam per gallon
Net Contents
32 Fl. Oz.
86751275
86279134B 200615AV2

KEEP OUT OF REACH OF CHILDREN
CAUTION

For **MEDICAL** and **TRANSPORTATION** Emergencies **ONLY** Call 24 Hours A Day 1-800-334-7577 For **PRODUCT USE** Information Call 1-800-331-2867

See Back Panel for First Aid Instructions and Booklet for Complete Precautionary Statements and Directions for Use.

Tank-mix partners

Glyphosate (4 lbs) at 8-10 fl oz/A

← For established sandbur

Pastora herbicide at 1-1.5 oz/A

← For seedling sandbur (1.5 in height)

. Cimarron[®] Plus herbicide at 0.5 oz/A or higher

. Plateau[®] herbicide (imazapic) at 6-8 fl oz/A

. Gramoxone[®] (paraquat) at 1-2 pts/A (this is a restricted use pesticide)



Mixing Order Matters!



Where does it have a good fit?

Anywhere residual is needed for small seeded grasses.

- Sandbur
- Crabgrass
- Ryegrass
- Bromus spp.

Safe in established perennial forages

2.1-4.2 qt per acre use rate

0.5 in. rainfall incorporation within 7 days.

Use a boomed sprayer

Sandbur: 2.1 qts approaching germination temperatures; 2.1 qts following first cutting or heavy grazing.

OR

3.2 - 4.2 qts approaching germination temperatures.

SPECIMEN

Prowl[®] H20

Herbicide

For Use in Selected Crops

(See Table 1. Crop Uses)

Active Ingredient*:

pendimethalin: N-(1-ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzenamine 38.7%

Other Ingredients: 61.3%

Total: 100.0%

*1 gallon contains 3.8 pounds of pendimethalin formulated as an aqueous capsule suspension.

EPA Reg. No. 241-418

EPA Est. No.

KEEP OUT OF REACH OF CHILDREN

CAUTION/PRECAUCION

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

Summer Scouting for Seedlings

Between and at cuttings / grazing events look for seedlings following rainfall events within germination temperature zone (52 - 74F)





Where does it have a good fit?

Anywhere control of broadleaves and limited grass control is needed.

- Sandbur
- johnsongrass
- Ryegrass
- Bromus spp.

Safe in established perennial forages besides bahiagrass.

1-1.5 oz per acre use rate

0.25-0.5% V/V Non Ionic Surfactant (NIS) Required (1-2 quarts per 100 gallons)

Use medium to medium/coarse spray droplets.

Sandbur: 1.25-1.5 oz per acre within 7 days of hay cutting or heavy grazing.



NICOSULFURON & METSULFURON-METHYL	GROUP 2	HERBICIDE
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Dry Flowable
For Use on Established Bermudagrass Pastures and Hay Meadows, Bermudagrass Turf (Unimproved Only)

Active Ingredient	By Weight
Nicosulfuron	
2-[[[(4,6-dimethoxypyrimidin-2-yl)aminocarbonyl]aminosulfonyl]-N, N-dimethyl-3-pyridinecarboxamide.....	56.2%
Metsulfuron Methyl	
Methyl 2-[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino]carbonyl]amino]sulfonyl]benzoate.....	15.0%
Other Ingredients	28.8%
Total	100.0%

EPA Reg. No. 432-1567

KEEP OUT OF REACH OF CHILDREN CAUTION

See Back Panel for First Aid Instructions and Booklet for Complete Precautionary Statements and Directions for Use.

Nonrefillable Container
 Net Weight
5 Ounces
 85775081
 85849069D 190820AV1

Produced for:
Bayer Environmental Science
 A Division of Bayer CropScience LP
 5000 CentreGreen Way, Suite 400
 Cary, NC 27513
 Product of China



Where does it have a good fit?

Anywhere forage injury can be tolerated and control of broadleaves and grass control is needed.

- Sandbur
- johnsongrass
- Ryegrass
- KR bluestem suppression / limited control

Potential cutting or grazing event loss.

8-10 oz per acre use rate

No surfactant required for brand name Roundup products (others, read label).

Use medium to medium/coarse spray droplets.

Sandbur: 10 oz per acre within 5-7 days of hay cutting or heavy grazing.



Specially formulated for Roundup Ready crops

Complete Directions for Use

Selective broad-spectrum weed control in Roundup Ready® and other listed glyphosate tolerant crops
 Non-selective, broad-spectrum weed control for many agricultural systems and farmsteads

ACTIVE INGREDIENT:	
*Glyphosate, N-(phosphonomethyl) glycine, in the form of its potassium salt.....	51.2%
OTHER INGREDIENTS:	48.8%
	100.0%

* Contains 705 grams of the active ingredient glyphosate, in the form of its potassium salt, per liter or 5.88 pounds per U.S. gallon, which is equivalent to 575 grams of the acid, glyphosate, per liter or 4.8 pounds per U.S. gallon (41.8% by weight).

Keep out of reach of children
CAUTION

See inside for additional precautions.

Not all products listed on this label are registered for use in California. Check the registration status of each product in California before using.

AVOID CONTACT OF THIS HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, EXCEPT AS DIRECTED FOR USE ON ROUNDUP READY® AND OTHER LISTED GLYPHOSATE TOLERANT CROPS, AS SEVERE PLANT INJURY OR DESTRUCTION COULD RESULT.

FOR PRODUCT INFORMATION OR ASSISTANCE USING THIS PRODUCT,
 CALL TOLL-FREE, 1-866-99BAYER (1-866-992-2937).

IN CASE OF AN EMERGENCY INVOLVING THIS HERBICIDE PRODUCT,
 OR FOR MEDICAL ASSISTANCE, CALL COLLECT, DAY OR NIGHT, 1-800-334-7577.

EPA Reg. No. 524-659

EPA Est. 524-1A-1

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 ST. LOUIS, MISSOURI, 63167 USA

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Where does it have a good fit?

Anywhere forage injury can be tolerated and control of broadleaves and grass control is needed.

- Sandbur
- johnsongrass
- Ryegrass
- KR bluestem suppression / limited control

Potential cutting or grazing event loss.

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No surfactant required for brand name Roundup products (others, read label).

Use medium to medium/coarse spray droplets.

Sandbur: 10 oz per acre within 5-7 days of hay cutting or heavy grazing.



11.4 Pastures

LABELED CROPS: Bahiagrass; Bermudagrass; Bluegrass; Brome; Fescue; Guinea grass; Kikuyu grass; Orchardgrass; Pangola grass; Ryegrass; Timothy; Wheatgrass and any grass (*Gramineae* family) except Corn, Sorghum, Sugarcane and those listed in the "CEREAL AND GRAIN CROPS" section of this label.

Postemergence Weed Control (Broadcast Application)

USE INSTRUCTIONS: This product may be applied to pastures to suppress competitive growth and seed production of annual weeds and other undesirable vegetation. For selective weed control using broadcast application equipment, apply 8 to 10 fluid ounces of this product per acre in early-spring before desirable perennial grasses break dormancy and initiate green growth.

Late-fall application may be made after desirable perennial grasses have reached dormancy.

PRECAUTIONS: Some stunting of perennial grasses will occur if broadcast application is made when plants are not dormant. Higher application rates may be used for hard-to-control weeds; however, higher rates will cause stand reduction.

RESTRICTIONS: No waiting period is required between application and grazing or harvesting for feed. Do not apply more than 1.9 quarts of this product per acre per year onto pasture grasses except for renovation use as described on this label. If replanting is needed due to severe stand reduction, wait a minimum of 30 days after application before planting any crop not listed on this label.

Sandbur Control

Cenchrus spp.

On going research indicates many perennials likely present. A **pre** and **post** program is needed.

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Preemergent – Indaziflam, pendimethalin

Rezilon 3oz (February) followed by 3oz (June-July) ***Early is on time!***
Prowl H2O – 2.1 qts appro. germ., 2.1 qts following **first cutting**

Postemergent – glyphosate, Pastora

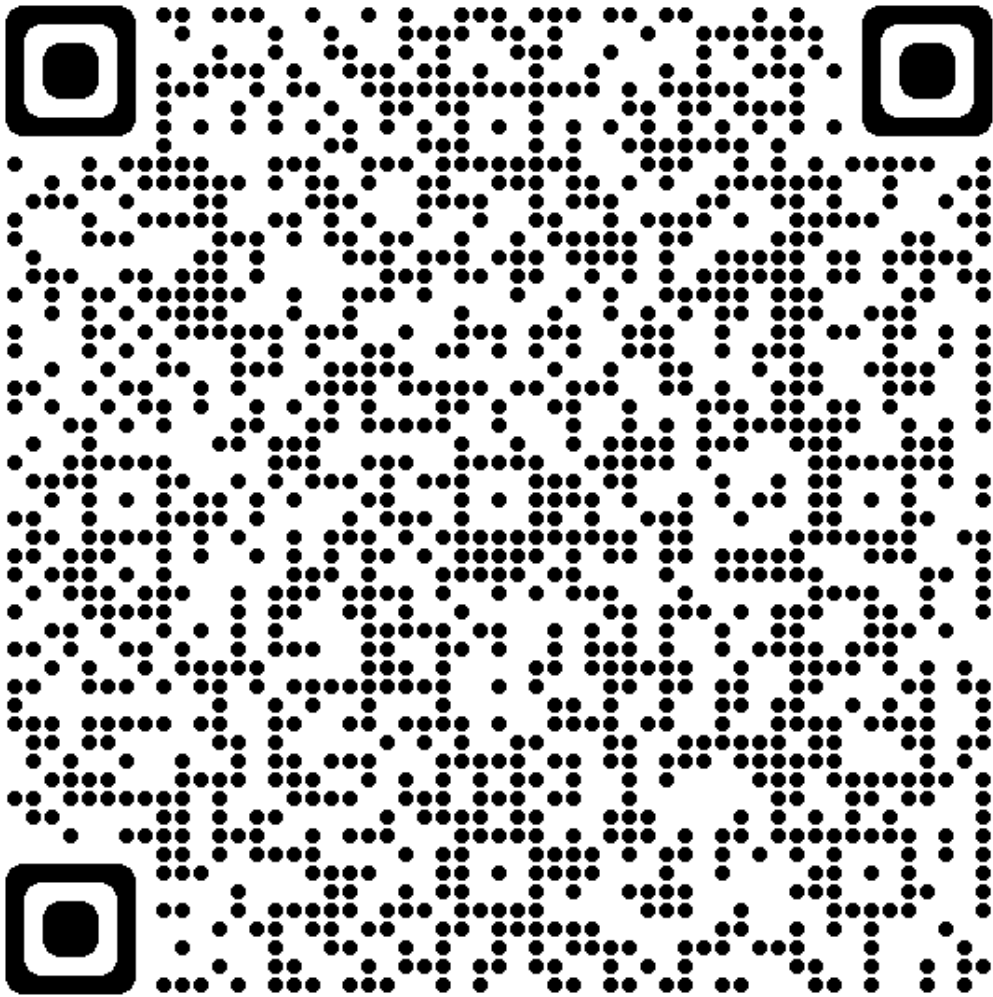
8-10 oz – glyphosate (PowerMax3)
1.5 oz Pastora – **Mostly** suppression; **Small** plants only

Perennialization – a real problem

Seedling tug – does it pull up **easily?**
Cut the crown – is there **green?**

Spray coverage – it's important!

Pre: Need to get to the soil
Post: **Targeting small, slender leaves**



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979.320.9914



Email

zachary.howard@ag.tamu.edu



Website

agrilifelearn.tamu.edu