

# 2026 Rice Considerations

Sarah Marsh Janish  
UCCE Rice Farming Systems Advisor – Colusa & Yolo

2026 Colusa Farm Show

February 3, 2026

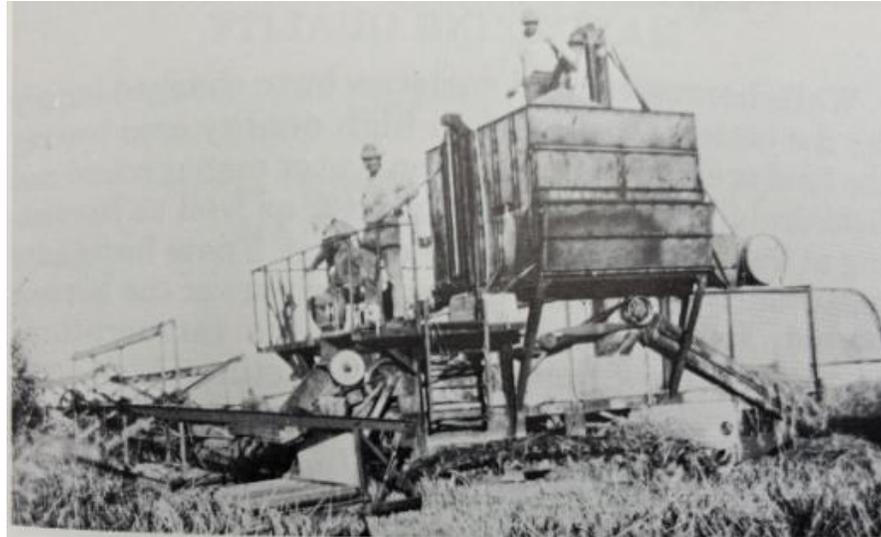
 **UNIVERSITY OF CALIFORNIA**  
Agriculture and Natural Resources

# Outline

- Brief history
- 2025 rice season in the rear view
- Considerations for 2026
  - Pest management
    - Weeds
    - Invertebrates
    - Diseases



# Some things have changed...



# Some things have changed...

- Calrose 76 – 1<sup>st</sup> semidwarf CA rice cultivar
- Phased out most rice field burning
- Yields routinely top 90-100 cwts – often higher



# Some things stay the same

*“At present the barnyard grass is the most serious pest with which the rice growers of California have to contend.”*

– Report on Rice Growing in the Sacramento Valley for the Season of 1912

*“The cost of production in California... is approximately forty percent more than in the rice growing sections of Louisiana and Texas.”*

– Cost of Rice Production in 1914



# 2025 in the rear-view mirror

# Recap of 2025

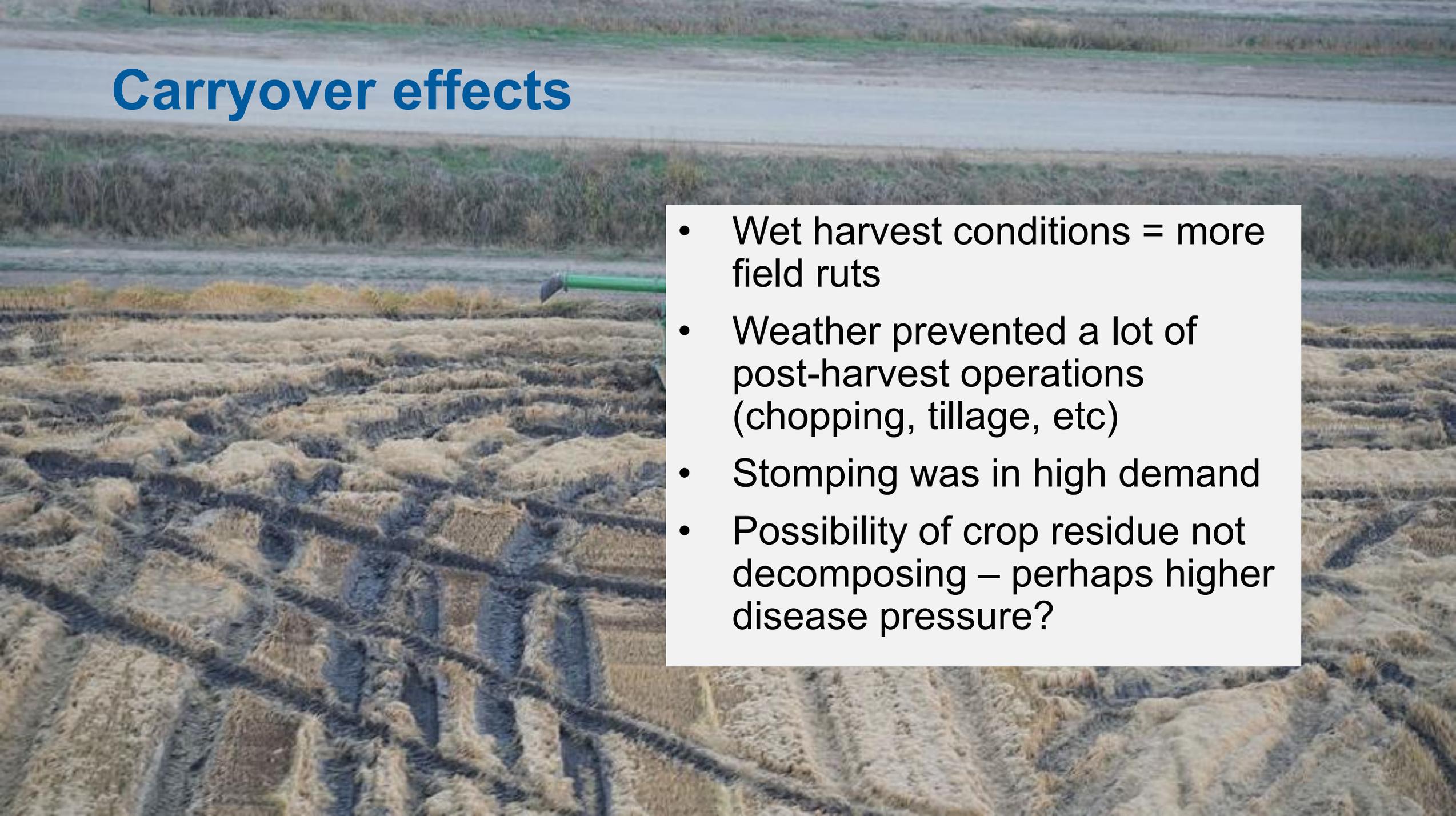
- 533,000 acres of CA rice
- LATE harvests
- Unexpected yields
- Uneven quality results



# What happened?

- Dry spring allowed some early plantings... but planting slowed through early May
  - 50% plant date was May 19
- Mild summer raised hopes for a high yielding year
  - However, grain fill and drying period (late Sep through mid-Nov) received higher than average rainfall and, in-between rains, high temperatures
  - Statewide average was 84.5 cwt/ac (lower than 2024).
- Early harvested fields tended to have higher yields and higher quality than later harvests.

# Carryover effects

An aerial photograph of a harvested agricultural field. The ground is covered with golden-brown crop residue, likely corn stalks. Numerous deep, dark, muddy ruts are visible, crisscrossing the field, indicating heavy machinery operation in wet soil. In the background, a green combine harvester is partially visible, and a body of water stretches across the horizon under an overcast sky.

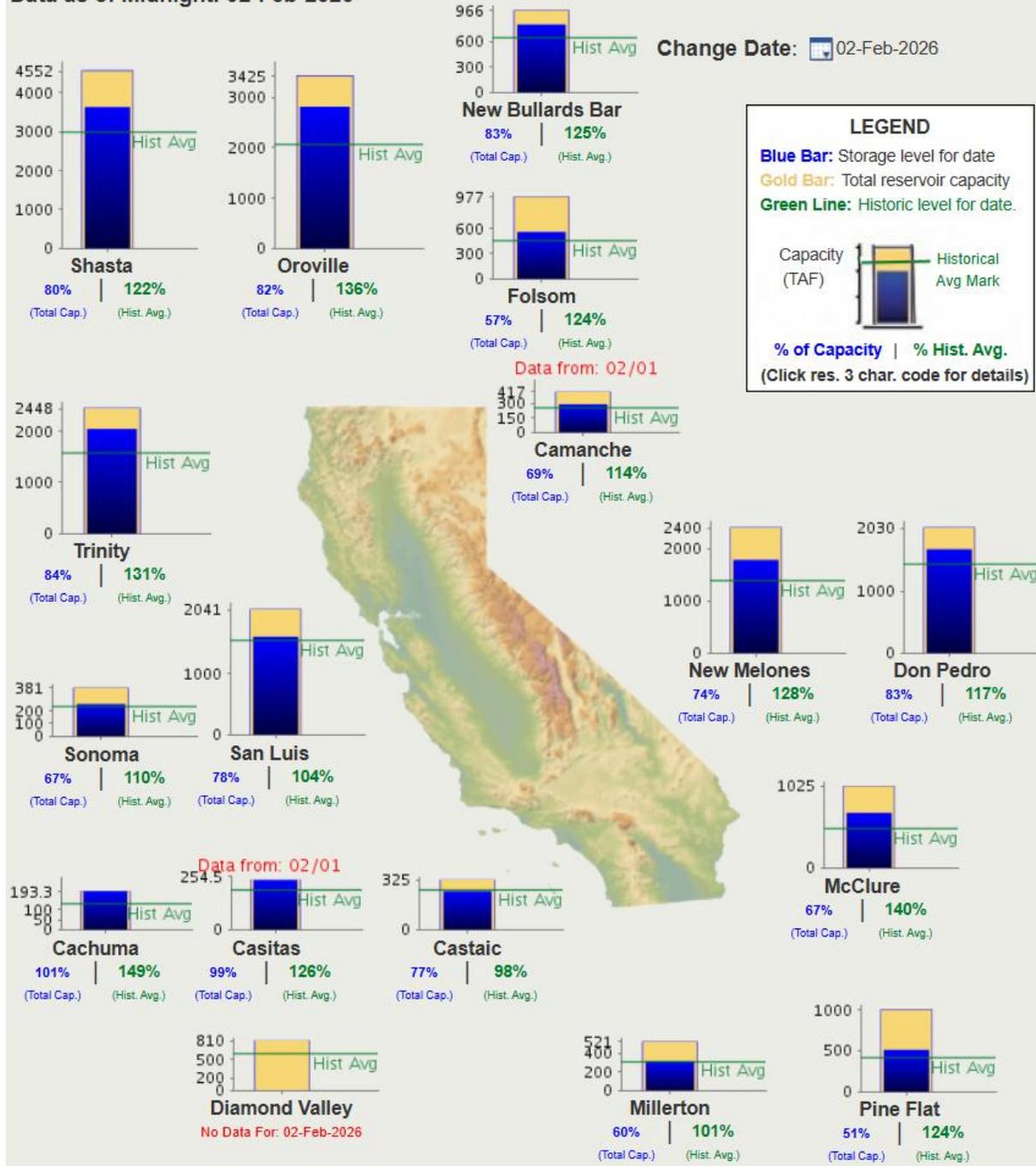
- Wet harvest conditions = more field ruts
- Weather prevented a lot of post-harvest operations (chopping, tillage, etc)
- Stomping was in high demand
- Possibility of crop residue not decomposing – perhaps higher disease pressure?

# Looking ahead to 2026 – water supply

- Reservoirs are above average levels – thanks to atmospheric rivers this winter
- However, Sierras snowpack is drying up
- Tentative projections are of a drier, warmer spring

But who knows?

Data as of Midnight: 02-Feb-2026



# Weeds

# A note on weeds in rice

- Rice is grown under flooded conditions primarily as a cultural weed control option
- Weeds have coevolved with rice to “escape” water and proliferate
- Not a lot of options for control methods other than chemicals
  - Crop rotation – depends on soil, irrigation source, etc.
  - Mechanical methods are difficult in-season

# Grass weeds – Watergrass complex and sprangletop

Bearded sprangletop



Walter's barnyardgrass



Late watergrass (l), barnyardgrass (c), and early watergrass (r)

Mode of Action	Product name (active ingredient)	Grasses			
		Barryadgrass	Early watergrass	Late watergrass	Sprangletop
ACCase inhibitor ▶	Clincher® CA (cyhalofop)	R	R	R	R
Pigment synthesis inhibitor ▶	Cerano® 5 MEG (clomazone)	R	R	R	R
Lipid synthesis inhibitors ▶	Abolish® 8 EC Bolero® Ultramax (thiobencarb)	R	R	R	
Photosystem II inhibitors ▶	Stam® 80 EDF CA SuperWHAM!® CA (propanil)	R	R	R	
ALS inhibitors		Three d			
Prototox inhibitor	Shark® H <sub>2</sub> O (carfentrazone)				
	Zembu®* (pyraclonil)				
Auxin mimics	Grandstand® CA (triclopyr)				
	Loyant® CA (florpyrauxifen-benzyl)				
Cell division inhibitor	pendimethalin				

Product name (active ingredient)	Grasses			
	Barryadgrass	Early watergrass	Late watergrass	Sprangletop
SU Londax® (bensulfuron) Sanda® (halosulfuron)				
	Strada® CA (orthosulfamuron)	R	R	R
POB Regiment® CA (bispyribac)	R	R	R	
TSA Granite® GR Granite® SC (penoxsulam)	R	R	R	
	Lipid synthesis inhibitor + ALS inhibitor (SU) League® MVP (thiobencarb + bensulfuron)	R	R	R
HPPD inhibitor + ALS inhibitor (SU) Butte® Herbicide				
	HPPD inhibitor Cliffhanger® SC (benzobicyclon)			

## Spreading or widespread resistance in grass weeds

- Clincher
- Cerano
- Bolero
- Abolish
- propanil
- Regiment
- Granite
- League MVP

## Control or suppression options

- Zembu (S)
- Loyant (S)
- Butte (S/C)
- Cliffhanger (S/C)

Pendimethalin has label use restrictions and only controls non-emerged weeds



Control
  Partial control / Suppression
  No control
 R
R
 No control of resistant plants. The resistance is already widespread.
 R
 No control of resistant plants. The resistance is spreading.

\*Zembu must be applied preemergent for control.

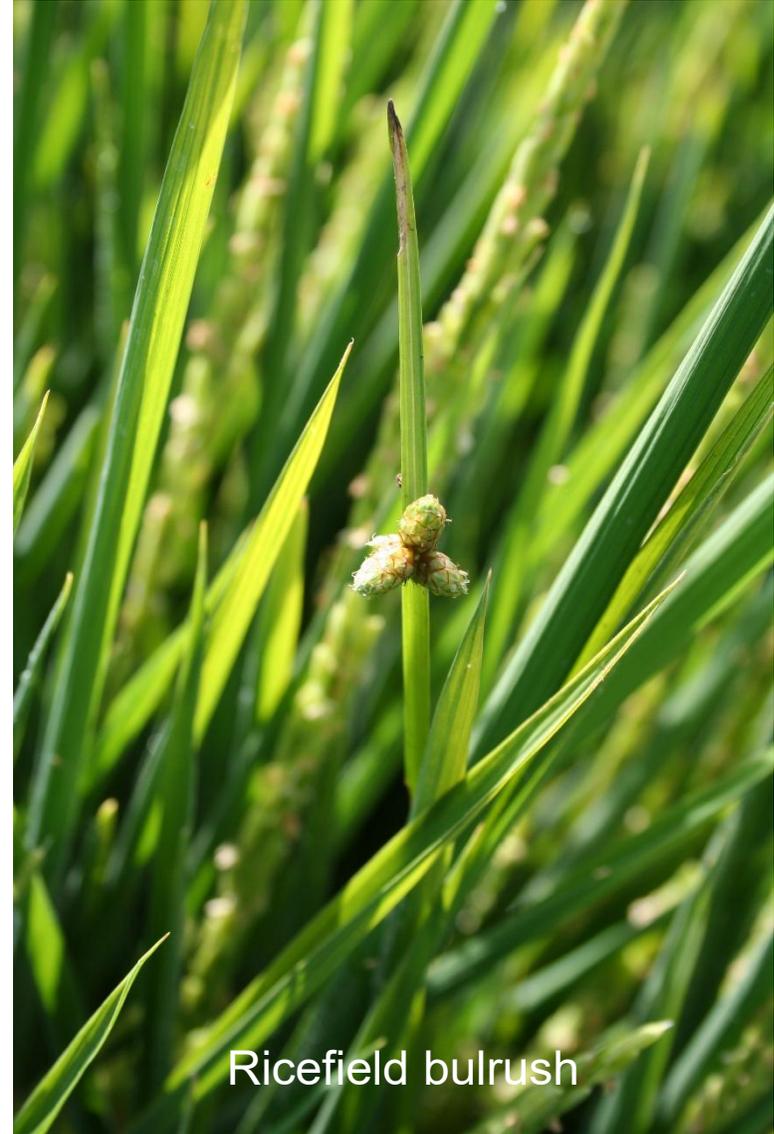
# Weeds - Sedges



Smallflower umbrellasedge

UGA1117084

[Charles T. Bryson, USDA Agricultural Research Service, Bugwood.org](http://Bugwood.org)



Ricefield bulrush

Mode of Action	Product name (active ingredient)	Sedges	
		Ricefield bulrush	Smallflower umbrella sedge
ACCase inhibitor	Clincher® CA (cyhalofop)	■	■
Pigment synthesis inhibitor	Cerano® 5 MEG (clomazone)	■	■
Lipid synthesis inhibitors	Abolish® 8 EC Bolero® Ultramax (thiobencarb)	■	■
Photosystem II inhibitors	Stam® 80 EDF CA SuperWHAMI® CA (propanil)	■	■
ALS inhibitors	Shark® H <sub>2</sub> O (carfentrazone)	■	■
Protocx inhibitor	Zembu® (pyraclonil)	■	■
	Grandstand® CA (triclopyr)	■	■
Auxin mimics	Loyant® CA (florpyrauxifen-benzyl)	■	■
	pendimethalin	■	■

Product name (active ingredient)	Sedges	
	Ricefield bulrush	Smallflower umbrella sedge
Londax® (bensulfuron)	■	■
Sandea® (halosulfuron)	■	■
Strada® CA (orthosulfamuron)	■	■
Regiment® CA (bispyribac)	■	■
Granite® GR Granite® SC (penoxsulam)	■	■
Lipid synthesis inhibitor + ALS inhibitor (SU) League® MVP	■	■
HPPD inhibitor + ALS inhibitor (SU) Butte® Herbicide (benzobicyclon + halosulfuron)	■	■
HPPD inhibitor Cliffhanger® SC (benzobicyclon)	■	■

## Spreading or widespread resistance in sedges

- propanil
- Londax
- Sandea
- Strada
- Regiment
- Granite
- League MVP

## Control or Suppression options

### Ricefield bulrush

- Shark (C)
- Grandstand (C)
- Loyant (C)
- Zembu (S) - weak

### Smallflower umbrellasedge

- Abolish/Bolero (C)
- Shark (C)
- Loyant (C)
- Zembu (C)



■ Control
■ Partial control / Suppression
■ No control
■ ■ No control of resistant plants. The resistance is already widespread.
 ■ No control of resistant plants. The resistance is spreading.

\*Zembu must be applied preemergent for control.

# Weeds - Broadleaves



Redstem



CA Arrowhead



Greggs Arrowhead  
(flower)

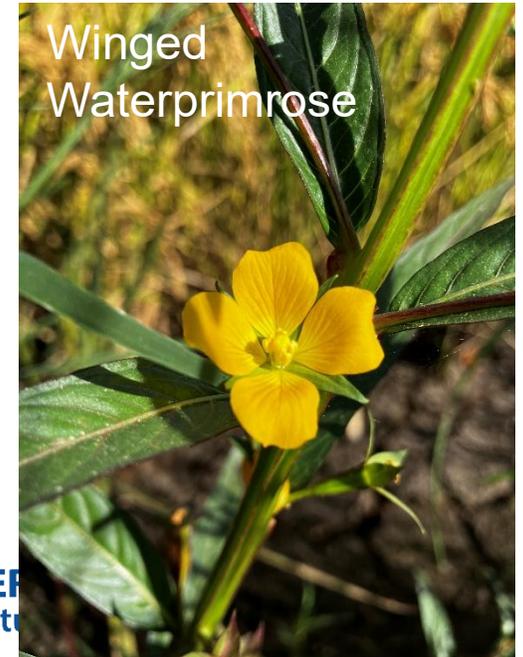


Monochoria



Ducksalad

Jack Kelly Clark

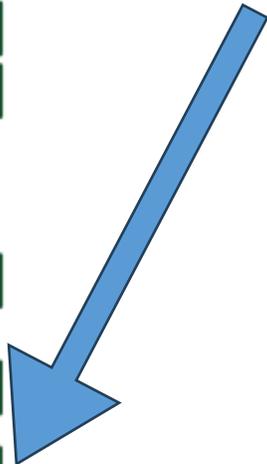


Winged  
Waterprimrose

Mode of Action	Product name (active ingredient)	Broadleaf weeds			
		Duckweed	Monochooria	Redstem	California arrowweeds
ACCase inhibitor	Clincher® CA (cyhalofop)	Control	Control	Control	Control
Pigment synthesis inhibitor	Cerano® 5 MEG (clomazone)	Control	Control	Control	Control
Lipid synthesis inhibitors	Abolish® 8 EC Bolero® Ultramax (thiobencarb)	Control	Control	Control	Control
Photosystem II inhibitors	Stam® 80 EDF CA SuperWHAM1® CA (propanil)	Control	Control	Control	Control
ALS inhibitors					
Protox inhibitor	Shark® H <sub>2</sub> O (carfentrazone)	Control	Control	Control	Control
	Zembu®* (pyraclonil)	Control	Control	Control	Control
Auxin mimics	Grandstand® CA (triclopyr)	Control	Control	Control	Control
	Loyant® CA (florpyrauxifen-benzyl)	Control	Control	Control	Control
Cell division inhibitor	pendimethalin	Control	Control	Control	Control

Product name (active ingredient)	Broadleaf weeds				
	Duckweed	Monochooria	Redstem	California arrowweeds	
SU	Londax® (bensulfuron)	Control	Control	No control of resistant plants. The resistance is already widespread.	No control of resistant plants. The resistance is spreading.
	Sandea® (halosulfuron)	Control	Control	No control of resistant plants. The resistance is already widespread.	No control of resistant plants. The resistance is spreading.
	Strada® CA (orthosulfamuron)	Control	Control	No control of resistant plants. The resistance is already widespread.	No control of resistant plants. The resistance is spreading.
POB	Regiment® CA (bispyribac)	Control	Control	No control of resistant plants. The resistance is already widespread.	No control of resistant plants. The resistance is spreading.
TSA	Granite® GR Granite® SC (pencoxsulam)	Control	Control	No control of resistant plants. The resistance is already widespread.	No control of resistant plants. The resistance is spreading.
	Lipid synthesis inhibitor + ALS inhibitor (SU) League® MVP (thiobencarb + imazosulfuron)	Control	Control	No control of resistant plants. The resistance is already widespread.	No control of resistant plants. The resistance is spreading.
HPPD inhibitor + ALS inhibitor (SU) Butte® Herbicide (benzobicyclon + halosulfuron)	Control	Control	Control	Control	
HPPD inhibitor Cliffhanger® SC	Control	Control	Control	Control	

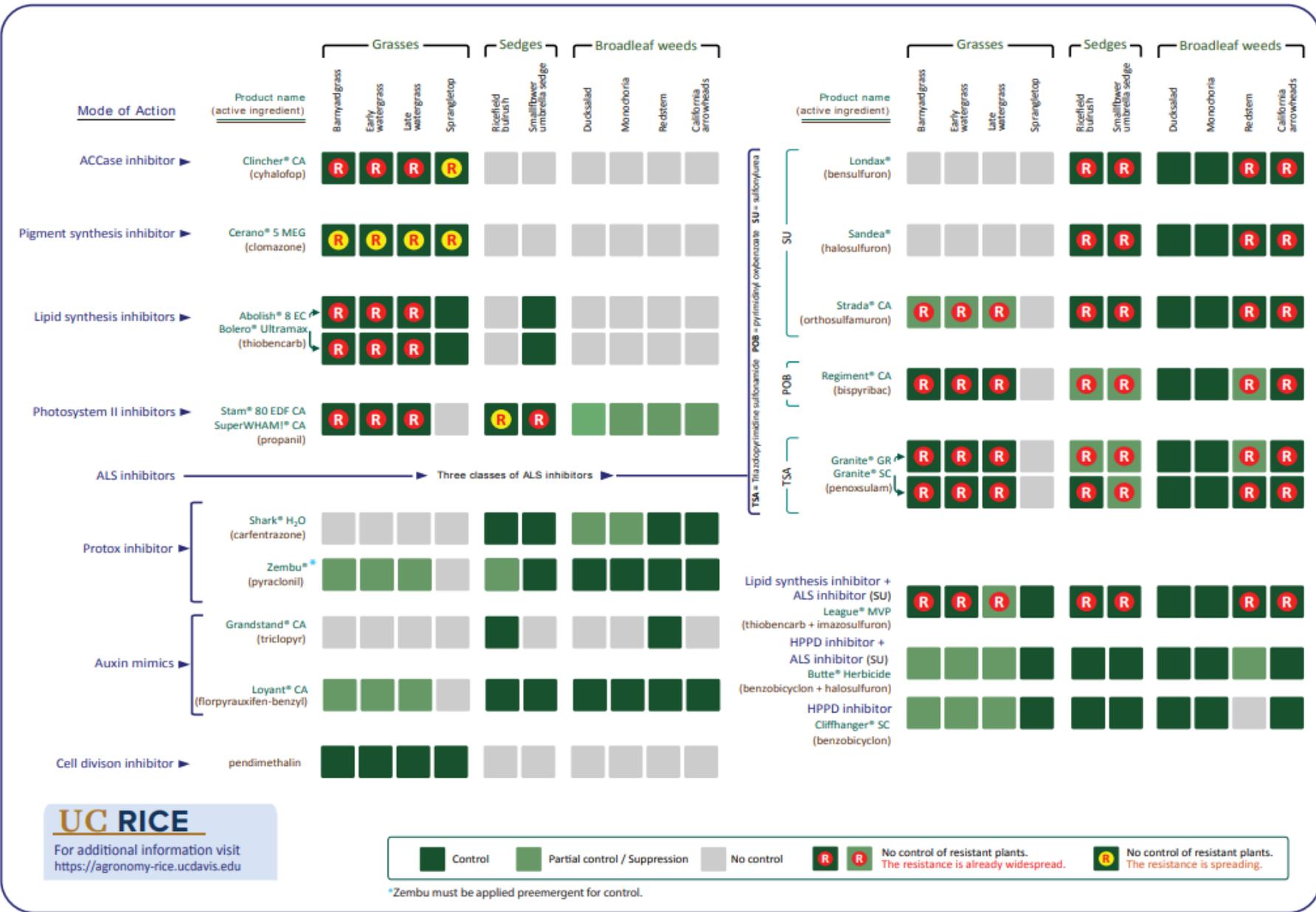
Cliffhanger has no activity on redstem



Control
  Partial control / Suppression
  No control
 R
R No control of resistant plants. The resistance is already widespread.
 R No control of resistant plants. The resistance is spreading.

\*Zembu must be applied preemergent for control.

# CALIFORNIA RICE WEED HERBICIDE SUSCEPTIBILITY CHART



**UC RICE**  
For additional information visit <https://agronomy-rice.ucdavis.edu>

# Rice Weeds Herbicide Resistance Screening Program

- **Provide diagnosis for cross/multiple resistance in rice fields and map the resistance for the rice production area in California**
- Study mechanism of herbicide resistance in weeds and identify programs/herbicides to manage to control resistant biotypes
- Finding new tools to control herbicide resistant weeds

# HERBICIDE RESISTANCE TESTING FORM

Bring the sample and form to your local UCCE Farm Advisor or drop off samples at the address below by the end of October.  
UC Rice Weed Program | Rice Experiment Station | 955 Butte City Hwy (162) | Biggs, CA 95917

OFFICIAL USE ONLY

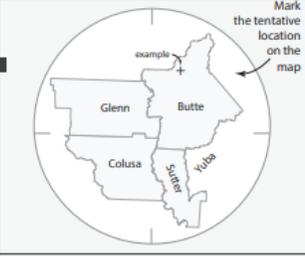
Date received: \_\_\_/\_\_\_/\_\_\_

Sample quality: \_\_\_\_\_

Weed: \_\_\_\_\_ Field ID: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

**Section 1: Submitter Information**  
 Name: \_\_\_\_\_ Email: \_\_\_\_\_ Phone #: \_\_\_\_\_  
 Grower Information  
 Name: \_\_\_\_\_ Email: \_\_\_\_\_ Phone #: \_\_\_\_\_

**Section 2: Field/Site Information**  
 GPS coordinates: \_\_\_\_\_ OR \_\_\_\_\_  
 Township, Section, Range or Nearest Rd: \_\_\_\_\_



**Section 3: Field size and affected portion**  
 Size of the field? \_\_\_\_\_ When was the resistance suspected? \_\_\_\_\_  
 Percentage of the field that is affected by the suspected resistance? \_\_\_\_\_

**Section 4: Herbicide use and resistance issues:**

Herbicide	In the past	This year	Known resistance	Suspected resistance
<b>Lipid synthesis (LS) inhibitor</b> Abolish® 80 EC Bolero® Ultramax thiobencarb	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Pigment synthesis inhibitor</b> Cerano® 5MEG clomazone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>ACCase inhibitor</b> Clincher® CA cyhalofop-butyl	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Photosystem (PS) II inhibitor</b> SuperWham!® CA STAM® 80 EDF Other propanil propanil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>ALS inhibitor</b> penoxsulam Granite® GR penoxsulam Granite® SC bensulfuron-methyl Londax® halosulfuron-methyl Halomax® bispyribac-sodium Regiment® CA halosulfuron-methyl Sandea® orthosulfamuron Strada® CA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Auxin mimic</b> Grandstand® CA triclopyr	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>PPO inhibitor</b> carfentrazone-ethyl Shark® H2O pyraclostrobin Zembu®	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

LS inhibitor + ALS inhibitor: League® MVP (thiobencarb + imazosulfuron)  
 HPPD inhibitor + ALS inhibitor: Butte® (bensulfuron + halosulfuron)  
 HPPD inhibitor: Cliffhanger™ SC (bensulfuron)  
 PS II inhibitor + ALS inhibitor: RiceEdge® 60 DF (propanil + halosulfuron)

Other details, if any: \_\_\_\_\_

**Section 5: Source(s) of water:**  
 Pump  Canal  Both

**Irrigation management:**  
 Continuous flood  
 Pinpoint  
 Leather's method

Was water compromised or lost at any time of the season?  
 Yes  No

**Section 6: Sample assessment:**  
 Quality: \_\_\_\_\_  
 Quantity: \_\_\_\_\_

**Section 7: Information provided:**  
 \_\_\_\_\_

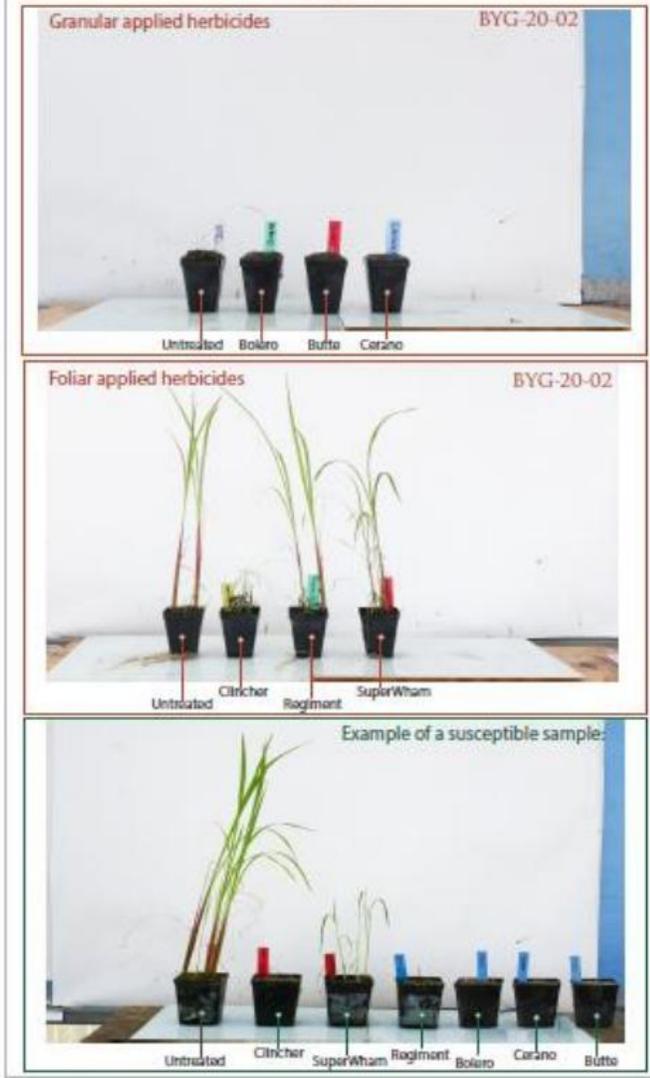
**Section 8: Resistance testing:**  
 Successful? \_\_\_\_\_  
 If not, explain briefly: \_\_\_\_\_

Report sent on this date: \_\_\_/\_\_\_/\_\_\_  
 Report sent to this email: \_\_\_\_\_

## HERBICIDES TESTED RESISTANCE STATUS

VLCFA inhibitor <b>Bolero®</b> thiobencarb	Your sample is NOT resistant. <b>NO</b> All tested samples are susceptible.
HPPD inhibitor + ALS inhibitor <b>Butte®</b> bensulfuron + halosulfuron-methyl	Your sample is NOT resistant. <b>NO</b> 96% of tested samples are susceptible.
Pigment synthesis inhibitor <b>Cerano® 5MEG</b> clomazone	Your sample is NOT resistant. <b>NO</b> 97% of tested samples are susceptible.
ACCase inhibitor <b>Clincher® CA</b> cyhalofop-butyl	Your sample is MAY BE becoming resistant. <b>YES</b> 23% survival rate on tested samples.
PS II inhibitor <b>SuperWham®</b> propanil	Your sample is resistant. <b>YES</b> 95% survival rate on tested samples.
ALS inhibitor <b>Regiment® CA</b> bispyribac-sodium	Your sample is resistant. <b>YES</b> 99% survival rate on tested samples.

## PHOTOGRAPH OF YOUR SAMPLE



### General Principles of Herbicide Resistance Management

- Apply integrated weed management practices. Use multiple herbicide sites-of-action with overlapping weed spectrums in rotation, sequences, or mixtures.
- Use the full recommended herbicide rate and proper application timing for the hardest to control weed species present in the field.
- Scout fields after herbicide application to ensure control has been achieved. Avoid allowing weeds to reproduce by seed or to proliferate vegetatively.
- Monitor site and clean equipment between sites.
- When resistance to an herbicide develops there may be resistance to all herbicides with the similar mode of action.

# Invertebrates

# Invertebrate pests

Early season



Tadpole Shrimp



Rice Seed Midge

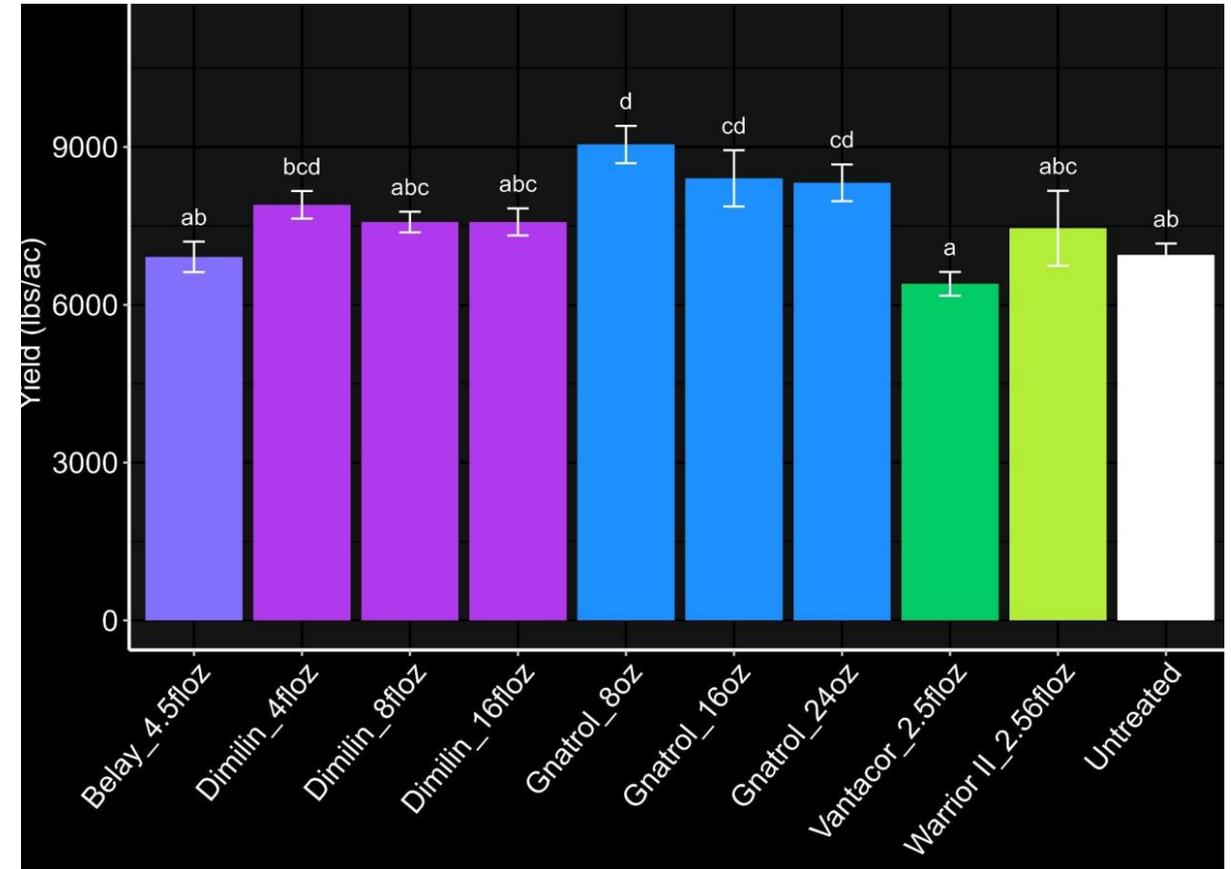
# We don't often see yield reductions from these early season invertebrates

## TPS

- Leather's method
- Copper sulfate
- Pyrethroids – only if resistance hasn't developed
- Dimilin

## RSM

- Leather's method
- Warrior
- Belay



# Armyworms



- We see 2 peaks of armyworm activity
  - End of June
  - Beginning of August
- Yield reductions can happen
  - First peak – if defoliation rate is  $>25\%$
  - Second peak – if panicle blanking is  $>10\%$

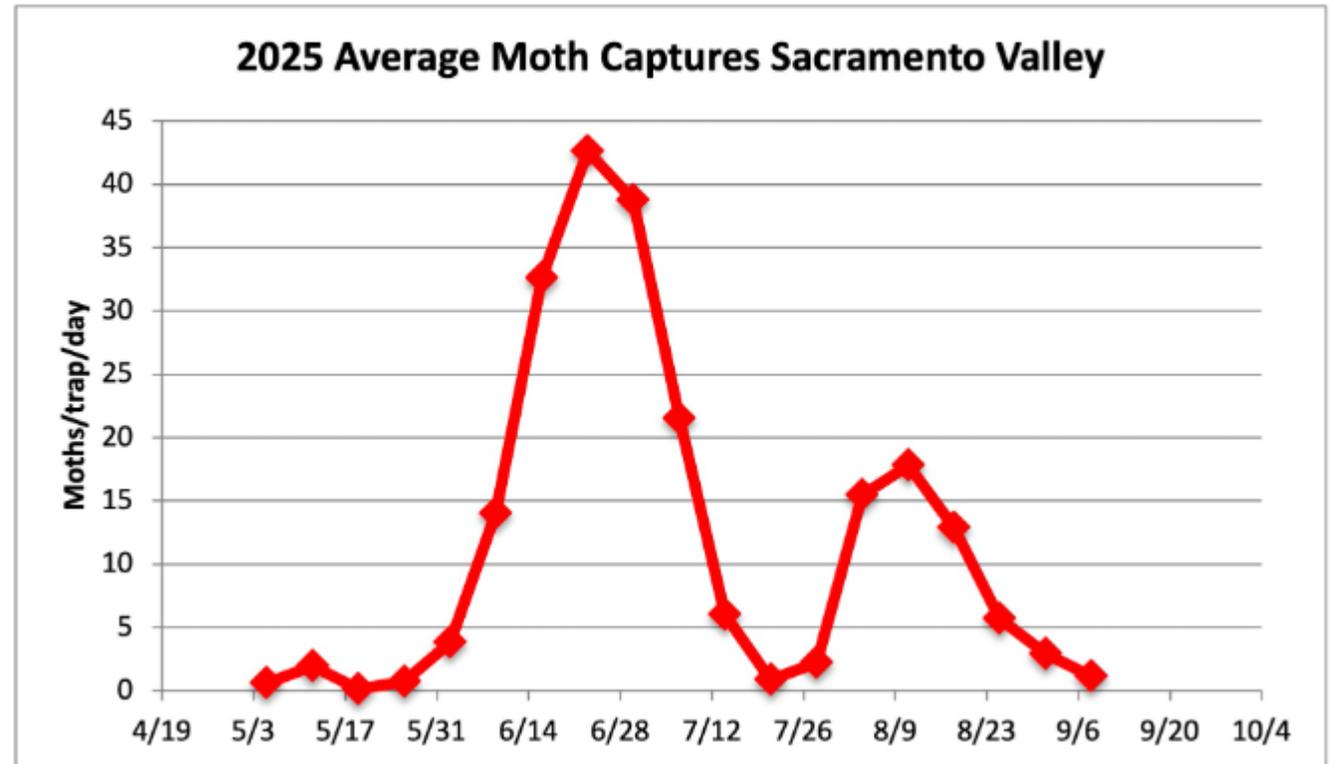
Intrepid, Dimilin (see PHI), and BT products

# UCCE Armyworm Trapping Network

- 16 pheromone traps throughout CA commercial rice production areas
- Trap numbers reported weekly
- Sign up for email notifications



## Week of September 8



# Diseases



Bakanae



Stem Rot



Aggregate Sheath Spot



Blast



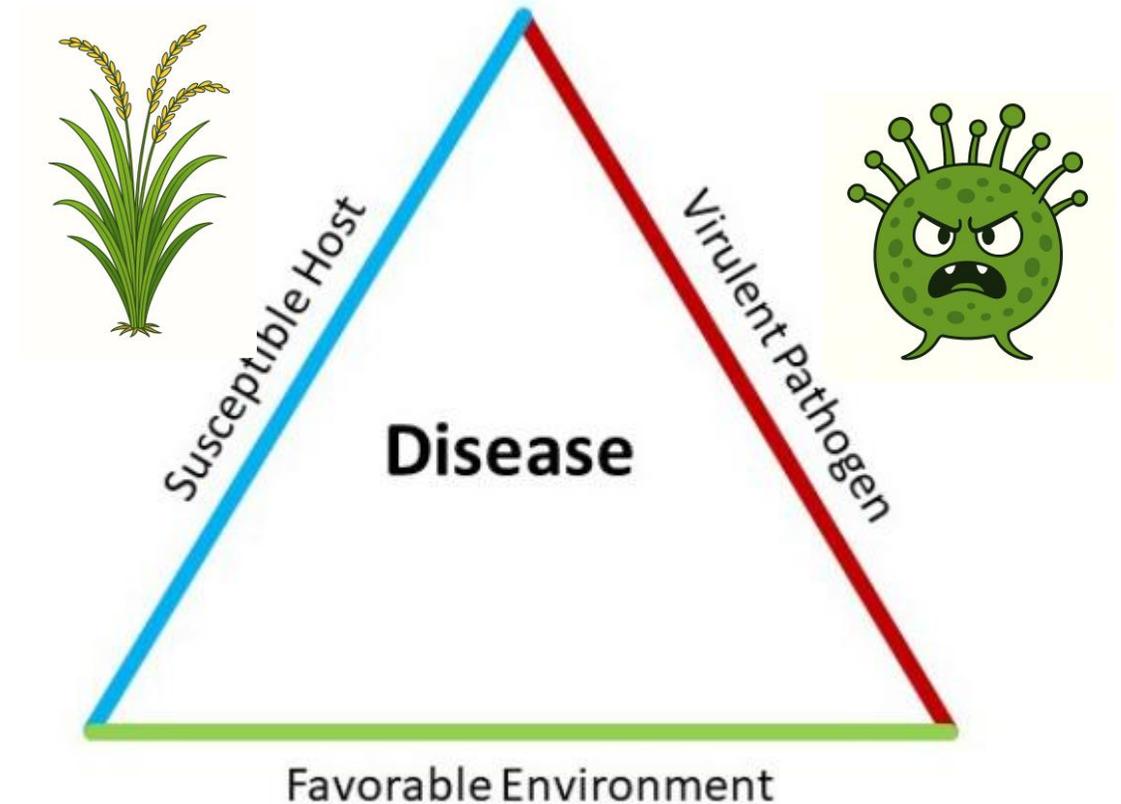
Kernel Smut

# Will we have high disease levels in 2026?

It depends!

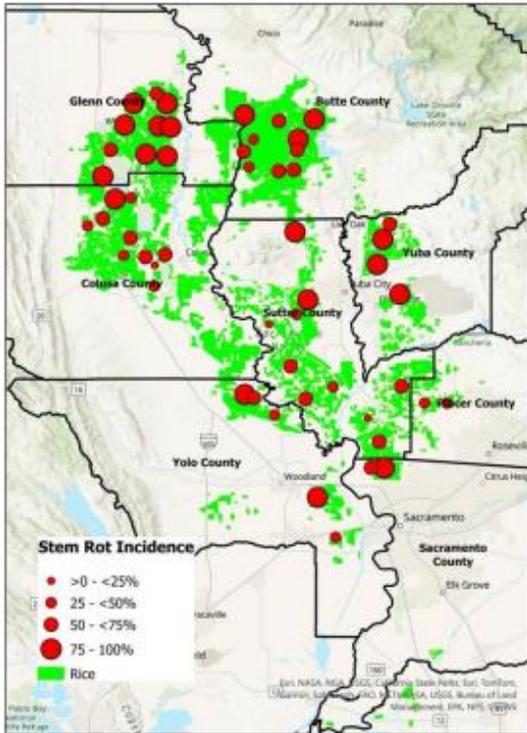
All rice diseases in CA are fungal diseases.

Some rice growing regions are more prone to certain diseases.

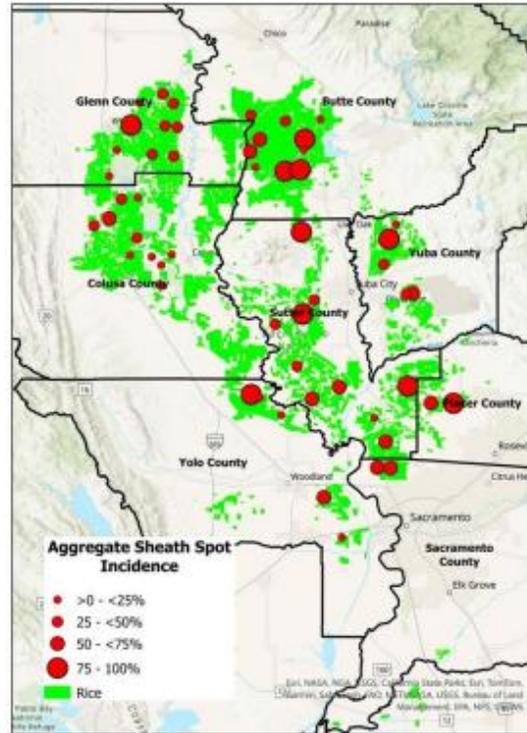


# UCCE CA Rice Disease Survey - 2024

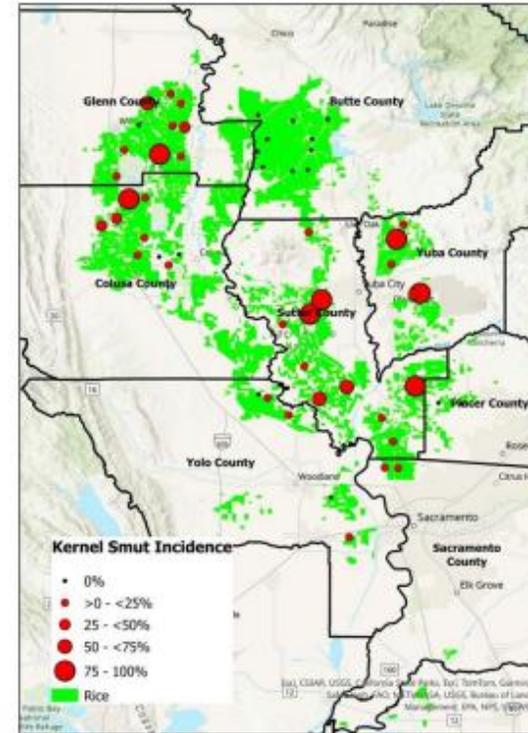
## Stem Rot



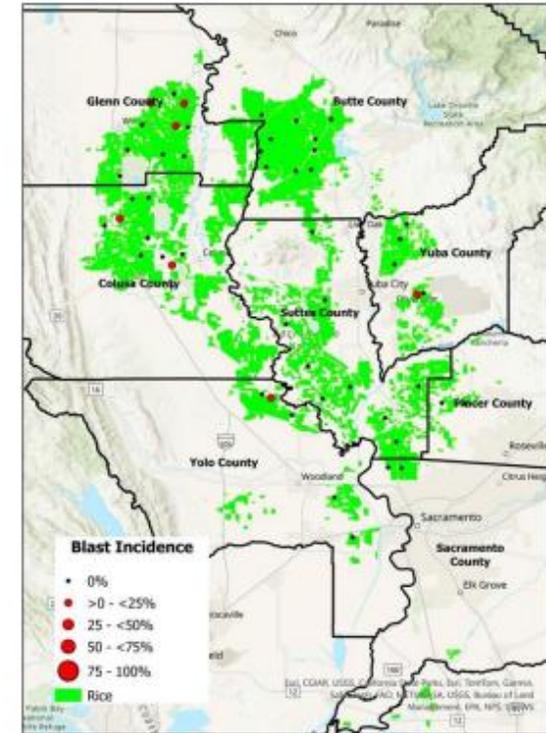
## Aggregate Sheath Spot



## Kernel Smut



## Blast



# Not a lot of options for fungicides

Products containing azoxystrobin (Quadris), propocanizole (Tilt), or both (Quilt Xcel)

## Induced resistance (IR) products... mixed results

# Conditions that favor disease development

Category	Bakanae	Stem Rot	AGSS	Blast	Kernel Smut
Variety				Planting a susceptible variety	Planting long grain varieties
Seed treatment	Not bleach-treating seed				
Planting method	Planting seed 24+ hours after soaking			Drill-seeding	
Fertility		<ul style="list-style-type: none"> <li>High N fertilization</li> <li>Low soil K levels</li> </ul>	Low soil K levels	High N fertilization	High N fertilization
Weather				<ul style="list-style-type: none"> <li>Extended periods of leaf wetness</li> <li>High humidity</li> <li>Low wind</li> <li>Nighttime temps 63-73°F</li> </ul>	
Post-harvest	Not removing crop residue in the fall (minor)	Not removing crop residue in the fall	Not removing crop residue in the fall	Not removing crop residue in the fall	

# Conditions that favor disease development

Category	Bakanae	Stem Rot	AGSS	Blast	Kernel Smut
Variety				Planting a susceptible variety	Planting long grain varieties

**What does 2026 have in store for us?**



# What does 2026 have in store for us?



**FUTURE  
UNCLEAR  
TRY AGAIN  
LATER**

# Making a plan for 2026

- Soil test in spring
- Pick varieties suited for risks and reward factors
- Use results of the herbicide resistance screening to make weed management decisions – specific to your weed populations
- Keep an eye on the armyworm monitoring program
- Scout early and often
  - Weeds
  - Invertebrates
  - Diseases

# Upcoming Meetings

- **February 4<sup>th</sup>** - Grower Discussion on the Cost of Rice Regulations
  - CIP Conference Room, Colusa
  - 9:00 am -12 pm
- **February 24<sup>th</sup>** - Weed Management Area Meeting
  - UCCE Sutter Yuba, Yuba City
  - 9:00 am – 11:00 am
- **February 26<sup>th</sup>** - Propanil Stewardship Meeting
  - CIP Conference Room, Colusa
  - 9:00 am – 11:00 am
- **March 18<sup>th</sup> and 19<sup>th</sup>** – Rice Production Workshop
  - Lundberg Family Farms, Richvale
  - 8:30 am – 3:00 pm

**\*\*registration required\*\***
- **July 30<sup>th</sup>** – Rice Quality Workshop
  - Hillcrest Catering, Yuba City
  - 9:00 am – 12:00 pm

**\*\*registration required\*\***
- TBD Emerging Weeds Meeting



## Thoughts on Rice

A UCCE PODCAST

**LISTEN NOW**

ON YOUR FAVORITE  
STREAMING SERVICE



amazon music



# Questions?

Thank you!

**UNIVERSITY OF CALIFORNIA**  
Agriculture and Natural Resources