

# Loyant and Novixid Updates

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# Louisiana Team



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## 2(ee) Recommendation

For distribution and use only in the states of Arkansas, Louisiana, Mississippi & Missouri

### Aerial applications of Loyant<sup>®</sup> and Novixid herbicides impregnated on dry fertilizer

- Loyant 2(ee) label approved
- Novixid 2(ee) label approved

### Benefits of Impregnation

- Avoids OTM
- Safer on rice
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**Rice 44 DAA 16oz Loyant**

# Impregnation Process



# Granular Urea



Granular Urea 46-0-0



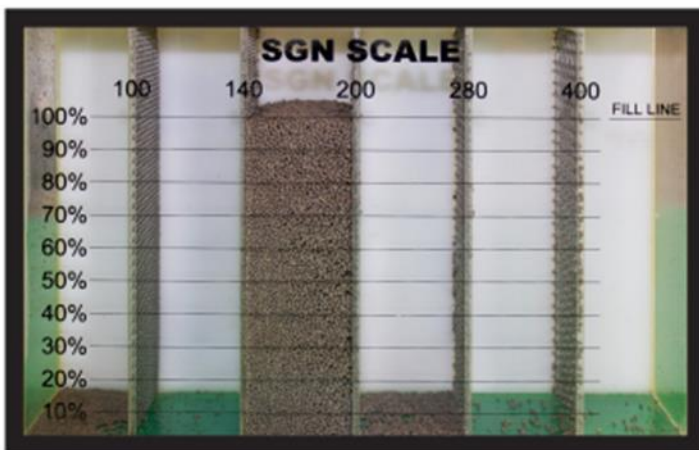
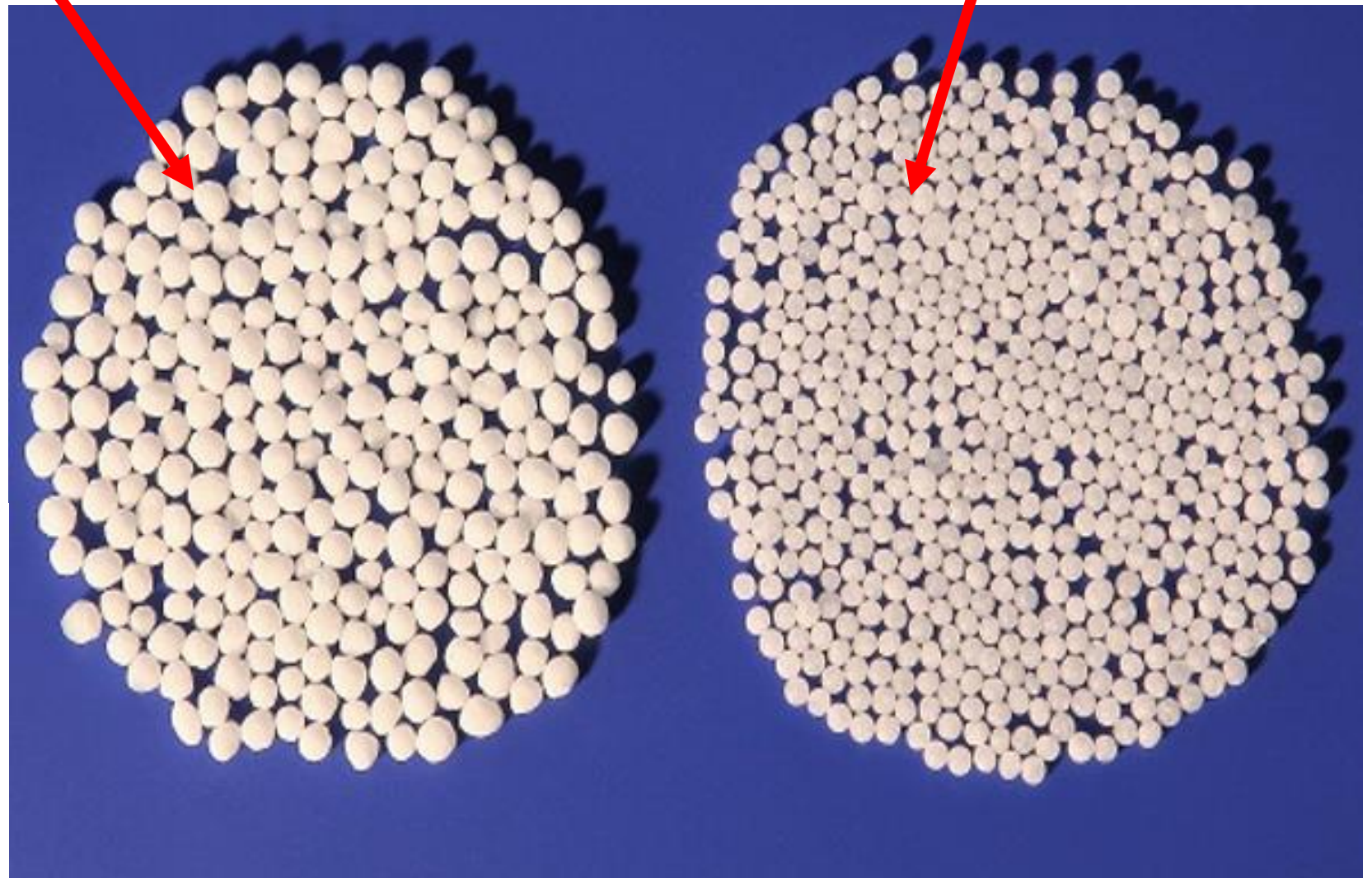
Prilled Urea 46-0-0





**Granular Urea 46-0-0**

**Prilled Urea 46-0-0**





Standard Grade AMS



Granular Grade AMS





# Typical Product Used for Impregnation

## 46-0-0 Granular Urea

33-0-0-10S 50% Urea and 50% Ammonium Sulfate

21-0-0-24 Granular Ammonium Sulfate

Various N-P-K-S blend

*MicroEssentials*  
**SZ**

Granular Urea 21-0-0-24



Granular AMS 21-0-0-24





Urea rate is low but other fertilizers are added to application.

Granular Urea 46-0-0



**OptiGro**

Blend Order  
Crowley

Request

Nutrients:	N	P	K	S	Mg	B	Zn	Mn	
Rate (lbs/ac):	50	8.75	26.25	0	0	0	0	0	

Blend Analysis

Product Name	Lbs/Gal/Acre	Total Lbs	Lbs/Batch	Lbs/
Urea	103.00	103.00	103.00	1,234
Micro Essential SZ	22.00	22.00	22.00	263
Potash (MOP) 0-0-62 - Granular Bulk	42.00	42.00	42.00	503
<b>Totals</b>		<b>167.00</b>	<b>167.00</b>	<b>2,000</b>

Analysis: 29.9 - 5.2 - 15.7 - 0.7S - 0.1Zn

Guaranteed Analysis: 29.4 - 4.7 - 15.2 - 0.2S

Total Tons: 0.084

Batch Size: 167

Full Batches: 1

Partial Batches: 0

Density: 53.60 lb/cu. ft

Rate: 167.00 lb/ac

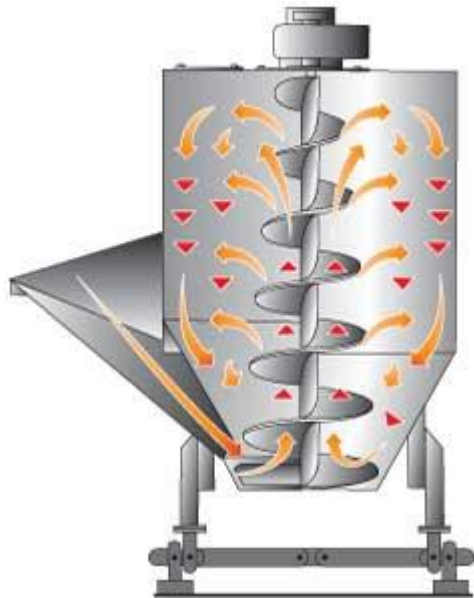
MicroEssentials<sup>®</sup>  
**SZ**



Potash 0-0-60



# Fertilizer Blenders





# Assay Sample Retention

Batch 1	Rinskor (%, A)	Rinskor Acid (%, B)	Total Rinskor (%, A+B)	% of Nominal conc. ((A+B)/0.0156*)
Sample 2	0.0137	0.0002	0.0139	89.0
Sample 4	0.0143	0.0002	0.0145	92.9
Sample 7	0.0148	0.0002	0.0150	96.1
Average	<u>0.0143 (3.2**)</u>	<u>0.0002 (0.0)</u>	<u>0.0145 (3.1)</u>	<u>92.6 (3.1)</u>

Batch 2	Rinskor (%, A)	Rinskor Acid (%, B)	Total Rinskor (%, A+B)	% of Nominal conc. ((A+B)/nominal conc.)
Sample 2	0.0161	0.0000	0.0161	92.5
Sample 3	0.0172	0.0002	0.0174	100.0
Sample 4	0.0140	0.0004	0.0144	96.6







**Not Recommended**



# Assay Sample Retention

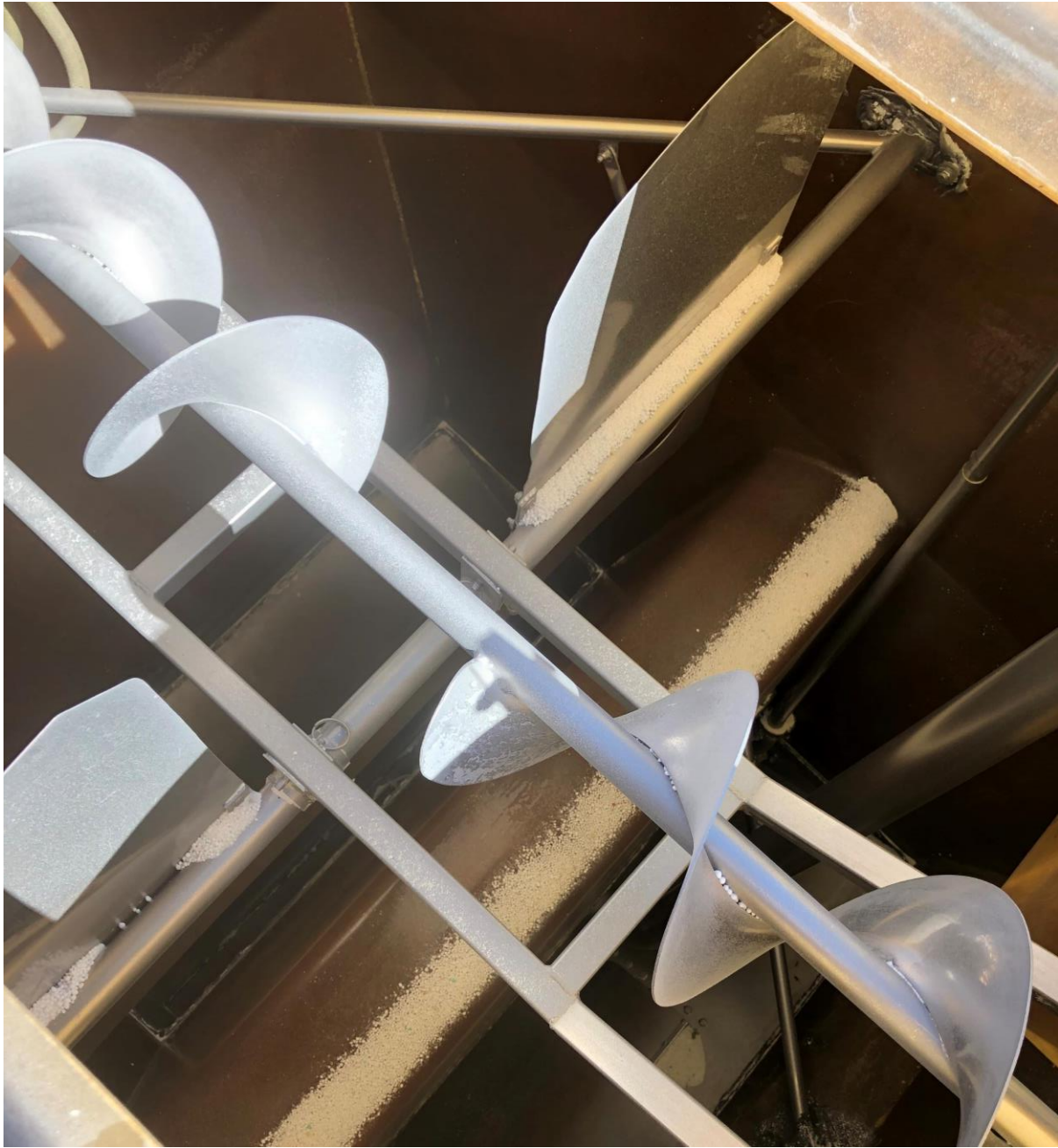
Rinskor concentrations of Loyant impregnated fertilizer was 0.0042 – 0.0094 %.

- Assay shows 36.1 to 80.7 % of Rinskor is impregnated to fertilizer.
- Rinskor concentration is substantially lower than other trials:
  - ✓ Each sample was treated with Loyant with **different auger speed and fertilizer flow.**
  - ✓ Sample sample(s) experienced **issues of getting enough Loyant out of nozzles** as speed of auger increased.

	Rinskor Concentration from fertilizer (A, %)	% of Nominal conc. (A/nominal conc.)
Urea sample 1 (112 lb/ac with 8 fl oz/ac Loyant )	0.0094	80.7
Urea sample 2 (112 lb/ac with 8 fl oz/ac Loyant )	0.0085	73.0
Urea sample 3 (112 lb/ac with 8 fl oz/ac Loyant )	0.0042	36.1
AMS sample 1 (100 lb/ac with 8 fl oz/ ac of Loyant )	0.0093	71.3

\*Nominal/Target concentration of Rinskor should be 0.0116% and 0.0130 % when Loyant at 8 fl oz/acre is impregnated to urea at 112 lb/acre, and AMS at 100 lb/acre, respectively.







# Assay Sample Retention

Rinskor concentrations of Loyant impregnated fertilizer was 0.0132 – 0.0175%.

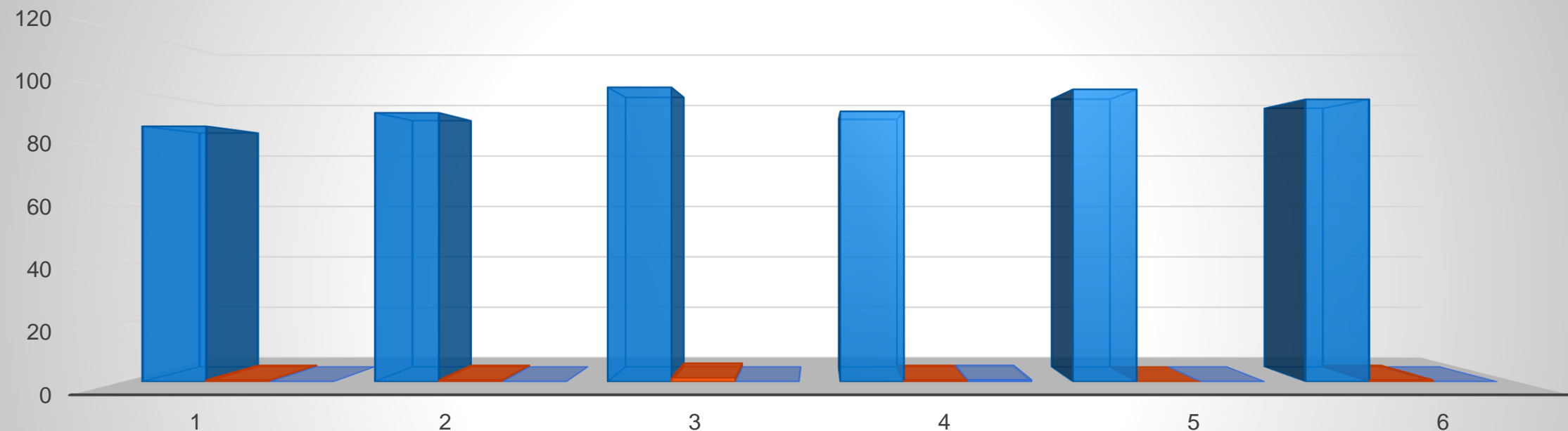
- Assay shows 87.4 to 112.7% of Rinskor is impregnated to fertilizer.
- Within an impregnation batch, approximately 5% variation of Rinskor retention (CV from 4.5 to 5.9 %) on urea is expected based on assay data.
- When Loyant is impregnated to urea at 16 fl oz, longer impregnation (urea turnover/ blending) time is suggested as relatively higher Rinskor variation is observed from urea samples with 16 fl oz of Loyant.

Sample Name	Rinskor (%)	Nominal (%)	% of Nominal(%)	Ave (%)
Urea Sample 1 (16 oz/acre)	0.0152	0.0174	87.4	93.4
Urea Sample 2 (16 oz/acre)	0.0160	0.0174	92.0	
Urea Sample 3 (16 oz/acre)	0.0175	0.0174	100.7	



# Loyant Impregnation and Cleanout

Lab Results



	1	2	3	4	5	6
Treated	87.4	92	100.7	92.5	100	96.6
Untreated Cleanout #1	0.6	0.6	1.4	0.6	0	0.6
Untreated Cleanout #2	0	0	0	0.6	0	0

Treated    Untreated Cleanout #1    Untreated Cleanout #2

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**Rice 44 DAA 16oz Loyant**



# Best Management Impregnation

## Mixing Recommendations

- Minimum 100 lbs of fertilizer for Loyant; 150 lbs of fertilizer for Novixid
- Use drying agent or additional fertilizer to reduce moisture
- Use commercial fertilizer blender
- Do Not use tender truck augers with spray nozzles
- Do Not leave impregnated fertilizer on truck overnight.

## Equipment Cleanout

- Blender and Tenders run 2 batches of non-impregnated fertilizer for rice.
- Aerial applicator follows standard triple rinse process



# Novixid Broadcasted Weed Control



# Premier Rice Weed Control

**Rate: 27.4 oz/A**

- 13 oz Loyant + 2.3 oz Grasp
- Adjuvant: ½ pt MSO or COC; not required

## Features and Benefits

- Dual modes of action (Groups 4 + 2)
- Flexible application window from 2lf – 60day PHI
- Grass, sedge and broadleaf control

**Novixid<sup>®</sup>**

Rinskor<sup>™</sup> active

**HERBICIDE**

# Weed Control

**Novixid<sup>®</sup>**  
Rinskor™ active  
**HERBICIDE**

**Smartweed**



**Grassy arrowhead**



**Alligatorweed**





# Yellow Nutsedge

**Novixid<sup>®</sup>**  
Rinskor™ active  
**HERBICIDE**





# Barnyardgrass—8 DAA

**Novixid<sup>®</sup>**  
Rinskor™ active  
**HERBICIDE**





# Brooks Paspalum—14 DAA

**Novixid<sup>®</sup>**  
Rinskor™ active  
**HERBICIDE**





# Gooseweed—14 DAA

**Novixid<sup>®</sup>**  
Rinskor™ active  
**HERBICIDE**





# Novixid Impregnation Weed Control



# Yellow Nutsedge

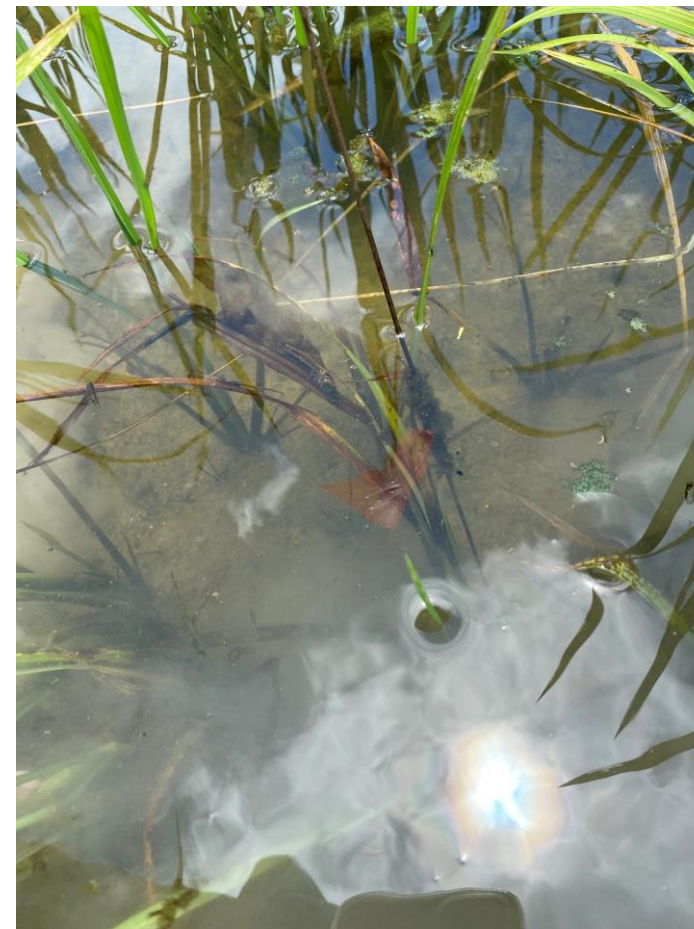
**Novixid<sup>®</sup>**  
Rinskor™ active  
**HERBICIDE**



**1 DAA**



**16 DAA**



**28 DAA**



# Grassy Arrowhead

**Novixid<sup>®</sup>**  
Rinskor™ active  
**HERBICIDE**



**1 DAA**



**16 DAA**



**28 DAA**



# Smartweed

**Novixid<sup>®</sup>**  
Rinskor<sup>™</sup> active  
**HERBICIDE**



**1 DAA**



**16 DAA**



**28 DAA**



# Jointvetch

**Novixid<sup>®</sup>**  
Rinskor™ active  
**HERBICIDE**



**1 DAA**



**16 DAA**



**28 DAA**



# Loyant Impregnation Weed Control



# Submerged Weed Control

- Alligatorweed
- Arrowhead
- Grassy Arrowhead/Bulltongue
- Creeping Burhead
- Water Hyssop
- Ducksalad
- Hemp Sesbania
- Indian and Northern Jointvetch
- Palmer Amaranth
- Rice Flatsedge
- Roundleaf Mudplantain
- Spreading Dayflower
- Eclipta

# Suppressed Weed Control

- Barnyardgrass
- Yellow nutsedge
- Smartweed
- Redstem
- Fimbristylis





# Key Learnings

# Best Management Impregnation

## Application Recommendations

- Apply Impregnated Fertilizer into flood
- At least 70% of weed covered by flood
- Maintain flood for **10 days minimum**
- Apply with wind at **10 mph** or less and blowing away from sensitive crops

## Optimal Weed Spectrum and size

- Broadleaves and flatsedge 4-inch maximum size and 70% submerged

## Recommended Fertilizer

- Granular Urea or Granular AMS
- SGN >200



# Summary

- Smartweed, jointvetch, and yellow nutsedge are controlled best by Loyant/Novixid impregnation when they are submerged
- Allow yourself at least two untreated blender cleanouts after Loyant impregnation process
- Novixid broadcasted controls larger brooks paspalum than Loyant alone (so far)
- Novixid broadcasted controls larger gooseweed than Grasp alone (so far)
- If you are tankmixing Loyant or Novixid with Clincher, do not exceed 1pt MSO/COC



# *Thank You!*

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