



# 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
- Great aquatic weed control
- Saves an application trip



**Rice 44 DAA 16oz Loyant**

# Impregnation Process

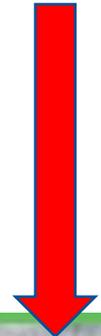
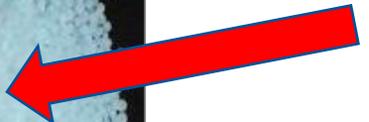
# Granular Urea



Granular Urea 46-0-0

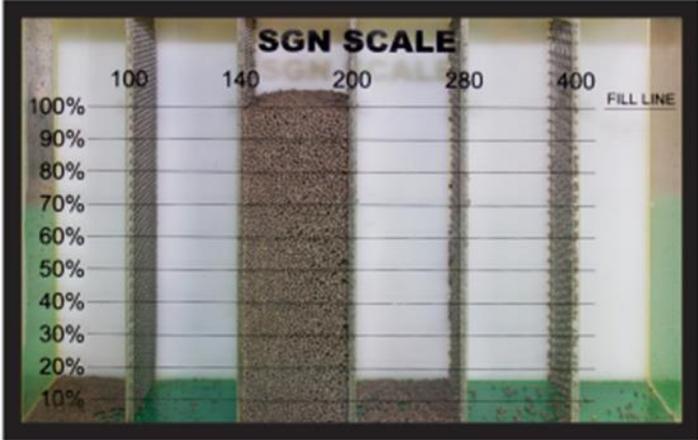
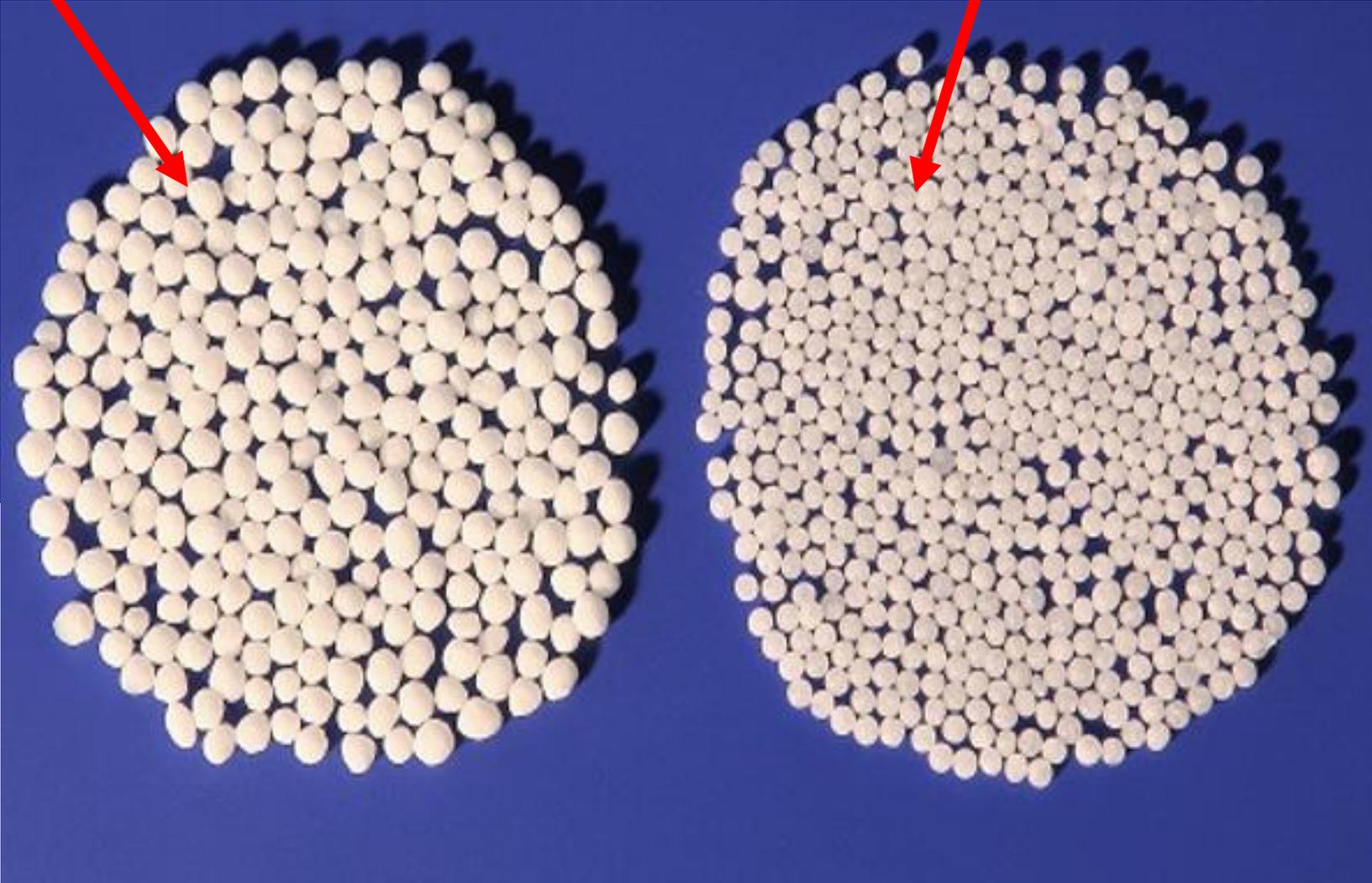


Prilled Urea 46-0-0



**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



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





**Blend Order**  
 Crowley

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

<b>Analysis:</b>	29.9 - 5.2 - 15.7 - 0.7S - 0.1Zn
<b>Guaranteed Analysis:</b>	29.4 - 4.7 - 15.2 - 0.2S
<b>Total Tons:</b>	0.084
<b>Batch Size:</b>	167
<b>Full Batches:</b>	1
<b>Partial Batches:</b>	0
<b>Density:</b>	53.60 lb/cu. ft
<b>Rate:</b>	167.00 lb/ac

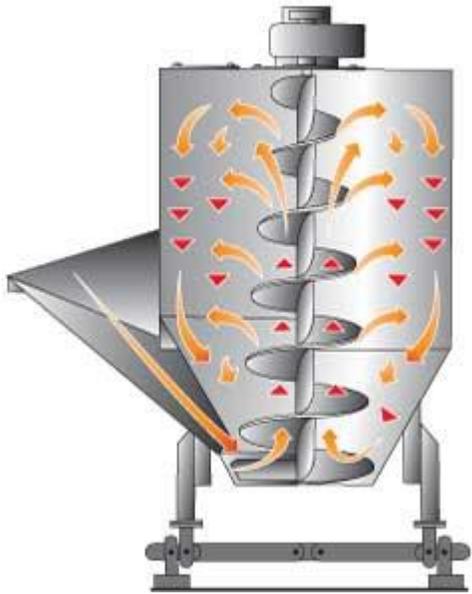
MicroEssentials<sup>®</sup>  
SZ



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**



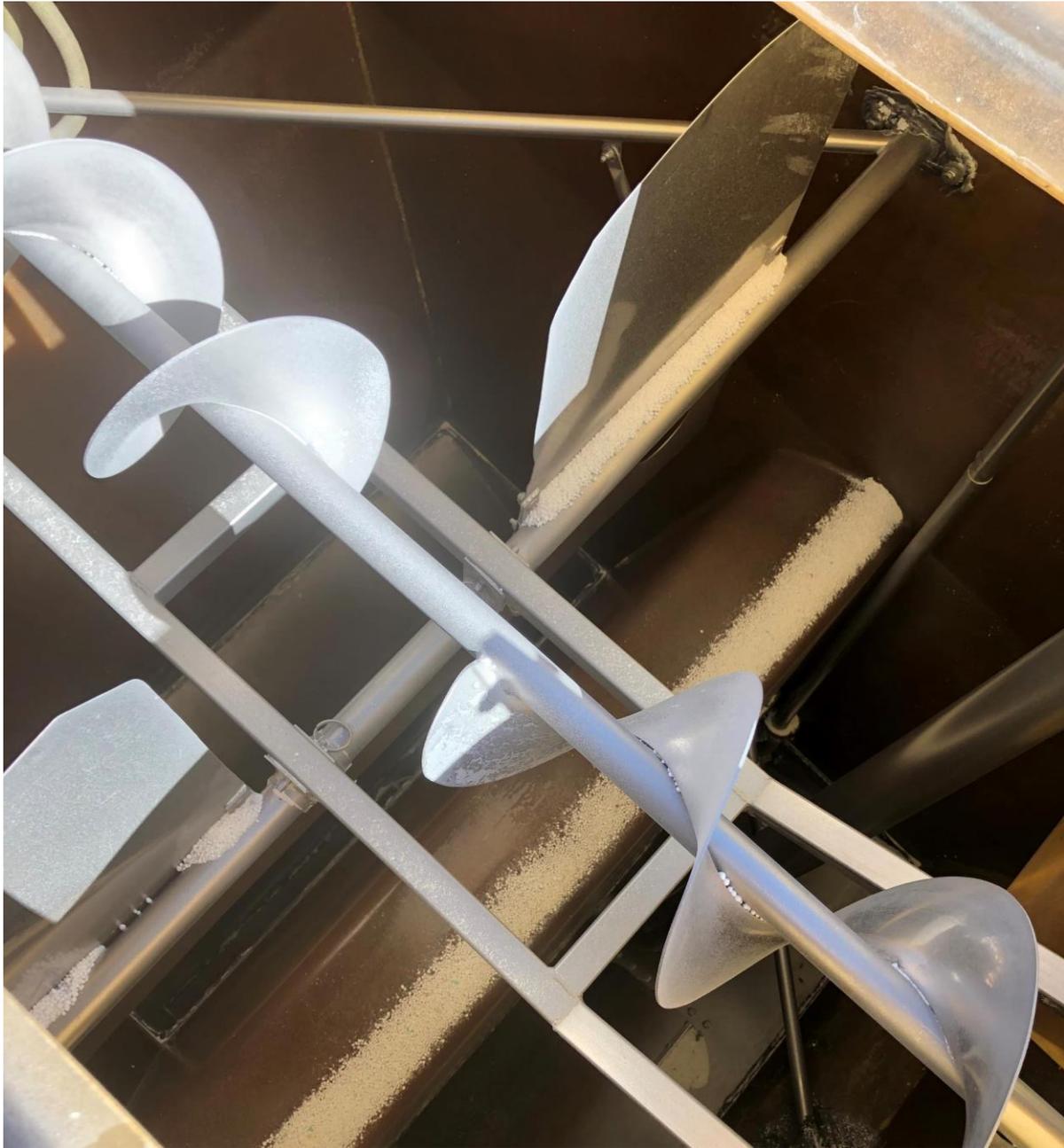
# Assay Sample Retention

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

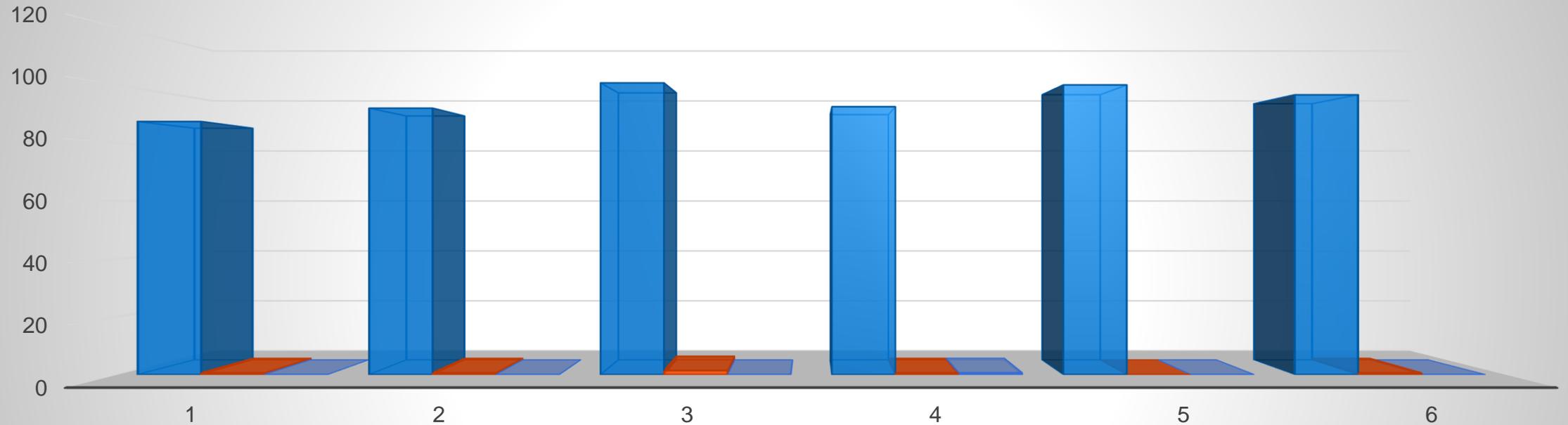
Rinskor concentrations of Loyant impregnated fertilizer was 0.0132 – 0.0175%.

- 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

**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™ 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



8 DAA 8 DAA 14 DAA 14 DAA 24 DAA 8 DAA 8 DAA 14 DAA 14 DAA 16 DAA 8 DAA

# 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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