

Weed Science Update

Eric Webster



Loyant

- **Dow AgroScience**
- **Auxin activity – New mode of action**
- **Began looking at 2 years ago**
- **1 pt/A with methylated seed oil**
- **Little to no injury on rice; except on cut ground**
- **Broad spectrum**
- **Activity on grasses, aquatics, and sedges**
- **Not a cure-all, but we don't have one**
- **Drill- and water-seeded rice**

Activity and Symptomology







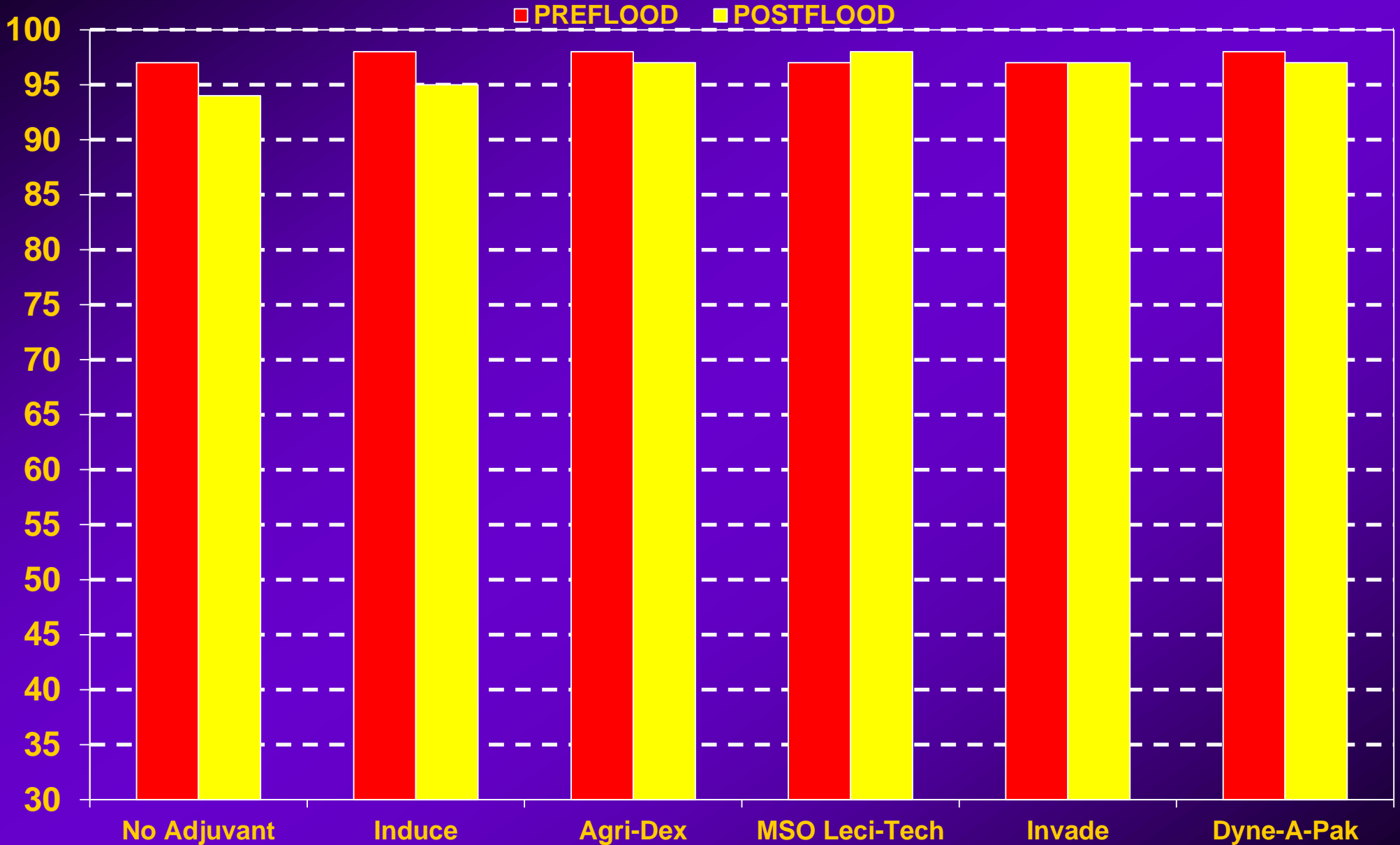


Loyant Pre-Flood vs Post Flood

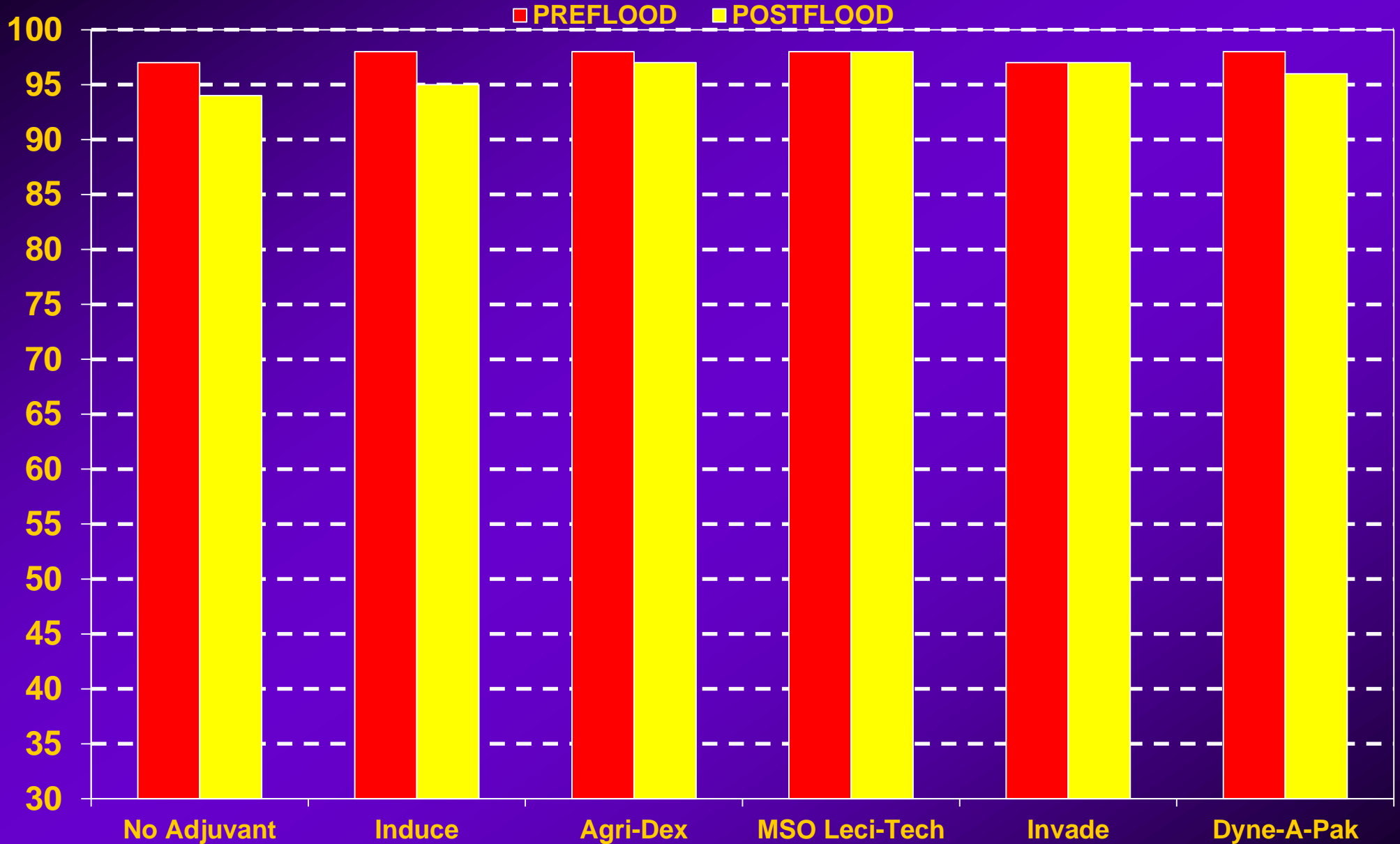
- Preflood: May 28
- Postflood: June 4
- 15 GPA

Weed	Preflood	Post Flood
Indian jointvetch	8 to 20", 15- to 30-leaf	30 to 36", 20- to 45-leaf
Spreading dayflower	3 to 6", 3- to 6-leaf	4 to 10", 4- to 20-leaf
Rice flatsedge	6 to 12", 6- to 9-leaf	20 to 24", 9- to 12-leaf
Barnyardgrass	6 to 12", 5-leaf to 1- to 2-tiller	6 to 15", 1- to 4-tiller
Hemp sesbania	12 to 24", 10- to 20-leaf	24 to 38", 20- to 40-leaf
Eclipta	4 to 8", 15- to 20-leaf	8 to 12", 20- to 40-leaf

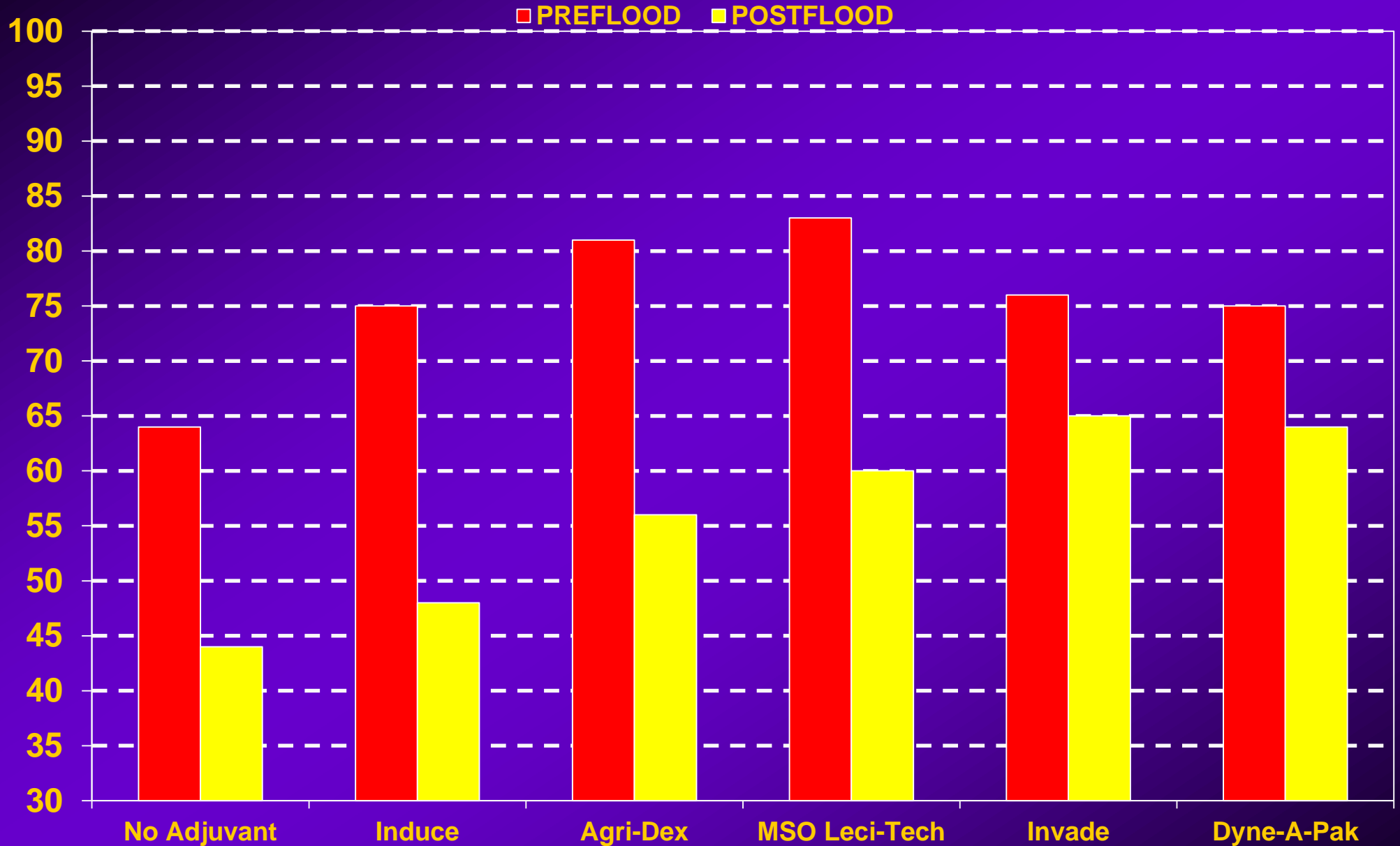
Loyant Activity on Hemp sesbania



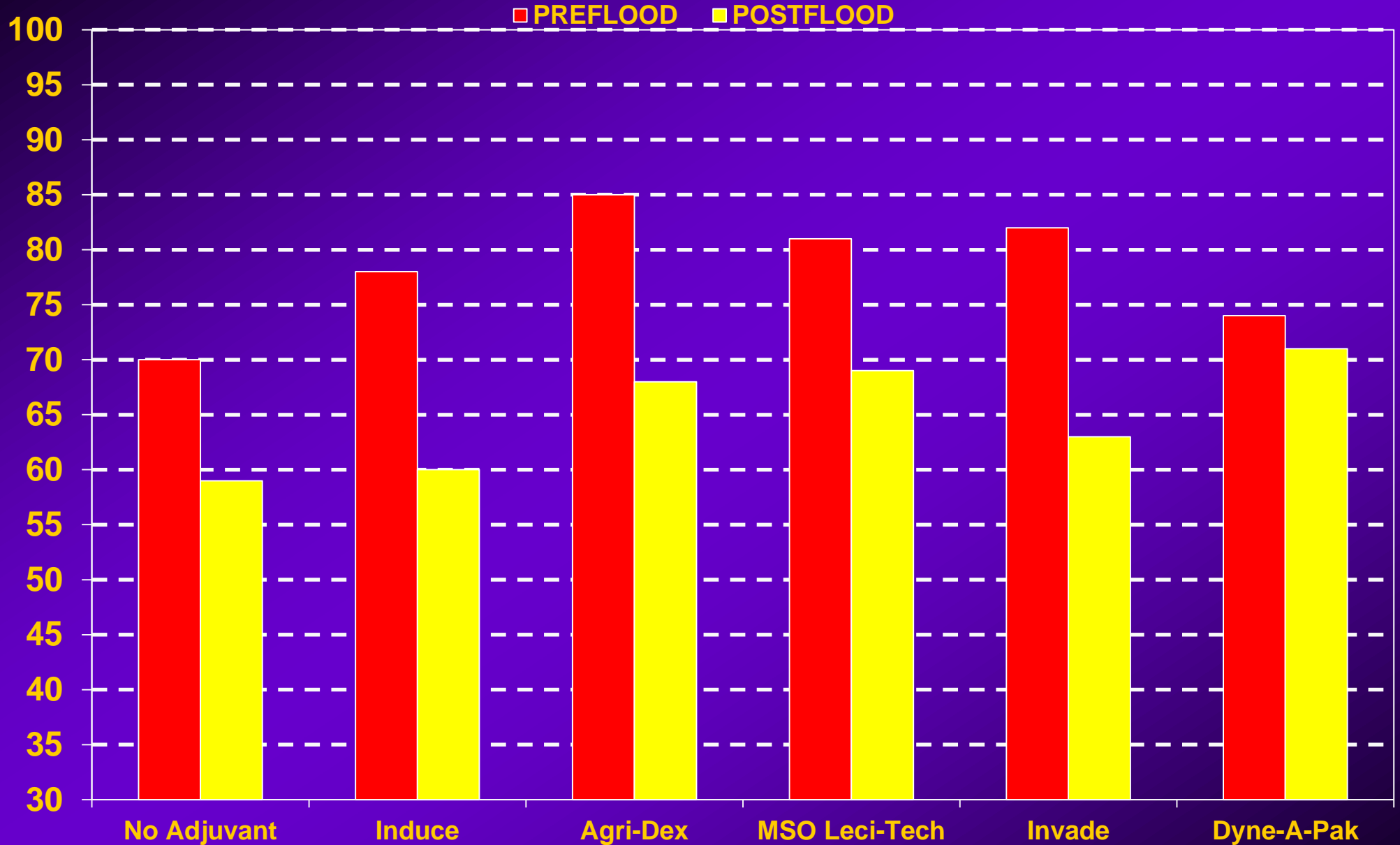
Loyant Activity on Indian jointvetch



Loyant Activity on Barnyardgrass



Loyant Activity on Rice flatsedge



Importance of Flood Establishment

Postemergence Application



Command at 12.8 oz/A - PRE



Command 3ME - 12.8 fl oz/A (PRE)

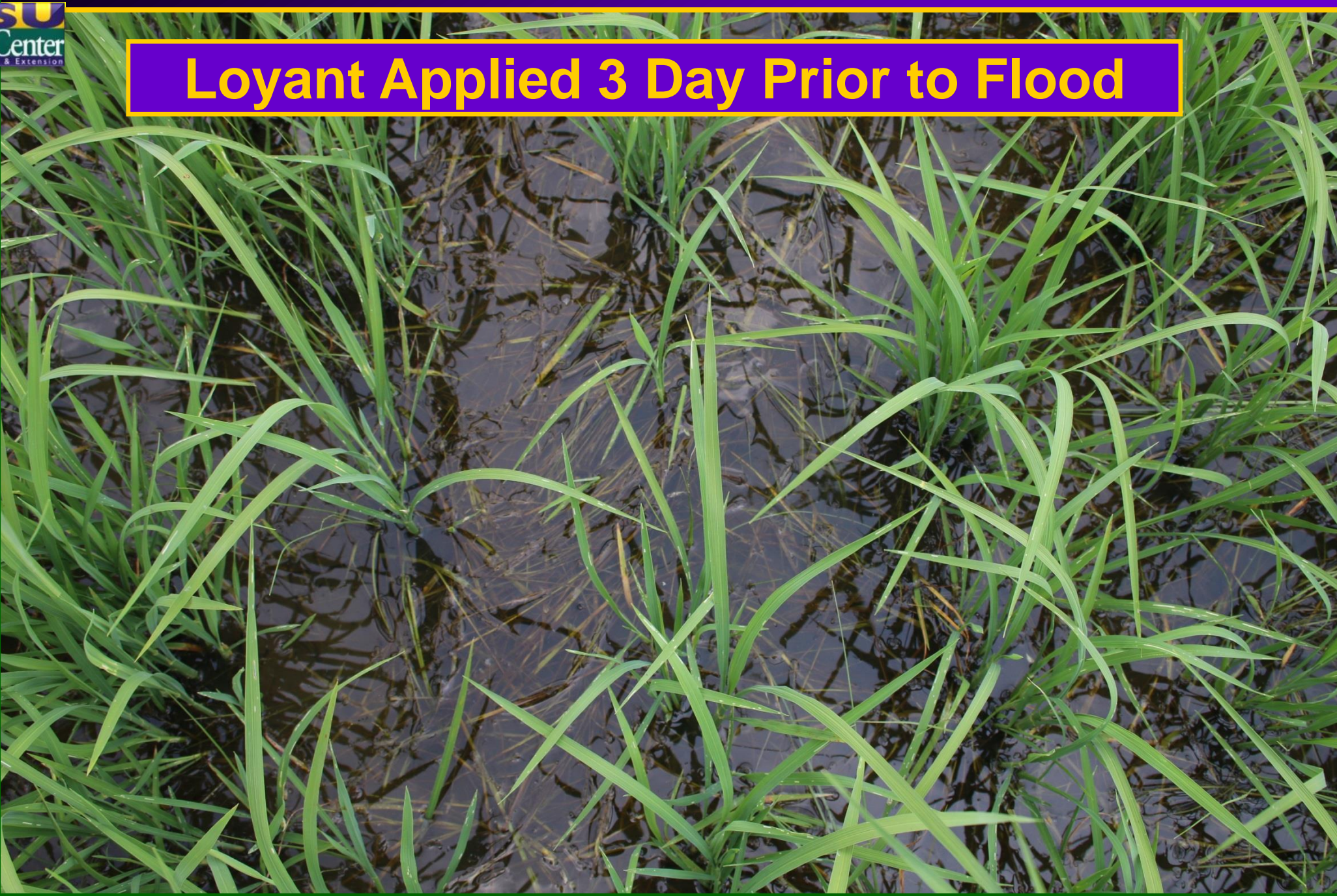
Command at 12.8 oz/A - PRE



Loyant Applied 3 Day Prior to Flood



Loyant Applied 3 Day Prior to Flood



Loyant Applied 9 Day Prior to Flood

Command 3ME – 12.8 fl oz/A (PRE)
+
Loyant™ – 1 pt/A + MSO
(9 days before PREFLOOD)

to help bridge the gap
between



Loyant Applied 9 Day Prior to Flood



Loyant Applied 15 Day Prior to Flood



Command 3ME - 12.8 fl oz/A (PRE)

+

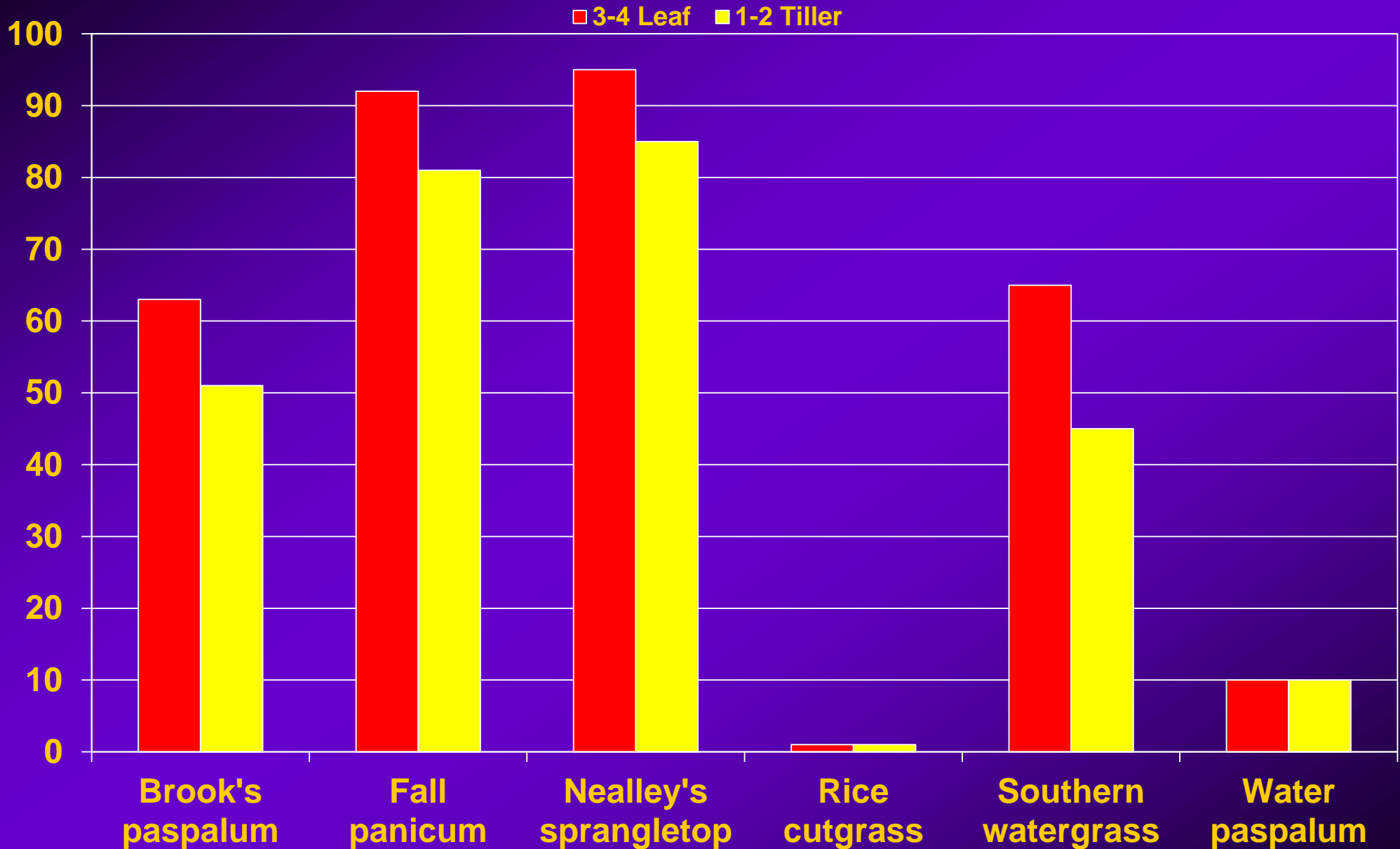
Loyant™ - 1 pt/A + MSO
(15 days before PREFLOOD)

Loyant Applied 15 Day Prior to Flood



Difficult Grass Weeds

Loyant Activity on numerous grass weeds



Injury – Cut Ground



Loyant

- **Safe on 1- to 2-leaf rice**
- **Slightly quicker on Indian jointvetch than sesbania**
- **Very little activity on Texasweed**
- **Activity:** Barnyardgrass, seedling fall panicum and Nealley's
- **Suppression:** Brook's paspalum
- **No activity:** Rice cutgrass, Water paspalum
- **No residual – Establish flood within 3 days of application**
- **Mixes with many products for broaden spectrum**
- **New technology – try to preserve**
- **Abuse and you will lose it!**
- **Label in 2017, first use 2018**

Provisia Rice

Long Term Weedy Rice Study

Weedy Rice Counts 2013, 2014, 2015, 2016

	Weedy Rice Plants							
	— 2013 Maturity —		— 2014 Maturity —		— 2015 Maturity —		— 2016 Maturity —	
Rotation	Plant/m ²	Plant/A	Plant/m ²	Plant/A	Plant/m ²	Plant/A	Plant/m ²	Plant/A
1	17.2	69,592	0.005	20	0	0	0.006	22
2	25.1	101,554	0.004	16	0	0	0.009	36
3	7.8	31,598	2.6	10,518	0	0	0.014	56
4	5.2	21,040	3.1	12,434	0	0	0.005	20
5	0.269	1,088	39.6	160,222	0.4	1,618	0.169	682
Grower Program							15	60,700

Rotation 1: Soybean/Provisia Rice/Soybean/Clearfield Hybrid Rice


Rotation 2: Fallow/Provisia Rice/Soybean/Clearfield Hybrid Rice

Rotation 3: Clearfield Hybrid Rice/Soybean/Provisia Rice/Clearfield Hybrid Rice

Rotation 4: Soybean/Soybean/Soybean/Clearfield Hybrid Rice

Rotation 5: Soybean/Clearfield Hybrid Rice/Soybean/Clearfield Hybrid Rice

Grower: Soybean/Clearfield Hybrid Rice/Fallow/Clearfield Hybrid Rice



System 5 - 2014
Newpath at 6 oz – 2-3 lf
Newpath at 6 oz – 1-2 till
Beyond at 5 oz – PI

System 3 - 2015
Command 12.8 oz + Provisia at 15.5 oz – 2-3 lf
Provisia at 15.5 oz – 1-2 till
Permit 1 oz – 3 DA 2-3 lf

Antagonism is an Issue



Provisia at 15.5 oz/A on 2-3 leaf rice



Provisia + Grasp Xtra on 2-3 leaf rice



Provisia + Regiment on 2-3 leaf rice



Provisia + Propanil on 2-3 leaf rice



Provisia + RiceBeaux on 2-3 leaf rice



Provisia + Permit on 2-3 leaf rice

How to use Provisia

- **15.5 to 18 oz/A of Provisia first application, 31 oz/A total**
- **Excellent activity on common grasses –**
 Nealley's, Amazon, fall panicum, water paspalum, weedy rice
- **Suppression of common grasses –**
 Brooks paspalum, rice cutgrass, southern watergrass
- **Caution against mixing with broadleaf herbicides**
- **Water source may be an issue**
- **Will be an excellent option in a weedy rice situation**
- **If weedy rice is present; not going to clean it up with 1 year**
- **Extend the life of Clearfield and Provisia technology**
- **DO NOT TANK-MIX**
- **Abuse it, you will lose it**

Benzobicyclon

- **New mode of action in rice production**
 - photosynthesis - bleacher – HPPD inhibitor
- **Provide control of difficult aquatics and Amazon sprangletop**
 - pickerelweed, grassy arrowhead, creeping burhead
- **Some activity on red rice**
- **Observed injury**
- **Early flooding**
- **Disadvantage – Slow, not visually pleasing, inconsistent**

8.4 oz/A Spoon



Nealley's Sprangletop

Nealley's Sprangletop – seedling

- Nealley's sprangletop – 4 times more competitive than bearded sprangletop
- 1 Nealley's/m² reduces yield 70 lb/A
- At \$11.5/cwt, 5-6 Nealley's/m² is threshold

Nealley's Removal	Yield	% NT	Net Returns	Change Returns
7 DAE	8000	131	1935	+ 395
14 DAE	7020	115	1685	+ 145
21 DAE	6750	111	1615	+ 75
28 DAE	6890	113	1655	+ 115
35 DAE	6570	108	1575	+ 35
42 DAE	6210	102	1475	- 65
Weed free	7620	128	—	—
Nontreated	6090	100	1540	0





RiceOne

Conclusions

- **A herbicide is not always the best option**
- **Resistance issues will continue**
- **Continue to stress the use of multiple MOA**
- **Rotation – solve many problems year after year**
- **Follow stewardship program recommendations**
- **Weed Science will continue to stay out front in rice**
- **Drift with new technology**

Questions