

Weed Control Options and Herbicide Drift on Rice

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Early

Apply herbicides to small actively growing weeds

- **Greatest yield loss in 3 to 4 wk after emergence**
- **1-4 leaf weeds are easier to control than larger weeds**
- **2,4-D great herbicide but applied too late in many cases**

Think about the herbicides you choose; is the selection the correct choice for the weed spectrum present

Be careful using reduced rates

- **often times cost more than saved**

Be careful when tank-mixing products

Most important – apply herbicides early

Label Changes for 2007

Newpath, Clearpath, Beyond

- Program approach
- Variable rate options
- Timing options PPI, PRE, POST
- No changes for 2007

Grasp

penoxsulam, 2 SC

Postemergence water- and drill-seeded rice

Has some residual activity, i.e. broadleaf signalgrass

Rates: 2.0 to 2.8 oz/A plus 1 qt COC, 1 application

Need 70% exposure if field flooded

Changes for 2007

- Saturated soils wait 3 hours for flood establishment
- Dry soils wait 3 days before flood establishment

Clincher

This is not a first choice herbicide

Excellent control of 1-3 leaf barnyardgrass

Tank-mix on early applications, small grasses

Change for 2007

- Ground application not recommended

Herbicides Under Evaluation

- IR 5878 - Strata
- Two experimental herbicides

Herbicide Drift

Herbicide Drift Research

Evaluating drift for several years

Through research we are able to determine which herbicide drifted and what are the consequences of the event

Herbicides applied at 0.125 and 0.0625 of labeled rate

Roundup Weathermax 22 oz; 2.8 and 1.4 oz/A

Newpath 4 oz; 0.5 and 0.25 oz/A

Beyond 5 oz; 0.63 and 0.31 oz/A

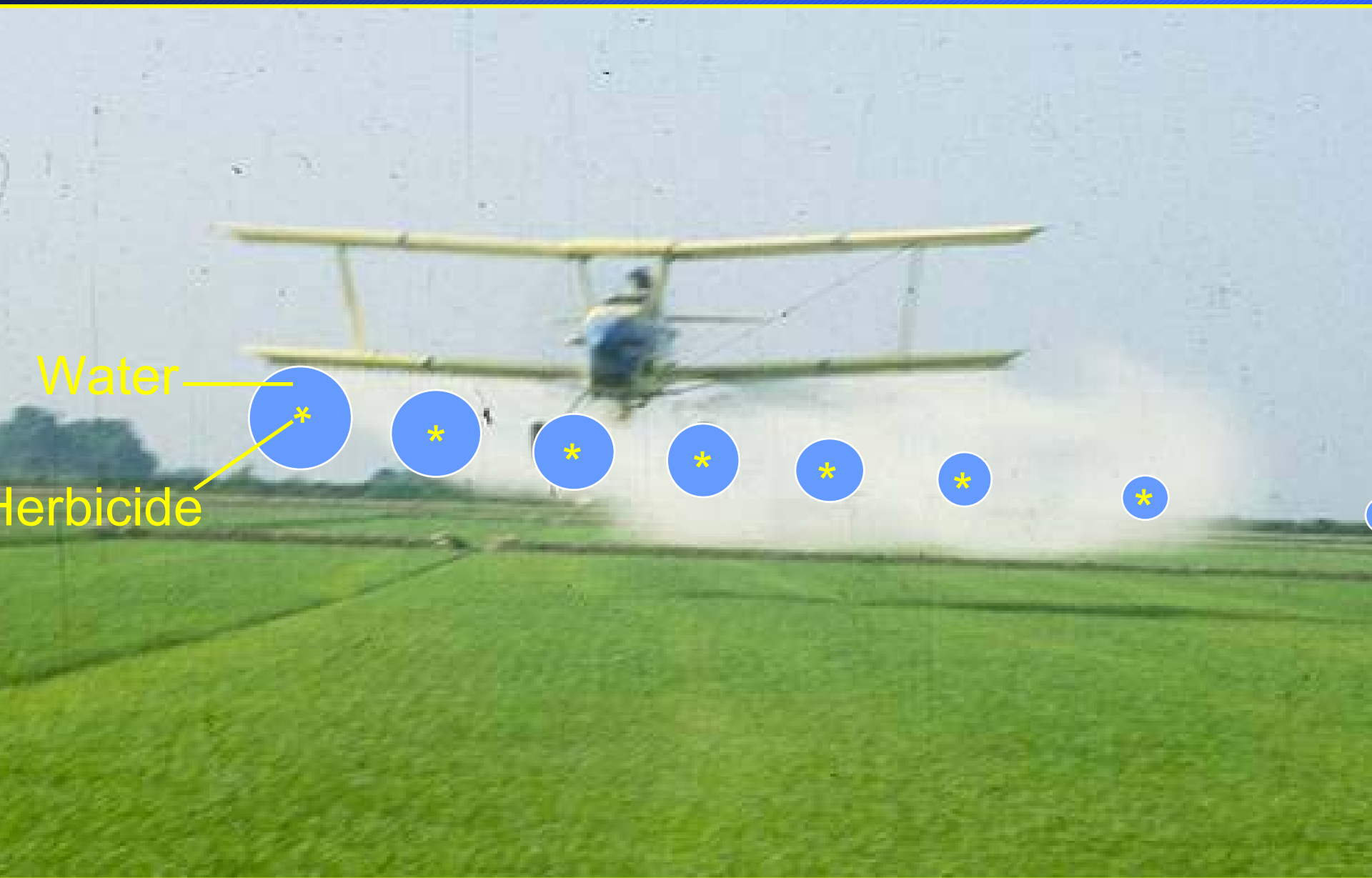
Ignite 24 oz; 3 and 1.5 oz/A

GPA proportional rate, based on 25 GPA; 3.1 and 1.6 GPA

Effect of Spray Droplet Size on Spray Drift

Droplet diameter (microns)	Type of droplet	Time required to fall 10 ft in still air	Distance Traveled during 10 ft fall in a 5 mph wind
600	Coarse spray	1.7 seconds	12
400	Coarse spray	2 seconds	15
200	Fine spray	4 seconds	30
100	Mist	11 seconds	77
20	Fog	4 minutes	1760
5	Fog	66 minutes	29,050

Theoretical Droplet Response



Water

Herbicide

**Symptoms observed on rice
with herbicides applied at
simulated drift rate**

Roundup WeatherMax

Roundup



Impact of Roundup WeatherMax on Rice

Rate	Timing	Plant Height at Harvest (% on NT)	Primary Crop Yield (% of NT)	Ratoon Crop Yield (% of NT)	Total Crop Yield (% of NT)
Nontreated		100 a (92 cm)	100 a (5760 lb/A)	100 c (950 lb/A)	100 a (6710 lb/A)
2.8 oz/A	PD	86 c	52 cd	92 c	58 c
2.8 oz/A	Boot	88 bc	41 d	173 b	60 c
2.8 oz/A	Maturity	102 a	95 a	109 c	97 a
1.4 oz/A	PD	91 b	67 b	55 d	65 c
1.4 oz/A	Boot	90 bc	56 bc	193 a	75 b
1.4 oz/A	Maturity	102 a	100 a	99 c	100 a

Roundup WeatherMax, 1.4 oz Boot, 21 DAT



Roundup WeatherMax, 2.8 oz Boot, 21 DAT



Newpath

Newpath



Newpath



Impact of Newpath Drift on Rice

Rate	Timing	Plant Height at harvest (% of NT)	Primary Crop Yield (% of NT)	Ratoon Crop Yield (% of NT)	Total Crop Yield (% of NT)
Untreated		100 a (93 cm)	100 a (5430 lb/A)	100 c (1350 lb/A)	100 c (6780 lb/A)
0.5 oz/A	PD	90 b	72 b	64 e	70 b
0.5 oz/A	Boot	90 b	29 d	173 a	58 c
0.5 oz/A	Maturity	100 a	95 a	103 c	97 a
0.25 oz/A	PD	97 a	89 a	89 cd	89 a
0.25 oz/A	Boot	90 b	44 c	134 b	62 bc
0.25 oz/A	Maturity	99 a	94 a	82 d	92 a

Newpath, 0.25 oz Boot, 21 DAT



Beyond

Beyond



Impact of Beyond Drift on Rice

Rate	Timing	Plant Height at Harvest (% of NT)	Primary Crop Yield (% of NT)	Ratoon Crop Yield (% of NT)	Total Crop Yield (% of NT)
Untreated		100 a (92 cm)	100 ab (5250 lb/A)	100 cd (1230 lb/A)	100 cd (6480 lb/A)
0.63 oz/A	PD	95 b	85 a	81 d	84 b
0.63 oz/A	Boot	91 c	36 c	191 a	65 c
0.63 oz/A	Maturity	100 a	91 a	121 c	97 a
0.31 oz/A	PD	100 a	100 a	103 cd	101 a
0.31 oz/A	Boot	93 bc	59 b	158 b	78 b
0.31 oz/A	Maturity	100 a	99 a	108 c	101 a

Beyond, 0.31 oz Boot, 21 DAT



Beyond, 0.63 oz Boot, 21 DAT



Ignite

Ignite

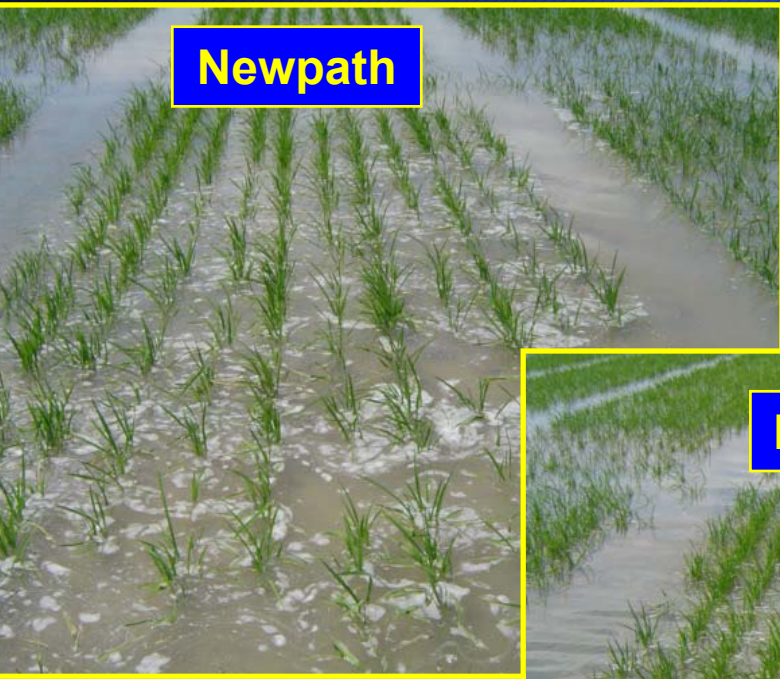


Impact of Ignite Drift on Rice

Rate	Timing	Plant Height at harvest (% of NT)	Primary Crop Yield (% of NT)	Ratoon Crop Yield (% of NT)	Total Crop Yield (% of NT)
Untreated		100 a (93 cm)	100 a (5390 lb/A)	100 b (1380 lb/A)	100 b (6770 lb/A)
3 oz/A	PD	98 a	98 a	96 b	98 bc
3 oz/A	Boot	100 a	89 b	121 a	96 ab
3 oz/A	Maturity	102 a	104 a	98 b	103 a
1.5 oz/A	PD	101 a	102 a	113 ab	104 a
1.5 oz/A	Boot	100 a	84 b	123 a	92 b
1.5 oz/A	Maturity	102 a	103 a	94 b	101 a

7 DAT Tiller

Newpath



Beyond



Nontreated



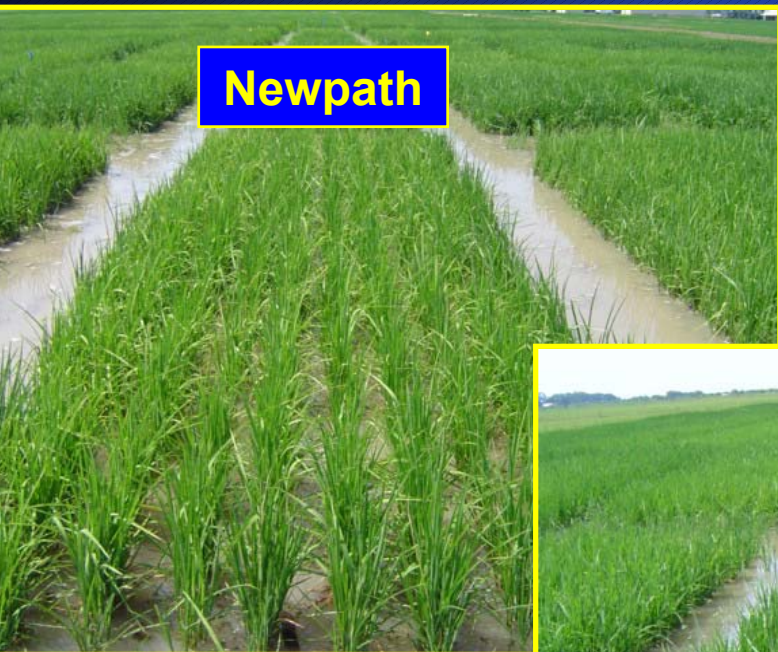
Ignite



Roundup



28 DAT Tiller



Future Research Herbicide Drift

Variety tolerance

- preliminary data indicates slight differences

Clearfield lines exposed to sub-lethal rates

Roundup prior to Newpath application

What is best approach if drift occurs

- When to flush or flood
- Additional fertilizer

Rice Cultivar Susceptibility to Roundup

CL 131

A photograph of a rice field plot for cultivar CL 131. The rice plants are green and appear to be in the early stages of growth. There is a noticeable amount of bare soil between the rows, suggesting some herbicide damage or poor establishment. A yellow marker is visible in the foreground.

CL 151

A photograph of a rice field plot for cultivar CL 151. The rice plants are green and appear to be in the early stages of growth. There is a noticeable amount of bare soil between the rows, suggesting some herbicide damage or poor establishment. A yellow marker is visible in the foreground.

CL 161

A photograph of a rice field plot for cultivar CL 161. The rice plants are very sparse and appear to be struggling. There is a large amount of bare soil between the rows, indicating significant herbicide damage or poor establishment. A yellow marker is visible in the foreground.

Wells

A photograph of a rice field plot for cultivar Wells. The rice plants are green and appear to be in the early stages of growth. There is a noticeable amount of bare soil between the rows, suggesting some herbicide damage or poor establishment. A yellow marker is visible in the foreground.

Cocodrie

A photograph of a rice field plot for cultivar Cocodrie. The rice plants are green and appear to be in the early stages of growth. There is a noticeable amount of bare soil between the rows, suggesting some herbicide damage or poor establishment. A yellow marker is visible in the foreground.

Cheniere

A photograph of a rice field plot for cultivar Cheniere. The rice plants are very sparse and appear to be struggling. There is a large amount of bare soil between the rows, indicating significant herbicide damage or poor establishment. A yellow marker is visible in the foreground.

Future Research Herbicide Drift

Variety tolerance

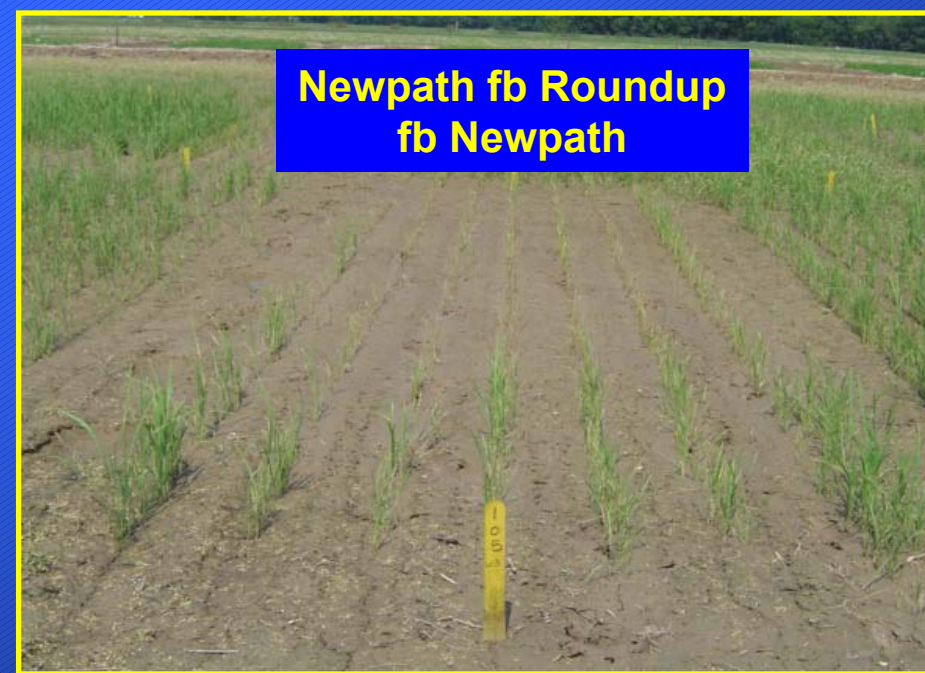
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Questions ???