

Why Won't My Weeds Go Away?

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Doug Duffer













Roundup + Barricade in Early Spring



What happened?







The following spring



Glyphosate 2I DAT



The following summer



Doug Duffer

Same Herbicide Program

Same
Herbicide +
Program

Same
Herbicide + 10 years
Program

Same
Herbicide +
Program

“As long as I
can remember”

Same
Herbicide +
Program

“As long as I
can remember”

Same
Herbicide
Program

+

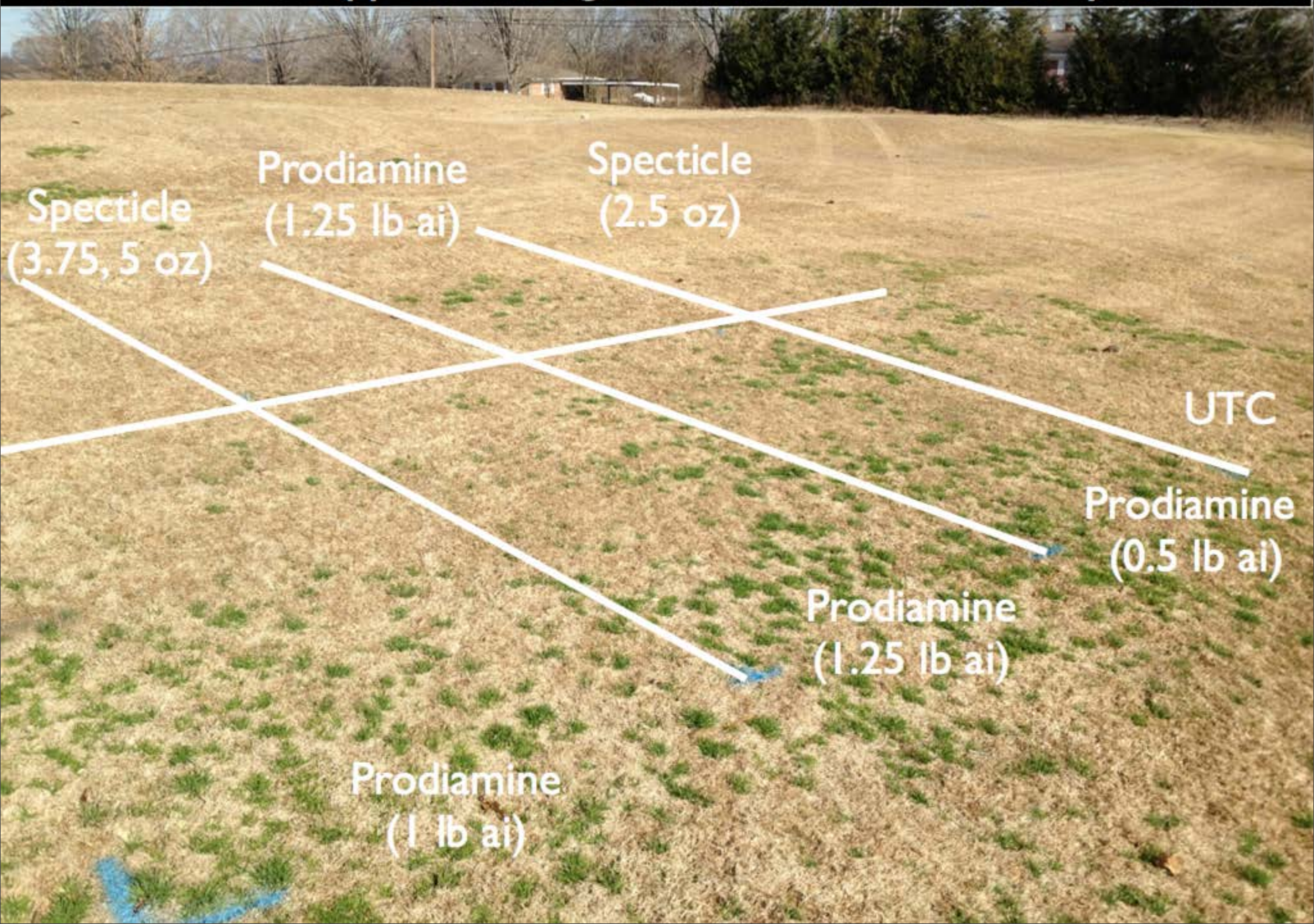
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“As long as I
can remember”

Same
Herbicide + =
Program

HERBICIDE RESISTANCE

Treatments Applied 22 August 2012; Photo 1 February 2013



Specticle
(3.75, 5 oz)

Prodiamine
(1.25 lb ai)

Specticle
(2.5 oz)

UTC

Prodiamine
(0.5 lb ai)

Prodiamine
(1.25 lb ai)

Prodiamine
(1 lb ai)



SAFETY
CHOICE
Nitrile Exam Gloves
Powder-Free
Large

ISOPROPYL



PR

Root growth of
prodiamine
resistant (PR) and
susceptible (SS)
annual bluegrass in
Alcoa, TN



SS

0 mM 0.001 mM 0.01 mM 0.1 mM 1.0 mM 10 mM



PR

Root growth of
prodiamine
resistant (PR) and
susceptible (SS)
annual bluegrass in
Alcoa, TN



SS

0	0.41	4.1	41	410	4100
0	0.001	0.01	0.1	1.0	10
mM	mM	mM	mM	mM	mM



Resistant

Susceptible

Root growth after
prodiamine at 10 mM



Biotype is cross resistant
to glyphosate as well



Prodiamine Resistant Goosegrass

Resistant



Susceptible



**Root growth after
prodiamine at 0.001 mM**

Resistant
410



Root growth after
prodiamine at 1.0 mM

Susceptible
410



Root growth after
prodiamine at 1.0 mM

 **Barricade®65WG**

 Dow AgroSciences
Treflan™
EC.
Herbicide

Dimension®
2EW
SPECIALTY HERBICIDE

It's not just
a single
product

PENDulum®
3.3 EC herbicide



It's not just
a single
product





It's not just
a single
product



It's not just
a single
product

**It's not just
a single
product**





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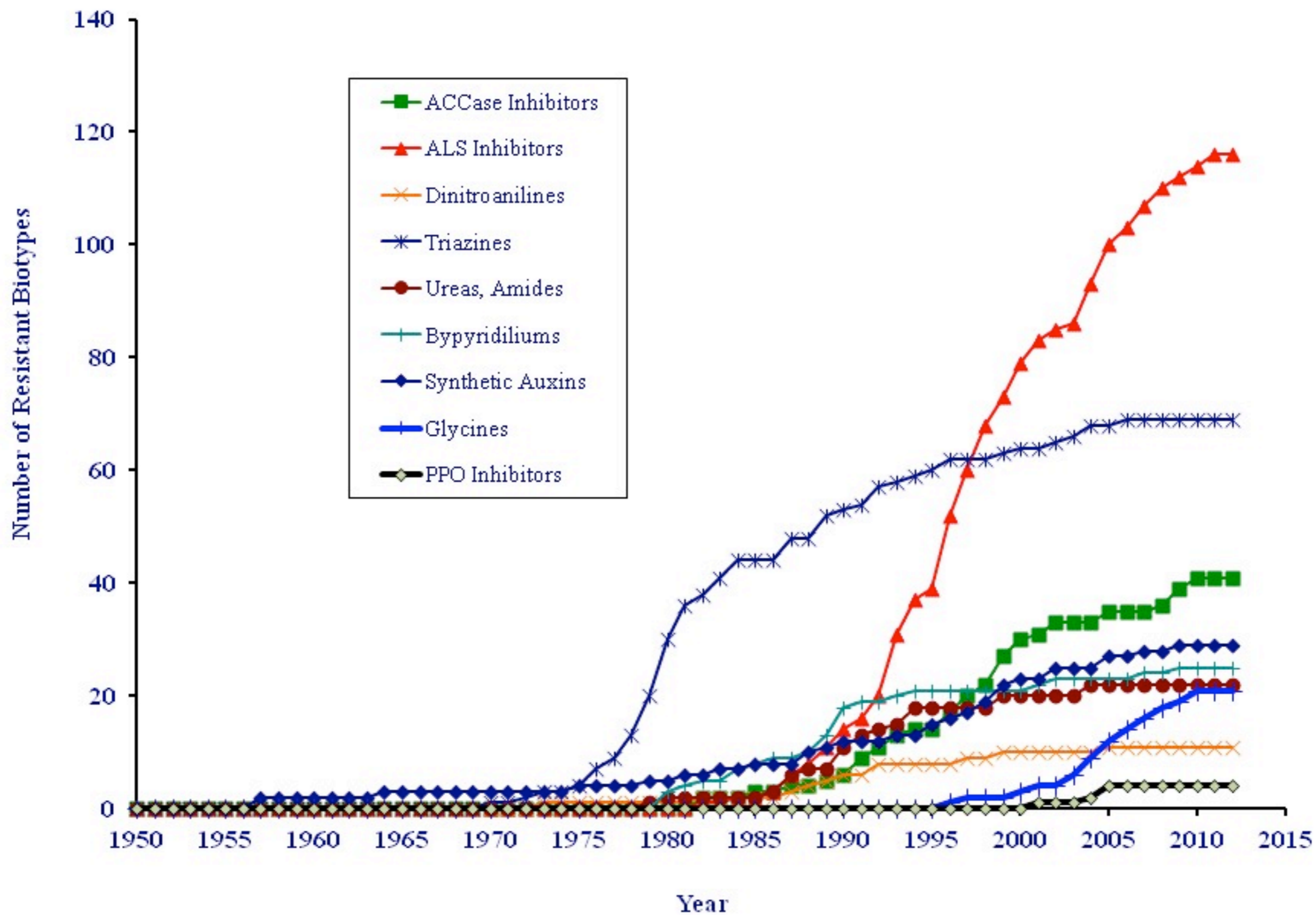
No tolerant options left?

Options?

- Oxadiazon program
 - Increased \$\$
 - What do to rotate to from oxadiazon?
 - No post winter annual
 - Tank mix with glufosinate? (access, \$\$)
- Specticle program
 - Increased \$\$
 - Rotation with oxadiazon ?

Options?

- ALS Programs
 - Greens complex issues
 - \$\$
 - No residual for summer annuals
 - Resistance is out there
- Simazine program
 - Greens complex issues
 - Resistance is out there
 - What about summer annuals?



Source: Ian Heap
<http://www.weedscience.com>

Red= Resistant



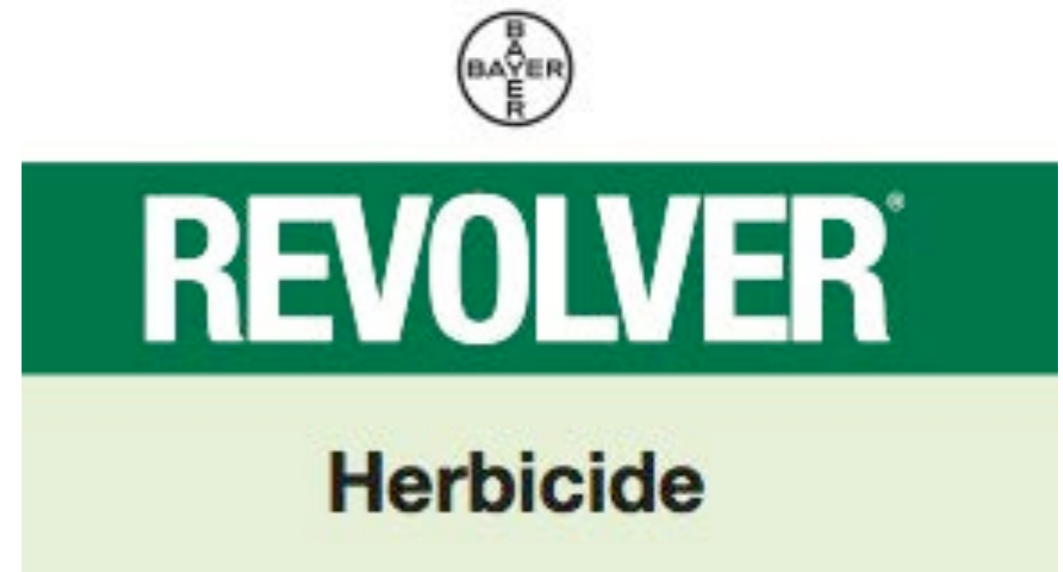
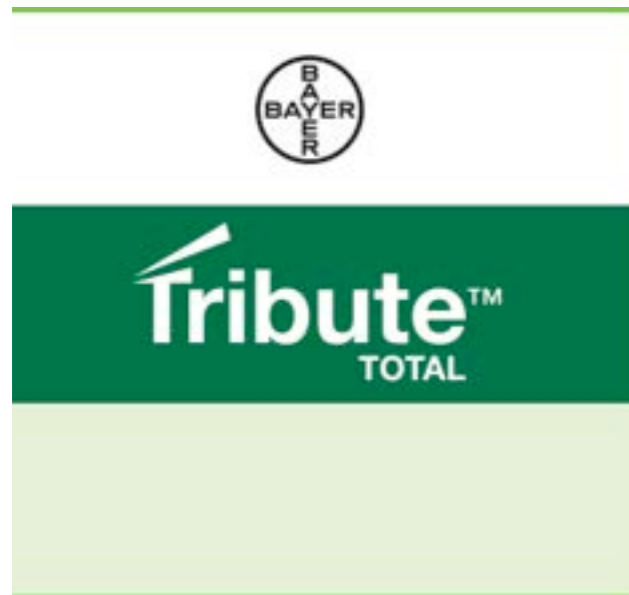
0 oz

139
oz

ALS Resistant POAN 28 DAT with Foramsulfuron



ALS
Inhibitors for
POST *Poa*
Control



GORDON'S
ProForm
PROFESSIONAL
FORMULATIONS

Katana[®]
TURF HERBICIDE

ALS

Inhibitors for
POST *Poa*
Control



Tribute[™]
TOTAL



Velocity[®]
SG HERBICIDE



REVOLVER[®]

Herbicide

Certainty[®]
TURF HERBICIDE



Katana[®]
TURF HERBICIDE

ALS
Inhibitors for
POST *Poa*
Control

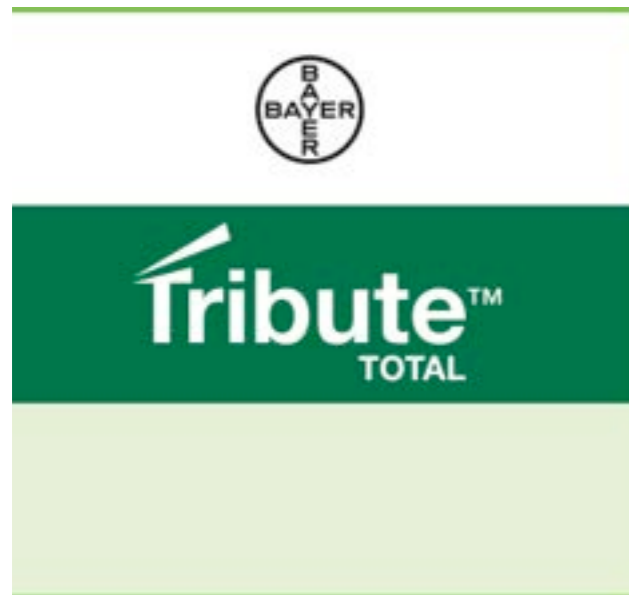


Tribute[™]
TOTAL



Velocity[®]
SG HERBICIDE

Certainty[®]
TURF HERBICIDE

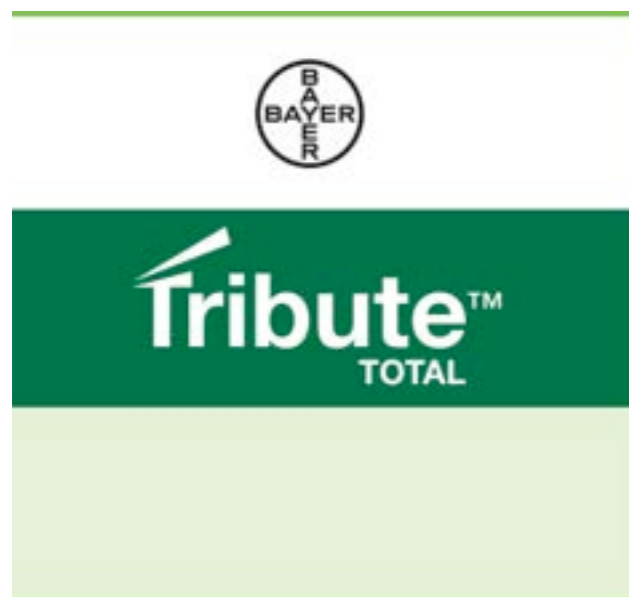


ALS Inhibitors for POST *Poa* Control



ALS

Inhibitors for POST *Poa* Control



ALS
Inhibitors for
POST *Poa*
Control



ALS
Inhibitors for
POST *Poa*
Control

Options?

- ALS Programs
 - Greens complex issues
 - \$\$
 - No residual for summer annuals
 - Resistance is out there
- Simazine program
 - Greens complex issues
 - Resistance is out there
 - What about summer annuals?

Options

- Combination products
 - Echelon (prodiamine + sulfentrazone)
 - FreeHand (dimethenamid + pendimethalin)
 - \$\$
 - Is this just making it worse?



You're Going to Need to Know MOA

HERBICIDE RESISTANCE GUIDE

HERBICIDES FOR ANNUAL BLUEGRASS CONTROL GROUPED BY MECHANISM OF ACTION



Peer Pressure



SERIES 1988
Richard F. Brink
Secretary of the Treasury



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Kathleen Savalon Ortega

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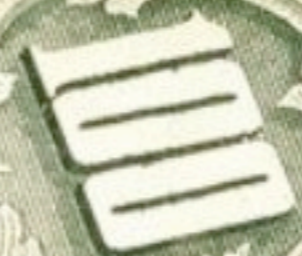
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Secretary of the Treasury
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