

# Brake<sup>®</sup> Herbicide

Foundation Preemergence for an  
Excellent Weed Control Program

Larry Moss



**Brake<sup>®</sup>** Herbicide

# Brake<sup>®</sup> Herbicide

- Wide spectrum foundation grass and broadleaf preemergence weed control providing less weeds to be controlled by our post applications
- Excellent Pigweed (Palmer amaranth) control, you can count on
- Long residual control keeps working for you
- Works great in wet conditions, when you can't get in the field
- Safest preemergence available for your cotton
- A unique chemistry for resistant management on your farm
- Compatible with all herbicides you need to use in cotton
- Crop rotation flexibility for your farming operation
- Earn rebates in the PhytoGen<sup>®</sup> Residual Rewards Program

Stop Pigweed. Protect Cotton.



**Brake<sup>®</sup>** Herbicide

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PhytoGen Seed Company is a joint venture between Mycogen Corporation, an  
affiliate of Dow AgroSciences LLC, and the J.G. Boswell Company.

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Wide spectrum foundation grass and broadleaf preemergence weed control providing less weeds to be controlled by our postemergence applications

## Broadleaf Weeds

- **Pigweeds (including Palmer Amaranth)**
- Carpetweed
- Florida pusley
- Ground cherries
- Horseweed (marestail)
- Hairy fleabane
- Henbit
- Lambsquarters
- London rocket
- Nightshades
- Prickly sida (teaweed)
- Puncture vine
- Purple deadnettle
- Purslane
- Ragweeds
- Spurges
- Redstem filaree
- Russian thistle

## Grasses

- Annual bluegrass
- Barnyardgrass
- Crabgrass
- Goosegrass
- Italian ryegrass
- Johnsongrass (seedling)
- Junglerice
- Orcutt lovegrass
- Fall panicum
- Red sprangletop

## Partially Controlled

- Texas panicum
- Morningglories
- Cocklebur
- Sicklepod
- Hemp sesbania
- Florida beggarweed
- Tropic croton



# Brake<sup>®</sup> Herbicide

A unique chemistry for resistant management on your farm

- Fluridone is a bleaching herbicide
  - HRAC Group 12
- Inhibits carotenoid synthesis
  - PDS-inhibitor
- Absorbed via roots and readily translocated
- Cotton tolerance through differential uptake/sequestration
  - Do not apply postemergence



# Brake® Herbicide

## Crop rotation flexibility for your farming operation

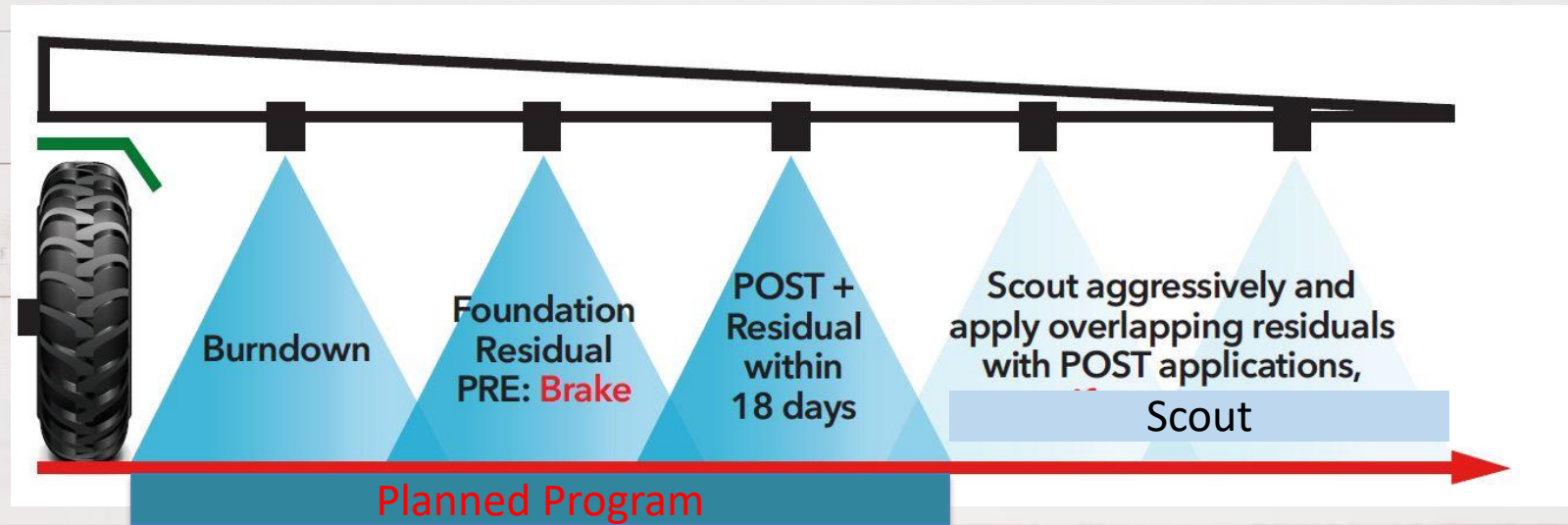
	Minimum Rotation Interval (months after last Brake® application) <sup>1</sup>		
Crop to be Planted	16 fluid ounces or less Brake per acre	17-21 fluid ounces or less Brake per acre	22-32 fluid ounces or less Brake per acre
Cotton	0	0	0
Sweet Potato	2	2	2
Soybean	2	4	12
Peanut	8	8	8
Rice, wheat, barley, and rye	8**	8**	12**
Corn and sorghum	10***	12***	18***
Alfalfa, sunflower, and crops in the Solanaceae family (e.g. peppers, tobacco, tomatoes)	18	18	18
	<p>*West TX only add 4 months to rotational restrictions for all crops except cotton and peanut.</p> <p>**If used as a cover crop (i.e. will not be harvested), wheat, barley, and rye may be planted 5 months after the last Brake application if no more than 16 fl. ounces /acre were applied.</p> <p>***Minor chlorosis and stunting of corn and sorghum may occur, especially if heavy rainfall occurs during or soon after emergence, but plants typically outgrow these effects and develop normally.</p> <p>If this product is used for two consecutive years in the same field at a rate greater than 16 fl oz per acre, only plant cotton, peanut or sweet potato the following year in those fields.</p>		



**Brake®** Herbicide

# Brake<sup>®</sup> Herbicide Programs

- Brake<sup>®</sup> must be used in a herbicide program
- Scout aggressively and overlap residuals with POST applications



- Recommend Brake + other residual preemergence
- Followed by postemergence + a residual within 18 days
- If early postemergence is timely, mid or late postemergence may not be necessary



# Seeing is Believing

## Excellent Performance in 2016 - 2018

“The key to weed control is being timely. If mother nature doesn’t allow me to spray when I want, **Brake gives me peace of mind**. Peace of mind is PRICELESS.”

- *Missouri cotton grower (4 years of experience)*

“The addition of Brake to our weed control program has **significantly reduced our pigweed population** and has **decreased the amount of labor** required in the fields for manual pigweed control.”

- *Georgia cotton grower (1<sup>st</sup> time user)*

49 days post





# Brake<sup>®</sup> Herbicide

Excellent Pigweed (Palmer amaranth) control, you can count on

Palmer Amaranth Control Jackson, TN  
47 Days After Planting



Untreated



16 fl oz Brake + 24 fl oz Cotoran



32 fl oz Cotoran + 32 fl oz Caparol



16 fl oz Direx



32 fl oz Caparol



# Brake<sup>®</sup> Herbicide

Long residual control, keeps working for you

72 Days After Planting

PRE: Brake + Cotoran

14-d POST: Liberty + Dual Magnum



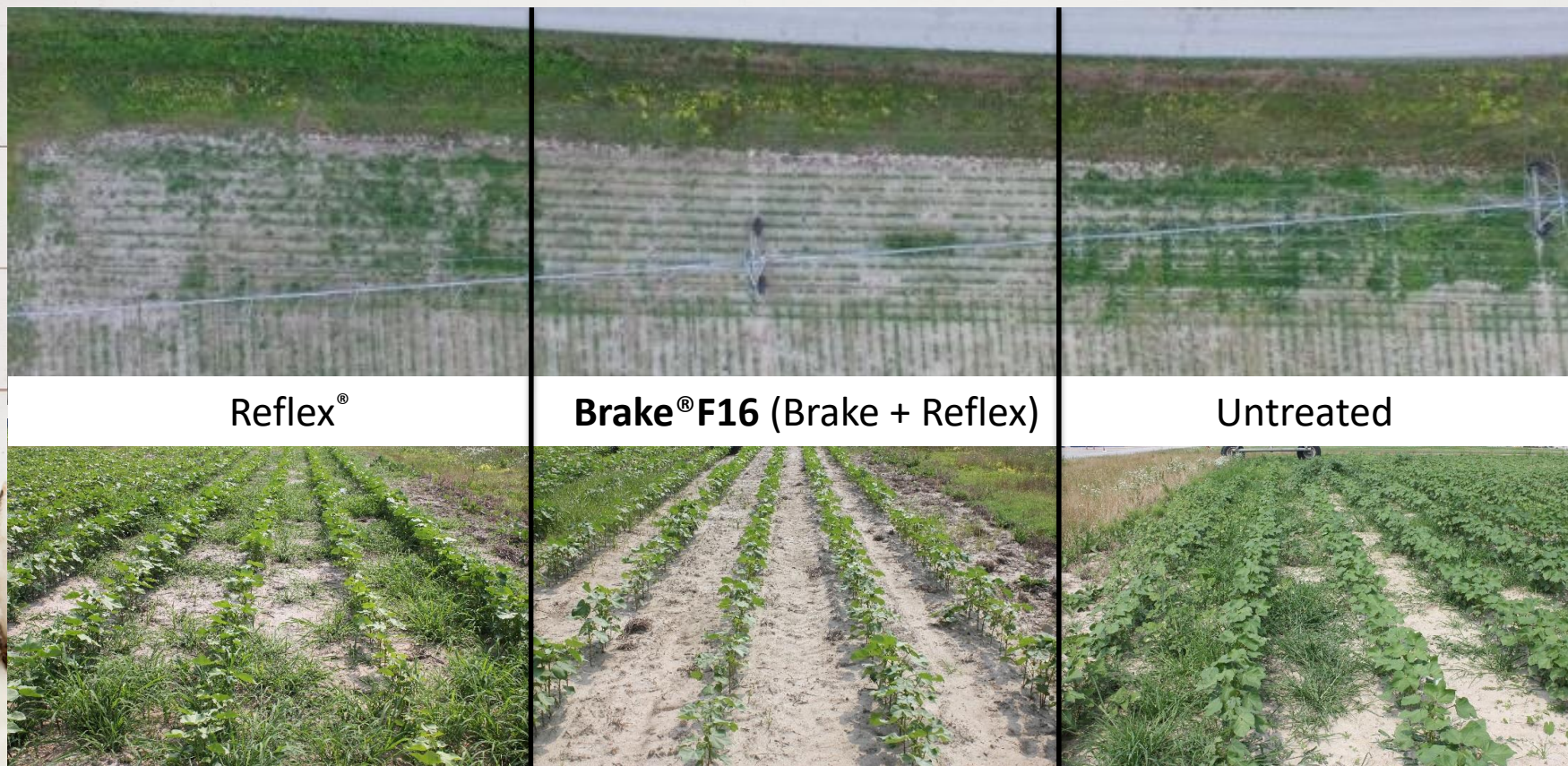


# Brake<sup>®</sup> Herbicide

Works great in wet conditions, when you can't get in the field

1.2" Total Rainfall/Irrigation in First Week after Application

9" Total Rainfall/Irrigation, 38 days after application





# Brake<sup>®</sup> Herbicide

Safest preemergence available in cotton

13 days after application



Untreated

0.5x

1x

2x

Fluridone Rate

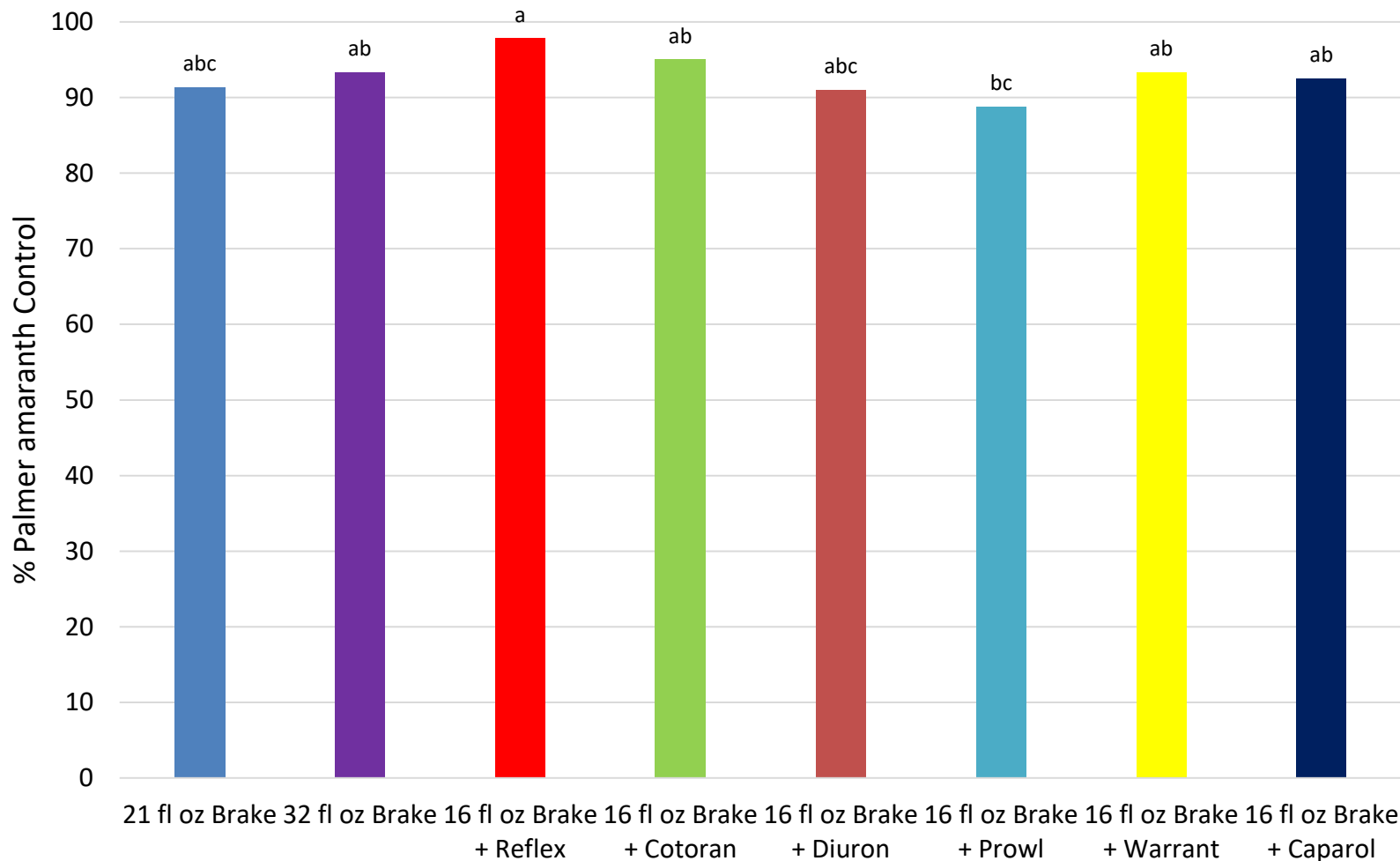


# Brake<sup>®</sup> Herbicide

Compatible with all herbicides you need to use in cotton

## Brake<sup>®</sup> Mix Partners

26 Days After Application





# Brake® Herbicide

## Earn rebates in the PhytoGen® Residual Rewards Program

### 17-18 PhytoGen Residual Rewards Program



#### START CLEAN

Start the season off right. Apply pre-emerge.



#### PLANT PHYTOGEN® COTTONSEED

Plant PhytoGen® brand cotton varieties (WRF), WideStrike® 3 Insect Protection (W3RF) (W3FE) in a qualifying state.



#### PURCHASE

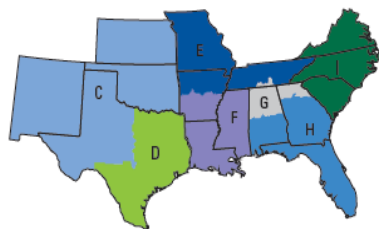
Purchase qualifying crop protection products from an authorized retailer from September 1, 2017 to August 31, 2018 and apply at labeled rates.



#### EARN YOUR REWARD

Your PhytoGen Residual Rewards check will be mailed to your retailer.

New 18-19  
program  
expected  
soon



Seed Drop Zone	Seeding Rate/A	A/Bag (230,000)
C	47,000	4.9
D	42,550	5.4
E	45,500	5.1
F	42,100	5.5
G	56,100	4.1
H	38,100	6.1
I	44,600	5.2

#### CROP PROTECTION PROGRAMS

	BURNDOWN	AT PLANT	EARLY & MID POST	LAYBY
<b>SOUTH TEXAS</b>	VALOR® + 2,4-D + Glyphosate	Brake® + Cotoran or Trifluralin + Pendimethalin	Enlist® One + Glufosinate or Dual Magnum®	OR Enlist® Duo Staple® LX or Caparol® or Diuron
<b>SOUTHWEST</b>	VALOR® + 2,4-D + Glyphosate	Caparol® or Brake®	Enlist® One + Glufosinate + Dual Magnum®	OR Enlist® Duo Staple® LX or Caparol® or Diuron

	BURNDOWN	AT PLANT	EARLY & MID POST	LAYBY
<b>SOUTHEAST</b>	VALOR® + 2,4-D + Glyphosate	Brake® + XReflex® or Diuron	Enlist® One + Glufosinate + Dual Magnum®	OR Enlist® Duo Staple® LX or Diuron or Cotoran
<b>MIDSOUTH</b>	VALOR® + 2,4-D + Glyphosate	Brake® + Gramoxone® SL + Cotoran	Enlist® One + Glufosinate + Dual Magnum®	OR Enlist® Duo Staple® LX or Diuron or Cotoran

#### PARTICIPATING HERBICIDE PRODUCTS

QUALIFYING PRODUCTS	USE RATES /AC	WRF EARNINGS	W3RF EARNINGS	W3FE EARNINGS
Enlist® One	2 pt. Up to 2 applications	—	—	\$2.00
Enlist® Duo	4.75 pt. Up to 2 applications	—	—	\$2.00
Caparol®	2 pt.	\$0.40	\$0.40	\$0.40
Dual Magnum®	1 pt. Up to 2 applications	\$1.50	\$1.50	\$1.50
Gramoxone® SL	2.5 pt.	\$0.40	\$0.40	\$0.40
XReflex®	1 pt.	\$0.40	\$0.40	\$0.40
VALOR®	2 oz.	\$1.00	\$1.00	\$1.00
VALOR®	2 fl oz.	\$2.00	\$2.00	\$3.00
Brake®	16 fl oz.	\$1.00	\$1.00	\$1.00
Brake FX	32 fl oz.	\$1.00	\$1.00	\$1.00
Brake F16	16 fl oz.	\$1.00	\$1.00	\$1.00
Staple® LX	2.1 fl oz.	\$1.00	\$1.00	\$1.00

#### PARTICIPATING INSECTICIDE PRODUCT

Intrepid Edge® INSECTICIDE	7 oz.	\$1.00	—	—
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# What About The Price?

- Brake gives excellent residual pigweed control as part of a preemergence residual program to get your cotton started clean
- You may be able to reduce late post or layby treatments
- The complete herbicide program is usually competitively priced with other programs targeting resistant Pigweed

Stop Pigweed. Protect Cotton.

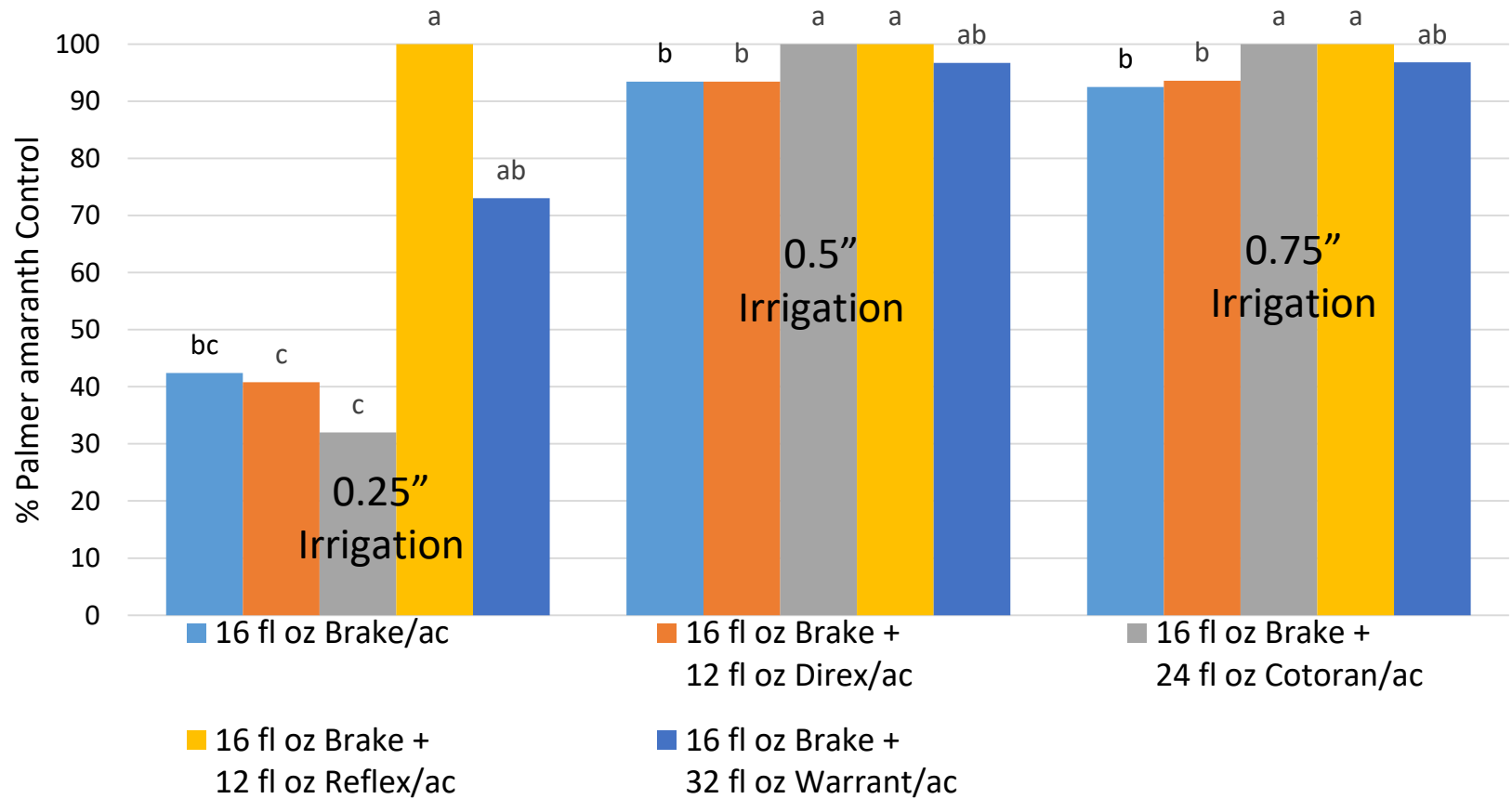


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# Brake - Moisture Influence

13 Days After Application



# What About Moisture Needed?

- Yes, Brake needs ½ inch of moisture to provide maximum effectiveness
  - Then it stays put and works great in successive rains or wet weather that may keep you out of the field
  - Sandy or lighter soils may dry out more quickly and reduce effectiveness between periods of adequate moisture for activation
- Solutions:
  - Plan to irrigate soon after planting
  - Pick a preemergence residual partner which is active with less water needed to activate
  - Time your Brake preemergence application pre-plant before a rain to ensure activation

Stop Pigweed. Protect Cotton.



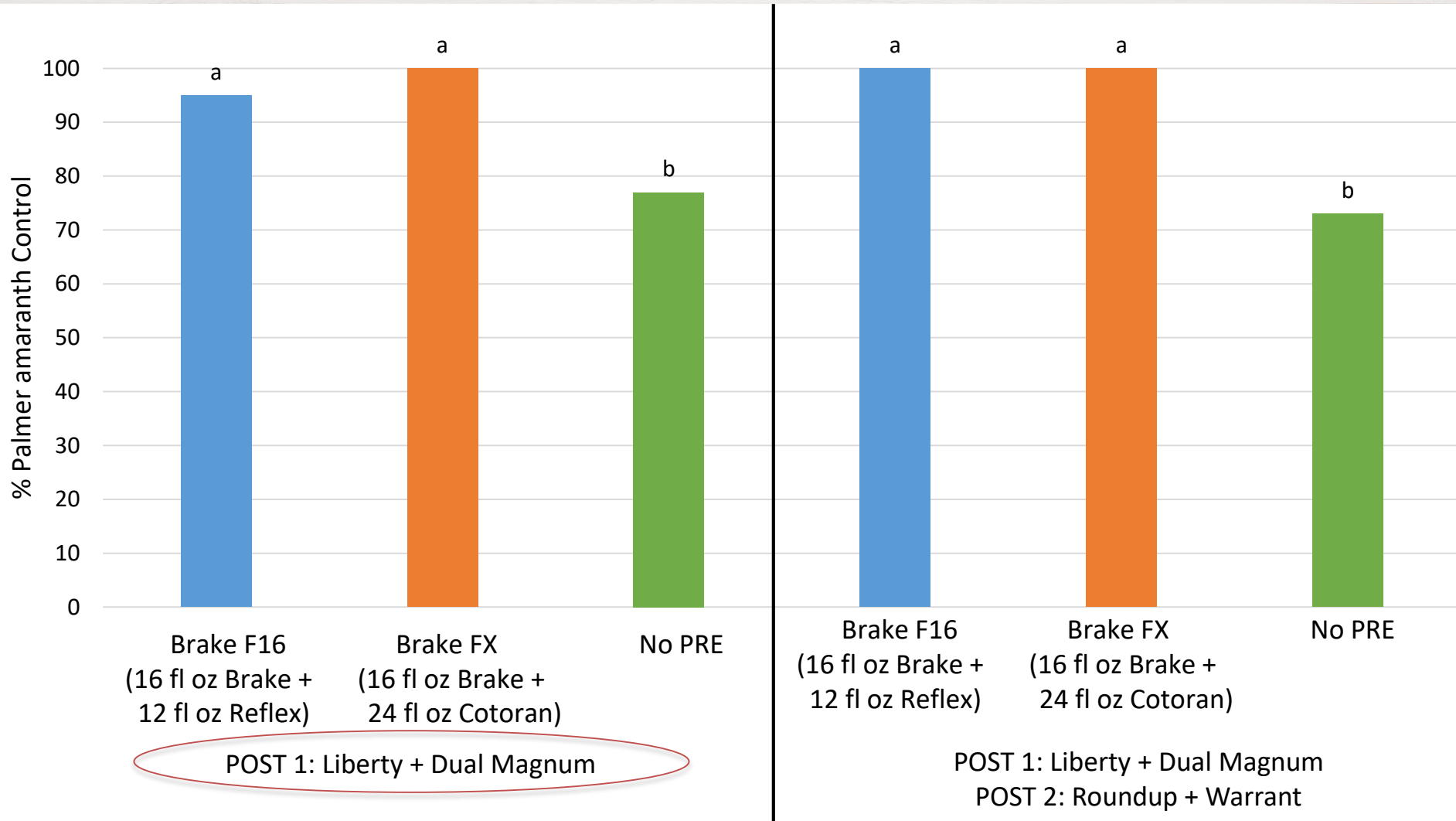
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# Brake® – Overlapping Residuals

57 Days After PRE

43 Days After POST 1

29 Days After POST 2





# Brake<sup>®</sup> Herbicide

- Foundation to a program
- Wide Spectrum
- Excellent Pigweed control
- Extended Residual
- Safest to Cotton



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# Pigweed Factoids

***Amaranthus palmeri*** is a species of flowering plant in the amaranth genus.

- Palmer amaranth is native to the desert southwest and northern Mexico
- Produce up to one million seed per plant
- Can grow 2 inches to 3 inches per day
- 3% missed Palmer is 3,000 Palmer/acre
- 240 per acre can reduce yield 18%
- 1,440 per acre can reduce yield 78%
- Palmer amaranth's emergence period extends well into the typical crop season and can, at times, occur after crop harvest
- Resistance to glyphosate discovered in 2006
- Has also evolved resistance to ALS inhibitors, triazines, HPPD inhibitors, and dinitroanilines
- Palmer amaranth can be toxic to livestock due to presence of oxalates and nitrates



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# Cotton Factoids

- Cotton dates from at least 7,000 years ago making it one of the world's oldest known fibers
- Cotton fiber can be woven or knitted into fabrics such as velvet, corduroy, chambray, velour, jersey and flannel. In addition to textile products like underwear, socks and t-shirts, cotton is also used in fishnets, coffee filters, book binding and archival paper.

One bale (480 lbs.) can make:

- 215 pairs of jeans
  - 250 single bed sheets
  - 750 shirts
  - 1,200 t-shirts
  - 4,300 pairs of socks
  - 680,000 cotton balls
  - 2,100 pairs of boxer shorts
  - 3,000 baby diapers
- Cotton seed is fed to cattle and crushed to make oil. This cottonseed oil is used for cooking and in products like soap, margarine, emulsifiers, cosmetics, pharmaceuticals, rubber and plastics.
  - Linters are the very short fibers that remain on the cottonseed after ginning. They are used to produce goods such as bandages, swabs, money and x-rays.
  - Cotton can absorb up to 27 times its weight in water
  - American 'paper' money is a blend of 75% cotton and 25% linen



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