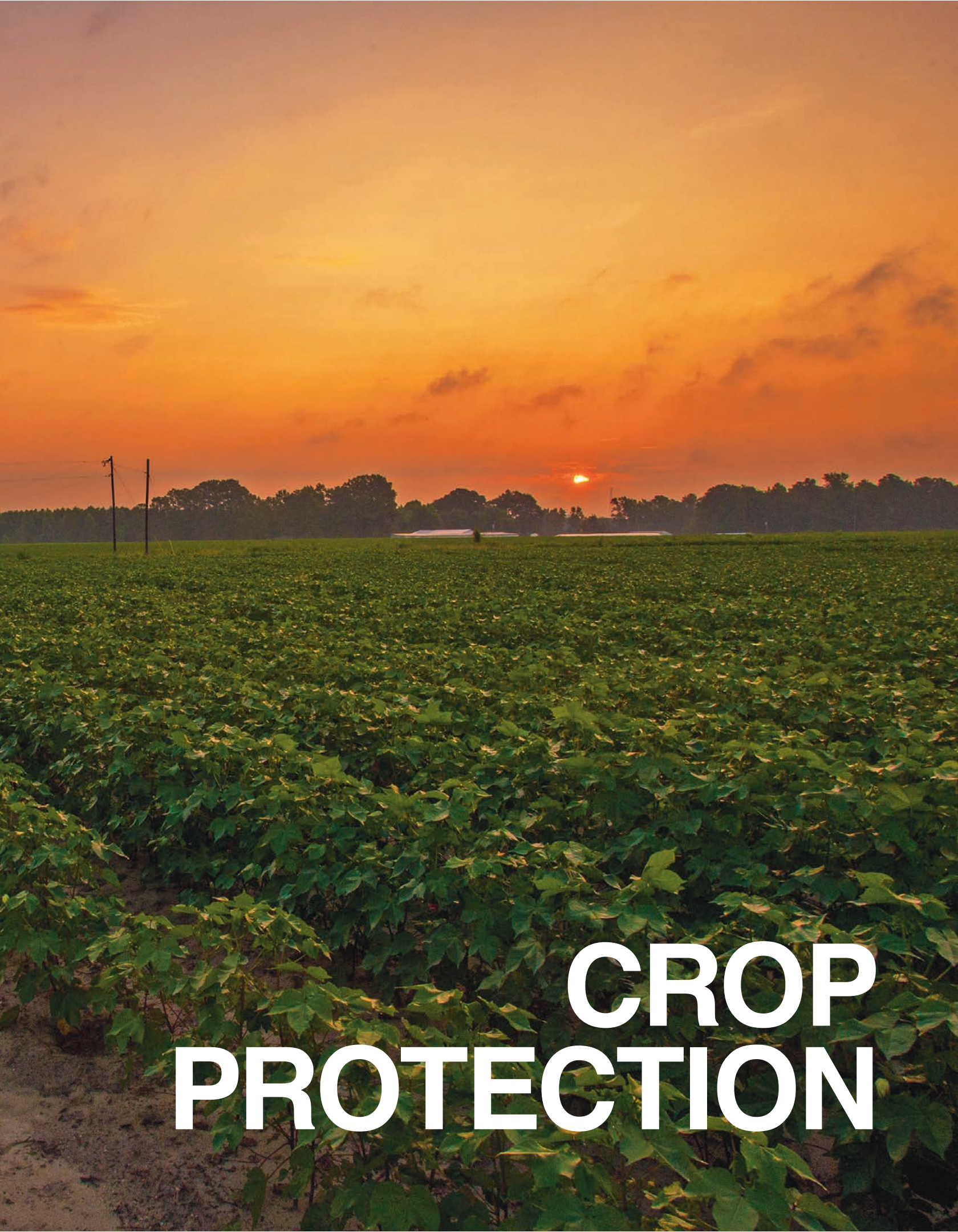


Committed to cotton.
Committed to you.



 **BASF**

We create chemistry

A wide-angle photograph of a lush green agricultural field, likely soybeans, stretching towards a distant treeline. The sky is a vibrant orange and yellow, indicating a sunset or sunrise. The sun is a small, bright orange orb just above the horizon. In the background, there are silhouettes of trees and a few white structures, possibly farm buildings. On the left side, two utility poles with wires are visible. The overall mood is peaceful and serene.

CROP PROTECTION

CROP PROTECTION

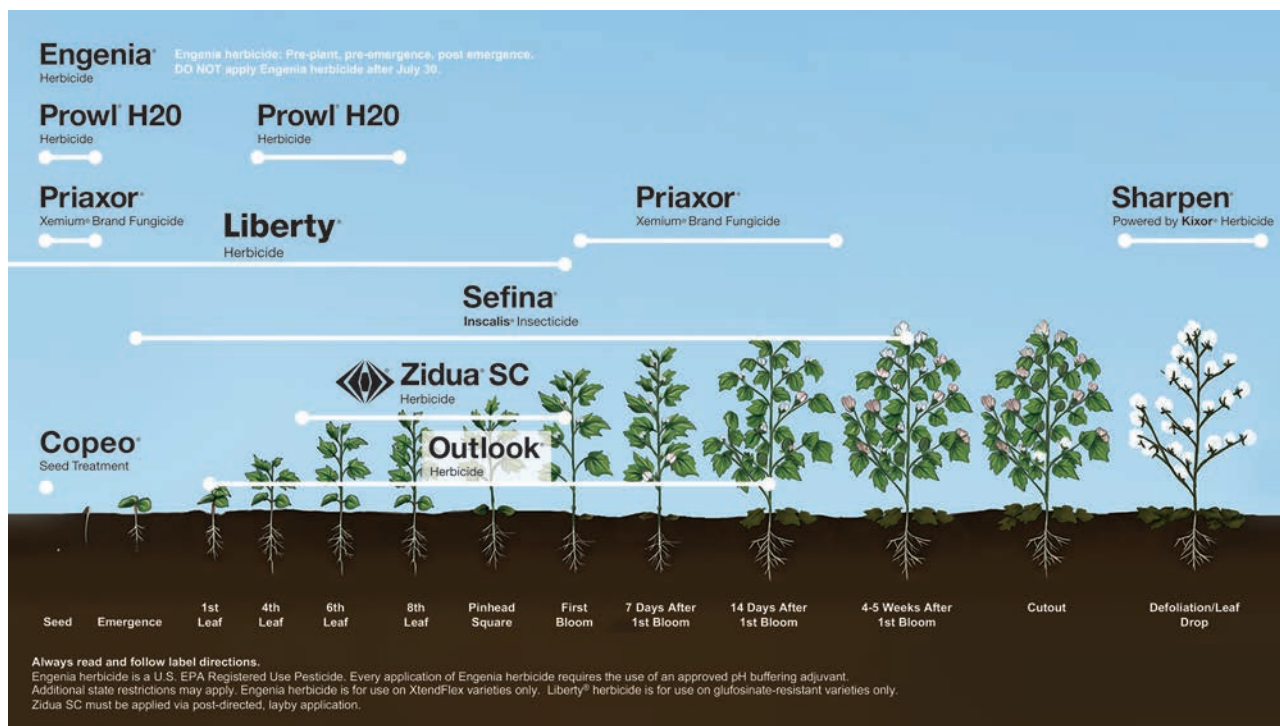
Protect your crops. Enjoy your yields.

Your cottonseed is more than just the beginning of a season. It helps establish what's possible in your operation. It's the foundation for what you do. A lot goes into selecting your seed, and it needs to be protected to reach its full yield potential.

We provide a full portfolio of products to help your cotton out-compete any threat. BASF herbicides, fungicides, seed treatments, and insecticides are trusted solutions to help you face threats from weeds, diseases, and pests.

No matter what the season brings, you can tap into our field-tested solutions, agronomic insights and customized recommendations to help deal with your toughest challenges — so you can grow the cotton that makes you proud.

Plan your cotton crop protection.





SEED TREATMENT

Great seasons need a great start.

The BASF seed treatment packages for cotton ensure growers have a strong start and enjoy the best performance from FiberMax® and Stoneville® cotton seed.

- Early-season disease protection
- Early-season insect protection
- F500® vigor benefits for strong growth
- Nematicide protection on every bag with Copeo® Seed Treatment

CORE SEED TREATMENT PACKAGE

- Protection against key early-season diseases
- Copeo Seed Treatment in every bag for protection against nematodes

Brand/Active Ingredient	Targets
F500® Fungicide <i>pyraclostrobin</i>	<i>Rhizoctonia solani</i> , <i>Fusarium</i>
Xemium® Fungicide <i>fluxapyroxad</i>	<i>Rhizoctonia solani</i> , <i>Fusarium</i>
Copeo Seed Treatment <i>fluopyram</i>	Nematodes
<i>myclobutanil</i>	<i>Thielaviopsis basicola</i> , <i>Rhizoctonia solani</i>
<i>metalaxyl</i>	Pythium
<i>imidacloprid</i> 4.7 oz/100 lbs seed	Storage pests

PRIME SEED TREATMENT PACKAGE

- Enhanced rate against key early-season diseases
- Improved vigor and healthier plants in tough planting situations
- Protection from early-season insects, including thrips and aphids
- Copeo Seed Treatment in every bag for protection against nematodes

Brand/Active Ingredient	Targets
F500® Fungicide <i>pyraclostrobin</i> - enhanced rate	<i>Rhizoctonia solani</i> , <i>Fusarium</i> Early season vigor
Xemium® Fungicide <i>fluxapyroxad</i>	<i>Rhizoctonia solani</i> , <i>Fusarium</i>
Copeo Seed Treatment <i>fluopyram</i>	Nematodes
<i>myclobutanil</i> - enhanced rate	<i>Thielaviopsis basicola</i> , <i>Rhizoctonia solani</i>
<i>metalaxyl</i>	Pythium Enhanced protection
<i>imidacloprid</i> 0.375 mg ai/seed (12.8 oz/100 lbs seed, 0.5 lbs imidacloprid/100 lbs seed @ 6055 seeds/lb)	Storage pests, Thrips, Aphids

Copeo[®]

Seed Treatment

Copeo[®] Seed Treatment is a premier seed treatment for cotton that helps deliver higher yields under nematode pressure. It's exclusively available on FiberMax[®] and Stoneville[®] cotton seed.



PROTECTS COTTON ROOTS

from economically significant nematodes, including reniform and root-knot nematodes



CONTRIBUTES TO INCREASED GROWTH

and vigor under nematode pressure



SUPPORTS HEALTHIER PLANTS

and roots for higher yield potential



Fungicide +
Insecticide Base



Copeo + Fungicide +
Insecticide Base

BASF Sponsored Trial, Belle Mina, AL, 2019.



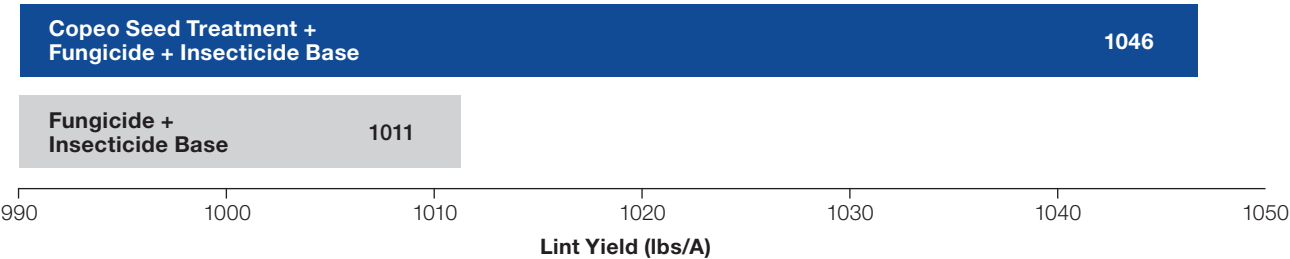
Fungicide
Base



Copeo +
Fungicide Base

BASF Sponsored Trial, Leachville, AR, 2017.

ACHIEVES HIGHER YIELD BY PROTECTING AGAINST NEMATODES



116 Comparisons Across All Regions

HERBICIDES

Prowl® H2O

Herbicide

The starting point for weed control.



RELIABLE PERFORMANCE AND SCHEDULE FLEXIBILITY

with sunlight-stable capsules that activate with as little as 1/4" of rain weeks after application



CONTROLS MORE THAN 70 GRASS AND BROADLEAF WEEDS



PROVIDES RESIDUAL CONTROL

of both glyphosate and ALS-resistant Palmer amaranth



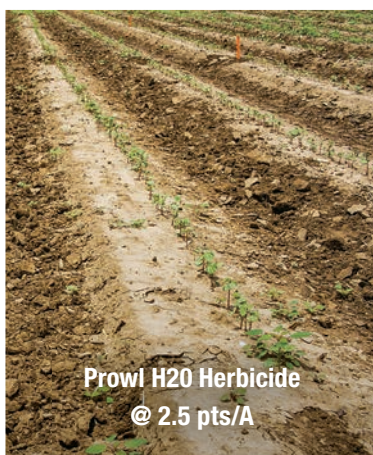
WATER-BASED ENCAPSULATION

easily washes off residue to control germinating weeds



IMPROVED SOIL-SURFACE STABILITY

leads to confidence in dry conditions and effective weed control in wet conditions



Use Methods

- Preplant surface
- Preplant incorporated
- Preemergence
- Layby application (at last cultivation)
- Postemergence (4-8 leaf cotton)

BASF Sponsored Trial, applied 3 weeks prior to planting. Lubbock, TX, 2015.

Engenia®

Herbicide

Choose the most advanced dicamba for the worst weeds.

LOWER USE RATE FOR DICAMABA-TOLERANT (DT) COTTON

It has a lower use rate compared with other dicamba post emerge options that allows it to cover more acres with less product.

RESIDUAL CONTROL

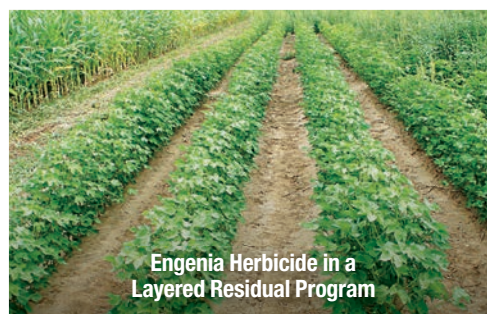
It offers two weeks of broadleaf residual control and provides control for PPO and glyphosate-resistant broadleaf weeds.

ADDITIONAL SITE OF ACTION

Dicamba-tolerant cotton enables the use of an additional herbicide site of action. This helps control weeds that are resistant to glyphosate and PPOs.

UNIQUE SYSTEMIC ACTIVITY

Unlike a contact herbicide, Engenia® herbicide moves from the point of application to other parts of the plant to provide more consistent performance.



BASF Sponsored Trial, Lubbock, TX. Photos taken 42 days after 5 leaf application (7/21/2015).

Resistant weeds and residual herbicides.

- Include a residual herbicide in PRE applications to reduce early-season competition
- Use of residuals is particularly important for combating weeds with a long emergence period, such as Palmer amaranth
- Engenia herbicide followed by Liberty® herbicide provides a tool for resistance management by incorporating an additional site of action while still providing excellent weed control in post applications
- Use of a residual in both an early post (21 to 28 days after planting) and mid-late post application helps ensure that emerging weeds are controlled during the critical management window

Application stewardship is vital.

Reducing risk of off-target movement and sensitive plant injury is a result of effective application stewardship. The advanced dicamba formulation of Engenia herbicide, along with proper application, can provide maximum broadleaf weed control and effectively minimize off-target potential.

Engenia® herbicide is a U.S. EPA Restricted Use Pesticide.
Additional state restrictions may apply. Always read and follow label directions.

HERBICIDES

Liberty®

Herbicide

Flexible, reliable weed control with Liberty® herbicide.



TRAIT FLEXIBILITY

Flexibility to use on your trait system — including LibertyLink®, Enlist™ and XtendFlex® cotton traits



EFFECTIVE WEED CONTROL

Excellent control of tough weeds, like Palmer amaranth and kochia, with broad spectrum performance on both broadleaves and grasses



PEACE OF MIND

Ease of application through traditional label requirements; proven formulation provides reliable, consistent performance — backed by the Liberty Weed Control Guarantee

*Based on company field trials. 2014-2018. Protocol included a pre-emergence herbicide followed by Liberty 280 at 32 oz/A.

Weeds included: velvetleaf, Palmer amaranth, redroot pigweed, common waterhemp, common ragweed, lambsquarters, large crabgrass, barnyard grass, annual grass, morning glory, fall panicum and giant foxtail.



BASF Sponsored Trial, Lubbock, TX, July 22, 2018.

Program	Preemergence Residual	First Post Application	Second Post Application (as needed)	Third Post Application (as needed)	Seasonal Maximum Rate
Guidelines	Preplant incorporated at planting	Weeds < 3" Use a residual tank-mix	Min 10 days after first application Use a residual tank-mix	—	—
Recommended	Prowl® H2O herbicide	Liberty herbicide @ 32-43 fl oz/A + Outlook® herbicide	Liberty herbicide @ 29 fl oz/A + residual	—	72 fl oz/A**
Alternative	Use preemergence residuals	Liberty herbicide @ 29 fl oz/A + Outlook® herbicide	Liberty herbicide @ 29 fl oz/A + residual	Liberty herbicide @ 29 fl oz/A + residual	87 fl oz/A

Outlook®

Herbicide

The broad-spectrum postemergence residual herbicide.



CONSISTENT PERFORMANCE

- Most reliable activation with just 1/4" of rain or irrigation
- Readily washes off crop foliage and soil residue to where weeds germinate



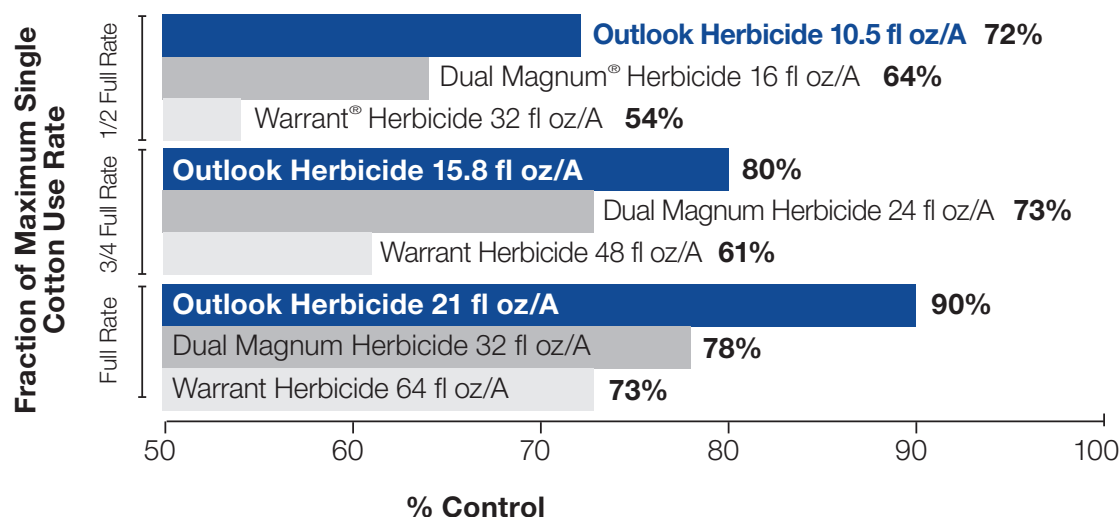
FLEXIBLE USE FOR OPERATIONAL EFFICIENCY

- Postemergence: First true leaf to mid-bloom stage
- Low use rate for easy handling
- Compatible with post tank-mix partners to meet field-specific weed control needs



Engenia® herbicide is a U.S. EPA Restricted Use Pesticide. Additional state restrictions may apply. Always read and follow label directions.

BASF Sponsored Trial, Halfway, TX, 2014.



Amaranthus spp. control – 4 to 6 weeks after treatment on bare ground.
Average of internal and BASF sponsored research trials (2017). N=5.

HERBICIDES



Setting the standard for residual control.



LONGER LASTING

Zidua® SC herbicide residual control lasts up to two weeks longer than many competitive products



FLEXIBILITY

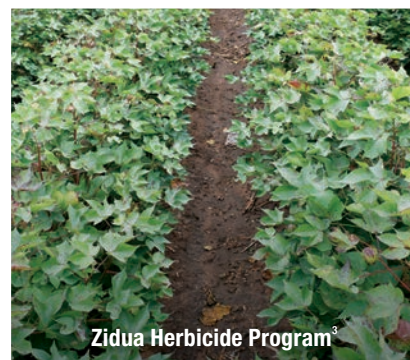
Low use rate with as little as 1/20 the use rate of other residual herbicides
Can be applied postemergence-directed (layby)



BROAD-SPECTRUM GRASS AND BROADLEAF WEED CONTROL

Superior Palmer amaranth control

Control weed control — Palmer amaranth



BASF Sponsored Trial, 2016. Texas A&M University, Lubbock, TX. Planting date: 5/24. Early POST: 6/13. Mid-POST: 7/15. Layby: 8/5. Photos taken: 9/16.

¹Roundup PowerMAX 32 fl oz/A applied 6/13 and 7/15.

²A layered residual program with Dual Magnum 21 fl oz/A, Liberty® 32 fl oz/A, COC 1% applied 6/13. Liberty 32 fl oz/A, COC 1% applied 7/15.

³A layered residual program with Zidua WG herbicide 2.5 oz/A (Zidua SC herbicide equivalent = 4 fl oz/A), Liberty 32 fl oz/A, 1% COC applied layby, 8/5.

Best Use Recommendations

Cotton Use Rate: 1.25-3.5 fl oz/A

Application Timing for Cotton: Postemergence-directed (layby) spray; at 5-leaf to beginning bloom stage

PHI: There is no required pre-harvest interval between a Zidua herbicide post application and cotton harvest.

General Information:

Tank-mix order: Always follow mixing instructions on the product label. Include Zidua SC herbicide before adding soluble liquids like glyphosate and Engenia® herbicide.*

Engenia® herbicide is a U.S. EPA Restricted Use Pesticide.
Additional state restrictions may apply. Always read and follow label directions.

INSECTICIDE

Sefina®

Inscalix® Insecticide

Strong on target pests.
Gentle on beneficial insects.

RAPID ONSET OF ACTION

to stop feeding and protect yield potential

UNIQUE MODE OF ACTION

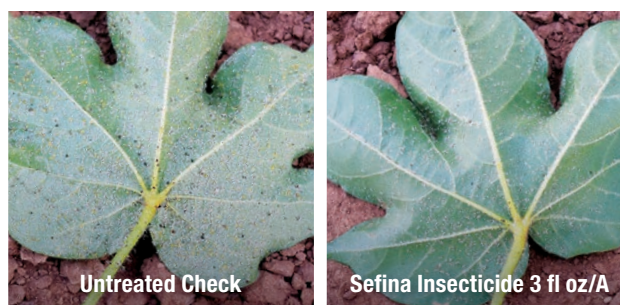
classification (IRAC 9D) in cotton for
resistance management

GENTLE ON BENEFICIALS

for complete Integrated Pest Management

Sefina® insecticide controls key piercing/sucking insects like aphids and whiteflies. Section 2(ee) recommendations are also available for cotton fleahopper control in Alabama, Arizona, Kansas, New Mexico, Oklahoma, Tennessee and Texas.

COMMERCIAL COTTON APHID CONTROL



BASF Sponsored Trial, Lubbock, TX. White flecks on the treated leaf are cast skins the aphid population left behind after being treated with Sefina insecticide. The untreated leaf has a very high aphid infestation that includes both winged and wingless adults.



Sefina insecticide controls aphids and whiteflies and keeps the beneficial insects working for you.



FUNGICIDE

Priaxor®

Xemium® Brand Fungicide

Decrease stress. Increase yield.

BEST-IN-CLASS DISEASE CONTROL

on devastating diseases like target spot



REDUCED PLANT STRESS

improves Plant Health from environmental stress conditions typical in cotton-growing regions



INCREASED GROWTH EFFICIENCY

Priaxor® fungicide aids growth by maximizing photosynthesis

TARGET SPOT CONTROL FROM PRIAXOR FUNGICIDE IN COTTON

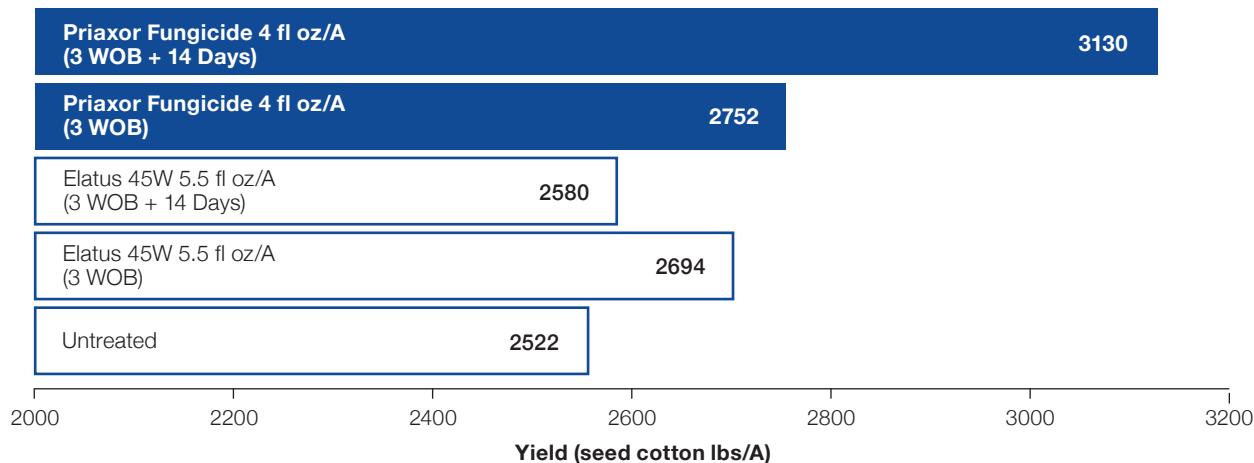


Priaxor fungicide 4 fl oz/A at 2nd week of bloom fb Priaxor fungicide 4 oz/A 4th week of bloom. BASF Sponsored Trial, 2016. Picture 10 weeks after 1st bloom.

Target diseases:

- Target spot
- *Diplodia* boll rot
- *Fusarium* hard lock
- *Phoma* blight
- Rust
- *Stemphylium* leaf spot
- Anthracnose boll rot
- *Alternaria* leaf spot and boll rot
- *Ascochyta* blight and boll rot
- *Cercospora* blight and leaf spot

PRIAXOR FUNGICIDE IS THE INDUSTRY LEADER FOR MAXIMIZING COTTON YIELDS



2016. Auburn University – Fairhope, AL. Planted: 5/9/16. WOB=Week of Bloom.

HARVEST AID

Sharpen®

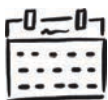
Powered by **Kixor®** Herbicide

Powerful tool for defoliation and preventing regrowth.



FAST AND COMPLETE HARVEST AID

- Rapid drydown and defoliation
- Reduced incidence of regrowth
- Controls the toughest broadleaf weeds
- Prepares the cotton for a cleaner harvest



FLEXIBILITY FOR YOUR OPERATION

- Use in first or second harvest aid application
- Mixes well with defoliants and boll openers
- Not a restricted use pesticide



BASF Sponsored Trial, Seminole, TX.

Flexible Use Pattern — Tank Mixes With Defoliants or Boll Openers

	Remove Mature Foliage	Desiccates Immature Foliage	Regrowth Suppression	Desiccates Regrowth	Open Bolls	Desiccates Weeds
Sharpen® Herbicide	G	E	E	E	F	E
Sharpen Herbicide + thidiazuron	E	E	E	E	G	E
Sharpen Herbicide + ethephon	VG	E	VG	E	E	E
Sharpen Herbicide + tribufos	E	E	E	E	G	E
Sharpen Herbicide + paraquat*	F	E	VG	VG	G	E

2006 BASF Internal Study
E=Excellent VG=Very Good G=Good F=Fair

*Not recommended for 1st application



We create chemistry

BASF is a member of Excellence Through Stewardship® (ETS).

Liberty® herbicide is not registered for use in all states.

Engenia® herbicide is a U.S. EPA Restricted Use Pesticide.

ALWAYS READ AND FOLLOW LABEL DIRECTIONS.

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