Committed to cotton.
Committed to you.
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

<table>
<thead>
<tr>
<th>Brand/Active Ingredient</th>
<th>Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>F500® Fungicide</strong></td>
<td>Rhizoctonia solani, Fusarium</td>
</tr>
<tr>
<td>pyraclostrobin</td>
<td></td>
</tr>
<tr>
<td><strong>Xemium® Fungicide</strong></td>
<td>Rhizoctonia solani, Fusarium</td>
</tr>
<tr>
<td>fluxapyroxad</td>
<td></td>
</tr>
<tr>
<td><strong>Copeo Seed Treatment</strong></td>
<td>Nematodes</td>
</tr>
<tr>
<td>fluopyram</td>
<td></td>
</tr>
<tr>
<td>myclobutanil</td>
<td>Thielavioposis basicola,</td>
</tr>
<tr>
<td></td>
<td>Rhizoctonia solani</td>
</tr>
<tr>
<td>metalaxyl</td>
<td>Pythium</td>
</tr>
<tr>
<td><strong>imidacloprid</strong></td>
<td>Storage pests</td>
</tr>
<tr>
<td>4.7 oz/100 lbs seed</td>
<td></td>
</tr>
</tbody>
</table>

**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

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

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.
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

ACHIEVES HIGHER YIELD BY PROTECTING AGAINST NEMATODES

<table>
<thead>
<tr>
<th>Lint Yield (lbs/A)</th>
<th>990</th>
<th>1000</th>
<th>1010</th>
<th>1020</th>
<th>1030</th>
<th>1040</th>
<th>1050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copeo Seed Treatment + Fungicide + Insecticide Base</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1046</td>
</tr>
<tr>
<td>Fungicide + Insecticide Base</td>
<td>1011</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

BASF Sponsored Trial, Belle Mina, AL, 2019.

116 Comparisons Across All Regions
HERBICIDES

Prowl® H20 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)

Untreated

Prowl H20 Herbicide @ 2.5 pts/A

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

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.
**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, tall panicum and giant foxtail.

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**Herbicides**

**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 | Prow® 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

**Flexible, reliable weed control with Liberty® herbicide.**

TRAIT FLEXIBILITY

EFFECTIVE WEED CONTROL

PEACE OF MIND

*Recommended Prow® H2O herbicide

**Preemergence**

Liberty® H2O herbicide

Liberty herbicide @ 29 fl oz/A + Outlook® herbicide

Liberty herbicide @ 29 fl oz/A + residual

**First Post Application**

Weeds < 3” Use a residual tank-mix

Min 10 days after first application Use a residual tank-mix

**Seasonal Maximum Rate**

72 fl oz/A**

Flexible, reliable weed control with Liberty® herbicide.

TRAIT FLEXIBILITY

EFFECTIVE WEED CONTROL

PEACE OF MIND

*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, tall panicum and giant foxtail.

Flexible, reliable weed control with Liberty® herbicide.
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.
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


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

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 diseases:
- Target spot
- Diplodia boll rot
- Fusarium hard lock
- Phoma blight
- Rust
- Stemphylium leaf spot
- Anthracnose boll rot
- Alternaria leaf spot and boll rot
- Ascochya blight and boll rot
- Cercospora blight

PRIAXOR FUNGICIDE IS THE INDUSTRY LEADER FOR MAXIMIZING COTTON YIELDS

Priaxor Fungicide 4 fl oz/A  (3 WOB + 14 Days)  3130
Priaxor Fungicide 4 fl oz/A  (3 WOB)  2752
Elatus 45W 5.5 fl oz/A  (3 WOB + 14 Days)  2580
Elatus 45W 5.5 fl oz/A  (3 WOB)  2694
Untreated  2522

Yield (seed cotton lbs/A)

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

Flexible Use Pattern — Tank Mixes With Defoliants or Boll Openers

<table>
<thead>
<tr>
<th></th>
<th>Remove Mature Foliage</th>
<th>Desiccates Immature Foliage</th>
<th>Regrowth Suppression</th>
<th>Desiccates Regrowth</th>
<th>Open Bolls</th>
<th>Desiccates Weeds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sharpen® Herbicide</td>
<td>G</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>F</td>
<td>E</td>
</tr>
<tr>
<td>Sharpen Herbicide + thidiazuron</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>G</td>
<td>E</td>
</tr>
<tr>
<td>Sharpen Herbicide + ethephon</td>
<td>VG</td>
<td>E</td>
<td>VG</td>
<td>E</td>
<td>E</td>
<td>E</td>
</tr>
<tr>
<td>Sharpen Herbicide + tribufos</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>G</td>
<td>E</td>
</tr>
<tr>
<td>Sharpen Herbicide + paraquat*</td>
<td>F</td>
<td>E</td>
<td>VG</td>
<td>VG</td>
<td>G</td>
<td>E</td>
</tr>
</tbody>
</table>

2006 BASF Internal Study
E=Excellent    VG=Very Good    G=Good    F=Fair
*Not recommended for 1st application
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.
e3, Engenia, FiberMax, GlyTol, Inscalis, Kixor, Liberty, LibertyLink, Outlook, Priaxor, Prowl, Sefina, Sharpen, Stamina, Stoneville, the Stoneville design, TwinLink, Xemium and Zidua are registered trademarks of BASF. Bollgard II, Bollgard, Roundup, Roundup PowerMax, Roundup Ready and XtendFlex are registered trademarks of Bayer Group. Dual Magnum and Etatus are trademarks of a Syngenta Group Company. Widestrike is a registered trademark of Dow AgroSciences.

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