

Cotton

Solution Guide



SOLUTIONS OVERVIEW

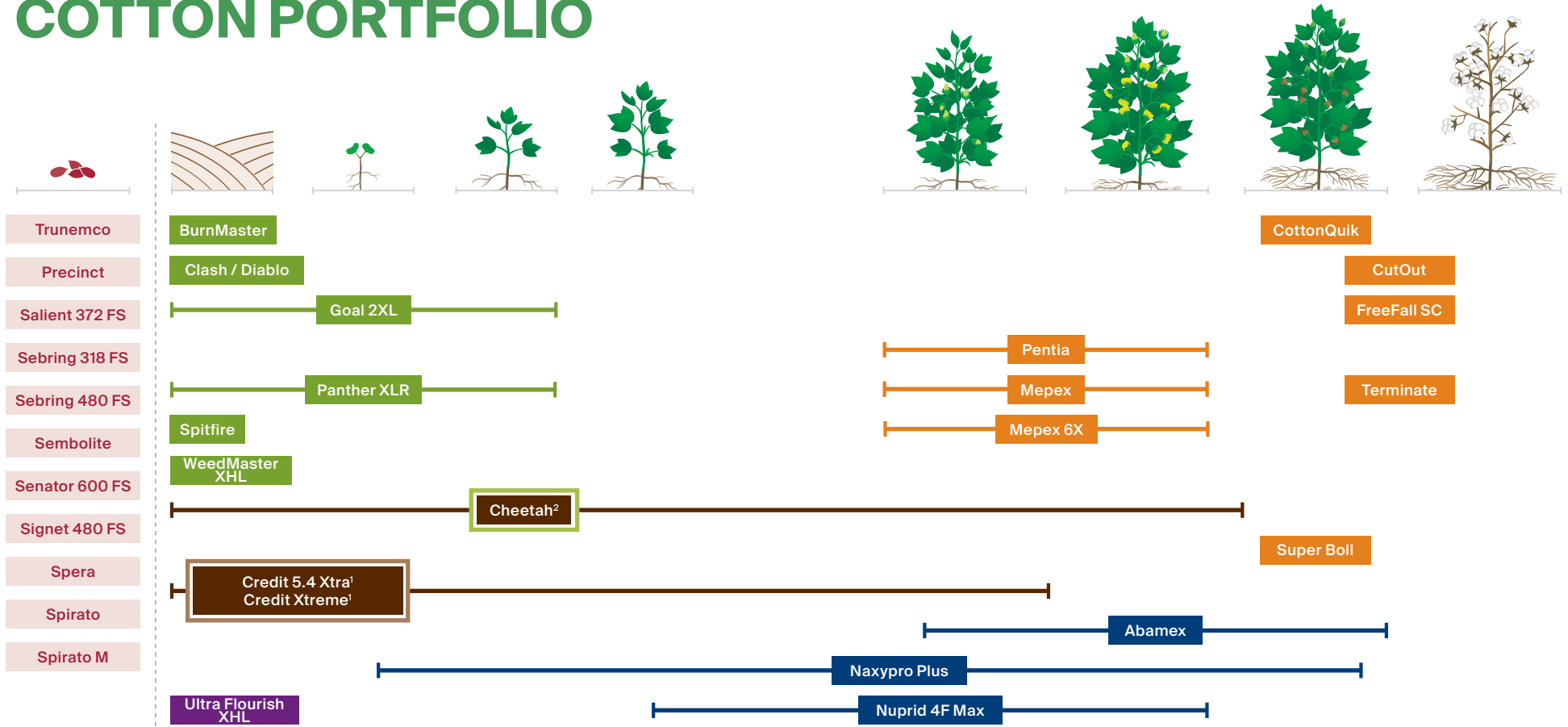
Use this grid for a quick overview of Nufarm solutions for your crop.

	PRODUCT	ACTIVE INGREDIENT	RE-ENTRY INTERVAL	PRE-HARVEST INTERVAL
SELECTIVE HERBICIDES				
Preplant burndown	BurnMaster	Dicamba Acid + 2,4-D ester	48 hours	N/A
Preplant burndown, pre-emerge and post-emerge (post-directed / hooded sprayers)	Panther XLR	Flumioxazin	12 hours	60 days
Preplant burndown	Clash	DGA Dicamba Salt	24 hours	N/A
Preplant burndown	Diablo	DMA Dicamba Salt	24 hours	N/A
Preplant and post-directed up to cotton NO SMALLER than 6–8 inches tall	Goal 2XL	Oxyfluorfen	24 hours	N/A
Preplant burndown	Spitfire	2,4-D ester + Dicamba Acid	48 hours	N/A
Preplant burndown	WeedMaster XHL	Dual Salt 2,4-D + DGA Dicamba	48 hours	N/A
NON-SELECTIVE HERBICIDES				
Preplant burndown, pre-emerge and post-emerge to glyphosate tolerant varieties	Credit 5.4 Extra	I.P.A. Salt Glyphosate	4 hours	7 days
Preplant burndown, pre-emerge and post-emerge to glyphosate tolerant varieties	Credit Xtreme	Dual Salt Glyphosate (I.P.A. + K)	4 hours	7 days
Preplant burndown, pre-emerge and post-emerge to glufosinate tolerant varieties	Cheetah	Glufosinate-ammonium	12 hours	70 days
PLANT GROWTH REGULATORS				
Reduces excessive growth, directs energy to boll development	Mepex	Mepiquat Chloride	12 hours	30 days
Reduces excessive growth, directs energy to boll development	Mepex 6X	Mepiquat Chloride	12 hours	30 days
Improves fruit retention and height-to-node ratio compared to mepiquat chloride	Pentia	Mepiquat Pentaborate	12 hours	30 days
Accelerates boll opening, minimizes re-growth, aids defoliation	CottonQuik	Ethephon + Urea Sulfate	48 hours	7 days
Promotes boll opening and leaf drop, advances harvest date	Terminate	Ethephon + Cyclanilide	48 hours	7 days
Accelerates opening of mature bolls, increases recoverable yield	Super Boll	Ethephon	48 hours	7 days
Defoliates and allows for minimal stick harvesting	FreeFall SC	Thidiazuron	24 hours	5 days
Allows for fast defoliation, even at lower temperatures, and reduces new growth	CutOut	Diuron + Thidiazuron	12 hours	5 days
FUNGICIDES				
Seed and root rot (<i>Pythium ultimum</i>), seedling blight (<i>Pythium aphanidermatum</i>)	Ultra Flourish XHL	Mefenoxam	48 hours	N/A
INSECTICIDES				
Carmine spider mite, Pacific spider mite, strawberry spider mite, two-spotted spider mite	Abamex	Abamectin	12 hours	20 days
Cotton aphid, plant bugs, thrips, whiteflies, fleahoppers, green stink bugs, bollworm/budworm	Nuprid 4F Max	Imidacloprid	12 hours	14 days
Armyworms, hoppers, loopers	Naxypro Plus	Chlorantraniliprole	12 hours	21 days

See label for full use site and application details. Always read and follow label directions.

GROWTH STAGES

COTTON PORTFOLIO



PRODUCT TIMING + NOTES

- SEED TREATMENT
- SELECTIVE HERBICIDE
- NON-SELECTIVE HERBICIDE
- FUNGICIDE
- PGR, BOLL OPENER, DEFOLIANT
- INSECTICIDE

¹CONTAINS GLYPHOSATE

In crop applications on **GLYPHOSATE** tolerant varieties only.
READ LABEL FOR VARIETY SPECIFIC APPLICATION TIMING RESTRICTIONS

²CONTAINS GLUFOSINATE

In crop applications on **GLUFOSINATE** tolerant varieties only.
READ LABEL FOR VARIETY SPECIFIC APPLICATION TIMING RESTRICTIONS

SELECTIVE HERBICIDES

BURNMASTER // WEEDMASTER XHL: 30 days preplant burndown only
SPITFIRE: 21-30 days preplant burndown
PANTHER XLR: 14-30 days preplant burndown (interval based on tillage, rate, rainfall)
LAYBY: 16 inch tall cotton
HOODED: 6 inch tall cotton
CLASH // DIABLO: 21 days + 1 inch rainfall (east of Rockies only)
GOAL 2XL: preplant and post-directed up to cotton NO SMALLER than 6-8 inches tall
LONGBOW EC: preplant and post-directed or layby to cotton NO SMALLER than 6 inches tall. Applications at 5 to 6 node stage must be made with hooded sprayer - avoid contact with cotton plant.
 *AS HARVEST AID: at maturity up to 7 days PHI

FUNGICIDE

ULTRA FLOURISH XHL: at plant only in furrow applications

INSECTICIDES

NUPRID 4F MAX: at planting up to 14 days PHI
ABAMEX: emergence up to 20 days PHI
NAXYPRO PLUS: early vegetative up to 21 days PHI

NON-SELECTIVE HERBICIDES

CREDIT 5.4 EXTRA // CREDIT XTREME: preplant through pre-emerge (all cotton varieties), cracking through 4-node stage (glyphosate tolerant varieties only). Credit brands may be applied throughout the season on Roundup Ready® Flex Cotton. Roundup Ready® and other glyphosate tolerant cotton may be treated up to the 4-leaf (node) stage of cotton.

PGR AND BOLL OPENERS

MEPEX // MEPEX 6X // PENTIA: pinhead square up to 30 days PHI
SUPER BOLL // CUTOUT // COTTONQUIK // FREEFALL SC // TERMINATE: all of these start at some stage of cotton maturity and vary by region. The PHI varies from 5-7 days.



TRUE NEMATODE CONFIDENCE.

Patented technology for simplified nematode management. Trunemco® is a nematode seed treatment solution that helps cotton crops thrive. This patented technology primes plant physiology, activating its defense system for superior broad-spectrum protection against nematode invasion. Trunemco microbial protection supports root health, seedling vigor and uniform plant growth in crucial early stages. This biochemical and microbial solution is proven to provide higher yield profiles and application convenience – the kind that can make a true bottom-line difference.

ACTIVE INGREDIENT

cis-Jasmone, Bacillus (amyloliquefaciens strain MBI 600)

BENEFITS OF TRUNEMCO

- Patented technology for broad-spectrum nematode protection
- Biochemical primes plant physiology, activating its defenses
- Microbial protection supports root health and seedling vigor
- Demonstrates superior damage control and higher yield profile
- Handling ease with caution signal word
- Minimal contribution to slurry volume
- Compatible with most seed treatments

KEY PESTS CONTROLLED See label for complete list

Cotton nematode pests: Columbia lance nematode, reniform nematode, root knot nematode (also provides protection against thrips and aphids); **soybean nematode pests:** reniform nematode, root knot nematode, soybean cyst nematode; **corn nematode pests:** dagger nematode, lance nematode, needle nematode, pin nematode, ring nematode, root knot nematode, root lesion nematode, spiral nematode, sting nematode, stubby root nematode, stunt nematode

APPLICATION GUIDELINES

- Re-entry interval: N/A
- Pre-harvest interval: N/A
- Apply 0.31 oz per 100 lbs of seed

See label for complete directions for use.



Precinct™

Proven Soil-Borne Disease Control

Precinct™ fungicide seed treatment offers industry-leading protection against *Pythium*, *Phytophthora* and damping-off. It's a stable concentrated formulation that controls soil-borne diseases and prevents seed decay. Highly miscible with commonly used seed treatments and stable under varying conditions, Precinct is an ideal choice.

Reliably Supplied | Agronomically Proven | Value Enabled



nufarm.com/usst





OPTIMIZED FOR MAXIMUM PERFORMANCE.

BurnMaster® herbicide mixes optimized ratios of 2,4-D ester + dicamba to control a broad spectrum of problem weeds ahead of planting. BurnMaster is designed with cool-weather control in mind and tackles resistant weed species.

ACTIVE INGREDIENT

dicamba acid (10.73%), 2,4-D ester (49.64%)

BENEFITS OF BURNMMASTER

- Excellent cool-weather performer – ideal for early spring burndown
- True systemic control kills weeds above and below ground
- Optimized 2,4-D ester and dicamba acid ratio delivers control of more than 65 weeds including glyphosate- and ALS-resistant species

KEY WEEDS CONTROLLED See label for complete list

Broad-spectrum control of many broadleaf weeds including chickweed, henbit, lambsquarters, marestail, plus glyphosate-, and ALS-resistant species.

APPLICATION GUIDELINES

Apply 2 pt/A

- Preplant burndown only
- 30 day preplant interval after 1 inch of rainfall or irrigation
- Only for geographic areas with >25 inches of average annual rainfall

See label for complete directions for use.



DICAMBA SALTS DELIVER PROVEN PREPLANT BURNDOWN.

Clash® and Diablo® herbicides utilize dicamba salts to hold down tough annual and perennial broadleaf weeds ahead of cotton planting. Clash also controls ALS- and triazine-resistant annual weeds and is formulated to handle unpredictable spring weather. Diablo is a water-soluble amine formulation of dicamba that offers additional brush and vine control options.

ACTIVE INGREDIENT

CLASH: DGA dicamba salt (56.8%)

DIABLO: DMA dicamba salt (49.1%)

BENEFITS OF CLASH

- Controls a broad spectrum of annual and perennial broadleaf weeds
- Ideal solution for ALS-, glyphosate-, and triazine-resistant weeds
- Flexible application timing, formulated for challenging spring weather

BENEFITS OF DIABLO

- Water-soluble amine formulation
- Controls noxious weeds, brush, and vines

KEY WEEDS CONTROLLED See label for complete list

Many annual, perennial weeds such as lambsquarters, pigweed, and thistle. Controls ALS-, glyphosate-, and triazine-resistant weeds.

APPLICATION GUIDELINES

Apply up to 8 fl oz/A

- Re-entry interval: 24 hours
- Preplant interval: 21 days + 1 inch of rainfall
- Pre-harvest interval: N/A
- Maximum rate per acre per season: 8 fl oz/A

See label for complete directions for use.



WHEN YOU WANT CLEAN COTTON

Longbow® EC Selective Herbicide provides utility under a variety of weather conditions as a cotton defoliant and harvest aid. It's low-use rate saves input costs and works swiftly to deliver superb cotton defoliation, regrowth removal and unwanted vegetation desiccation in both spindle and stripper harvested cotton. As an added benefit to the grower, after harvest or prior to planting next year's crop, Longbow EC is also labeled as a herbicide, giving rapid control of broadleaf weeds, such as pigweeds, lambsquarters and waterhemp.

ACTIVE INGREDIENT

carfentrazone-ethyl (22.3%, 2 lb ai/gal)

BENEFITS OF LONGBOW EC

- Fast-acting herbicide and defoliant
- Excellent tank-mix partner
- Low use rates
- Utility as a defoliant in cotton with efficacy in warm and cool conditions
- 7-day pre-harvest interval
- Wide spectrum broadleaf weed control

KEY WEEDS CONTROLLED See label for complete list

Kochia, lambsquarters, morningglory, nightshade, palmer amaranth, pigweed, Russian thistle, velvetleaf, waterhemp

APPLICATION GUIDELINES

Managed Maturity

- Use rates: Apply as a broadcast spray at 0.25 fl oz to 0.5 fl oz/A, targeting 0.375 fl oz/A in spray volume to obtain upper canopy coverage.
- Apply when cotton is actively growing and the plants have 1%–25% open bolls with 20% open bolls being optimum.

Defoliation/Harvest Aid

- Use rates: Apply up to 1.6 fl oz in spray volume sufficient for complete coverage. Repeat application if necessary to remove remaining foliage or control regrowth. Do not apply more than 3.2 fl oz/A total as a harvest aid.
- Make application when 60%–70% of the bolls are open, or according to extension guidelines in the use area.

Not registered for use in California.
See label for complete directions for use.



THE NEW NECESSITY IN TRUSTED WEED CONTROL

WeedMaster® XHL is an innovative premix powered by Nufarm's patented Dual Salt Technology™ with a unique combination of 2,4-D (DMA + MMA salts) and DGA dicamba. WeedMaster XHL treats 20% more acres with every gallon versus traditional WeedMaster while controlling 90+ types of weeds and brush for effective fallow, preplant and post-harvest burndown applications. WeedMaster XHL delivers consistent performance, application flexibility, low odor, reduced volatility and excellent tank-mix compatibility.

ACTIVE INGREDIENT

dual salt 2,4-D (3.75 lb a.e./gal) + DGA dicamba (1.25 lb a.e./gal) a total a.e. load of 5 lb/gal

BENEFITS OF WEEDMASTER XHL

- Treat 20% more acres per gallon versus traditional WeedMaster
- Less risk of volatility causing off target deposition and lower odor (compared to other amine formulations of dicamba and 2,4-D)
- Reliable formulation stability, including at low temperatures
- Excellent tank mixing compatibility with a range of partner products
- Versatile broad label for a variety of crop applications
- Fewer jugs equals less storage and less rinsing required

KEY WEEDS CONTROLLED See label for complete list

Broad-spectrum control of cocklebur, lambsquarters, marestalk, nightshade, pigweed, shepherd's purse, including glyphosate- and ALS-resistant species.

APPLICATION GUIDELINES

Common Application Ranges

- Low rate 1.6pt/A (25.6 oz/A)
- High rate 3.2 pt/A (51.2 oz/A)

See label for complete directions for use.



PANTHER® XLR: THE POWER TO DO MORE.

Panther® XLR herbicide combines all labeled Panther SC and Tuscany® SC crops into one flexible label. This proven leader provides excellent residual control of more than 30 broadleaf weeds including, persistent challenges like marestail, Palmer amaranth, and waterhemp with speed and convenience. Panther XLR fits into your production system – apply in the fall for a clean start in the spring, apply preplant for burndown before planting, after emergence with hooded or shielded sprayers for extended residual protection against weeds.

ACTIVE INGREDIENT

flumioxazin (41.4%, 4 lbs/gal)

BENEFITS OF PANTHER XLR

- Controls a broad spectrum of annual broadleaf and grass weeds, including most broadleaf weeds resistant to glyphosate
- Convenient liquid formulation makes mixing and loading faster and easier
- Offers long-lasting residual control to keep fields clean
- Flexible rotation options allow you to pick the crop that maximizes your profits
- Enhanced speed of control on a broader weed spectrum in labeled burndown programs

KEY WEEDS CONTROLLED See label for complete list

Carpetweed, chickweed, Florida beggarweed, lambsquarters, marestail/horseweed, nightshades, pigweeds, prickly sida, purslane, waterhemp

APPLICATION GUIDELINES

- Fall applications: 2 to 4 fl oz/A
- Spring applications: 1 to 3 fl oz/A
- Preplant intervals: 14 days for rate < 1.5 fl oz (no-till and strip-till only)
21 days for rate 1.5 to 2 fl oz/A (no-till and strip-till only)
60 days for rate 2 to 3 fl oz/A (conventional till)
- 1 inch of rainfall/irrigation must occur between application and planting of cotton or crop injury may occur.

See label for complete directions for use.

Goal® 2XL

SCORE WITH THE PRE- AND POST-POWER OF GOAL® 2XL

Goal® 2XL gives you pre- and post-control on dozens of key weeds, making it a proven winner in your residual herbicide program. Goal 2XL works by delivering both contact pre- and post-emergence control. It controls actively growing weeds and also forms a soil barrier to block the establishment of emerging weeds for an extended period of time.

ACTIVE INGREDIENT

oxyfluorfen (22.3%, 2 lbs/gal)

BENEFITS OF GOAL 2XL

- User-friendly emulsifiable concentrate herbicide
- As a pre-emergence herbicide, Goal 2XL forms a chemical barrier on the soil surface and affects weed plants through direct contact at emergence
- Excellent tank mix partner

KEY WEEDS CONTROLLED See label for complete list

Filaree, Florida pursley, lambsquarters, morningglory, pigweed, prickly sida, spurge

APPLICATION GUIDELINES

Fallow beds prior to cotton planting: Apply at 1 to 2 pt/A in AL, AR, GA, LA, MS, MO, NC, OK, SC, TN, TX and VA

Post-emergence: 1 to 2 pt/A applied as a post-directed spray. Do not apply to cotton that is less than 6 inches tall. For optimum control, use 2 pt/A on actively growing weed seedlings with no more than 4 true leaves.

- Re-entry interval: 24 hours

See label for complete directions for use.

Credit® 5.4 Extra

START CLEAN + TREAT MORE ACRES.

Delivering the performance you expect from the Credit® brand family, this concentrated formula treats more acres per jug. Credit 5.4 Extra is formulated with 4 pounds acid equivalent of glyphosate per gallon and a full load of quality surfactant – thus no additional surfactant is required.

ACTIVE INGREDIENT

glyphosate, isopropylamine salt (53.8%)

Equivalent to 4 lbs/gal of acid glyphosate

BENEFITS OF CREDIT 5.4 EXTRA

- Superior broad-spectrum control of tough annual and perennial broadleaf weeds and grasses
- Works fast – burndown of annuals in 2 to 3 days and perennials in 7 to 10 days
- Fully loaded – requires no additional surfactant
- Flexible labeling for use across multiple cropping systems and sites, including Roundup Ready® and other glyphosate tolerant crops
- Concentrated formula treats more acres per gallon

KEY USES See label for complete list

Many annual and perennial weeds and woody brush

APPLICATION GUIDELINES

Can be applied as preplant spring burndown, pre-emerge, post-emerge*, as a harvest aid, and for post-harvest fall burndown.

- Re-entry interval: 4 hours
- Pre-harvest interval: 7 days
- Maximum volume per year (depending on weed height, application timing, and cotton trait): 6 qt/A
- Application rate range (depending on weed height, application timing, and cotton trait): 24 to 48 fl oz/A

See label for complete directions for use.

* Glyphosate tolerant cotton only

Credit® Xtreme

GET POWERFUL WEED CONTROL FROM CREDIT® XTREME.

Credit® Xtreme gives you the proven performance of Credit in an exclusive formulation with Dual-Salt Technology™. With fast activity and rainfastness, tough weeds are no match for Credit Xtreme.

ACTIVE INGREDIENT

glyphosate: isopropylamine salt (30.94%), potassium salt (22.99%)

Contains 5.83 lbs/gal (697 g/l) of combined IPA and K salt, and a glyphosate acid equivalent (a.e.) of 4.5 lbs/gal (540 g/l)

BENEFITS OF CREDIT XTREME

- Contains proprietary Dual-Salt Technology; delivers excellent crop safety
- Takes on the toughest weeds with quick burndown and complete control
- Excellent tank-mix compatibility, even in hard water environments
- Fast translocation activity and rainfastness
- Treats more acres per tote than many alternative glyphosate products

KEY WEEDS CONTROLLED See label for complete list

Many tough, non-resistant, weeds like lambsquarters and velvetleaf

APPLICATION GUIDELINES

Can be applied as preplant spring burndown, pre-emerge, post-emerge*, as a harvest aid, and for post-harvest fall burndown.

- Re-entry interval: 4 hours
- Pre-harvest interval: 7 day
- Maximum rate range (depending on weed height, application timing, and cotton trait): 22 to 44 fl oz/A

See label for complete directions for use.

* Glyphosate tolerant cotton only



SATISFACTION: CLEANER. QUICKER. CHEETAH®.

Cheetah® non-selective, post-emergence herbicide provides fast, effective control of the toughest broadleaf and grass weed challenges, including those resistant to glyphosate and multiple other herbicide classes. Approved for post-emergence* use on ALL cotton varieties that have glufosinate tolerant traits.

ACTIVE INGREDIENT

glufosinate (24.5%, 2.34 lbs/gal)

BENEFITS OF CHEETAH

- Fast non-selective control of tough grass, sedge, and broadleaf weeds
- Best glyphosate alternative, offering broad-spectrum weed control
- Directed sprays provide excellent control and crop safety
- Controls glyphosate-resistant weeds

KEY WEEDS CONTROLLED See label for complete list

Chickweed, clover, crabgrass, dandelion, fleabane, foxtail, henbit, junglerice, kochia, lambsquarters, mallow, malva, marestail, morningglory, nutsedge, purslane, ragweed, ryegrass, spurge, vetch, woodsorrel

APPLICATION GUIDELINES

Apply 29 to 43 fl oz/A as determined by weed size.

- Re-entry interval: 12 hours
- Pre-harvest interval: 70 days
- Maximum amount per season: 72 oz/A
- Spray volume: 15 to 20 gpa (medium droplets)
- Can be applied as preplant spring burndown, pre-emerge, post-emerge**, and for post-harvest fall burndown

See label for complete directions for use.

* Do not apply post-emergence to any variety that is not tolerant to glufosinate

** Glufosinate tolerant cotton only

Ultra Flourish® XHL

PROTECT AND IMPROVE WITH HIGHER LOAD.

Ultra Flourish® XHL brings the power of mefenoxam in a new, higher-load formulation. This means fewer packages to handle and measure, better tank mixing performance, and all the disease control you have come to expect from Ultra Flourish. Ultra Flourish XHL protects across many crops from harmful soil-borne diseases caused by *Pythium* and *Phytophthora* species. Its systemic mode of action prevents spore production and inhibits mycelial growth of fungus and improves crop health and vigor.

ACTIVE INGREDIENT

mefenoxam (45.3%, 4 lbs/gal)

BENEFITS OF ULTRA FLOURISH XHL

- 2X the strength as original Ultra Flourish for ease of application
- Highly active fungicide formulation
- Can be applied in combination with liquid fertilizers or impregnated into dry fertilizers
- Excellent crop safety
- Provides efficient control of foliar and soil diseases in a wide variety of crops

KEY DISEASES CONTROLLED See label for complete list

Seed and root rot (*Pythium ultimum*), seedling blight (*Pythium aphanidermatum*)

APPLICATION GUIDELINES

Apply 0.075 to 0.15 fl oz/1,000 row ft. Equivalent to 1.1 to 2.0 fl oz/A (0.03 to 0.0625) for 38-inch row spacing

- In-furrow: Apply in water or liquid fertilizer at planting. Mount the spray nozzle so the spray is directed into the furrow over the seed just before the seeds are covered.
- Maximum single application rate: 0.15 fl oz/1,000 row ft, corresponding to (a) 2 fl oz/A for 38-inch row spacing (equivalent to 0.0625 lb mefenoxam ai/A) or (b) 3.9 fl oz/A for 20-inch row spacing (equivalent to 0.12 lb mefenoxam ai/A)
- Minimum application interval: N/A
- Maximum annual application rate: 0.15 fl oz/1,000 row ft, corresponding to 3.9 fl oz/A for 20-inch row spacing (equivalent to 0.12 lb mefenoxam ai/A) Do not exceed 0.12 lb ai/A/year of soil-applied mefenoxam- and metalaxyl-containing products (assumes 20" row spacing)
- Pre-harvest Interval: N/A

See label for complete directions for use.

Naxypro[®] Plus

EFFECTIVE CONTROL OF LEPIDOPTERAN INSECT PESTS.

Naxypro[®] Plus Insecticide delivers two-way control of lepidoptera and a range of other insects, leveraging the fast action and staying power of chlorantraniliprole and bifenthrin. Stop pest damage and sustain broad-spectrum control for up to three weeks. Flexible application rates and timing make Naxypro Plus a key tool for protecting yield through quick activity, just minutes after contact. Naxypro Plus provides excellent control of worms and other insects in corn, soybeans, cotton, peanuts, potato and tobacco.

ACTIVE INGREDIENT

chlorantraniliprole (0.89 lb/ gal) + bifenthrin (1.33 lb/gal)

BENEFITS OF NAXYPRO PLUS

- Controls a broad-spectrum of pests within minutes of contact
- Versatile resistance management tool
- Flexible application options

KEY PESTS CONTROLLED See label for complete list

Armyworms, boll weevil, cotton aphids*, cotton bollworm*, cabbage looper, plant bugs, stink bugs, tobacco thrips

APPLICATION GUIDELINES

Apply 4 to 6 fl oz/A. When used in combination with another fungicide registered for disease control on cotton, a 3 fl oz rate may be employed.

Ground (Closed Cabs Only): Apply in at least 15 gallons of water.

Aerial: Apply in 5 to 10 gallons of water.

Chemigation: Diluted spray should be directed uniformly to all parts of the plant and the gallonage increased according to the size of the plants.

Application should begin with the appearance of blight weather conditions and continue on a 7-day schedule.

- Re-entry interval: 12 hours
- Pre-harvest interval: 21 days
- Spray interval: 5 days
- Maximum application rate per year: A total of 0.2 lb ai/A of chlorantraniliprole and 0.5 lb ai/A (0.3 lb ai/A in California) of bifenthrin per year

*See label for complete directions for use.



TIMELY PGR APPLICATIONS HELP CROPS, AND YIELDS, GROW BETTER.



PLANT GROWTH REGULATORS ARE USED MID- AND LATE-SEASON AND PLAY A CRUCIAL ROLE IN FINAL YIELD OUTPUT.

In general, PGR applications from the matchhead square to early-bloom growth stages modify plant growth to direct energy toward better boll development. Late-season PGRs focus on priming the plant for a quality harvest through defoliant, boll opener, and/or desiccant activity.

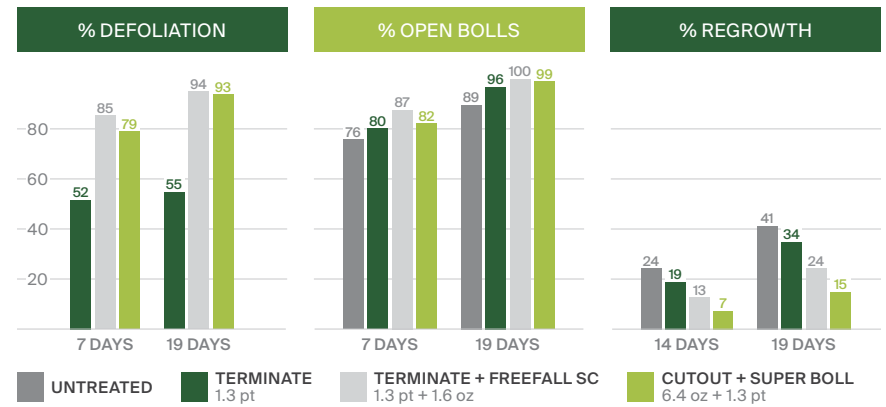
	MID-SEASON GROWTH AID	LATE-SEASON BOLL OPENER	LATE-SEASON DEFOLIANT
ACTION	Inhibits gibberellic acid production	Enhances ethylene production to stimulate formation of abscission layer	Enhances ethylene production to stimulate fruit ripening
TIMING	First application may start at matchhead square, apply at 7-14 day interval or at regrowth	Apply when 40-80% of bolls are mature, 60% mature bolls is rule of thumb	
SOLUTION	Mepex® Mepex® 6X Pentia®	CutOut® FreeFall® SC	Super Boll® Terminate® CottonQuik®



MAXIMIZE QUALITY WITH LATE-SEASON PGRS.

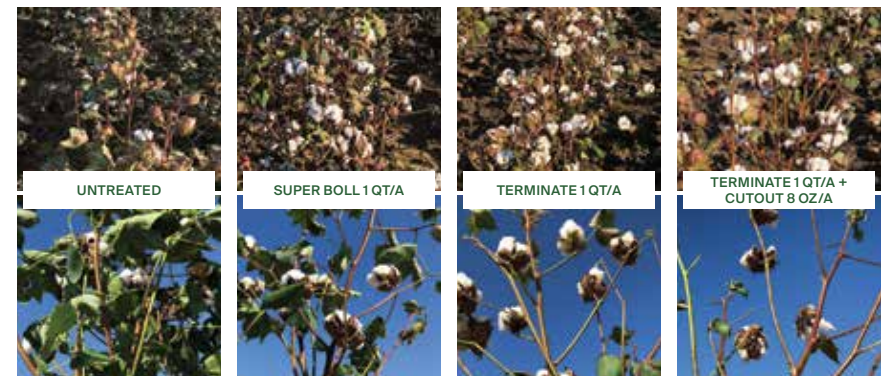
Late-season PGRs prime cotton crops to maximize harvest quality. They synchronize boll maturation, leaf drop and plant desiccation to optimize harvest conditions – all while reducing the days-to-harvest timeline.

GET HARVEST-READY WITH LATE-SEASON PGRS



Trial Credits: Tifton, GA. Applied Sept. 3, 2014.

DEMO TRIAL, 2019 // APPLIED BEFORE COLD FRONT AND RAINFALL





MADE TO MAXIMIZE COTTON YIELD POTENTIAL.

Now available exclusively from Nufarm, Pentia® Plant Regulator is tailor-made to enhance the yield potential of your cotton crop. Cotton growers investing in greater crop potential can turn to Pentia for improved rainfastness, height management, boll retention, earliness and yield potential compared to products containing mepiquat chloride. Pentia supports better fruit retention and height-to-node ratio, too – so put the proven profit-potential of Pentia in your pocket this season.

ACTIVE INGREDIENT

mepiquat pentaborate (9.6%, 0.82 lb/gal)

BENEFITS OF PENTIA

- Improved fruit retention and height-to-node ratio compared to mepiquat chloride
- Rainfast in 2 hours or 1 hour with adjuvant
- Fast absorption, up to 25% faster than mepiquat chloride
- Enhanced boll set and earliness
- Increased harvestable bolls and harvest efficiency

KEY USES See label for complete list

Cotton

APPLICATION GUIDELINES

Apply 8 to 24 fl oz/A in AL, AR, FL, GA, LA, MO, MS, NC, SC, TN, VA

Apply 4 to 24 fl oz/A in AZ, KS, NM, OK, TX

Apply to actively growing cotton that is not under stress. Use the higher rates when/where excessive cotton vegetative growth is expected.

- Maximum rate per acre per application: 24 ounces
- Maximum rate per acre per season: 48 ounces
- Rainfast in 2 hours (alone) or 1 hour (with adjuvant) after application
- Re-entry interval: 12 hours
- Pre-harvest interval: 30 days

See label for complete directions for use.



GROW MORE YIELD IN SHORT-SEASON PRODUCTION.

Mepex® is a foliar-applied plant growth regulator that allows growers to manage cotton plants for short-season production. Mepex reduces plant height, offers better boll retention and helps improve defoliation – leading to reduced risk of yield and quality loss due to prolonged harvest.

ACTIVE INGREDIENT

mepiquat chloride (4.2%, 0.35 lb/gal)

BENEFITS OF MEPEX

- Reduces excessive vegetative growth
- Optimizes boll development for higher yields
- Suitable for early-season applications
- Can reduce risk of yield and quality loss due to delayed or prolonged harvest
- Helps improve defoliation and reduce trash

KEY USES See label for complete list

Cotton

APPLICATION GUIDELINES

Apply 2 to 24 oz/A (depending on growth, timing, region, and variety)

- Re-entry interval: 12 hours
- Pre-harvest interval: 30 days
- Spray interval: 7 to 21 days
- Maximum amount per season: 48 oz (0.132 lb mepiquat chloride)
- Maximum rate per application: 24 oz/A for late-season vigorous growth (24 oz/A = 0.066 lbs ai/A)

See label for complete directions for use.

Mepex® 6X

GROW MORE YIELD IN SHORT-SEASON PRODUCTION.

With the same performance characteristics as traditional Mepex, Mepex 6X Plant Growth Regulator reduces plant height, improves boll retention and prepares the cotton plant for more efficient defoliation. The highly concentrated formula (6 times more concentrated than Mepex) treats more acres per gallon and helps growers in their efforts to contribute to sustainable practices.

ACTIVE INGREDIENT

mepiquat chloride (24.0% / 2 lbs/gal)

BENEFITS OF MEPEX 6X

- High concentration increases the acres treated per gallon
- Less containers to handle, transport and dispose of
- Faster mixing times
- Reduces excessive vegetative growth
- Optimizes boll development for higher yields
- Helps improve defoliation and reduces trash

KEY USES See label for complete list

Cotton

APPLICATION GUIDELINES

Apply 0.33 to 4.2 oz/A (depending on growth, timing, region, and variety).

- Re-entry interval: 12 hours
- Pre-harvest interval: 30 days
- Maximum amount per season: 8.4 oz (0.132 lb mepiquat chloride)
- Maximum rate per application: 4.2 oz/A for late-season vigorous growth (4.2 oz/A = 0.066 lbs ai/A)
- Do not graze or feed cotton forage to livestock

See label for complete directions for use.

CottonQuik®

HARVEST THE VALUE OF COTTONQUIK®.

CottonQuik® Cotton Harvest Aid/Defoliant accelerates the opening of mature unopened cotton bolls over a wide range of temperatures, minimizing regrowth for a clean harvest. CottonQuik allows you to use a reduced rate of defoliant while improving consistency and speeding leaf drop.

ACTIVE INGREDIENT

ethephon (18.3%, 2.28 lb/gal), urea sulfate (58.6%)

BENEFITS OF COTTONQUIK

- Superior boll opening that begins three to five days sooner than other products
- Delivers consistent results, even in cool weather, to help keep harvest on schedule
- Can help minimize regrowth
- Enhances defoliant activity to improve consistency and hasten leaf drop

KEY USES See label for complete list

Cotton defoliation, cotton boll opening

APPLICATION GUIDELINES

Apply 3 to 3.5 qt/A of CottonQuik® alone or 1.5 to 2 qt/A in combination with another defoliant (see label).

- Re-entry interval: 48 hours (72 hours for areas with <25" annual rainfall)
- Pre-harvest interval: 7 days
- Split application: 4 to 7 days apart
- Maximum amount per year: 3.5 qt/A (2.0 lb ethephon)

See label for complete directions for use.

Super Boll®

PROMOTE BOLL OPENING FOR EARLIER HARVEST.

Super Boll® plant regulator hastens the opening of mature cotton bolls, enabling growers to harvest earlier and increase recoverable yield.

ACTIVE INGREDIENT

ethephon (55.4%, 6 lb/gal)

BENEFITS OF SUPER BOLL

- Promotes the opening of mature cotton bolls
- Enables growers to harvest earlier and increase recoverable yield

KEY USES See label for complete list

Cotton, tobacco (flue-cured)

APPLICATION GUIDELINES

Apply 1 1/3 pt/A to 2 2/3 pt/A alone depending on conditions. Apply 1/3 pt/A to 1 1/3 pt/A when used sequentially or in an approved tank mixture.

Apply a minimum spray volume of 10 gal/A.

- Re-entry interval: 48 hours (72 hours for areas <25" annual rainfall)
- Pre-harvest interval: 7 days
- Maximum amount per year: 2 lb ethephon/A
- Rainfast for 6 hours

See label for complete directions for use.



Terminate®

COTTON DEFOLIANT AND BOLL OPENER IN ONE.

Terminate® Cotton Harvest Aid increases the natural ethylene synthesis process to quickly and effectively promote leaf drop and open cotton bolls. As a single application premix, crops may be harvested up to 5 days faster – reducing risk from damaging weather.

ACTIVE INGREDIENT

ethephon (51.8%, 6 lb/gal), cyclanilide (3.2%, 0.375 lb/gal)

BENEFITS OF TERMINATE

- Premix formula promotes both leaf drop and boll opening naturally
- Quick results allow harvest up to 5 days sooner
- Clean crops and preserved lint quality maximize profits
- Tank mix compatible with other plant growth regulators to meet the demands of challenging weather conditions

KEY USES See label for complete list

Cotton defoliation, cotton boll opening

APPLICATION GUIDELINES

Apply 1 1/3 pt/A to 2 2/3 pt/A depending on conditions.

- Re-entry interval: 48 hours (72 hours for areas <25" annual rainfall)
- Pre-harvest interval: 7 days
- Maximum amount per year: 2 lb/A ethephon, 0.125 lb/A cyclanilide

See label for complete directions for use.



HARVEST FASTER WITH CUTOUT®.

CutOut® Cotton Defoliant promises fast defoliation even when cold fronts are in the forecast. CutOut removes mature leaves and new growth to reduce trash and preserve lint quality. Plus, it can be tank-mixed with other harvest aids to improve performance for a faster finish.

ACTIVE INGREDIENT

thidiazuron (12%, 1.0 lb/gal), diuron (6%, 0.5 lb/gal)

BENEFITS OF CUTOUT

- Offers consistent, clean defoliation
- Defoliates with less desiccation
- Helps preserve lint quality by removing mature leaves and suppressing new growth
- Performs even in tough weather conditions
- Excellent tank-mix partner with Super Boll®, CottonQuik® or any other boll-opening products

KEY USES See label for complete list

Cotton defoliation

APPLICATION GUIDELINES

Apply 6.4 to 16 fl oz/A

- Re-entry interval: 12 hours
- Pre-harvest interval: 5 days
- Spray interval: 21 days
- Maximum applications per year: 2
- Maximum amount per year: 1 pt

See label for complete directions for use.

FreeFall® SC

FREEFALL® SC FOR AN EASIER HARVEST AND CLEANER BALE.

FreeFall® SC cotton defoliant removes juvenile growth while controlling re-growth, allowing for a no-stick, no-hassle harvest at optimum crop maturity. Thidiazuron, the active ingredient in FreeFall, is recognized as the long-time standard in effective defoliation.

ACTIVE INGREDIENT

thidiazuron (41.4%, 4 lb/gal)

BENEFITS OF FREEFALL SC

- Offers excellent defoliation for less trash in cotton
- Provides excellent re-growth control and removes juvenile growth
- Enables harvest at maximum maturity
- Single active ingredient allows you to customize your defoliation program

KEY USES See label for complete list

Cotton defoliation

APPLICATION GUIDELINES

Apply 1.6 to 6.4 fl oz/A

Tank mix with Super Boll® for enhanced defoliation and speed of boll opening. Mix with low rates of Super Boll for enhanced defoliation in sequential programs.

- Re-entry interval: 12 hours
- Pre-harvest interval: 5 days
- Maximum applications per season: 2
- Maximum amount per year: 9.6 fl oz/A or 0.3 lb ai/A

See label for complete directions for use.



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20-AG-0013-G