

GROUP

5

HERBICIDE



COTTON PRO[®]

herbicide

Intended For Agricultural or Commercial Use Only. Not intended for use by homeowners. For selective weed control in cotton.

ACTIVE INGREDIENT:	% BY WT.
Prometryn: 2,4-bis (isopropyl-amino)-6-(methylthio)-s-triazine44.0%
OTHER INGREDIENTS:56.0%
TOTAL	100.0%

EPA Reg. No. 66222-15 EPA Est. No. 11603-ISR-001

Contains 4 lbs. active ingredient per gal.
Shake well before using.

KEEP OUT OF REACH OF CHILDREN
CAUTION

FIRST AID

IF SWALLOWED:

- * Call a poison control center or doctor immediately for treatment advice.
- * Have person sip a glass of water if able to swallow.
- * Do not induce vomiting unless told to do so by a poison control center or doctor.
- * Do not give anything by mouth to an unconscious person.

IF IN EYES:

- * Hold eye open and rinse slowly and gently with water for 15-20 minutes.
- * Remove contact lenses, if present, after the first 5 minutes; then continue rinsing eye.
- * Call a poison control center or doctor for treatment advice.

IF INHALED:

- * Move person to fresh air.
- * If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably mouth-to-mouth if possible.
- * Call a poison control center or doctor for further treatment advice.

IF ON SKIN OR CLOTHING:

- * Take off contaminated clothing.
- * Rinse skin immediately with plenty of water for 15-20 minutes.
- * Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact PROSAR at 1-877-250-9291 for emergency medical treatment information.

For additional precautionary, handling and use statements, see inside this booklet.



MANA

Manufactured for:

**Makhteshim Agan
of North America, Inc.**
3120 Highwoods Blvd
Suite 100
Raleigh, NC 27604

EPA 041012/Notif 061812/Rev A

S2359A/07

Net Contents: 2.5 Gallons

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

CAUTION

Harmful if swallowed, absorbed through skin, or inhaled. Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing. Do not breathe vapor or spray mist. Remove contaminated clothing and wash clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

ENVIRONMENTAL HAZARDS

Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. Drift and runoff may be hazardous to aquatic organisms in neighboring areas. Do not apply where runoff is likely to occur. Do not apply when weather conditions favor drift from treated areas.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- * Long-sleeved shirt and long pants
- * Shoes plus socks
- * Chemical-resistant gloves made of waterproof materials such as butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, or neoprene rubber ≥ 14 mils

In addition, mixers and loaders supporting aerial applications must wear:

- * Chemical-resistant apron
- * Any NIOSH approved particulate filter respirator with the approval number prefix TC-84A.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

ENGINEERING CONTROL STATEMENTS: When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users should:

- * Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- * Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- * Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours for cotton. Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- * Coveralls
- * Chemical-resistant gloves made of waterproof materials such as butyl rubber \geq 14 mils, nitrile rubber \geq 14 mils, or neoprene rubber \geq 14 mils
- * Shoes plus socks

FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN CROP INJURY, POOR PERFORMANCE, AND/OR ILLEGAL RESIDUES.

CHEMIGATION STATEMENT

Refer to the section entitled APPLICATION THROUGH IRRIGATION SYSTEMS - CHEMIGATION for use directions for chemigation. Do not apply this product through any irrigation system unless the instructions for chemigation are followed.

PRODUCT INFORMATION

Cotton Pro® is a selective herbicide that may be applied either before or after weeds emerge for control of most annual broadleaf weeds and grasses including groundcherry, lambsquarters, annual morningglory, malva, mustard, black nightshade, pigweed (carelessweed), purslane, Florida pusley, ragweed, smartweed, teaweed (prickly sida), barnyardgrass (watergrass), crabgrass, foxtail, goosegrass, junglerice, *Panicum spp.* signalgrass, (and other *Brachiaria spp.*), and wild oats. Cotton Pro also controls shallow germinating seedlings of cocklebur, coffeeweed, and sandbur. Cotton Pro will also provide partial control of spurred anoda (cottonweed), rough blackfoot (ironweed, cluster flaveria), and prairie sunflower in NM and western TX. Cotton Pro does not control johnsongrass, bermudagrass, other established perennials, or sprangletop at selective rates.

When applied before weeds emerge, Cotton Pro enters weeds through their roots. Thus, its effectiveness depends on moisture to move it into the soil. Under very dry soil conditions after application, a shallow cultivation or rotary hoeing will generally result in better weed control.

When applied to emerged weeds, Cotton Pro provides foliar knockdown and/or residual control of later germinating weeds depending on the rate applied.

Resistance Management

Cotton Pro is a Group 5 herbicide. Any weed population may contain or develop plants naturally resistant to Cotton Pro and other Group 5 herbicides. Weed species with acquired resistance to Group 5 may eventually dominate the weed population if Group 5 herbicides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by Cotton Pro or other Group 5 herbicides.

To delay herbicide resistance, consider:

- * Avoid the consecutive use of Cotton Pro or other target site of action Group 5 herbicides that have a similar target site of action on the same weed species.
- * Using tank-mixtures or premixes with herbicides from different target site of action Groups as long as the involved products are all registered for the same use, have different sites of action, and are both effective at the tank mix or premix rate on the weed(s) of concern.
- * Basing herbicide use on a comprehensive IPM program.
- * Monitoring treated weed populations for loss of field efficacy.
- * Contacting your local extension specialist, certified crop advisor, and/or manufacturer for herbicide resistance management and/or integrated weed management recommendations for specific crops and resistant weed biotypes.

To avoid spray drift, do not apply under windy conditions. Avoid spray overlap as crop injury may result.

When an adjuvant is to be used with this product, Makhteshim Agan of North America, Inc. suggests the use of a Chemical Producers and Distributors Association certified adjuvant.

APPLICATION PROCEDURES

GROUND APPLICATION

Use conventional ground sprayers equipped with hydraulic or mechanical agitation except in Arizona and California where only mechanical agitators are recommended.

Calibrate sprayer before use and recalibrate at the start of each season and when changing carriers. Unless otherwise specified, use a minimum of 10 gallons of spray mixture per acre for all preplant incorporated, preemergence, and postemergence applications (with or without surfactant) with ground equipment.

Use a pump with capacity to: (1) maintain 35-40 psi at nozzles; and (2) provide sufficient agitation in tank to keep mixture in suspension. A centrifugal pump which provides propeller shear action is recommended for dispersing and mixing this product. The pump should provide a minimum of 20 gallons/minute/100 gallons tank size circulated through a correctly positioned sparger tube or jets.

For preplant incorporated or preemergence application, use flat fan nozzle tips. For postemergence band application, use drop extraction tubes off-center nozzle tips. For preplant and postemergence broadcast application, use flat fan or off-center nozzle tips. Use flood nozzle tips only in Arizona and California for lay-by treatment in cotton at least 18 inches tall.

Use screens to protect the pump and to prevent nozzles from clogging. Screens placed on the suction side of the pump should be 16-mesh or coarser. Do not place a screen in the recirculation line. Use 50-mesh or coarser screens between the pump and boom, and where required, at the nozzles. Check nozzle manufacturer's recommendations.

For band applications, calculate amount to be applied per acre as follows:

Band width in inches X Broadcast rate per acre = Amount needed per acre of field
Row spacing in inches

AERIAL APPLICATION (PREPLANT, PREEMERGENCE, AND WINTER WEED CONTROL)

Use aerial application only where broadcast applications are specified. Use a minimum of 3 gallons of spray mixture per acre. Avoid applications under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur. Do not use aerial application postemergence.

Avoid application to humans or animals. Flagmen and loaders should avoid inhalation of spray mist and prolonged contact with skin.

To assure that spray will be controllable within the target area when used according to label directions, make applications at a maximum height of 10 feet above vegetation, using low-drift nozzles at a maximum pressure of 40 psi, and restrict application to periods when wind speed does not exceed 10 mph. To assure that spray will not adversely affect adjacent sensitive nontarget plants, apply Cotton Pro by aircraft at a minimum upwind distance of 400 feet from sensitive plants. Avoid spray overlap as injury may occur.

AERIAL SPRAY DRIFT MANAGEMENT

- * Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions regarding spraying.
- * The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
- * Nozzles must always point backward parallel with the air stream and never be pointed downward more than 45 degrees.

AERIAL DRIFT ADVISORY INFORMATION

Information on Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential but will not prevent drift if applications are made improperly or under unfavorable environmental conditions (see **WIND, TEMPERATURE and HUMIDITY**, and **TEMPERATURE INVERSIONS** sections).

CONTROLLING DROPLET SIZE

- * **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- * **Pressure** - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- * **Number of nozzles** - Use the minimum number of nozzles that provide uniform coverage.

- * **Nozzle Orientation** - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- * **Nozzle Type** - Use a nozzle-type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

APPLICATION HEIGHT

Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is recommended for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

SWATH ADJUSTMENT

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller drops, etc.).

WIND

Drift potential is lowest between wind speeds of 2-10 mph. However, many factors including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns.

TEMPERATURE AND HUMIDITY

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

TEMPERATURE INVERSIONS

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small, suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

SENSITIVE AREAS

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

MIXING PROCEDURES

1. Be sure sprayer is clean and not contaminated with any other materials or crop injury or sprayer clogging may result.
2. Fill tank 1/4 full with clean water.
3. Start agitation.
4. Be certain that the agitation system is working properly and creates a rippling or rolling action on the liquid surface.

5. Pour product directly from container into partially filled spray tank.
6. Continue filling tank until 90% full. Increase agitation if necessary to maintain surface action.
7. Add tank mix herbicide(s).

CLEANING

Wash sprayer thoroughly with clean water immediately after use. Do not use the same sprayer without thoroughly cleaning on sensitive crops, as even small residues of Cotton Pro in the tank may cause injury to these crops.

SEEDBED PREPARATION

To ensure proper placement of Cotton Pro, seedbeds must be well prepared and as free as possible from trash and clods. A firm seedbed is best for obtaining effective weed control. Uniformity in height and width of seedbed is essential for proper postemergence applications of Cotton Pro. Beds should be low and flat. Take care to avoid planter marks. Wide planter packing wheels or rollers are recommended. Wheel furrows should be uniform in depth. Mount the sprayer so that it follows the same rows as the planter.

COTTON-COTTON PRO ALONE

Cotton Pro may be applied preplant, preplant incorporated (Arizona, California, and New Mexico), or preemergence and/or postemergence as directed in the following tables. The postemergence applications may follow preplant incorporated or preemergence treatments of Cotton Pro.

Do not use on glandless cotton varieties or crop injury will occur.

NOTE: Do not feed treated forage to livestock or graze treated areas or illegal residues may result.

A. PREPLANT

Apply before planting at the appropriate rate in Table A. Cotton Pro may be used in field prior to planting cotton planted flat, on beds, or in furrows. To avoid concentration of Cotton Pro in the seed furrow, do not make broadcast applications to fields to be planted to cotton in furrows deeper than 2 inches. Band applications may be made to fields to be planted to cotton in furrows deeper than 2 inches, but band width should not exceed the width of the bottom of the furrow. If banded, do not cover treated bands with soil while cultivating untreated row middles. Cotton may be planted in soil previously treated with Cotton Pro.

Do not use on sand or loamy sand or shallow soils with caliche subsoils or in areas with caliche outcroppings.

Rainfall or irrigation is needed following application to obtain weed control.

Table A: Preplant

Region	Soil Texture	Broadcast Rate Per Acre
Mid-South & Southeast other than Mississippi River Delta in MS	Sandy loam	3.2-4 pts.
	Silt and Clay loam	4.8 pts.
	Sharkey clay	DO NOT USE
Mississippi River Delta in MS	Sandy loam	4-4.8 pts.
	Silt and Clay loam	5.6 pts.
	Sharkey clay	DO NOT USE
Blacklands of OK & TX, TX Gulf Coast & TX Coastal Bend	Loam	2.4 pts.
	Clay	4.8 pts.
Rio Grande Valley of TX*	Loam	3.2 pts.
	Clay	4.8 pts.
High Plains, Rolling Plains and Edwards Plateau of TX, Southwest TX and NM	Sandy, Loamy sand	DO NOT USE
	Sandy loam	1.6 pts.
	Loam, Sandy clay loam	2.4 pts.
	Other clay soils	3.2 pts.
AZ and CA	DO NOT USE	

***Rio Grande Valley of TX**-Furrow irrigation cotton-If adequate rain does not fall soon after application, a shallow cultivation will improve weed control.

Precautions: If aerially applied, avoid spray overlap as crop injury may result. Apply either as a preplant or preemergence (not both). If tank mixed, follow precautions and label directions for use rates of product to be tank mixed.

B. PREPLANT INCORPORATION (Arizona, California, and New Mexico)

Apply Cotton Pro at the appropriate rate shown in Table 1 as a broadcast or band treatment. If broadcast, treat the flat soil surface prior to listing. If banded, apply over partially finished or finished beds. Incorporate up to 4 inches deep immediately after application with PTO-driven equipment, double disk, rolling cultivator, rolling cultivators in tandem, or bed conditioner.

Table 1: Preplant Incorporation

Region	Soil Texture	Broadcast Rate Per Acre
AZ, CA, and NM	Sand, Loamy sand	DO NOT USE
	Silt loam, Clay	4.8 pts.
AZ and CA only	Sandy loam	2.4-3.2 pts.
NM only	Sandy loam, Loams	3.2 pts.

*Restrictions: To avoid crop injury; (1) Do not use Cotton Pro in cut areas of newly leveled fields, in areas of excess salt, or in areas where flooding over the beds is likely to occur. (2) Do not plant cotton in tractor wheel depressions. (3) On mulch planted cotton, water back only after cotton seedlings are well established. (4) In NM, apply either preplant incorporated or preemergence (not both)-see **PREEMERGENCE** section. (5) In CA, do not incorporate with straight-tined bed mulchers/conditioners. (6) Avoid spray overlap if aerially applied.*

C. PREEMERGENCE

Apply at planting or shortly after planting at the appropriate rate shown in Table 2. Cotton Pro may be used on cotton planted flat, on beds, or in furrows. To avoid concentration of Cotton Pro in the seed furrow, do not make broadcast applications to cotton planted in furrows deeper than 2 inches. Band applications may be made to cotton planted in furrows deeper than 2 inches, but band-width should not exceed the width of the bottom of the furrow. If banded, do not cover treated bands with soil while cultivating untreated row middles. To avoid crop injury, do not use on sand or loamy sand, on shallow soils with caliche subsoils, or in areas with caliche outcroppings.

Rainfall or irrigation is needed following preemergence application to obtain weed control. Cotton may be replanted in soil previously treated with Cotton Pro. Do not apply a second preemergence application of Cotton Pro as injury may occur.

Table 2: Preemergence

Region	Soil Texture	Broadcast Rate Per Acre
Mid-South & Southeast other than Mississippi River Delta in MS	Sandy loam	3.2-4 pts.
	Silt and Clay loam	4.8 pts.
	Sharkey clay	5.6 pts.
Mississippi River Delta in MS	Sandy loam	4-4.8 pts.
	Silt and Clay loam	5.6 pts.
	Sharkey clay	DO NOT USE
Blacklands of OK & TX, TX Gulf Coast & TX Coastal Bend	Loam	2.4 pts.
	Clay	4.8 pts.
Rio Grande Valley of TX*	Loam	3.2 pts.
	Clay	4.8 pts.
High Plains, Rolling Plains and Edwards Plateau of TX, Southwest TX and NM**	Sand, Loamy sand	DO NOT USE
	Sandy loam	1.6 pts.
	Loam, Sandy clay loam	2.4 pts.
	Other clay soils	3.2 pts.
AZ and CA	DO NOT USE	

***Rio Grande Valley of TX**-Furrow irrigation cotton-If adequate rain does not fall soon after application, a shallow cultivation will improve weed control.

****NM**-Apply either preplant incorporated or preemergence (not both) - see **PREPLANT INCORPORATION** section.

Precautions: If aerially applied, avoid spray overlap as crop injury may result. If tank mixed, follow precautions and label directions for use rates of product to be tank mixed.

D. WINTER WEED CONTROL

Winter and Early Spring Weed Control in AL, AR, LA, MO, MS, and TN

For control of winter and early spring germinating annual weeds (including henbit, common chickweed, sibara, and Palmer amaranth), apply 1.5-2 pts. of Cotton Pro after bedding (e.g. stale seedbed) from November 1 until 30 days before planting cotton. Use the 2.0 pts./A rate for applications made in November or December. Use the 1.5 pts./A rate for applications made from January 1 to 30 days before cotton planting. Applications may be made before or after weeds emerge. For control of emerged weeds, preferably less than 2 inches in height, add a suitable and

approved crop oil concentrate or surfactant according to its label. In the event weeds exceed 2 inches in height at the time of treatment, apply Cotton Pro in tank mixture with a contact herbicide (e.g. Gramoxone® Extra or Roundup®). Refer to the label of the contact herbicide for rates of application, additives, and for weed height restrictions at time of application.

After applying Cotton Pro, do not mechanically till the seedbed prior to the cotton planting process as this will encourage germination of weed seeds.

Follow with a preemergence herbicide program for cotton. In the event that a subsequent application of Cotton Pro is made, do not exceed the total rate of Cotton Pro that may be applied to a single cotton crop.

Winter Weed Control In Texas

For control of winter weeds only, such as henbit (purpletop) and seedling dock on fall bedded cotton land in the TX Gulf Coast and Blacklands of TX, apply 1.2-1.6 pts. of Cotton Pro per acre in the fall or winter to land that will be planted to cotton the following spring. For best results, apply before weeds emerge. Cotton Pro will give effective control of emerged henbit if applied before it reaches 4-6 inches tall. For postemergence henbit control, add a suitable surfactant such as X-77® at 0.5% of spray volume or an emulsifiable oil at 1.0% of spray volume.

Winter Weed Control In California

For control of winter weeds on fall bedded cotton land, apply Cotton Pro after bedding either preemergence or postemergence to weeds less than 2 inches tall. Winter weeds controlled include:

Chickweed	Filarees	Mustards	Redmaids	Sowthistle, Annual
Fiddleneck	London Rocket	Pineappleweed	Shepherdspurse	

On sandy loam soil, apply 3.2 pts./A; on medium or fine soil, apply 4 pts./A. To avoid crop injury, do not use on sand or loamy sand. For postemergence weed control, add a suitable surfactant such as X-77 at 0.5% of spray volume or an emulsifiable oil at 1.0% of spray volume. Rainfall or sprinkler irrigation is necessary to activate the preemergence activity of Cotton Pro.

After preplant-irrigation and before planting in the spring, knock off the top 1/3 - 1/2 of the seedbed. Then make a preplant application of Cotton Pro over the surface of the seedbed using a power-tiller, rolling cultivator, or similar implement that will provide uniform incorporation. Refer to Table 1 for preplant incorporation rates of Cotton Pro in CA. To avoid crop injury, do not cultivate treated soil back toward the cotton until after cotton emergence and just before the first irrigation.

Precautions: Allow a minimum of 21 days between fallow application and preemergence application of Cotton Pro or other herbicides with similar chemistry such as Caparol® (prometryn), Cotoran® (fluometuron), or diuron. Treatment intervals of less than 21 days can cause crop injury. To avoid crop injury, do not use Cotton Pro for winter weed control in areas of excess salt or calcareous soil. If aerially applied, avoid spray overlap as crop injury may result.

E. POSTEMERGENCE-DIRECTED

Be especially careful when applying Cotton Pro postemergence to prevent contact of the spray with cotton leaves or injury may occur. Use precision application equipment so the spray is accurately directed to the base of the cotton plants and still thoroughly covers the soil and weeds beneath the cotton plants. Apply during calm periods to prevent drift. Use leaf lifters or shields if leaf contact cannot be avoided merely by directing the spray. Apply only when all cotton plants have exceeded the minimum recommended height shown in Tables 3 and 4. Apply to level, well-prepared surfaces such as relatively clod-free beds made with bed-shapers.

To avoid crop injury, do not apply to furrow-planted cotton until furrows are leveled (plowed in). Do not treat cotton under stress from drought, cultivator damage, or fertilizer application.

When applying to emerged weeds, add 2 qts. of surfactant per 100 gals. of spray mixture. Use a surfactant that is compatible with Cotton Pro when applied in cotton and is approved by EPA for use on food and feed crops. Examples include X-77, Tronic, and Triton.

Restriction: Do not apply aerially.

Chemical Hoe (Emerged Weeds Only): Apply Cotton Pro at the appropriate rate in Table 3, two or three times if necessary. In cotton 3-6 inches tall, be extremely careful to avoid spray contact with cotton leaves by applying Cotton Pro with a precision applicator equipped with fenders or shields, such as Bell Row Shield, Dickey Fenders, or W&A Fenders. In cotton less than 10 inches tall, apply only if cotton is bed or flat-planted. Do not apply aerially.

Table 3: Chemical Hoe

Height of Cotton and Area of Use	Height of Weeds	Broadcast Rate Per Acre*
3 to 6 inches (AR, LA, MO, MS, TN, and TX)	less than 1 inch	1 pt.
6 or more inches (All regions)	less than 2 inches	1-1.3 pts.

*Adjust appropriately for treatment band width; never apply Cotton Pro over-the-top or in such a manner as to contact cotton foliage as injury may occur.

Lay-by (Emerged Weeds and Germinating Weeds): Apply Cotton Pro at the appropriate rate in Table 4, once per season when cotton is at least 12 inches tall (18 inches where flood nozzles are used in Arizona and California). Apply before weeds are 2 inches tall.

Table 4: Lay-by (Cotton at least 12 inches tall)

Region	Soil Texture	Broadcast Rate Per Acre*
Mid-South and Southeast	Sandy	2.4 pts.
	Loam	2.8 pts.
	Clay	3.2 pts.
Blacklands of OK and TX	Loam	1.6 pts.
	Clay	3.2 pts.
High Plains of NM and TX	Sandy	1.6 pts.
	Loam and Clay	2.4 pts.
Southwest TX	Loam	2.4 pts.
	Clay	3.2 pts.
Rio Grande Valley of TX	DO NOT USE	
AZ and CA (Do not use in the Coachella Valley)	Sand and Loamy sand	DO NOT USE
	Sandy loam	2.4-3.2 pts.
	Loam	3.2 pts.

*Adjust appropriately for treatment band width; never apply Cotton Pro over-the-top or in such a manner as to contact cotton foliage as injury may occur. Do not apply aerially.

Rotational Crops: The following vegetable and cover crops may be planted in the fall when Cotton Pro was applied on cotton by no more than one of these methods that year: preplant incorporated, preemergence, or only one chemical hoe treatment. Where lay-by or multiple applications are made, do not plant rotational crops until the following year as indicated.

Vegetables

Cabbage, okra, peas, and sweet corn

Onions and red beets may not be planted within 8 months of applying Cotton Pro.

Cover Crops (must be plowed down and not used for food or feed)

Oats, sorghum, winter barley, winter rye, winter wheat

Spring-seeded crops in AZ and CA and spring-seeded vegetables in the Rio Grande Valley of TX should not be planted until after April 1.

COTTON PRO COMBINATIONS FOR COTTON

PROWL® 3.3 EC (AZ, CA, NM, AND THE UPPER AND LOWER EL PASO VALLEY OF TX)

This preplant incorporated tank mixture controls all weeds listed on this label and on the Prowl cotton label. Apply prior to listing or over partially finished or finished beds and incorporate immediately. Refer to the Prowl 3.3 EC label for specific mixing, spraying, and incorporation methods. Continuous agitation in the spray tank is required to keep the material in suspension.

Apply the tank mixture at the appropriate rates from Table 5.

Table 5: Preplant Incorporated Tank Mixture with Prowl 3.3 EC

Soil Texture	Broadcast Rate Per Acre	
	Prowl 3.3 EC	Cotton Pro
Sand, Loamy sand	DO NOT USE	
Sandy loam	1-1.5 pts.	2.4-3.2 pts.
Loam	1.5-2 pts.	3.2 pts.
Silt loam, Silt, Sandy clay loam	1.5-2 pts.	3.2-4.8 pts.
Clay loam, Silty clay loam, Clay	1.5-3 pts.	3.2-4.8 pts.

Use the high rate for each soil texture above if heavy weed populations are anticipated. Use the 3 pt. rate of Prowl 3.3 EC for heavy clay soils.

Restrictions: To avoid crop injury; (1) Do not use in cut areas of newly leveled fields, in areas of excess salt, or in areas where flooding over the bed is likely to occur. (2) Do not plant cotton in tractor wheel depressions. (3) Do not use this tank mixture when cotton is irrigated up. (4) On mulch planted cotton, water back only after cotton seedlings are well established.

Note: Do not feed treated forage to livestock or graze treated areas or illegal residues may result.

Rotational Crops: If crop treated with Cotton Pro and Prowl 3.3 EC is lost, cotton may be replanted. Do not rework the soil. Refer to the Prowl label and the **COTTON** section of this label for rotational crop restrictions.

TRIFLURALIN TANK MIXTURE (AZ, CA, NM, AND THE UPPER AND LOWER EL PASO VALLEY OF TX)

This combination controls weeds listed on this label and on Trifluralin HFP labels. This combination also controls

shallow-germinating seedlings of cocklebur and coffeeweed.

Follow procedures on the Trifluralin HFP labels for soil preparation and incorporation. Apply the tank mix combination to the flat soil before disking.

Pour Cotton Pro directly into spray tank 1/2 - 3/4 full of water, allow it to disperse with agitation, add Trifluralin HFP, and then add the rest of the water. Under conditions of very soft water and low spray volume (5-10 gals./A) compatibility of Cotton Pro + Trifluralin HFP may be improved by adding the Trifluralin HFP first, agitate, and then add the Cotton Pro. Continuous agitation in the spray tank is required to keep the material in suspension. Apply the tank mixture at the appropriate rates from Table 6.

Table 6: Tank Mixture with Trifluralin HFP

Soil Texture	Broadcast Rate Per Acre	
	Trifluralin HFP	Cotton Pro
Sand, Loamy sand	DO NOT USE	
Sandy loam	1 pt.	2.4-3.2 pts.*
Medium soils	1.5 pts.	4 pts.
Fine soils	2 pts.	4 pts.
Muck or Peat	DO NOT USE	

*Use less than 3.2 pts./A only in AZ and CA

Restrictions: To avoid crop injury; (1) Do not use in cut areas of newly leveled fields, in areas of excess salt, or in areas where flooding over the bed is likely to occur. (2) Do not plant cotton in tractor wheel depressions. (3) On mulch planted cotton, water back only after cotton seedlings are well established.

Note: Do not feed treated forage to livestock or graze treated areas or illegal residues may result.

Rotational Crops: Cabbage, okra, and peas may be planted in the fall after a spring application of Trifluralin HFP + Cotton Pro. Onions and red beets may not be planted within 8 months of applying Cotton Pro. Winter barley, rye, and wheat can be planted in the fall if they are plowed down and not used for food or feed. Refer to the Trifluralin HFP label for other directions and precautions.

Trifluralin HFP Split Application (AZ and CA)

Apply a preplant incorporated application of Trifluralin HFP as directed on that label, except use the appropriate rate from Table 6. Do not apply Trifluralin HFP before January 1. Follow at planting or just before planting with a preplant incorporated treatment of Cotton Pro as directed in the **COTTON** section of this label, except use the appropriate rate from Table 6.

MSMA

For faster knockdown of emerged weeds controlled by Cotton Pro alone, apply 1-1.3 pts. of Cotton Pro plus 2 lbs. active ingredient of MSMA per acre, following the same directions, precautions, and limitations as given on this label for Cotton Pro applied alone postemergence-directed (chemical hoe). Do not apply after first bloom.

Several formulations of MSMA are available under various trade names for several manufacturers. Observe the directions, limitations, and precautions on the label of the product used.

COTTON WITH THE ROUNDUP READY® GENE

A. Postemergence-Directed Applications to Cotton 6 Inches Tall up to Lay-by (Not for Use in CA or AZ)

To control weeds listed on the Cotton Pro label, apply Cotton Pro at 1-1.3 pts./A tank mixed with the labeled rate of Roundup Ultra® to cotton with the Roundup Ready gene once the cotton is 6 inches tall or taller and weeds to be controlled by Cotton Pro are less than 2 inches tall. Applications must be made with a shielded or hooded sprayer to avoid contact of the spray to cotton leaves. Spray which contacts cotton leaves may cause injury. Do not apply to cotton planted in furrows. Apply during calm periods to prevent drift. Do not use on sand or loamy sand soils in CA, AZ, or in Gaines County, TX. Do not use in the Coachella Valley of CA.

Refer to the Roundup Ultra label for further restrictions, precautions, and limitations.

B. Postemergence-Directed Applications to Cotton at Lay-by (12 Inches or Taller)

To control weeds listed on the Cotton Pro label, apply Cotton Pro tank mixed with Roundup Ultra at the appropriate rate as shown in Table 4. Lay-by to cotton with the Roundup Ready gene once the cotton is 12 inches tall or taller, and weeds to be controlled by Cotton Pro are less than 2 inches tall. Applications must be made with a shielded or hooded sprayer to avoid contact of the spray to cotton leaves. Spray which contacts cotton leaves may cause injury. Apply during calm periods to prevent drift. Do not use on sand or loamy sand soils in Gaines County, TX.

Refer to the Roundup Ultra label for further restrictions, precautions, and limitations.

APPLICATION THROUGH IRRIGATION SYSTEMS – CHEMIGATION FOR PREEMERGENCE APPLICATION TO COTTON

Apply this product only through sprinkler, including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set irrigation systems. Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.

If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

CHEMIGATION SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS

If the chemigation system is connected to a public water supply, the following conditions must also be met:

- * Public water systems means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- * Chemigation systems connected to public water systems must contain a functional reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from a point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- * The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on

the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

- * The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- * Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- * Upon completion of herbicide application, remove scale, pesticide residues, and other foreign matter from the supply tank and entire injector system. Flush thoroughly with clean water.

SPRINKLER CHEMIGATION

To apply a pesticide using sprinkler chemigation, the chemigation system must meet the following specifications:

- * The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- * The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- * The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- * The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- * The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- * Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- * Do not apply when wind speed favors drift beyond the area intended for treatment.

APPLICATION PROCEDURES

- * Mix in clean supply tank the directed amount of this product for acreage to be covered and needed quantity of water.
- * This product should not be tank mixed with other pesticides, surfactants, or fertilizers unless prior use has shown the combination noninjurious under your conditions of use.
- * Follow precautionary statements and directions for all tank mix products.
- * Provide constant mechanical agitation in supply tank to keep this product suspended throughout application operations.
- * Use sufficient water to obtain thorough and uniform coverage, but not cause runoff or excessive leaching. This will vary depending on equipment, pest problem, and stage of crop growth. Application of more or less than optimal quantity of water may result in decreased chemical performance, crop injury, or illegal pesticide residues.
- * Meter this product into the irrigation water uniformly during the period of operation.
- * Do not overlap application. Follow directed label rates, application timing, and other directions, precautions, and restrictions for crop being treated.
- * If sprinkler irrigation is intended to replace incorporation, use sufficient water to activate herbicide. The exact amount is highly dependent on moisture conditions and soil type, however 1/4 to 1/2 acre inch may be appropriate as a starting point. Pre-irrigation may be beneficial under dry conditions. Additional irrigation may be needed following application if rainfall is scant.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Store in original container, tightly closed, in a safe place.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of unused pesticide, spray mixture, or rinse water is a violation of federal law. If these wastes cannot be used according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance in proper disposal methods.

CONTAINER DISPOSAL:

Nonrefillable Container (five gallons or less): Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

LIMITATION OF WARRANTY AND LIABILITY

Read the entire directions for use, conditions of warranties and limitations of liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following **CONDITIONS, DISCLAIMER OF WARRANTIES** and **LIMITATIONS OF LIABILITY**.

CONDITIONS: The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Makhteshim Agan of North America, Inc. All such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: To the extent consistent with applicable law, Makhteshim Agan of North America, Inc. makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond the statements made on this label. No agent of Makhteshim Agan of North America, Inc. is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, Makhteshim Agan of North America, Inc. disclaims any liability whatsoever for special, incidental or consequential damages resulting from the use or handling of this product.

LIMITATIONS OF LIABILITY: To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use or handling of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid or at Makhteshim Agan of North America, Inc.'s election, the replacement of product.

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