



Mamba is a Selective, Broad-spectrum Emulsifiable Concentrate Herbicide For Use on Soybeans, Cotton, Peanuts, Conifer Seedlings, Conifer Nurseries and Kenaf.

ACTIVE INGREDIENT:	By Wt.
Lactofen: 2-ethoxy-1-methyl-2-oxoethyl 5-[2-chloro-4-(trifluoromethyl)phenoxy]-2-nitrobenzoate	. 24.0%
OTHER INGREDIENTS:	. 76.0%
TOTAL:	. 100.0%
1 gallon contains 2 pounds of active ingredient.	

Contains petroleum distillates. **EPA Reg. No.: 91234-169** 

# KEEP OUT OF REACH OF CHILDREN CAUTION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand this label, find someone to explain it to you in detail.)

See below for additional Precautionary Statements.

# **FIRST AID**

If swallowed: • Immediately call a poison control center or doctor. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give any liquid to the person. • Do not give anything by mouth to an unconscious person. 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.

# **HOT LINE NUMBER**

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact SafetyCall at 1-844-685-9173 for emergency medical treatment information.

# **NOTE TO PHYSICIAN**

Contains petroleum distillate. Vomiting may cause aspiration pneumonia.

For Chemical Emergency: Spill, Leak, Fire, Exposure, or Accident,
Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 or +1 703-527-3887 (collect calls accepted)



# PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION:** Harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Avoid contact with skin or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. This product contains lactofen, which has been determined to cause tumors in laboratory animals (mouse, rat). Risks can be reduced by closely following use directions and precautions, and by wearing the protective clothing specified elsewhere on this label.

# PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, including Barrier Laminate, Butyl Rubber ≥ 14 mils, Nitrile Rubber ≥ 14 mils, or Viton ≥ 14 mils
- Shoes plus socks

When mixing and loading, wear chemical-resistant apron. For overhead exposure wear chemical-resistant headgear. When cleaning equipment wear a chemical-resistant apron.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. DO NOT reuse them.

### **USER SAFETY REQUIREMENTS**

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

#### **USER SAFETY RECOMMENDATIONS**

#### **Users should:**

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove clothing/PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

#### **ENVIRONMENTAL HAZARDS**

This pesticide is toxic to fish. **DO NOT** apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. **DO NOT** contaminate water by cleaning of equipment or disposal of waste. **DO NOT** apply when weather conditions favor drift from target area.

# **Groundwater Advisory**

This chemical (lactofen) has properties and characteristics associated with chemicals detected in groundwater. Acifluorfen, a degradate of this chemical, is known to leach through soil into groundwater under certain conditions as a result of labeled use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

# PHYSICAL OR CHEMICAL HAZARDS

**DO NOT** mix or allow in contact with oxidizing agents. Hazardous chemical reaction may occur.

# **DIRECTIONS FOR USE**

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS. **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 the statements on this label about personal protective equipment (PPE), notification to workers, 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 early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, including plants, soil, or water, is: coveralls, chemical-resistant gloves, including Barrier Laminate or Viton  $\geq$  14 mils, and shoes plus socks.

#### **WEED RESISTANCE MANAGEMENT**

For resistance management, **Mamba** is a Group 14 herbicide. Any weed population may contain or develop plants naturally resistant to **Mamba** and other Group 14 herbicides. Weed species with acquired resistance to Group 14 herbicides may eventually dominate the weed population if Group 14 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 **Mamba** or other Group 14 herbicides. Users should scout before and after application.

Suspected herbicide-resistant weeds may be identified by these indicators:

- Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
- A spreading patch of non-controlled plants of a particular weed species; and
- Surviving plants mixed with controlled individuals of the same species.

To delay herbicide resistance:

- Avoid the consecutive use of Mamba or other target site of action Group 14 herbicides that might have a similar target site of action, on the same weed species.
- Use 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 prepack rate on the weed(s) of concern (an herbicide mode of action classification by itself may not adequately address specific weeds that are resistant to specific herbicides).
- Base herbicide use on a comprehensive Integrated Pest Management (IPM) program.
- Scout fields prior to application to identify the weed species present and their growth state to determine if the intended application will be effective.
- Scout fields after application to verify that the treatment was effective.
- Contact your local extension specialist, certified crop advisors and/or manufacturer for herbicide resistance management and/or integrated weed management recommendations for specific crops and resistant weed biotypes.

Report any incidence of non-performance of this product against a particular weed species to your Atticus, LLC retailer, representative or call 984-465-4754. If resistance is suspected, treat weed escapes with an herbicide having a different mechanism of action and/or use non-chemicals means to remove escapes, as practical, with the goal of preventing further seed production.



#### MANDATORY SPRAY DRIFT

#### **Aerial Applications**

- DO NOT release spray at a height greater than 10 feet above the vegetative canopy, unless a greater application height is necessary for pilot safety.
- For all applications, applicators are required to use a medium or coarser spray droplet size (ASABE S572.1).
- The boom length must not exceed 65% of the wingspan for airplanes or 75% of the rotor blade diameter for helicopters.
- Applicators must use 1/2 swath displacement upwind at the downwind edge of the field.
- Nozzles must be oriented so the spray is directed toward the back of the aircraft.
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.
- DO NOT apply during temperature inversions.

#### **Ground Applications**

- Apply with the nozzle height recommended by the manufacturer, but no more than 3 feet above the ground or crop canopy.
- For all applications, applicators are required to use a medium or coarser spray droplet size (ASABE S572.1).
- DO NOT apply when wind speeds exceed 10 miles per hour at the application site.
- DO NOT apply during temperature inversions.

# **Boom-less Ground Applications**

- Applicators are required to use a medium or coarser droplet size (ASABE S572.1) for all applications.
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.
- DO NOT apply during temperature inversions.

# **Spray Drift Advisories**

- THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.
- BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.
- IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size - Ground Boom

- Volume Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle Use a spray nozzle that is designed for the intended application.
   Consider using nozzles designed to reduce drift.

Controlling Droplet Size - Aircraft

- Adjust Nozzles Follow nozzle manufacturers recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.
- BOOM HEIGHT Ground Boom

Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.

#### RELEASE HEIGHT - Aircraft

Higher release heights increase the potential for spray drift. When applying aerially to crops, **DO NOT** release spray at a height greater than 10 feet above the crop canopy, unless a greater application height is necessary for pilot safety.

#### SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

#### TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

#### TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the 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. Avoid applications during temperature inversions.

#### • WIND

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.

Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

Boom-less Ground Applications:

Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

Handheld Technology Applications:

Take precautions to minimize spray drift.

# **Carrier Volume and Spray Pressure**

Use a minimum of 10 gallons of water per acre and a minimum spray pressure of 40 PSI measured at the boom. **Mamba** is a contact herbicide that requires coverage for optimal control, and when targeting weeds at the maximum labeled growth stage at application, 20 gallons of water per acre is advised.

#### **BUFFER RESTRICTIONS**

- DO NOT apply this product, including by air, within 200 feet of non-target plants including non-target crops.
- DO NOT apply this product by air within 200 feet of emerged cotton crops.
- DO NOT apply this product, including by air, within 200 feet of streams, wetlands, marshes, ponds, lakes and reservoirs.

#### **Adjuvants and Drift Control Additives:**

Drift control additives are not advised with Mamba.

#### **ROTATIONAL CROP INTERVALS**

There are no rotational crop restrictions for this product.

#### PRODUCT APPLICATION INSTRUCTIONS

**Mamba** works primarily through contact action. Good coverage of young, actively growing weeds is essential for maximum weed control. The use of a spray adjuvant is usually required and for specific directions, refer to the section of this label titled **ADJUVANTS AND ADDITIVES**.



When **Mamba** is applied post-emergence, a portion of the spray solution may contact the soil surface. If soil moisture conditions are favorable for **pre-emergence activity** following the application, suppressed germination of small-seeded broadleaf weeds, including nightshade and pigweed species (including waterhemp and Palmer amaranth) may be expected for a 2-week period at rates of 10 fluid ounces per acre (0.16 lb ai/A) or greater. Extensive crop or weed foliage at the time of application will reduce the amount of herbicide spray contacting the soil surface, and therefore reduce the amount of soil activity.

A **temporary crop response** must be expected following a post-emergence application of **Mamba**. Leaves which are open at the time of application will show some burn, bronzing and speckling. Leaves which have emerged but are unopened at the time of application may appear cupped at the tip and/or crinkled along the edges of the leaf. Labeled crops quickly outgrow all initial herbicide effects. When **Mamba** is used as directed yields will not be adversely affected.

#### RESTRICTION

• Do NOT apply this product through any type of irrigation system.

# **ENVIRONMENTAL CONDITIONS AND BIOLOGICAL PERFORMANCE**

For best results, apply to actively growing weeds within the growth stages indicated in this label. Applying under conditions that do not promote active weed growth will reduce herbicide effectiveness.

#### RESTRICTION

**DO NOT** apply **Mamba** when the crop or weeds are under stress due to drought, excessive water, extremes in temperature, disease or low humidity. This product is most effective when applied in sunny conditions at temperatures above 70°F, and weeds that are stressed are less susceptible to this product.

#### **RAINFASTNESS**

This product is rainfast 30 minutes after application. **DO NOT** apply if rain is expected within 30 minutes of application or efficacy may be reduced.

# APPLICATION AND CULTIVATION RESTRICTIONS

**DO NOT** cultivate during or prior to application of this product.

**DO NOT** cause excessive dust to occur during application as the dust may interfere with the spray solution covering the leaf surfaces.

Weed control may be helped by cultivating 6 - 8 days after application.

### **SEQUENTIAL APPLICATIONS**

A sequential application of this product may be made a minimum of 14 days after the first application.

#### **ADJUVANTS AND ADDITIVES**

The addition of an adjuvant to **Mamba** is required for post-emergence weed control. Use of a crop oil concentrate (COC), including methylated seed oils (MSO), containing at least 15% emulsifier or non-ionic surfactant containing at least 80% surfactant is advised. The addition of nitrogen (28, 30 or 32%) or ammonium sulfate, in combination with COC or non-ionic surfactant, may enhance weed control. Verify mixing and compatibility qualities by a jar test.

**Crop Oil Concentrate:** Crop oil concentrate is the preferred adjuvant with **Mamba** for weed control over a wide spectrum of application conditions. Higher levels of crop response are also observed with the use of a crop oil concentrate; however crops quickly outgrow all initial herbicide effects. The rate of crop oil concentrate will depend on the environmental conditions preceding the application and the weed size and species at the time of application. If environmental conditions are good and weeds are growing vigorously, use of the low rate of crop oil concentrate is directed. The higher rate is required when the weeds are under environmental stress including low temperature, low humidity or low soil moisture.

**Non-ionic Surfactant (NIS):** Under optimal growing conditions, and when weeds are actively growing, a NIS may be used in place of a crop oil concentrate.

#### **Drift Control Additives**

Drift control additives are not advised with Mamba.

Also refer to crop specific direction for any additional adjuvant directions.

# **Adjuvant Directions**

	Percent Relative Humidity			
Adjuvant	> 80% (High) 60 to 80% (Medium) < 60%			
Non-ionic Surfactant (NIS) or	0.25% v/v	Not Recommended	Not Recommended	
Crop Oil Concentrate (COC)/ Methylated Seed Oil (MSO)	1 pt/A	1.5 pts/A	2 pts/A	

A nitrogen source, including ammonium sulfate (2.5 lbs/A) or 28% (1 qt/A) may be added to enhance weed control.

# **DETERMINING ADJUVANT COMPATIBILITY**

Perform a jar test before mixing commercial quantities of **Mamba** when using **Mamba** for the first time, when using new adjuvants, or when a new water source is being used.

- 1. Add 1 pint of water to a quart jar. The water must be from the same source and temperature as will be used in the spray tank mixing operation.
- 2. Add 2 ml (0.4 tsp) of **Mamba** to the quart jar, gently mixing until the product dissipates.
- 3. Add 6 ml (1 tsp) of the crop oil concentrate or methylated seed oil to the quart jar, gently mix. If a non-ionic surfactant is being used in a tank mix, add 2.5 ml (0.5 tsp) of the non-ionic surfactant in place of the oil.
- 4. If nitrogen is being used, add 16 ml (1 tbsp or 0.5 oz) of the 28 to 32% nitrogen source to the quart jar. If ammonium sulfate (AMS) is being used, add 19 gm (0.04 lb) AMS to the quart jar in place of the 28 to 32% nitrogen. Add ammonium sulfate to the jar before **Mamba** in step 2.
- 5. Place cap on jar, invert 10 times, let stand for 15 minutes, evaluate.
- 6. An ideal tank mix combination will be uniform and free of suspended particles. If any of the following conditions are observed, question the choice of adjuvant:
  - a. Layer of oil or globules on the mixture's surface.
  - b. Flocculation: fine particles in suspension or as a layer on the bottom of the jar.
  - c. Clabbering: Thickening texture (coagulated) like gelatin.

#### MIXING INSTRUCTIONS

- 1. Fill spray tank with clean water 1/3 to 1/2 of desired level.
- 2. While agitating, add the required amount of **Mamba**. Agitation creates a rippling or rolling action on the water surface. If tank mixing with other labeled pesticides, add water soluble bags first, followed by dry formulation, flowables, emulsifiable concentrates and then solutions. Prepare no more spray mixture than is required for the immediate spray operation.
- 3. Add any required adjuvants.
- 4. Add any required nitrogen source, unless ammonium sulfate (AMS) is being used. If AMS is being used as the nitrogen source, add after water soluble bags and before dry pesticides.
- 5. Fill spray tank to desired level with water. Continue agitation until spray solution has been applied.
- 6. Mix only the amount of spray solution that can be applied the day of mixing. **Mamba** will remain active in the spray solution for 12 hours.

#### APPLICATION EQUIPMENT

Application equipment must be clean and in good repair. Space nozzles uniformly on boom and frequently check for accuracy. Give special attention to preparing and operating the spray equipment to assure proper coverage of weed foliage.



# **USE SITE APPLICATION INSTRUCTIONS**

# **SOYBEANS**

USE SITE	Soybeans	LOCATION	Agricultural (Uutdoor)
HOE CITE	Caubaana	LOCATION	Agricultural (Outdoor)

#### **COMMENTS**

Apply **Mamba** preplant, pre-emergence and/or post-emergence.

#### RESTRICTIONS

- **Do NOT** apply more than 25 fl oz (0.40 lb ai) per acre per year.
- Do NOT apply more than 19 fl oz/A (0.30 lb ai) pre-emergence per acre per year.
- **Do NOT** apply more than 19 fl oz/A (0.30 lb ai) in a single pre-emergence application.
- Do NOT apply more than 12.5 fl oz (0.20 lb ai/A) of this product in a single post-emergence application.
- Do NOT make more than 2 pre-emergence applications of this product per year.
- Do NOT make more than 2 post-emergence applications of this product per year.
- Do NOT apply within 45 days of harvest.
- Do NOT apply after growth stage R6 (full seed).
- The retreatment Interval is 14 days.

**NOTE: New York State Only** - Apply **Mamba** only as a post-emergence herbicide once per year, at a maximum annual application rate not to exceed 12.5 fl oz (0.20 lb ai) per acre, and not later than 90 days before harvest.

**Do NOT** graze animals on green forage or stubble.

**Do NOT** feed treated soybean silage (ensiled soybeans) to cattle.

**Do NOT** utilize hay or straw for animal feed or bedding.

PEST(S)	See Below	STAGE	Post-emergence
ACTION	Action Against Pest	SUBACTION	Control

#### COMMENTS

#### APPLICATION INSTRUCTIONS

The effectiveness of this product may be diminished if applied when conditions exist that do not favor weed growth (including too much or too little moisture, low humidity, temperature extremes and previous application of herbicides).

#### APPLICATION TIMING

#### **Preplant**

**Mamba** may be applied prior to planting soybeans as part of a burndown program to control the emerged weeds listed below. This product will control the weeds if they are within the maximum leaf number and the maximum heights listed.

#### Post-emergence

Mamba controls the weeds listed below if they are within the maximum leaf number and the maximum heights. For best results, apply this product or tank mixes using this product to actively growing weeds. Use of a crop oil concentrate or a non-ionic surfactant is required. For specific directions, refer to the ADJUVANTS AND ADDITIVES section of this label.

### TANK MIXES FOR POST-EMERGENCE USE IN SOYBEANS

This product may be tank mixed with the soybean herbicides listed below. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

2,4-DB	Chlorimuron	Fluazifop	Imazamox	S-Metolachlor
Acetochlor	Clethodim	Flumiclorac	Imazaquin	Thifensulfuron
Alachlor	Cloransulam-methyl	Glufosinate	lmazethapyr	
Bentazon	Dimethenamid-P	Glyphosate	Quizalofop-p-ethyl	



Common Name	Scientific Name	Maximum Number of Leaves	Maximum Height (inches)	Application Rate (fl oz/A)
Cocklebur, Common	Xanthium strumarium	4	3	
Jimsonweed	Datura stramonium	4	3	
Nightshade, Black	Solanum nigrum	4	4	8.0 (0.125 lb ai/A)
Pigweed, Redroot	Amaranthus retroflexus	6	3	(0.120 12 1111)
Pigweed, Smooth	Amaranthus hybridus	6	3	
Cocklebur, Common	Xanthium strumarium	5	4	
Jimsonweed	Datura stramonium	4	4	
Kochia	Kochia scoparia	6	2	
Nightshade, Black	Solanum nigrum	5	4	
Pigweed, Palmer Amaranth*	Amaranthus palmeri	4	2	10.0
Pigweed, Redroot	Amaranthus retroflexus	6	4	(0.16 lb ai/A)
Pigweed, Smooth	Amaranthus hybridus	6	4	
Ragweed, Common	Ambrosia artemisiifolia	4	2	
Waterhemp, Common	Amaranthus rudis	4	2	
Waterhemp, Tall	Amaranthus tuberculatus	4	2	
Balloonvine	Cardiospermum halicacabum	4	4	
Beggarticks, Devils	Bidens frondosa	6	4	
Bristly Starbur	Acanthospermum hispidum	4	4	
Buffalobur	Solanum rostratum	4	4	
Burcucumber	Sicyos angulatus	4	4	
Carpetweed	Mollugo verticillata	8 inch d	iameter	
Common Cocklebur	Xanthium strumarium	6	4	
Common Purslane	Portulaca oleracea	8 inch d	iameter	
Copperleaf, Hophornbeam	Acalypha ostryifolia	6	4	12.5
Copperleaf, Virginia	Acalypha virginica	4	4	(0.20 lb ai/A)
Croton, Tropic	Croton glandulosus var. septentrionalis	4	4	
Croton, Woolly	Croton capitatus	4	4	
Devil's Claw	Probiscidea Iouisianica	4	4	
Eclipta	Eclipta prostrate	6	4	
Florida Beggarweed	Desmodium tortuosum	2	4	
Florida Pusley	Richardia scabre	6	4	
Groundcherry, Cutleaf	Physalis angulata	6	4	
Groundcherry, Lanceleaf		6	-	



Common Name	Scientific Name	Maximum Number of Leaves	Maximum Height (inches)	Application Rate (fl oz/A)
Hairy Galinsoga	Galinsoga quadriradiata	4	4	
Hemp Sesbania	Sesbania herbacea	6	4	
Jimsonweed	Datura stramonium	4	4	
Kochia	Kochia scoparia	6	2	
Lanceleaf Sage	Salvia reflexa	4	4	
Morningglory, Cypressvine	Ipomoea quamoclit	4	3	
Morningglory, Entireleaf*	Ipomoea hederacea var. integriuscula	4	3	
Morningglory, lvyleaf*	Ipomoea hederacea	4	3	
Morningglory, Palmleaf*	Ipomoea wrightii	4	3	
Morningglory, Pitted*	Ipomoea lacunose	4	3	
Morningglory, Purple Moonflower*	Ipomoea turbinata	4	3	
Morningglory, Smallflower*	Jacquemontia tamnifolia	4	3	
Morningglory, Tall*	Ipomoea purpurea	4	3	
Mustard, Wild	Sinapis arvensis	6	4	
Nightshade, Black	Solanum nigrum	6	5	
Nightshade, Eastern Black	Solanum ptychanthum	6	5	
Nightshade, Hairy	Solanum physalifolium	4	5	12.5 (0.20 lb ai/A)
Pigweed, Palmer Amaranth*	Amaranthus palmeri	6	3	(0.20 15 4174)
Pigweed, Prostrate	Amaranthus blitoides	6	4	
Pigweed, Redroot	Amaranthus retroflexus	6	4	
Pigweed, Smooth	Amaranthus hybridus	6	4	
Pigweed, Spiny Amaranth	Amaranthus spinosus	6	4	
Poorjoe	Diodia teres	6	3	
Prickly Sida (Teaweed)	Sida spinosa	4	3	
Puncturevine	Tribulus terrestris	1.5 inch	diameter	
Ragweed, Common	Ambrosia artemisiifolia	6	4	
Ragweed, Giant	Ambrosia trifida	4	2	
Showy Crotalaria	Crotalaria spectabilis	4	4	
Smellmelon	Cucumis melo	6	4	
Spurge, Prostrate	Chamaesyce maculata	1.5 inch	diameter	
Spurge, Spotted	Chamaesyce maculata	4	4	
Spurge, Toothed	Euphorbia dentate	4	4	
Sunflower, Common*	Helianthus annuus	2	4	



Common Name	Scientific Name	Maximum Number of Leaves	Maximum Height (inches)	Application Rate (fl oz/A)
Texasweed	Caperonia palustris	4	4	
Venice Mallow	Hibiscus trionum	4	4	
Waterhemp, Common*	Amaranthus rudis	6	3	12.5
Waterhemp, Tall*	Amaranthus tuberculatus	6	3	(0.20 lb ai/A)
Wild Poinsettia	Euphorbia heterophylla	4	4	
Witchweed	Striga asiatica	6 to 8 inches an	d prior to bloom	

<sup>\*</sup> For control of these weeds, crop oil concentrate must be used. Ammonium sulfate or liquid nitrogen (28%, 30% or 32%) added to the COC may improve weed control.

PEST(S)	See Below	STAGE	Post-emergence
ACTION	Action Against Pest	SUBACTION	Suppression

#### **COMMENTS**

Efficacy of this product may be diminished if any of the weeds listed below have been previously treated with a post-emergence herbicide due to the weeds potentially being under stress.

Common Name	Scientific Name	Maximum Number of Leaves	Application Rate (fl oz/A)
Bristly Starbur	Acanthospermum hispidum	6	
Canada Thistle	Cirsium arvense	6	
Coffee Senna*	Senna occidentalis	2	
Milkweed, Climbing	Funastrum cynanchoides	6	
Milkweed, Common	Asclepias syriaca	6	
Morningglory, Bigroot (Wild Sweet Potato)	Ipomoea pandurata	6	12.5
Redvine	Brunnichia ovata	6	(0.20 lb ai/A)
Smartweed, Pennsylvania	Polygonum pensylvanicum	4	
Smartweed, Swamp	Polygonum amphibium	6	
Spurred Anoda	Anoda cristata	2	
Trumpetcreeper	Campsis radicans	6	
Velvetleaf*	Abutilon theophrasti	4	

<sup>\*</sup> For suppression of these weeds, crop oil concentrate must be used. Ammonium sulfate or liquid nitrogen (28%, 30% or 32%) added to the COC may improve weed control.



PEST(S)	See Below	STAGE	Preplant/Pre-emergence
ACTION	Action Against Pest	SUBACTION	Control

#### COMMENTS

This product may be applied as a pre-emergence soil applied herbicide for approximately two weeks of residual control of the annual broadleaf weeds in soybeans listed helow.

NOTE: **DO NOT** apply more than 19 fl oz/A (0.30 lb ai) pre-emergence per acre per year.

#### TANK MIXES FOR PREPLANT/PRE-EMERGENCE USE IN SOYBEANS

This product may be tank mixed with the soybean herbicides listed below. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

2,4-D	Chlorimuron	Flumiclorac	Glyphosate	Quizalofop-p-ethyl
2,4-DB	Clethodim	Flumioxazin	lmazamox	S-Metolachlor
Acetochlor	Cloransulam-methyl	Flumioxazin/Chlorimuron Ethyl	Imazaquin	Thifensulfuron
Alachlor	Dimethenamid-P	Flumioxazin/Cloransulam-methyl	lmazethapyr	

Bentazon Fluazifop Glufosinate Pyroxasulfone/Flumioxazin

Scientific Name	Application Rate (fl oz/A)
Solanum nigrum	
Solanum ptychanthum	12.5 - 15.0
	Solanum nigrum

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Nightshade, Eastern Black	Solanum ptychanthum	12.5 - 15.0
Pigweed, Redroot	Amaranthus retroflexus	(0.20 - 0.24 lb ai/A)
Pigweed, Smooth	Amaranthus hybridus	
Copperleaf, Hophornbeam	Acalypha ostryifolia	
Copperleaf, Virginia	Acalypha virginica	
Lambsquarters, Common	Chenopodium album	
Nightshade, Black	Solanum nigrum	
Nightshade, Eastern Black	Solanum ptychanthum	15.0 - 19.0
Pigweed, Redroot	Amaranthus retroflexus	(0.24 - 0.30 lb ai/A)
Pigweed, Smooth	Amaranthus hybridus	
Ragweed, Common	Ambrosia artemisiifolia	
Waterhemp, Common	Amaranthus rudis	
Waterhemp, Tall	Amaranthus tuberculatus	

PEST(S)	White Mold <i>(Sclerotinia stem rot)</i> Sudden Death Syndrome <i>(Fusarium virguliforme)</i>	STAGE	Post-emergence
ACTION	Action Against Pest	SUBACTION	Suppression

#### **COMMENTS**

To suppress white mold, this product must be applied *prior* to infection occurring but *after* the soybeans have fully bloomed (R2).

NOTE: The effects of this product on white mold are not fungicidal, but involve Systemic Acquired Resistance (SAR).

### **APPLICATION INSTRUCTIONS**

Apply 6 - 12.5 fluid ounces (0.10 - 0.20 lb ai/A) of this product per acre at, or just before full bloom (R2).

For best results, use of a Crop Oil Concentrate (COC) or Methylated Seed Oil adjuvant at a rate of 1.0 pints per acre, or a non-ionic surfactant at a rate of 0.25% v/v is advised.



# COTTON

USE SITE Cotton	LOCATION	Agricultural (Outdoor)
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#### COMMENTS

For early season post-emergence control of weeds in cotton, make a layby or post-directed application of this product post-emergence as a directed spray application following a preplant incorporated or pre-emergence herbicide. Apply when the cotton plant has reached a minimum height of 6 inches and a height difference of 3 to 5 inches has been established between the lower leaves of the cotton plant and the top of the broadleaf weeds.

Layby applications of this product will control broadleaf weeds that do not exceed leaf stage directions listed in the table below.

For best results, apply this product or tank mixes using this product to actively growing weeds. *Use of a crop oil concentrate or a non-ionic surfactant is required.* For specific directions, refer to the **ADJUVANTS AND ADDITIVES** section of this label.

#### RESTRICTIONS

- Do NOT apply more than 12.5 fl oz/A (0.20 lb ai/A) of this product per application.
- Do NOT exceed a combined rate of 25 fl oz/A (0.40 lb ai/A) of this product per year.
- Do NOT make a sequential application of this product within 14 days of the first application.
- Do NOT make more than two (2) applications of this product per year.
- Do NOT apply within 70 days prior to harvest.
- Do NOT graze animals on green forage or stubble.
- Do NOT utilize hay or straw for animal feed or bedding.
- Do NOT apply Mamba over the top of cotton.

#### **COTTON TOLERANCE**

Apply this product to cotton *only* as a directed spray application with nozzles set to deliver the spray mixture toward the base of the cotton plant, as specified in the **Timing** and **Application** sections of this label. Lower leaves which are contacted by the spray mixture will appear spotted or light brown to bronze in color. This response will have no effect on the growth or development of the cotton crop, and all growth following application will be normal.

To ensure full coverage of the weed leaf surfaces while minimizing direct contact of the spray mixture with the upper leaves and terminal area of the cotton plant, there MUST be a height difference of 3 to 5 inches between the crop and the target weeds prior to application.

Because this product is a contact herbicide, it will not move throughout the cotton plant and it will not vaporize off the soil surface.

#### **APPLICATION TIMING**

#### Post-directed (cotton 6" or taller)

This product must be applied to young but actively growing weeds for best results. Set the nozzles so that spray completely covers the weeds but does not hit more than the bottom 2 - 3" of the cotton stalk or the top of the bark formation.

# Layby (cotton 12" or taller)

Mamba controls the weeds listed below if they are within the maximum leaf number and the maximum heights.

#### TANK MIXES FOR POST-EMERGENCE USE IN COTTON

This product may be tank mixed with the cotton herbicides listed below. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Acetochlor Flumioxazin Glyphosate MSMA S-metolachlor
Clethodim Fluometuron Linuron Prometryn Trifloxysulfuron-sodium
Diuron Glufosinate



PEST(S)	See Below	STAGE	Post-emergence
ACTION	Action Against Pest	SUBACTION	Control

#### APPLICATION INSTRUCTIONS

When using this product by itself, make a broadcast application at a rate of 12.5 fl oz (0.20 lb ai) per acre. The sprayer must be equipped with a flat fan or off-center fan nozzles designed to deliver 10 to 30 gallons of water per acre when operated at a spray pressure of 20 to 30 PSI measured at the nozzle. Pressures greater than 30 PSI may cause the spray mist to move upward into the cotton canopy resulting in severe crop injury.

**Post-directed Applications: Cotton 6" or more** - For best results, apply this product to small, actively growing weeds. The nozzle must be set to spray no higher than the bottom 2 to 3 inches of the cotton stalk (or the top of the bark formation) and still fully cover the target weeds. A properly timed directed spray application will provide control of labeled weeds not larger than indicated in the table below.

**Layby Applications: Cotton 12" or more** - Nozzles must be set to spray no higher than the bottom 1/3 of the cotton stalk (up to the first fruiting node) and still fully cover the target weeds. Use of tank mix combinations will provide better control of larger, late season and/or troublesome weeds in cotton.

#### **CULTIVATION**

When post-emergence directing **Mamba** at the same time as cultivation, the spray nozzles must be positioned in front of the cultivation equipment. Applying **Mamba** at the time of cultivation under dry soil conditions will cause excessive dust which will prevent proper contact between **Mamba** and the weed surface. This reduced contact will decrease weed control activity. In addition, applying **Mamba** while cultivating at ground speeds greater than 5 mph will prevent good coverage of the weed surface by the spray solution and reduce weed control activity.

#### **ADJUVANTS**

Weed control over a wide range of application conditions has been enhanced through the use of directed adjuvants.

Post-directed application to cotton at least 6" tall: Use either a non-ionic surfactant at 0.25% v/v; **OR** if bark formation has begun crop oil concentrate at a rate of 1 pint per acre (broadcast basis) may be used.

Layby application to cotton 12" tall (or more): Use a crop oil concentrate at 1 to 2 pints per acre (broadcast basis).

Common Name	Scientific Name	Maximum Number of Leaves	Maximum Height (inches)	Application Rate (fl oz/A)
Cocklebur, Common	Xanthium strumarium	4	3	
Jimsonweed	Datura stramonium	4	3	
Nightshade, Black	Solanum nigrum	4	4	
Pigweed, Redroot	Amaranthus retroflexus	6	3	
Pigweed, Smooth	Amaranthus hybridus	6	3	
Cocklebur, Common	Xanthium strumarium	5	4	
Jimsonweed	Datura stramonium	4	4	
Kochia	Kochia scoparia	6	2	
Nightshade, Black	Solanum nigrum	5	4	12.5
Pigweed, Palmer Amaranth*	Amaranthus palmeri	4	2	(0.20 lb ai/A)
Pigweed, Redroot	Amaranthus retroflexus	6	4	
Pigweed, Smooth	Amaranthus hybridus	6	4	
Ragweed, Common	Ambrosia artemisiifolia	4	2	
Waterhemp, Common	Amaranthus rudis	4	2	
Waterhemp, Tall	Amaranthus tuberculatus	4	2	
Balloonvine	Cardiospermum halicacabum	4	4	
Beggarticks, Devils	Bidens frondosa	6	4	
Bristly Starbur	Acanthospermum hispidum	4	4	



Common Name	Scientific Name	Maximum Number of Leaves	Maximum Height (inches)	Application Rate (fl oz/A)
Buffalobur	Solanum rostratum	4	4	
Burcucumber	Sicyos angulatus	4	4	
Carpetweed	Mollugo verticillata	8 inch o	liameter	
Common Cocklebur	Xanthium strumarium	6	4	
Common Purslane	Portulaca oleracea	8 inch o	liameter	
Copperleaf, Hophornbeam	Acalypha ostryifolia	6	4	
Copperleaf, Virginia	Acalypha virginica	4	4	
Croton, Tropic	Croton glandulosus var. septentrionalis	4	4	
Croton, Woolly	Croton capitatus	4	4	
Devil's Claw	Probiscidea louisianica	4	4	
Eclipta	Eclipta prostrate	6	4	
Florida Beggarweed	Desmodium tortuosum	2	4	
Florida Pusley	Richardia scabre	6	4	
Groundcherry, Cutleaf	Physalis angulata	6	4	
Groundcherry, Lanceleaf		6	-	
Hairy Galinsoga	Galinsoga quadriradiata	4	4	
Hemp Sesbania	Sesbania herbacea	6	4	12.5
Jimsonweed	Datura stramonium	4	4	(0.20 lb ai/A)
Kochia	Kochia scoparia	6	2	
Lanceleaf Sage	Salvia reflexa	4	4	
Morningglory, Cypressvine	Ipomoea quamoclit	4	3	
Morningglory, Entireleaf*	Ipomoea hederacea var. integriuscula	4	3	
Morningglory, lvyleaf*	Ipomoea hederacea	4	3	
Morningglory, Palmleaf*	Ipomoea wrightii	4	3	
Morningglory, Pitted*	Ipomoea lacunose	4	3	
Morningglory, Purple Moonflower*	Ipomoea turbinata	4	3	
Morningglory, Smallflower*	Jacquemontia tamnifolia	4	3	
Morningglory, Tall*	Ipomoea purpurea	4	3	
Mustard, Wild	Sinapis arvensis	6	4	
Nightshade, Black	Solanum nigrum	6	5	
Nightshade, Eastern Black	Solanum ptychanthum	6	5	
Nightshade, Hairy	Solanum physalifolium	4	5	
Pigweed, Palmer Amaranth*	Amaranthus palmeri	6	3	
Pigweed, Prostrate	Amaranthus blitoides	6	4	



Common Name	Scientific Name	Maximum Number of Leaves	Maximum Height (inches)	Application Rate (fl oz/A)
Pigweed, Redroot	Amaranthus retroflexus	6	4	
Pigweed, Smooth	Amaranthus hybridus	6	4	
Pigweed, Spiny Amaranth	Amaranthus spinosus	6	4	
Poorjoe	Diodia teres	6	3	
Prickly Sida (Teaweed)	Sida spinosa	4	3	
Puncturevine	Tribulus terrestris	1.5 inch	diameter	
Ragweed, Common	Ambrosia artemisiifolia	6	4	
Ragweed, Giant	Ambrosia trifida	4	2	
Showy Crotalaria	Crotalaria spectabilis	4	4	
Smellmelon	Cucumis melo	6	4	12.5
Spurge, Prostrate	Chamaesyce maculata	1.5 inch	diameter	(0.20 lb ai/A)
Spurge, Spotted	Chamaesyce maculata	4	4	
Spurge, Toothed	Euphorbia dentate	4	4	
Sunflower, Common*	Helianthus annuus	2	4	
Texasweed	Caperonia palustris	4	4	
Venice Mallow	Hibiscus trionum	4	4	
Waterhemp, Common*	Amaranthus rudis	6	3	
Waterhemp, Tall*	Amaranthus tuberculatus	6	3	
Wild Poinsettia	Euphorbia heterophylla	4	4	
Witchweed	Striga asiatica	6 to 8 inches an	d prior to bloom	

<sup>\*</sup> For control of these weeds, crop oil concentrate must be used. Ammonium sulfate or liquid nitrogen (28%, 30% or 32%) added to the COC may improve weed control.

# **PEANUTS**

USE SITE	Peanuts	LOCATION	Agricultural (Outdoor)

#### **COMMENTS**

For post-emergence control of weeds in peanuts that do not exceed leaf stage directions listed in the table below, make an application of this product as a directed spray application. Peanuts with 6 or more emerged true leaves are highly tolerant to post-emergence applications of this product. Mature peanut leaves treated with **Mamba** will show some brown speckling and bronzing. Growth of the next 2 true leaves may show some cupping or crinkling of the leaf margins. Subsequent growth will be normal and peanuts quickly outgrow this temporary condition.

For best results, this product or tank mixes using this product must be applied to actively growing weeds. *Use of a crop oil concentrate or a non-ionic surfactant is required.* For specific directions, refer to the **ADJUVANTS AND ADDITIVES** section of this label.

# **RESTRICTIONS**

- Do NOT apply more than 12.5 fl oz/A (0.20 lb ai/A) of this product per application.
- Do NOT exceed a combined rate of 25 fl oz/A (0.40 lb ai/A) of this product per year.
- **Do NOT** make a sequential application of this product within 14 days of the first application.
- Do NOT make more than two (2) applications of this product per year.
- Do NOT apply within 45 days prior to harvest.
- Do NOT graze animals on green forage or stubble.

(continued)



USE SITE	Peanuts	LOCATION	Agricultural (Outdoor)
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#### TANK MIXES FOR POST-EMERGENCE USE IN PEANUTS

This product may be tank mixed with the cotton herbicides listed below. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

2,4-DB\* Bentazon Clethodim Imazapic S-Metolachlor

Alachlor Chlorimuron Ethyl Dimethenamid-P Imazethapyr

#### PEANUT TO FRANCE

Post-emergence applications of this product are well tolerated by peanuts with 6 or more emerged true leaves. Some brown speckling and bronzing of mature peanut leaves will occur and growth of the next 2 true leaves may show some crinkling or cupping of the leaf margins. However, peanuts quickly outgrow this temporary condition and subsequent growth will be normal.

PEST(S)	See Below	STAGE	Post-emergence
ACTION	Action Against Pest	SUBACTION	Control

#### APPLICATION INSTRUCTIONS

To control early emerged broadleaf weeds, make a single early post-emergence treatment of this product applied at a rate of 12.5 fluid ounces (0.20 lb ai/A) per acre after the peanuts have at least 6 true leaves.

To control weeds that emerge later or weeds that survived the first application, a second post-emergence application of this product applied at a rate of 12.5 fluid ounces (0.20 lb ai/A) per acre may be made as long as the weeds are still within the labeled growth stage.

#### **ADJUVANTS**

Weed control over a wide range of application conditions has been enhanced through the use of directed adjuvants.

Post-directed application to cotton at least 6" tall: Use either a non-ionic surfactant at 0.25% v/v; **OR** if bark formation has begun crop oil concentrate at a rate of 1 pint per acre (broadcast basis) may be used.

Layby application to cotton 12" tall (or more): Use a crop oil concentrate at 1 to 2 pints per acre (broadcast basis).

Common Name	Scientific Name	Maximum Number of Leaves	Maximum Height (inches)	Application Rate (fl oz/A)
Cocklebur, Common	Xanthium strumarium	4	3	
Jimsonweed	Datura stramonium	4	3	
Nightshade, Black	Solanum nigrum	4	4	
Pigweed, Redroot	Amaranthus retroflexus	6	3	
Pigweed, Smooth	Amaranthus hybridus	6	3	
Cocklebur, Common	Xanthium strumarium	5	4	
Jimsonweed	Datura stramonium	4	4	12.5
Kochia	Kochia scoparia	6	2	(0.20 lb ai/A)
Nightshade, Black	Solanum nigrum	5	4	
Pigweed, Palmer Amaranth*	Amaranthus palmeri	4	2	
Pigweed, Redroot	Amaranthus retroflexus	6	4	
Pigweed, Smooth	Amaranthus hybridus	6	4	
Ragweed, Common	Ambrosia artemisiifolia	4	2	
Waterhemp, Common	Amaranthus rudis	4	2	



<sup>\*</sup> Use only 2,4-DB formulations approved for post-emergence use in peanuts. Add a crop oil concentrate at 1.0 to 2.0 pts/A or a non-ionic surfactant at 0.25% v/v to this mixture. Follow all 2,4-DB label restrictions relative to drift onto sensitive crops.

Common Name	Scientific Name	Maximum Number of Leaves	Maximum Height (inches)	Application Rate (fl oz/A)
Waterhemp, Tall	Amaranthus tuberculatus	4	2	
Balloonvine	Cardiospermum halicacabum	4	4	
Beggarticks, Devils	Bidens frondosa	6	4	
Bristly Starbur	Acanthospermum hispidum	4	4	
Buffalobur	Solanum rostratum	4	4	
Burcucumber	Sicyos angulatus	4	4	
Carpetweed	Mollugo verticillata	8 inch d	liameter	
Common Cocklebur	Xanthium strumarium	6	4	
Common Purslane	Portulaca oleracea	8 inch d	liameter	
Copperleaf, Hophornbeam	Acalypha ostryifolia	6	4	
Copperleaf, Virginia	Acalypha virginica	4	4	
Croton, Tropic	Croton glandulosus var. septentrionalis	4	4	
Croton, Woolly	Croton capitatus	4	4	
Devil's Claw	Probiscidea Iouisianica	4	4	
Eclipta	Eclipta prostrate	6	4	
Florida Beggarweed	Desmodium tortuosum	2	4	
Florida Pusley	Richardia scabre	6	4	12.5
Groundcherry, Cutleaf	Physalis angulata	6	4	(0.20 lb ai/A)
Groundcherry, Lanceleaf		6	-	
Hairy Galinsoga	Galinsoga quadriradiata	4	4	
Hemp Sesbania	Sesbania herbacea	6	4	
Jimsonweed	Datura stramonium	4	4	
Kochia	Kochia scoparia	6	2	
Lanceleaf Sage	Salvia reflexa	4	4	
Morningglory, Cypressvine	Ipomoea quamoclit	4	3	
Morningglory, Entireleaf*	Ipomoea hederacea var. integriuscula	4	3	
Morningglory, lvyleaf*	Ipomoea hederacea	4	3	
Morningglory, Palmleaf*	Ipomoea wrightii	4	3	
Morningglory, Pitted*	Ipomoea lacunose	4	3	
Morningglory, Purple Moonflower*	Ipomoea turbinata	4	3	
Morningglory, Smallflower*	Jacquemontia tamnifolia	4	3	
Morningglory, Tall*	Ipomoea purpurea	4	3	
Mustard, Wild	Sinapis arvensis	6	4	
Nightshade, Black	Solanum nigrum	6	5	



Common Name	Scientific Name	Maximum Number of Leaves	Maximum Height (inches)	Application Rate (fl oz/A)
Nightshade, Eastern Black	Solanum ptychanthum	6	5	
Nightshade, Hairy	Solanum physalifolium	4	5	
Pigweed, Palmer Amaranth*	Amaranthus palmeri	6	3	
Pigweed, Prostrate	Amaranthus blitoides	6	4	
Pigweed, Redroot	Amaranthus retroflexus	6	4	
Pigweed, Smooth	Amaranthus hybridus	6	4	
Pigweed, Spiny Amaranth	Amaranthus spinosus	6	4	
Poorjoe	Diodia teres	6	3	
Prickly Sida (Teaweed)	Sida spinosa	4	3	
Puncturevine	Tribulus terrestris	1.5 inch	diameter	
Ragweed, Common	Ambrosia artemisiifolia	6	4	
Ragweed, Giant	Ambrosia trifida	4	2	12.5
Showy Crotalaria	Crotalaria spectabilis	4	4	(0.20 lb ai/A)
Smellmelon	Cucumis melo	6	4	
Spurge, Prostrate	Chamaesyce maculata	1.5 inch	diameter	
Spurge, Spotted	Chamaesyce maculata	4	4	
Spurge, Toothed	Euphorbia dentate	4	4	
Sunflower, Common*	Helianthus annuus	2	4	
Texasweed	Caperonia palustris	4	4	
Venice Mallow	Hibiscus trionum	4	4	
Waterhemp, Common*	Amaranthus rudis	6	3	
Waterhemp, Tall*	Amaranthus tuberculatus	6	3	
Wild Poinsettia	Euphorbia heterophylla	4	4	
Witchweed	Striga asiatica	6 to 8 inches ar	nd prior to bloom	

<sup>\*</sup> For control of these weeds, crop oil concentrate must be used. Ammonium sulfate or liquid nitrogen (28%, 30% or 32%) added to the COC may improve weed control.



# **CONIFER SEEDLINGS AND CONIFER NURSERIES**

USE SITE	Conifer Seedlings and Conifer Nurseries	LOCATION	Agricultural (Outdoor)

#### COMMENTS

**Mamba** may be applied pre-emergence or post-emergence to outdoor conifer seedlings of the species listed below in seedbeds, containers, as seedling transplants and in conifer plantations (but not in forests) to control broadleaf weeds.

Common Name	Scientific Name	Common Name	Scientific Name
Fir, Douglas	Pseudotsuga menziesii	Pine, Eastern White	Pinus strobes
Fir, Fraser	Abies fraseri	Pine, Jack	Pinus banksiana
Fir, Grand	Abies grandis	Pine, Loblolly	Pinus taeda
Fir, Noble	Abies procera	Pine, Lodgepole	Pinus contorta
Hemlock, Eastern	Tsuga canadensis	Pine, Longleaf	Pinus palustris
Hemlock, Western	Tsuga heterophylla	Pine, Ponderosa	Pinus ponderosa
Spruce, Blue	Picea pungens	Pine, Sand	Pinus clausa
Spruce, Dwarf Alberta	Picea glauca conica	Pine, Scotch	Pinus sylvestris
Spruce, Norway	Picea abies	Pine, Shortleaf	Pinus echinata
Spruce, Sitka	Picea sitchensis	Pine, Slash	Pinus elliottii
		Pine, Virginia	Pinus Virginiana

#### **USE RESTRICTIONS FOR MAMBA IN CONIFER SEEDLINGS**

- Do NOT apply when conifers are under stress from animal or winter injury, diseases, planting shock or other stresses.
- Do NOT apply more than 26 fl oz/A (0.41 lb ai/A) of this product per year.
- Do NOT apply more than 16 fl oz/A (0.25 lb ai) of this product in a single application.
- Do NOT make more than 3 pre-emergence applications of this product per year, when using reduced application rates.
- Do NOT make more than 4 post-emergence applications of this product per year, when using reduced application rates.
- Do NOT apply with spray adjuvants if conifer shoot growth is young and has not hardened off.
- The retreatment interval is 14 days.

### **CONIFER TOLERANCE**

Following application, slight needle burn may be observed on the youngest growth. New growth will be normal and, under favorable environmental conditions, the seedlings will continue to grow vigorously.

Plant tolerance to **Mamba** at labeled rates has been found to be acceptable for the indicated genera and species listed above. However, due to variability within species, environmental conditions, crop growth stage, and application techniques, it is advised that prior to widespread application the user test on a few plants to determine if the herbicide can be used safely. Neither the seller nor the manufacturer of **Mamba** have investigated the safety factor to plants not listed on the label.

PEST(S)	See Below	STAGE	Pre-emergence
ACTION	Action Against Pest	SUBACTION	Control

#### **APPLICATION INSTRUCTIONS**

Apply to weed free, tilled and planted seedbeds or to weed free container grown seedlings after sowing but prior to seedling emergence. Following application and before conifer seedling emergence, the application may be incorporated using 0.25 to 0.5 inches of water. A weed pre-emergence application may be made directly over recently transplanted conifers as long as bud break has not yet occurred.

Thoroughly mix **Mamba** with clean water and apply at a minimum of 30 PSI in a minimum of 20 gallons per acre. Flat fan or hollow cone nozzles are advised. Applications using less than 20 gallons per acre or less than 30 PSI will NOT provide complete weed coverage resulting in incomplete weed control.

Be sure the nursery species are tolerant to applications of this product by testing limited areas of each species to be treated prior to complete application.

**DO NOT** mechanically incorporate this product as the effectiveness of this product will be impacted if the soil is disturbed after a pre-emergence application is made to seedbeds.



Weeds Controlled	Adjuvant	Application Rate (fl oz/A)
Clover (Trifolium spp.)		
Common Chickweed		
Common Groundsel		
Common Purslane		
Common Ragweed		
Cottonwood (Populus spp.)		
Lambsquarters		
Mustard species	<b>DO NOT</b> use an adjuvant for	8 - 16
Nightshade species	pre-emergence applications	(0.125 - 0.25 lb ai/A)
Pearlwort		
Pigweed species		
Pineapple weed		
Sowthistle		
Spurge, Prostrate		
Spurge, Spotted		
Willow (Salix spp.)		

PEST(S)	See Below	STAGE	Post-emergence
ACTION	Action Against Pest	SUBACTION	Control

#### **APPLICATION INSTRUCTIONS**

Thoroughly mix **Mamba** with clean water and apply at a minimum of 30 PSI in a minimum of 20 gallons per acre. Flat fan or hollow cone nozzles are advised. Applications using less than 20 gallons per acre or less than 30 PSI will NOT provide complete weed coverage resulting in incomplete weed control.

Be sure the nursery species are tolerant to applications of this product by testing limited areas of each species to be treated prior to complete application.

Make post-emergence applications when weeds are actively growing but no larger than 4 inches in height. The conifer seedlings listed above will tolerate post-emergence treatments when the application is made after complete stand emergence and when the primary shoot growth is complete and has hardened off. Some forking and stunting of seedlings may result if this product is applied to newly emerged seedlings. Conifer transplants will tolerate post-emergence treatments when applications are made before bud break or after foliage has had an opportunity to harden off. Slight needle burn may occur on the youngest conifer growth following application. New growth will not be adversely affected and conifers will continue to grow vigorously under favorable environmental conditions.



Weeds Controlled	Adjuvant	Application Rate (fl oz/A)
Carpetweed  Clover (Trifolium spp.)  Common Chickweed  Common Dayflower  Common Groundsel  Common Purslane  Common Ragweed  Cottonwood (Populus spp.)  Dogfennel  Eclipta  Florida Beggarweed  Florida Pusley  Hairy Galinsoga  Mayweed  Morningglory species  Mustard species  Nightshade species  Pearlwort  Pigweed species  Pineapple weed  Poorjoe  Prickly Sida  Showy Crotalaria  Sowthistle	0.25% v/v non-ionic surfactant or 0.125% v/v crop oil concentrate (COC)**	6.5 - 16* (0.10 - 0.25 lb ai/A)
Spurge, Prostrate Spurge, Spotted Tropic Croton Willow (Salix spp.) Witchweed Yellow Woodsorrel	0.25% v/v non-ionic surfactant or 0.125% v/v crop oil concentrate (COC)**	6.5 - 16* (0.125 - 0.25 lb ai/A)

<sup>\*</sup>Apply four applications at weekly intervals of 6.5 fl oz/A (0.10 lb ai/A) or two applications at two week intervals of 13 fl oz/A (0.208 lb ai/A) for Southern Pine species only.



<sup>\*\*</sup> Crop oil concentrate has been proven safe only in Southern Pine conifer species (after primary shoot growth has begun).

# **KENAF**

USE SITE Kenaf	LOCATION	Agricultural (Outdoor)
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#### COMMENTS

#### **CROP INFORMATION**

**Mamba** may be used for post-emergence directed control of broadleaf weeds in kenaf. For early season control of grasses and broadleaf weeds, apply as a directed spray following a preplant incorporated or pre-emergence herbicide application. Apply when the Kenaf plant has reached a minimum height of 10 inches and a height difference of 3 to 5 inches has been established between the lower leaves of the kenaf plant and the top of the broadleaf weeds. *Make only a single application of this product to Kenaf per year.*NOTE: If this product comes into contact with the kenaf plant, injury may result.

Post-emergence directed applications of this product or tank mixes containing this product must use equipment designed to minimize spray solution contacting the kenaf plant. This equipment includes spray nozzles positioned a minimum of 3 inches above the soil surface and angled backward so that the spray solution discharges to the rear and underneath the row canopy, nozzles as described above with leaf lifter or shields and/or plastic preformed hooded sprayers positioned to run between the kenaf rows, all of which are designed to help reduce spray contact with the kenaf plant.

#### RESTRICTIONS

- Do NOT apply more than 12.5 fl oz/A (0.20 lb ai/A) of this product per year.
- Do NOT apply more than 12.5 fl oz/A (0.20 lb ai/A) of this product per application.
- Do NOT make more than one application of this product per year.

#### **KENAF TOLERANCE**

**ONLY** apply **Mamba** to kenaf as a directed spray application with nozzles set to deliver the spray mixture toward the base of the kenaf plant. Lower leaves exposed to the spray mixture will appear spotted or light brown to bronze in color. This response will have no effect on the growth or development of the kenaf crop, and all further growth following application will be normal.

To ensure full coverage of the weed leaf surfaces while minimizing direct contact of the spray mixture with the upper leaves and terminal area of the kenaf plant, it is *critical* that a height differential of 3 to 5 inches between the crop and the target weeds exists prior to application.

PEST(S)	See Below	STAGE	Post-emergence
ACTION	Action Against Pest	SUBACTION	Control

### APPLICATION INSTRUCTIONS

NOTE: **DO NOT** APPLY THIS PRODUCT OVER THE TOP OF KENAF.

**Post-directed: KENAF 10" or More** - For best results, apply **Mamba** to small, actively growing weeds. Set nozzles to spray no higher than the bottom 2 to 3 inches of the kenaf stalk and still fully cover the target weeds. A properly timed directed spray application will provide control of labeled weeds not larger than indicated in the table below.

#### DIRECTED BAND APPLICATION

Directed row banding is required for use of **Mamba** in kenaf. Two nozzles per row, one on each side, are required for post-emergence directed application. Tractor ground speed must not exceed 5 mph. The spray equipment used must accurately direct the spray pattern to the base of the kenaf plant to minimize contact with the kenaf plant and provide good coverage of the target weeds. Spray nozzles must be positioned a minimum of 3 inches above the soil surface and angled backward so that the spray solution discharges to the rear and under the row canopy. The use of leaf lifters or shields on application equipment is advised to help reduce spray contact with the kenaf plant. Row banding equipment must be adjusted to provide maximum coverage of weeds in the banding area.

#### CULTIVATION

When post-emergence directing this product at the same time as cultivation, the spray nozzle must be positioned in front of the cultivation equipment. Applying **Mamba** at the time of cultivation under dry soil conditions will cause excessive dust which will prevent proper contact between this product and the weed surface, adversely impacting weed control activity. In addition, applying this product while cultivating at ground speeds greater than 5 mph will prevent good coverage of the weed surface by the spray solution and reduce weed control.

#### **APPLICATION RATES**

Broadcast apply **Mamba** to Kenaf that is at least 10" tall at a rate of 12.5 fluid ounces (0.20 lb ai) per acre. The sprayer must be equipped with flat fan or off-center fan nozzles designed to deliver a minimum of 10 gallons of water per acre when operated at a minimum spray pressure of 20 PSI measured at the nozzle. Pressures greater than 30 PSI may cause the spray mist to move upward into the kenaf canopy resulting in severe crop injury.

Use of a 1% v/v Crop Oil Concentrate (COC) spray adjuvant will enhance control of the broadleaf weeds.

NOTE: The broadcast rate must be reduced in proportion to the band area actually treated.



Common Name	Scientific Name	Maximum Number of Leaves	Maximum Height (inches)
Cocklebur, Common	Xanthium strumarium	4	3
Jimsonweed	Datura stramonium	4	3
Nightshade, Black	Solanum nigrum	4	4
Pigweed, Redroot	Amaranthus retroflexus	6	3
Pigweed, Smooth	Amaranthus hybridus	6	3
Cocklebur, Common	Xanthium strumarium	5	4
Jimsonweed	Datura stramonium	4	4
Kochia	Kochia scoparia	6	2
Nightshade, Black	Solanum nigrum	5	4
Pigweed, Redroot	Amaranthus retroflexus	6	4
Pigweed, Palmer Amaranth*	Amaranthus palmeri	4	2
Pigweed, Smooth	Amaranthus hybridus	6	4
Ragweed, Common	Ambrosia artemisiifolia	4	2
Waterhemp, Common	Amaranthus rudis	4	2
Waterhemp, Tall	Amaranthus tuberculatus	4	2
Balloonvine	Cardiospermum halicacabum	4	4
Beggarticks, Devils	Bidens frondosa	6	4
Bristly Starbur	Acanthospermum hispidum	4	4
Buffalobur	Solanum rostratum	4	4
Burcucumber	Sicyos angulatus	4	4
Carpetweed	Mollugo verticillata	8 inch d	iameter
Common Cocklebur	Xanthium strumarium	6	4
Common Purslane	Portulaca oleracea	8 inch d	iameter
Copperleaf, Hophornbeam	Acalypha ostryifolia	6	4
Copperleaf, Virginia	Acalypha virginica	4	4
Croton, Tropic	Croton glandulosus var. septentrionalis	4	4
Croton, Woolly	Croton capitatus	4	4
Devil's Claw	Probiscidea louisianica	4	4
Eclipta	Eclipta prostrate	6	4
Florida Beggarweed	Desmodium tortuosum	2	4
Florida Pusley	Richardia scabre	6	4
Groundcherry, Cutleaf	Physalis angulata	6	4
Groundcherry, Lanceleaf		6	-
Hairy Galinsoga	Galinsoga quadriradiata	4	4



Common Name	Scientific Name	Maximum Number of Leaves	Maximum Height (inches)
Hemp Sesbania	Sesbania herbacea	6	4
Jimsonweed	Datura stramonium	4	4
Kochia	Kochia scoparia	6	2
Lanceleaf Sage	Salvia reflexa	4	4
Texasweed	Caperonia palustris	4	4
Morningglory, Cypressvine	Ipomoea quamoclit	4	3
Morningglory, Entireleaf*	Ipomoea hederacea var. integriuscula	4	3
Morningglory, lvyleaf*	Ipomoea hederacea	4	3
Morningglory, Palmleaf*	Ipomoea wrightii	4	3
Morningglory, Pitted*	Ipomoea lacunose	4	3
Morningglory, Purple Moonflower*	Ipomoea turbinata	4	3
Morningglory, Smallflower*	Jacquemontia tamnifolia	4	3
Morningglory, Tall*	Ipomoea purpurea	4	3
Mustard, Wild	Sinapis arvensis	6	4
Nightshade, Black	Solanum nigrum	6	5
Nightshade, Eastern Black	Solanum ptychanthum	6	5
Nightshade, Hairy	Solanum physalifolium	4	5
Pigweed, Palmer Amaranth*	Amaranthus palmeri	6	3
Pigweed, Prostrate	Amaranthus blitoides	6	4
Pigweed, Redroot	Amaranthus retroflexus	6	4
Pigweed, Smooth	Amaranthus hybridus	6	4
Pigweed, Spiny Amaranth	Amaranthus spinosus	6	4
Poorjoe	Diodia teres	6	3
Prickly Sida (Teaweed)	Sida spinosa	4	3
Puncturevine	Tribulus terrestris	1.5 inch	diameter
Ragweed, Common	Ambrosia artemisiifolia	6	4
Ragweed, Giant	Ambrosia trifida	4	2
Showy Crotalaria	Crotalaria spectabilis	4	4
Smellmelon	Cucumis melo	6	4
Sunflower, Common*	Helianthus annuus	2	4
Spurge, Prostrate	Chamaesyce maculata	1.5 inch diameter	
Spurge, Spotted	Chamaesyce maculata	4	4
Spurge, Toothed	Euphorbia dentate	4	4
Venice Mallow	Hibiscus trionum	4	4



Common Name	Scientific Name	Maximum Number of Leaves	Maximum Height (inches)
Waterhemp, Common*	Amaranthus rudis	6	3
Waterhemp, Tall*	Amaranthus tuberculatus	6	3
Wild Poinsettia	Euphorbia heterophylla	4	4
Witchweed	Striga asiatica	6 to 8 inches and prior to bloom	

# STORAGE AND DISPOSAL

DO NOT contaminate water, food or feed by storage or disposal of this product.

#### PESTICIDE STORAGE

Store in a cool, dry place. Keep pesticide in original container. DO NOT put concentrate or dilute into food or drink containers. Not for use or storage in or around the home.

#### PESTICIDE DISPOSAL

Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility. If these wastes cannot be disposed of by use 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.

#### **CONTAINER HANDLING**

Nonrefillable containers less than or equal to 5 gallons: Nonrefillable container. DO NOT reuse or refill this container. Triple rinse container (or equivalent) 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. Offer for recycling, if available, or dispose of empty containers in a sanitary landfill or by incineration or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Nonrefillable containers greater than 5 gallons: Nonrefillable container. DO NOT reuse or refill this container. Triple rinse container, (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Offer for recycling, if available, or dispose of empty containers in a sanitary landfill or by incineration or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

#### LIMITATION OF WARRANTY AND LIABILITY

IMPORTANT: READ BEFORE USE. Read the entire Directions for Use, Conditions of Warranties and Limitations of Liability before using this product. If these terms and conditions are not acceptable, return the unopened product container at once. By using this product, user or buyer accepts the following 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. Ineffectiveness, injury, and other unintended consequences may result because of such factors as manner of use or application (including misuse), the presence of other materials, weather conditions, and other unknown factors, all of which are beyond the control of ATTICUS, LLC. All such risks shall be assumed by the user or buyer.

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