

# **COTTON - PREEMERGENCE - HIGH PLAINS, ROLLING PLAINS AND EDWARDS PLATEAU OF TX, SOUTHWEST TX, AND NM - OTHER CLAY SOILS**

## General Information

### PRODUCT INFORMATION

Caparol 4L 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. Caparol 4L also controls shallow-germinating seedlings of cocklebur, coffeeweed, and sandbur. Caparol 4L will also provide partial control of spurred anoda (cottonweed), rough blackfoot (ironweed, cluster flaveria), and prairie sunflower in NM and western TX. Caparol 4L does not control johnsongrass, bermudagrass, other established perennials, or sprangletop at selective rates.

When applied before weeds emerge, Caparol 4L 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, Caparol 4L provides foliar knockdown and/or residual control of later germinating weeds, depending on the rate applied.

### RESISTANCE MANAGEMENT

Caparol 4L Herbicide contains the active ingredient prometryn which inhibits photosynthesis at photosystem II (PSII, Site of Action Group 5). Some naturally occurring weed populations have been identified as resistant to Group 5 herbicides. Selection of resistant biotypes through repeated use of these herbicides or lower than labeled use rates in the same field, may result in weed control failures. A resistant biotype may be present where poor performance cannot be attributed to adverse environmental conditions or improper application methods. Contact your

local Syngenta representative, retailer, crop advisor or extension agent to determine if weeds resistant to this mode of action are present in your area. If resistant biotypes have been reported, use the full labeled rate of this product, apply at the labeled timing, and tank-mix with a different mode of action product so there are multiple effective modes of application for each suspected resistant weed.

## Principles of Herbicide Resistant Weed Management

### Scout and know your field

- Know weed species present in the field to be treated through scouting and field history. An understanding of weed biology is useful in designing a resistance management strategy. Ensure the weed management program will control all weeds present.
- Scout fields prior to application to determine species present and growth stage. Always apply this herbicide at the full labeled rate and correct timing for the weeds present in the field.

### Utilize non-herbicidal practices to add diversity

- Use diversified management tactics such as cover crops, mechanical weed control, harvest weed seed control, and crop rotation as appropriate.

### Use good agronomic practices, start clean and stay clean

- Use good agronomic practices that enhance crop competitiveness.
- Plant into weed-free fields utilizing tillage or an effective burndown herbicide for control of emerged weeds.
- Sanitize farm equipment to avoid spreading seed or vegetative propagules prior to leaving fields.

### Difficult to control weeds

- Fields with difficult to control weeds should be planted in rotation with crops that allow the use of herbicides with an alternative mode of action or different management practices.
- Difficult to control weeds may require sequential applications, such as a broad spectrum preemergence herbicide followed by one or more postemergence herbicide applications. Utilize herbicides containing different modes of action effective on the target weeds in sequential applications.

### Do not overuse the technology

- Do not use more than two applications of this or any other herbicide with the same

mode of action in a single growing season unless mixed with an herbicide with a different mode of action which provides overlapping spectrum for the difficult to control weeds.

Scout and inspect fields following application

- Prevent an influx of weeds into the field by controlling weeds in field borders.
- Scout fields after application to verify that the treatment was effective.
- 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.
- Report non-performance of this product to your Syngenta retailer, Syngenta representative, or call 1-866-Syngent (866-796-4368). If resistance is suspected ensure weed escapes are controlled using an herbicide with an effective mode of action and/or use non-chemical means to prevent further seed production.

Prevent weed escapes before, during, and after harvest

Do not allow weed escapes to produce seed or vegetative structures such as tubers or stolons which contribute to spread and survival. Consider harvest weed seed management and control weeds post-harvest to prevent seed production.

## REPLANT AND ROTATIONAL CROPS

The following crops listed in the table in the label may be planted at the specified interval following application of Caparol 4L Herbicide to all crops on this label except cotton.

## ROTATIONAL USE RESTRICTIONS

- 1) DO NOT replant or rotate any crop in the table if more than 4 pt/A of Caparol 4L has been applied to the previous crop.
- 2) DO NOT use this table as guidance to replant or rotate any crop after treatment of cotton by Caparol 4L Herbicide.

Rotational Crop Restrictions Following Cotton

The following crops listed in the table in the label may be planted at the specified interval following application of Caparol 4L Herbicide to cotton.

#### Precaution

- Cotton may be replanted in soil previously treated with Caparol 4L Herbicide. Application of a second preemergence treatment may result in crop injury.

#### ROTATIONAL USE RESTRICTIONS

- 1) DO NOT replant or rotate any crop if more than one of the following applications of Caparol 4L Herbicide are used: pre-plant incorporated, pre-emergence or only one post-directed treatment.
- 2) DO NOT replant or rotate any crop until the following year where a lay-by or multiple applications of Caparol 4L Herbicide are made.

#### APPLICATION PROCEDURES

Do not apply this product in a way that will make contact with workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

Ground application (All uses): Use conventional ground sprayers equipped with nozzles that provide accurate and uniform application.

Calibrate sprayer before use and recalibrate at the start of each season and when changing carriers. Unless otherwise specified, use a minimum of 20 gal 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 nozzles at 35-40 psi, 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 gal/minute/100 gal 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 postemergence broadcast application, use flat fan or off-center nozzle tips. Use flood nozzle tips only in AZ and CA 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 using the formula given in the label.

Aerial application (Cotton and pigeon peas only): Use aerial application only where broadcast applications are specified. Use a minimum of 5 gal of spray mixture per acre. Avoid applications under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur.

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 ft 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 non-target plants, apply Caparol 4L by aircraft at a minimum upwind distance of 400 ft from sensitive plants.

## SPRAY EQUIPMENT

### Spray Drift Management

- Avoiding spray drift at the application site is the responsibility of the applicator and the grower. 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.
- Apply only as a medium or coarser spray (ASABE standard 572.1) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles.
- Apply only when the wind speed is 2-10 mph at the application site.

Additional requirements for ground boom application:

- Do not apply with a nozzle height greater than 4 feet above the crop canopy.

Additional requirements for aerial applications:

- The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.
- Release spray at the lowest height consistent with efficacy and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy.
- When applications are made with a crosswind, the swath will be displaced downwind. The applicator must compensate for this displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind.
- Nozzles must always point backward parallel with air stream and never be pointed downward more than 45 degrees.

### Sensitive Areas

Apply the pesticide 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).

### Seedbed Preparation

To ensure proper placement of Caparol 4L, 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 Caparol 4L. 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.

Refer to label for Tank Mix Information.

### Limitations, Restrictions, and Exceptions

#### COTTON

Restrictions: (1) Do not apply more than a total of 10.3 pt of Caparol 4L on sandy loam soil or 11.9 pt of Caparol 4L on medium or fine soil per acre per year. (2) Do

not feed treated forage to livestock or graze treated areas. (3) Do not use on glandless cotton varieties.

## Caparol 4L Alone

Caparol 4L may be applied preplant incorporated or preemergence and/or postemergence as specified in the following tables. The postemergence applications may follow preplant incorporated or preemergence treatments of Caparol 4L.

### Preemergence

Apply at planting or shortly after planting at the appropriate rate listed. Caparol 4L may be used on cotton planted flat, on beds, or in furrows. To avoid concentration of Caparol 4L 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.

Cotton may be replanted in soil previously treated with Caparol 4L.

Restriction: (1) Do not use on sand or loamy sand, on shallow soils with caliche subsoils, or in areas with caliche outcroppings. (2) Do not apply a second preemergence application of Caparol 4L.

### Notes

NM - Apply either preplant incorporated or preemergence (not both) - See Preplant Incorporation section.

### Caparol 4L Foundation Program for Planned Two-Pass Weed Control Systems

In the regions and soil textures listed in Table 2, Caparol 4L may be applied at a reduced rate of 1-2 pt/A (sandy loams = 1 to 1.5 pt/A; loams, silts, sandy clay loams, and clay loams = 1.5 to 2.0 pt/A; and clay soils = 2.0 pt/A) to provide reduced competition from labeled weeds for a period of 30 or more days if followed by a planned postemergence weed control treatment. Postemergence treatments may include any product or combination of products labeled to control the specific weeds remaining in the field. A broad spectrum appropriately labeled glyphosate based product may be applied to Roundup Ready cotton. Follow all other directions for use, precautions, and restrictions on the Caparol 4L label as well as those

specified on the postemergence herbicide product label. In burndown situations, i.e. where weeds are present but the cotton has not yet emerged, Caparol 4L may be tank mixed with a burndown herbicide (e.g. solo glyphosate, or Gramoxone SL) in both Roundup Ready and conventional cotton for improved control of existing weeds. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

#### Method

[In Furrow](#)

[Band application](#)

[In Furrow](#)

[Band application](#)

[In Furrow](#)

[Band application](#)

#### Restricted Entry Interval

12 hours

Exception: If the product is soilinjected 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.

#### Timings

[At-Plant](#)

[Preemergence \(Crop\)](#)

[Postplant](#)