# CAPRENO HAS MULTIPLE MODES OF ACTION THAT HELP CONTROL GRASS AND BROADLEAF WEEDS WHILE MANAGING WEED RESISTANCE.

#### **MODES OF ACTION**

Capreno uses multiple modes of action to control a very wide spectrum of tough grass and broadleaf weeds.

The first mode of action, commonly known as a bleacher, inhibits the 4-hydroxyphenylpyruvate dioxygenase (HPPD) enzyme in plants. HPPD is key to the production of a plant's protective pigments. By preventing pigment production, plant chlorophyll is destroyed by the sun's ultraviolet rays.

The second mode of action is the inhibition of the plant's acetolactate synthase enzyme that prevents weeds from producing three essential branch-chain amino acids. These amino acids are building blocks for normal growth and development that weeds need to survive.

#### **RESISTANCE MANAGEMENT**

The importance of these multiple modes of action goes beyond weed control. They can go a long way in helping growers manage weed resistance.

Capreno itself controls many of the weeds that exhibit resistance to glyphosate, ALS, PPO, dicamba and triazine chemistries.

Capreno can help manage resistance if tankmixed with chemistries such as glyphosate because weed resistance can be managed or prevented with multiple modes of action. Tankmixing glyphosate with Capreno means three modes of action are at work.

### **FLEXIBLE CROP ROTATION**

Capreno is compatible in rotation with many crops. See below for crop rotation timing.

Rotational Interval (elapsed time)	Сгор	Precipitation Requirement <sup>1</sup>
0 Months <sup>2</sup>	Yellow field corn	None
4 Months <sup>2</sup>	Wheat	None
10 Months <sup>2</sup>	Barley, Soybeans, Cotton, Sweet corn <sup>3</sup> , White field corn <sup>3</sup> , Sorghum <sup>3,4</sup> , Spring-seeded alfalfa <sup>3,5</sup> , Spring oats <sup>3,5</sup> , Popcorn <sup>3</sup> , Rice	15 inches of cumulative precipitation from application to planting of rotational crop
11 Months	Peanut	15 inches of cumulative precipitation from application to planting of rotational crop
12 Months	Торассо	15 inches of cumulative precipitation from application to planting of rotational crop
18 Months <sup>3</sup>	Green and Dry beans, Sunflower, Canola, Potato, Sugarbeet and all other crops	30 inches of cumulative precipitation from application to planting of rotational crop

<sup>1</sup>The amount of cumulative precipitation required before planting a rotational crop is in addition to the required rotational interval given in months. Furrow or flood irrigation not to be included in total. No more than 7 inches of overhead irrigation included in total.

<sup>2</sup>Crops planted back at intervals of one year or less should not have known acute sensitivity to ALS-inhibiting and/or SU herbicides.

<sup>3</sup>When soil pH is 7.5 or above, crop plant back should be delayed to the next interval, and to 24 months for crops listed in the 18-month interval above.

<sup>4</sup>Rotation to sorghum should be delayed to the next interval when the total seasonal rate of Capreno herbicide exceeds 3.0 fl oz/A or the total from all sources of thiencarbazone-methyl exceeds 0.0134 lb Al/A per season. <sup>5</sup>For a planned crop rotation to spring-seeded alfalfa/spring oats following corn, make only one application of Capreno to the corn crop and do not exceed a total of 3 fl oz/A of product per

365-day period. The interval between application of Capreno to corn and spring planting of the alfalfa/spring oats rotational crop must be equal to or longer than 10 months.

#### **BAYER CROPSCIENCE COMMITMENT**

Today and tomorrow, Bayer CropScience focuses on grower needs and innovation to deliver the most complete and effective corn and crop protection portfolio.

**IMPORTANT:** This bulletin is not intended to provide adequate information for use of these products. Read the label before using these products. Observe all label directions and precautions while using these products.

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# IT'S MAN VS. WEED. THIS YEAR, WIN ALL SEASON LONG.

With the longest-lasting residual of any post, Capreno postemergence corn herbicide delivers season-long control of the toughest weeds to deliver an amazing end-of-season clean. Thanks to its multiple modes of action, Capreno provides the most complete spectrum of weed control with the added benefit of residual control.

## **CAPRENO IN BRIEF**

- Capreno<sup>®</sup> corn herbicide provides growers with reliable, broad-spectrum weed control.
- Capreno, a novel chemistry among corn herbicides, combines multiple modes of action for complete control of grass and broadleaf weeds.
- Capreno offers powerful broad-spectrum control strong enough to achieve one-pass weed control.
- Capreno is labeled to control more than 65 grass and broadleaf weeds, including fall panicum, yellow foxtail, green foxtail and other weeds exhibiting resistance to glyphosate, ALS, PPO, dicamba and triazine chemistries.
- Capreno kills glyphosate-resistant weeds.
- Capreno delivers burndown control of grass and broadleaf weeds, as well as residual weed control up to canopy. In fact, Capreno provides the longest-lasting residual available in a postemergence herbicide.



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# **Capreno**

- Applying glyphosate with Capreno also can help break the weed resistance cycle because multiple modes of action are being used to control weeds. Capreno can be tankmixed with glyphosate for enhanced grass control.
- Tankmix Capreno with Ignite<sup>®</sup> herbicide for use on corn to optimize weed resistance management.
- Tankmix Capreno with Stratego<sup>®</sup> YLD fungicide for excellent early-season disease control, contributing to late-season crop health, higher yield potential and improved stalk quality.
- The low use rate of Capreno makes it extremely convenient to use, which means there's less product to handle, it's easier to ship, it takes less room to store and there aren't as many jugs.

#### **USE INFORMATION**

Capreno should be used at 3 fl oz/A for broad-spectrum grass and broadleaf weed control. This low use rate means that just one gallon treats 42 acres of corn.

Capreno is a suspension concentrate and can be applied in corn between the V1 and V5 growth stages. For maximum corn yield, Capreno should be applied before weeds reach 4 inches. Larger weeds can be controlled with Capreno, but earlier application will result in better protection of the crop yield from weed competition.

#### **CAPRENO: ALONE OR TANKMIXED**

Capreno herbicide at 3 fl oz/A can effectively be used alone for full grass and broadleaf weed control. Capreno can also be applied with tankmix partners for the ultimate one-pass postemergence herbicide program. Learn more about the most common tankmixes:

**Capreno + atrazine:** When Capreno is applied with as little as 0.5 lb AI/A of atrazine, the atrazine increases the speed, spectrum and consistency of the weed control. Do not use atrazine if corn is more than 12 inches tall.

#### Capreno + Ignite on LibertyLink<sup>®</sup> corn hybrids:

Capreno at 2 fl oz/A in a tankmix with Ignite herbicide enhances control of large, stressed or otherwise difficult-to-control weeds. Additionally, Capreno provides in-season residual weed control with Ignite. The combination of Ignite and Capreno herbicides contains three modes of action for better weed resistance management. Applications can be made through the V5 growth stage.

#### Capreno + glyphosate on glyphosate-tolerant

corn hybrids: The list of weeds resistant or tolerant to glyphosate continues to grow. Capreno at 3 fl oz/A in a tankmix with glyphosate provides complete control of waterhemp, pigweeds, lambsquarters, velvetleaf, ragweed, amaranths, and other large, stressed or otherwise difficult-to-control weeds. Capreno provides alternative modes of action on grass and broadleaf weeds and reduces the risk of glyphosate-resistance development. Application can be made through the V5 growth stage.

#### **ADJUVANT REQUIREMENTS**

Capreno requires a surfactant and fertilizer adjuvant system for optimum weed control. See table below for more details.

Use Crop Oil Concentrate (COC) at 1 gallon per 100 gallons of water (1% v/v), with a minimum of 1.25 pt/A. COC should contain at least 80 percent Crop Oil and 10 percent emulsifier or greater. The use of adjuvants, such as non-ionic surfactants or refined vegetable oils, will result in unacceptable or erratic weed control.

Use 1.5 gt/A of a high-quality urea ammonium nitrate (UAN), or 1.5 lb/A or 8.5 lb per 100 gallons with a minimum of 1.5 lb/A of a spray-grade ammonium sulfate (AMS). Use UAN under conditions of low relative humidity for greater weed control.

Use a glyphosate-compatible surfactant when tankmixing with glyphosate. Glyphosate-compatible oil-based surfactants, such as High Surfactant Oils (HSOCs), optimize the performance of Capreno in the combinations.

ANT REQUIREMENTS				
Combination Herbicide	Surfactant	Fertilizer Additive		
None	1% v/v or <u>min. 1.25 pt/A</u> COC	AMS <sup>1</sup> or UAN <sup>2</sup>		
Atrazine	COC			
Ignite				
Glyphosate	Glyphosate-compatible surfactant <sup>3</sup>	AMS <sup>1</sup>		

<sup>1</sup>Use AMS @ 8.5 lb/100 gal or a min. of 1.5 lb/A.

<sup>2</sup>Use UAN @ 1.5 at/A

<sup>3</sup>The addition of a glyphosate-compatible surfactant is recommended to optimize weed control, and is required with tank mixtures of unloaded glyphosate formulations or when using less than full rates of loaded glyphosate formulations.

#### **BROADLEAF WEEDS CONTROLLED**

Dandelion<sup>1</sup>

Cocklebur, common

<ul> <li>Amaranth, Palmer</li> </ul>	<ul> <li>Deadnettle, purple</li> </ul>
<ul> <li>Amaranth, Powell</li> </ul>	<ul> <li>Dock, curly<sup>1</sup></li> </ul>
<ul> <li>Amaranth, spiny</li> </ul>	<ul> <li>Galinsoga</li> </ul>
<ul> <li>Amaranth, tumbleweed</li> </ul>	• Hemp
<ul> <li>Buckwheat, wild<sup>1</sup></li> </ul>	Henbit
Buffalobur <sup>1</sup>	<ul> <li>Jimsonweed</li> </ul>
Burcucumber <sup>1</sup>	<ul> <li>Knotweed, prostrate<sup>1</sup></li> </ul>
Canada thistle	Kochia
(suppression)	<ul> <li>Ladysthumb</li> </ul>
Carpetweed	<ul> <li>Lambsquarters, comm</li> </ul>
Chickweed, common	Mallow, Venice

- Marestail/horseweed<sup>1</sup>
- - Morningglory, cotton<sup>1</sup>

Partially controlled weeds will be stunted in growth and/or be reduced in number as compared to nontreated areas; performance may not be commercially acceptable. The degree of weed control will vary with weed size, density, spray coverage and/or growth conditions 2Apply before weed exceeds 2 inches in height.

#### **GRASS WEEDS CONTROLLED**

<ul> <li>Barnyardgrass</li> </ul>	<ul> <li>Foxtail, green</li> </ul>
<ul> <li>Crabgrass, large</li> </ul>	<ul> <li>Foxtail, yellow</li> </ul>
<ul> <li>Crabgrass, smooth<sup>1</sup></li> </ul>	<ul> <li>Goosegrass</li> </ul>
<ul> <li>Cupgrass, woolly</li> </ul>	<ul> <li>Johnsongrass, see</li> </ul>
Eoxtail giant	• Junalerice

Partially controlled weeds will be stunted in growth and/or be reduced in number as compared to nontreated areas; performance may not be commercially acceptable. The degree of weed control will vary with weed size, density, spray coverage and/or growth conditions

edling



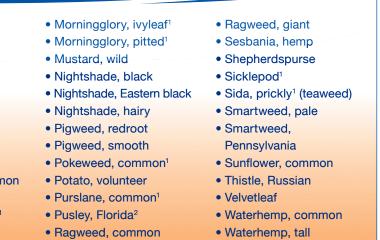
Capreno on large lambsquarters -Capreno applied at 3 fl oz/A with 1 qt of

COC and 1.5 lb AMS



Capreno applied at 3 fl oz/A at V3 with 22 fl oz/A of glyphosate, HSOC and AMS vs. untreated. This photo was taken 18 days after treatmen

Foxtail, yellow



- Millet, wild proso
- Oat, wild
- Panicum, fall
- Panicum, Texas
- Sandbur, field
- Shattercane/volunteer sorghum
- Signalgrass, broadleaf

Capreno + Glyphosate	Halex <sup>®</sup> GT

% Control 95 to 100 90- <95 80- <90 70- <80

Weed control evaluation scale

Partial list of weeds labeled for control by Capreno; see label for the complete list. Weed control ratings using products at labeled rates applied postemergence from V1 to V5 growth stage of corn.