

# IMPACT CORE® HERBICIDE TECHNICAL BULLETIN

## Labeled Corn Types

Field corn (grain, silage, seed) and popcorn are labeled for in-crop use with **IMPACT CORE® Herbicide**.

## Product Formulation

Emulsifiable Concentrate (EC) containing:

- 0.071 lb/gal topramezone.
- 7.08 lb/gal acetochlor without a safening agent.

## Mode of Action and Behavior in Plants and Soil

- **Topramezone:** Systemic foliar herbicide inhibiting 4-Hydroxyphenylpyruvate dioxygenase (HPPD) enzyme (HRAC group 27). Controls susceptible weeds by inhibiting carotenoid biosynthesis which results in breakdown of chlorophyll and death of emerged weeds. Provides limited but observable residual soil activity.
- **Acetochlor:** Soil residual herbicide inhibiting very long-chain fatty acids (HRAC group 15). Controls susceptible weeds by inhibiting root and shoot growth in susceptible germinating seedlings before or shortly after they emerge from soil. Soil moisture within 7 days following application is critical for optimum performance.

## Use Rates Evaluated in Field Trials

IMPACT CORE fl oz/A	Topramezone		Acetochlor	
	lb ai/A	fl oz/A <sup>1</sup>	lb ai/A	pt/A <sup>2</sup>
20	0.011	0.51	1.11	1.26
24	0.013	0.61	1.33	1.52
30	0.017	0.76	1.66	1.9
32	0.018	0.81	1.77	2.0
40	0.022	1.0	2.21	2.5

<sup>1</sup>Impact® 2.8SC rate containing equivalent amount of active ingredient

<sup>2</sup>Acetochlor 7EC rate containing equivalent amount of active ingredient

## Crop Stage at Application

Apply from emergence up to 11-inch corn height.

## Weed Stage at Application

Apply to grass and broadleaf weeds up to 3 inches in height, species dependent, for best performance. Larger weed sizes may be controlled using herbicide tank mixtures.

## Tank Additives – Adjuvants and Nitrogen Fertilizer

- **IMPACT CORE** applied alone should include Methylated Seed Oil (MSO) at 0.25–0.5% v/v (1–2 qt/100 gal) for optimum activity.
- Herbicide tank-mixtures with **IMPACT CORE** should include NIS at 0.25% v/v to improve performance.
- All applications of **IMPACT CORE** must include spray grade ammonium sulfate (AMS) at 2.5 lb/A or liquid AMS (3.4 lb AMS/gal) at 3 qt/A for optimum performance on emerged weeds.

## Crop Tolerance

The use of additional herbicides and/or oil-based adjuvants in a tank-mix with **IMPACT CORE** may increase potential for minor symptoms such as marginal leaf necrosis. These symptoms are infrequent and temporary; corn growth and development are not affected.

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## Application Information

- A minimum water volume of 15 gal/A, more for dense infestations, is needed to achieve uniform thorough weed coverage and optimum **IMPACT CORE** performance.
- Select nozzle types, spray pressure and water volume that deliver medium spray droplets (250 to 400 micron diameter) to **thoroughly** cover target weeds.

## Application Timing

**IMPACT CORE** can be applied as one-pass, early postemergence program or in a sequential two-pass program following a preplant or preemergence residual herbicide. Best results are achieved with applications to actively growing weeds during conditions which favor good crop growth such as sunlight and adequate moisture. Symptoms on weeds generally occur within 4 to 7 days, but emerged susceptible weeds may take 14 to 21 days for complete control.

## Tank Mixtures

**IMPACT CORE** may be tank-mixed or applied sequentially with any pesticide registered for use on corn, unless prohibited by label, to enhance pest spectrum or residual control. Tank-mix partners must be used in accordance with the label restrictions and precautions. No label dosage rates may be exceeded.

- Tank-mixtures with atrazine at 1.0 to 1.5 lb/A are recommended for enhanced postemergence spectrum and extended residual weed control.
- Including glyphosate at labeled rates, provides postemergence control of additional grass and broadleaf species.

## Broadleaf Weeds Controlled or Partially Controlled

**IMPACT CORE** controls or partially controls more than 40 emerged annual broadleaf weeds including several broadleaf weeds which are documented as glyphosate-resistant. Key weeds controlled postemergence include velvetleaf, lambsquarters, ragweeds, waterhemp and Palmer amaranth. **IMPACT CORE** provides extended residual control of several broadleaf weeds, including waterhemp.

## Grass Weeds Controlled or Partially Controlled

- **IMPACT CORE** controls or partially controls 15 emerged annual grass weeds including the most prevalent grasses in corn such as giant foxtail, barnyardgrass, goosegrass and crabgrass with postemergence activity.
- **IMPACT CORE** provides extended control or partial control of 22 annual grass weeds through residual soil activity.

## Herbicide Resistance

- Resistance of Palmer amaranth and waterhemp has been documented to HRAC group 27 herbicides, and resistance of waterhemp has been documented to HRAC group 15 herbicides.
- If resistance of these weed species is known or suspected in a field where **IMPACT CORE** will be applied, a herbicide with an alternate and effective mode of action is recommended in a tank mix with **IMPACT CORE**.

## Rotational Cropping Interval

- All corn types – 0 months (immediate).
- Wheat – 4 months.
- Barley, rye, oat, millet, alfalfa, grain sorghum, grass for seed – 9 months.
- Soybean, cotton, potato, peanut, sunflower – 10 months.
- All other crops – 18 months.

## Rainfast Interval

**IMPACT CORE** is rainfast on emerged weeds within 1 hour after application.

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