



**Stepan's Built-In Surfactant for  
Clethodim Common Grass Herbicides**

# Clethodim Common Grass Herbicides

Clethodim is a selective, post-emergent herbicide that can be used to control annual and perennial grasses without affecting broadleaf crops, including soybeans, canola, sugarbeets, potatoes, sunflowers, peanuts and many more. Stepan Agricultural Solutions' STEPGROW™ CL 101 is a built-in surfactant for clethodim that provides excellent emulsion and active ingredient stability for both 2E and 3E finished formulations. STEPGROW CL 101 also offers an improved safety profile of the formulation that enables the SDS hazard rating to be upgraded to "Caution" rather than "Warning" which is associated with standard calcium dodecylbenzene sulfonate blends.

## Representative Formulations

Component	Weight %	
	Clethodim 2E	Clethodim 3E
Clethodim	26.40	36.77
STEPGROW CL 101	3.50	8.00
Aromatic 150	70.10	55.23

## Clethodim Emulsion Stability

Formulation	Water Hardness, ppm	% Cream, 1h
Clethodim 2E	34	Trace
	342	
	1000	
Clethodim 3E	34	1.0
	342	
	1000	

## Clethodim Active Stability

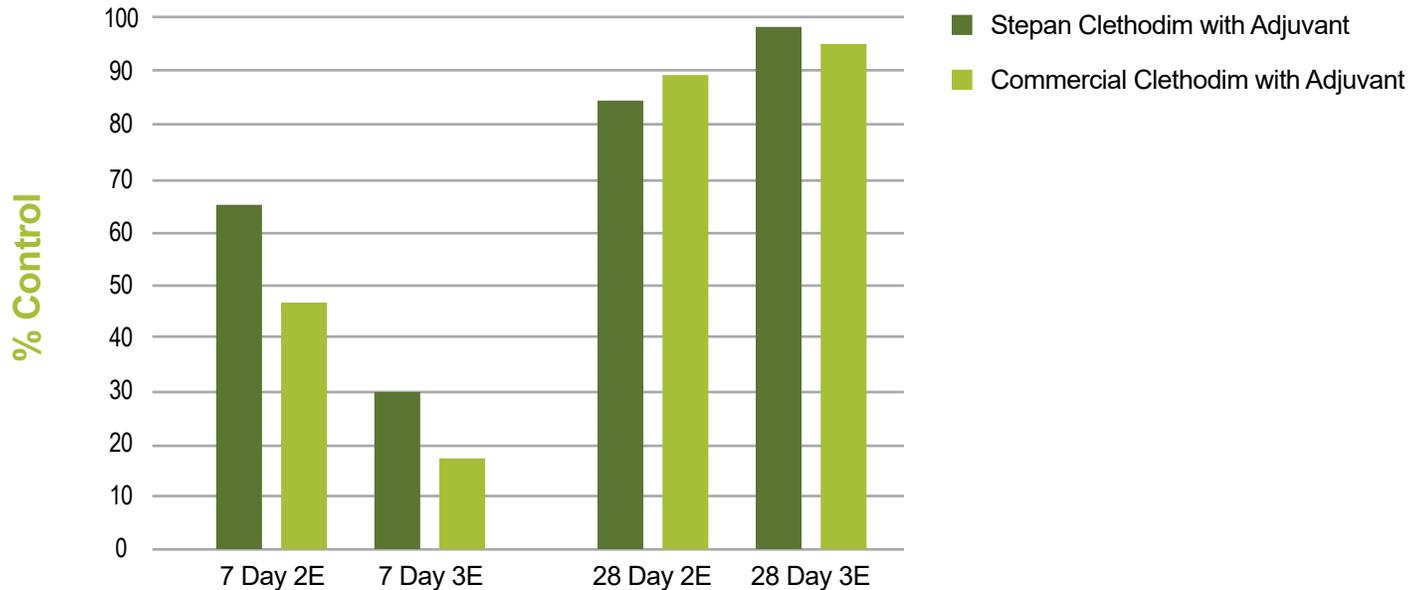
Formulation	% Actives STEPGROW CL 101	Condition °C	% Actives After 7 Days	% Actives After 14 Days	% Actives After 28 Days
Clethodim 2E	3.5%	54	98.79	98.08	97.42
Clethodim 3E	8.0%	54	98.73	98.44	92.04

NOTE: Results may vary with Clethodim and/or Aromatic 150 source.

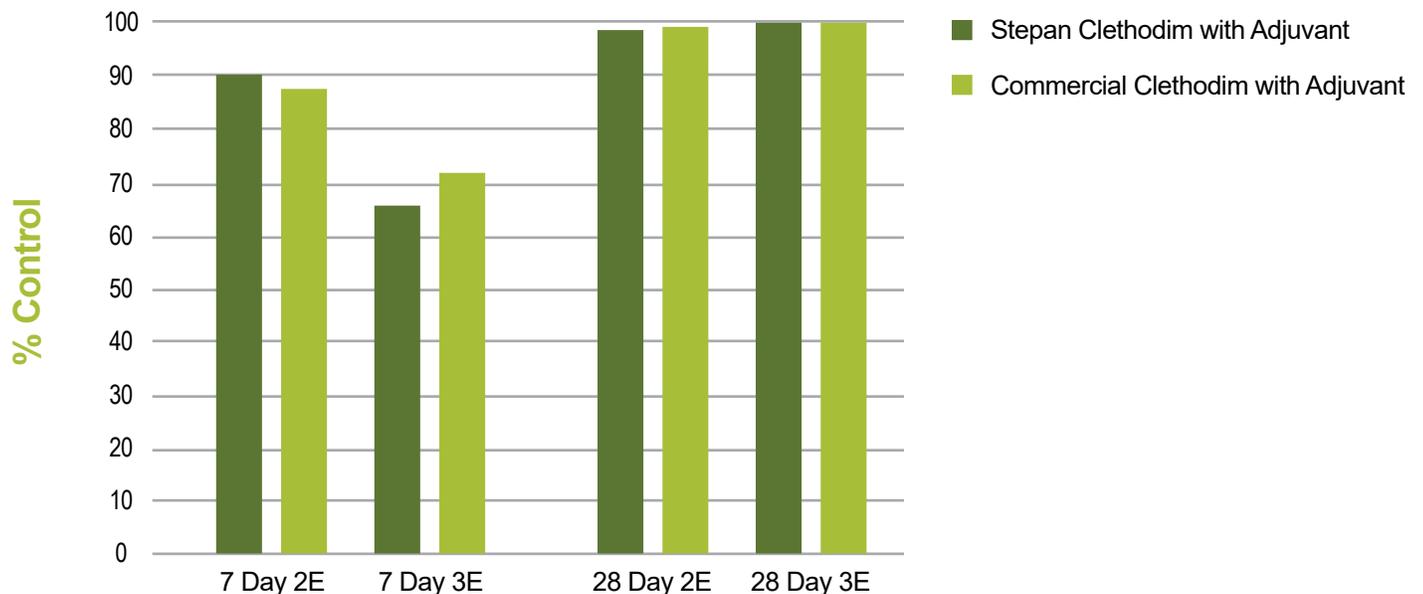
## Field Trial Results: Clethodim Control of Giant Fox Tail and Barnyard Grass

Stepan's 2E and 3E formulations with STEPGROW CL 101 were evaluated for performance against commercial Clethodim formulations in combination with our STEPGROW CL-ADJ tank mix adjuvant, an external adjuvant system designed for use with Clethodim formulations. In field trials, Stepan's Clethodim with adjuvant performs at or above commercial Clethodim with adjuvant for percent control in almost all 7 day and 28 day evaluations.

### Giant Fox Tail



### Barnyard Grass



Stepan Agricultural Solutions is committed to supporting our customers' formulation needs. Our dedicated team of scientists are ready to help you get to the root of complex formulation challenges when formulating your next Clethodim product.



Click [here](#) to order a sample.

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