

Vapex™, a VaporGrip® Xtra Agent

A VOLATILITY REDUCING AGENT For Use With Herbicide Products Containing Dicamba



Vapex, a VaporGrip Xtra Agent Performance Validated Through Low-Tunnel Trials Conducted in cooperation with U.S. Academic Weed Scientists across key soybean growing areas.

Low tunnel trials provide field evaluation of soybean plant response due to dicamba volatility. The method was developed and executed by Bayer and U.S. Academic Weed Scientists.

- Treatments are conducted at 4X field use rates to separate low volatility treatments.

4x USE RATES

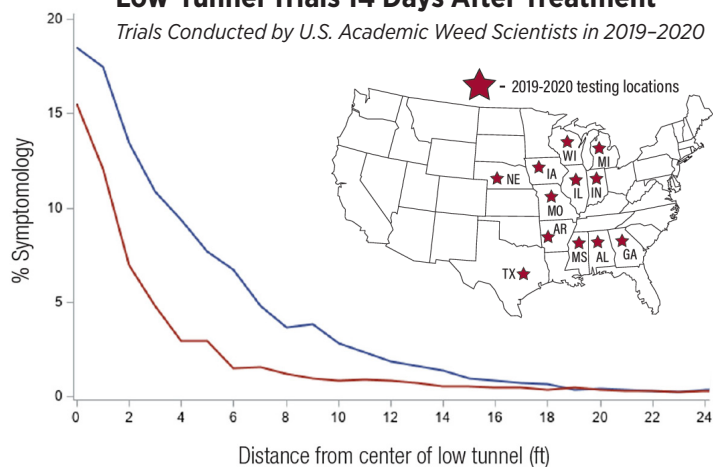
- Roundup PowerMAX Herbicide @ 128 oz/A
- Xtendimax Herbicide with VaporGrip Technology @ 88 oz/A
- Approved DRA @ 2% v/v
- Vapex, a VaporGrip Xtra Agent @ 80 oz/A

- Each treatment was applied to 2 flats of soil.
- Soil was treated at a remote location and transported to the test site.
- Soil flats wetted to field capacity the night before the trial.
- Flats exposed to the crop for 48 hours.
- Crop injury ratings taken 14 and 28 days after treatment.
- Temperature under the hoop house monitored with a weather station. In many cases, air temperature was 100-120°F.



Low-Tunnel Trials 14 Days After Treatment

Trials Conducted by U.S. Academic Weed Scientists in 2019-2020



■ Xtendimax + Roundup PowerMAX + Approved DRA

■ Xtendimax + Roundup PowerMAX + Approved DRA + Vapex, a VaporGrip Xtra Agent

Testing of Vapex, a VaporGrip Xtra Agent was done in combination with XtendiMax Herbicide with VaporGrip Technology. Expect similar trends with other dicamba products.

Performance may vary, from location to location and from year to year, as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible and should consider the impacts of these conditions on the grower's fields.

To learn about the Roundup Ready Xtend Crop System and education opportunities, visit RoundupReadyXtend.com.

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Volatility Reducing Agent

What factors contribute to volatility?

The availability of protons (H+) in solution, significantly increases the potential for dicamba acid to be formed. Dicamba acid is the volatile form and can potentially volatilize. The availability of protons is influenced by a number of factors including salt of dicamba, tank-mix partners, and overall solution pH. Therefore, it is important to only utilize approved low-volatility dicamba and approved tank-mix partners for applications.

How does VaporGrip Technology work?

VaporGrip Technology binds protons (H+) and removes them from the spray solution to significantly limit the formation of dicamba acid.

What is Vapex, a VaporGrip Xtra Agent?

Vapex, a VaporGrip Xtra Agent is a tank mix adjuvant that delivers additional VaporGrip Technology to spray tanks for further reduction of potential dicamba volatility.

What is the use rate of Vapex, a VaporGrip Xtra Agent?

Vapex, a VaporGrip Xtra Agent should be used at a minimum rate of 20 ounces per acre.

Has Vapex, a VaporGrip Xtra Agent been tested?

Vapex, a VaporGrip Xtra Agent has been thoroughly tested* in field trials by Bayer and U.S. academic weed scientists.

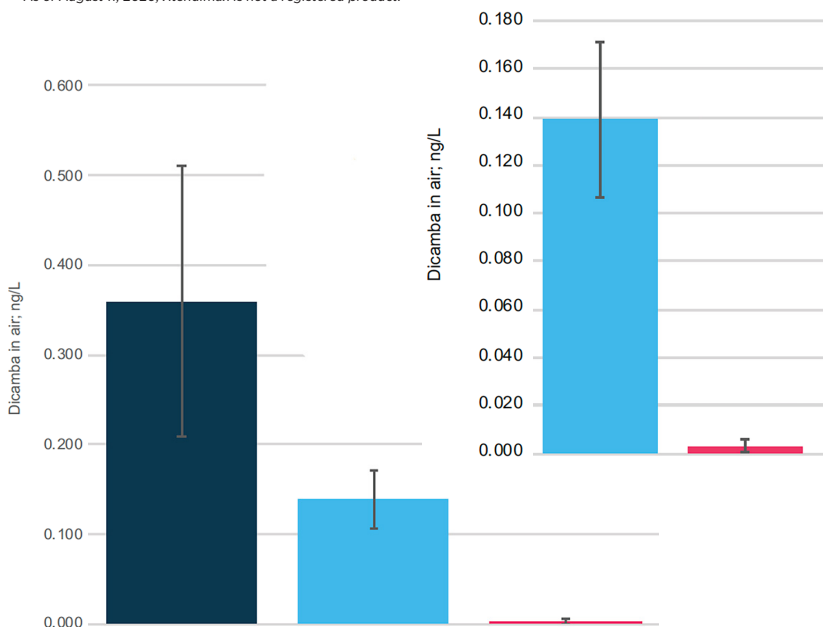
Bayer Humidome Performance Trials – Results

Humidome¹ studies measuring the air concentration of dicamba demonstrate that Vapex, a VaporGrip Xtra Agent provides additional volatility reduction.

- Clarity + Roundup PowerMAX
- Xtendimax + Roundup PowerMAX
- Xtendimax + Roundup PowerMAX + Vapex, a VaporGrip Xtra Agent

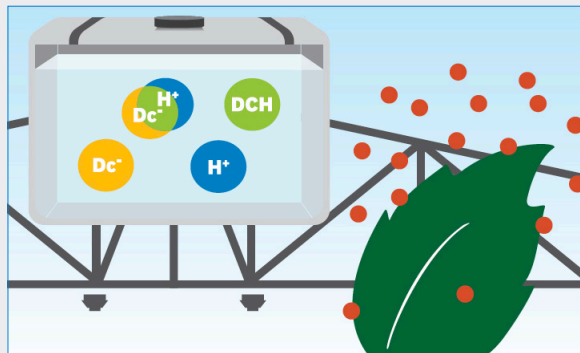
As of August 11, 2020, Xtendimax is not a registered product.

The black brackets in the middle of the bars represent error bars that take into account the differences between various measurements and replications in each test to assign levels of confidence to the results. Testing of Vapex, a VaporGrip Xtra Agent was done in combination with Xtendimax Herbicide with VaporGrip Technology. Expect similar trends with other dicamba products.



How VaporGrip Technology Works

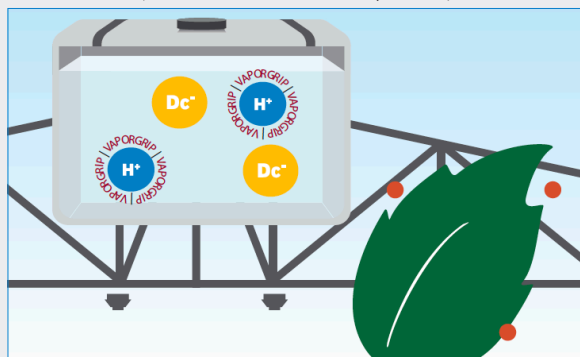
Dicamba without VaporGrip Technology



In the tank there is the potential for dicamba acid (DCH) to form in solution and create off-target movement of dicamba through volatility after spraying.

XtendiMax Herbicide with VaporGrip Technology

(XtendiMax is a restricted use pesticide)



In the tank, VaporGrip Technology reduces the formation of dicamba acid (DCH) in solution, minimizing volatility potential of dicamba after spraying.

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2 x 2.5-Gallon Case
Item# VAP02 | 36 Cases per Pallet

265-Gallon Tote
Item # VAP265 | 1 Tote per Pallet



Vapex is a trademark of KALO, Inc.
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www.kalo.com

¹ Gavlick, W.K., D.R. Wright, A. MacInnes, J.W. Hemminghaus, J.K. Webb, V.I. Yermolenka, W. Su. 2016. A method to Determine the Relative Volatility of Auxin Herbicide Formulations. Pesticide Formulation and Delivery Systems: 35th Volume, ASTM STP1587. pp 24-32G. R. Goss, Ed. ASTM International, West Conshohocken, PA.