

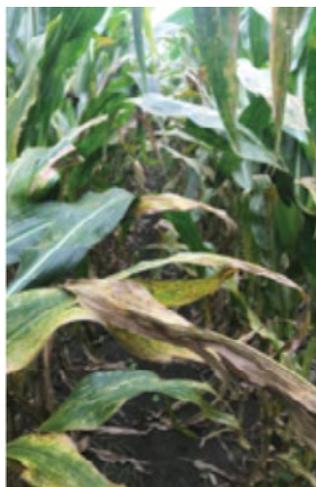
# 2019 FMC LUCENTO<sup>®</sup> AND TOPGUARD<sup>®</sup> EQ FUNGICIDES ON-FARM GROWER YIELD TRIALS



Crop diseases can quickly turn the tables on a promising season. Being well-informed on the tools available is key to ensuring success. Explore how the FMC fungicide portfolio can help your growers see the results they expect.

## TO LEARN MORE ABOUT THE FMC FUNGICIDE PORTFOLIO, VISIT [FMCCROP.COM](http://FMCCROP.COM).

Untreated



Lucento<sup>®</sup>  
fungicide  
5 fl. oz./A



Kansas State University, 2017

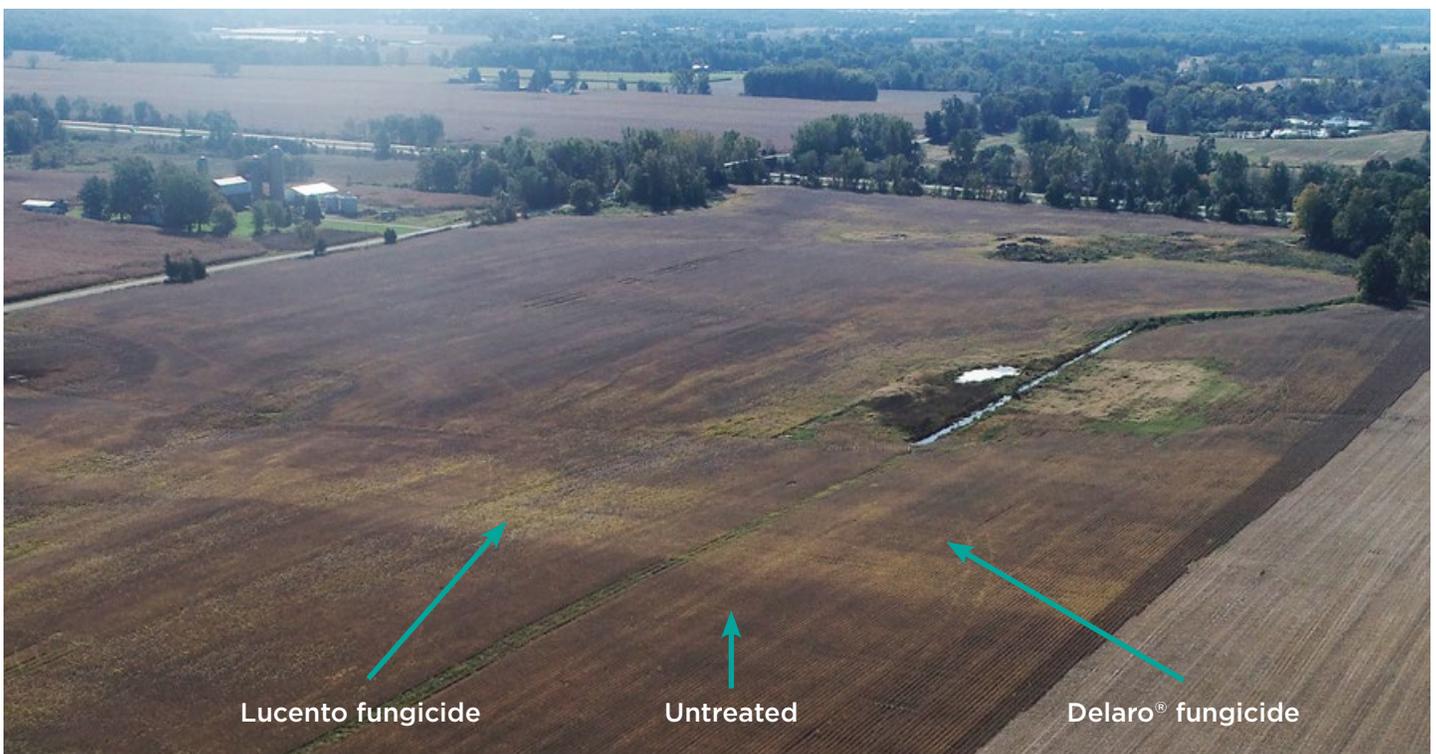
## DISEASE CONTROL PERFORMANCE IS DEPENDENT ON A NUMBER OF FACTORS

but no two are more important than environment and conditions. To demonstrate the capabilities of the growing FMC fungicide portfolio under a range of diverse elements, in 2019 FMC gave hundreds of growers, crop consultants and universities from across the U.S. the opportunity to trial **Lucento® and Topguard® EQ fungicides** in corn and soybeans. At the end of the season, FMC received data from **more than 250 trials** spanning North Dakota to Louisiana, Washington to Virginia. The results affirmed the industry-leading yield protection and positive return on investment growers expect from Lucento and Topguard EQ fungicides. Assembled in the following pages are summaries of these trials, which provide a **snapshot of the outstanding performance** experienced in these on-farm grower trials.



THE RESULTS AFFIRMED THE INDUSTRY-LEADING YIELD PROTECTION AND POSITIVE RETURN ON INVESTMENT GROWERS EXPECT FROM LUCENTO AND TOPGUARD EQ FUNGICIDES.”

### Lowell, Michigan Lucento Fungicide Soybean Comparison



One example of the 2019 trials conducted around the U.S. In this field, a Lowell, MI grower applied one pass of Lucento fungicide and one pass of Delaro fungicide on his soybean field at R2. The visual difference is clear in this aerial photo of the field.

# FMC FUNGICIDE DISEASE SPECTRUM

FMC offers a growing portfolio of fungicides, including many different modes of action and methods to apply to help growers combat a wide range of diseases and manage resistance. Whether growers need defense from gray leaf spot, Northern corn leaf blight, white mold, frogeye leaf spot, cercospora leaf spot or other diseases, FMC fungicides get the job done.

**+ = FAIR**

**++ = GOOD**

**+++ = EXCELLENT**

CORN DISEASES	 FRAC Group 3 + 7	 FRAC Group 3 + 11
	Gray Leaf Spot ( <i>Cercospora zea-maydis</i> )	+++
Northern Corn Leaf Blight ( <i>Bipolaris maydis</i> )	+++	+++
Common Rust ( <i>Puccinia sorghi</i> )	+++	+++
Southern Rust ( <i>Puccinia polysora</i> )	++	+++
Anthrachnose Leaf Blight	+++	+++
Southern Corn Leaf Blight	+++	+++
Tar Spot	+++*	++*
Physoderma Brown Spot	+++	NL
Diplodia Ear/Stalk Rot	+++	NL
Eyespot	+++	+++
SOYBEAN DISEASES	 FRAC Group 3 + 7	 FRAC Group 3 + 11
Frogeye Leaf Spot	+++	++
Cercospora Leaf Blight (purple seed stain)	+++	+++
Target Spot	+++	++
Brown Spot ( <i>Septoria</i> )	+++	++
White Mold	++	+

\* Recommendation is permitted under FIFRA Section 2(ee) for use in corn (field, corn grown for seed and popcorn) for control of tar spot in Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio and Wisconsin.

NL = Not Labeled

# FMC FUNGICIDE PORTFOLIO

FMC offers two superior fungicide options for corn and soybean fields. Use either product and get maximum protection and long-lasting disease control helping resulting in top-end yield performance.



## Lucento® Fungicide

- **FIRST OF ITS KIND:** Lucento® fungicide combines bixafen, a new-generation SDHI molecule, and flutriafol, the most systemic triazole on the market.
- **ACTIVE INGREDIENT MOVEMENT:** This unique fungicide delivers active ingredients through translaminar and acropetal movement, providing uniform leaf distribution, disease protection and long-lasting residual control.
- **RESISTANCE MANAGEMENT TOOL:** With two highly active modes of action, Lucento fungicide targets the most aggressive diseases and is effective against some that are resistant to Group 11 fungicides.



## Topguard® EQ Fungicide

- **UNIQUE:** The only premix that combines the highly systemic actives flutriafol and azoxystrobin for a strong dual mode of action product that provides excellent disease control and a long residual.
- **PLANT HEALTH:** Topguard® EQ fungicide offers plant health benefits such as decreased ethylene production, increased carbon assimilation and enhanced water and nutrient uptake.
- **PROTECTION:** Topguard EQ fungicide is highly systemic, meaning it protects against disease before onset and has a strong residual to keep the plant protected for longer.

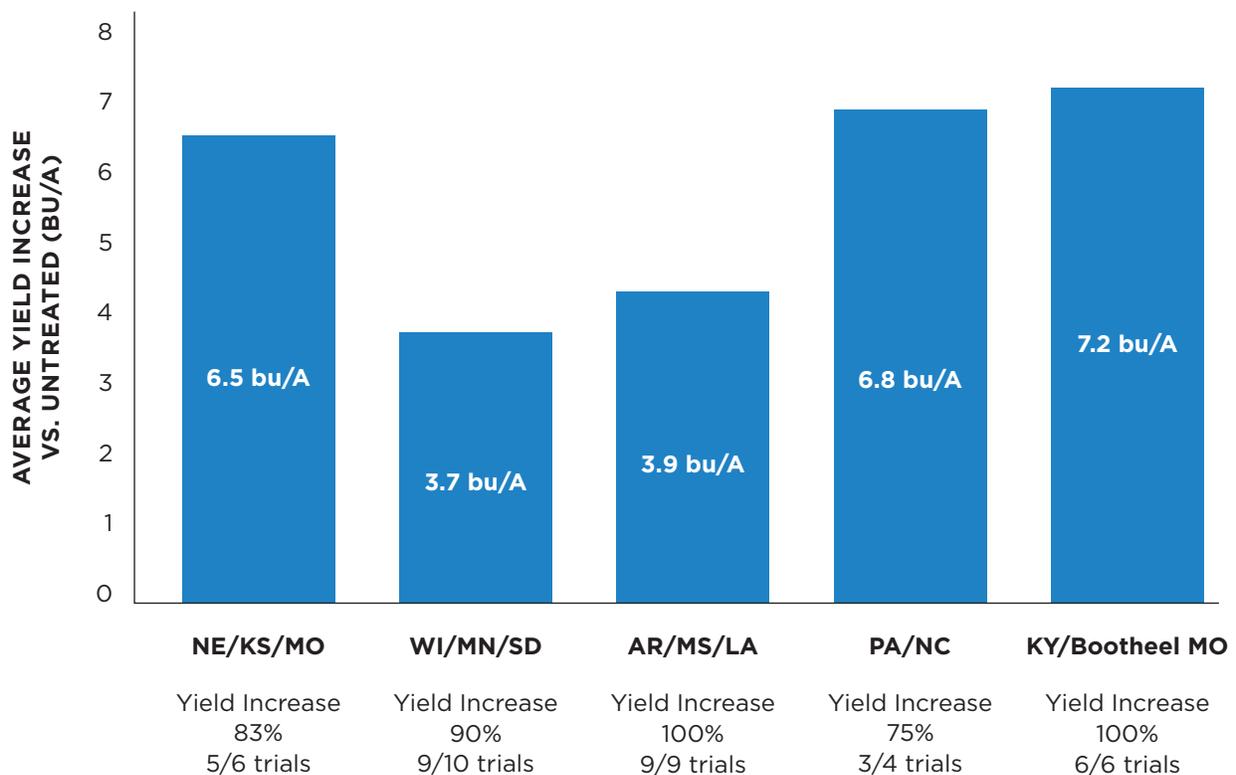
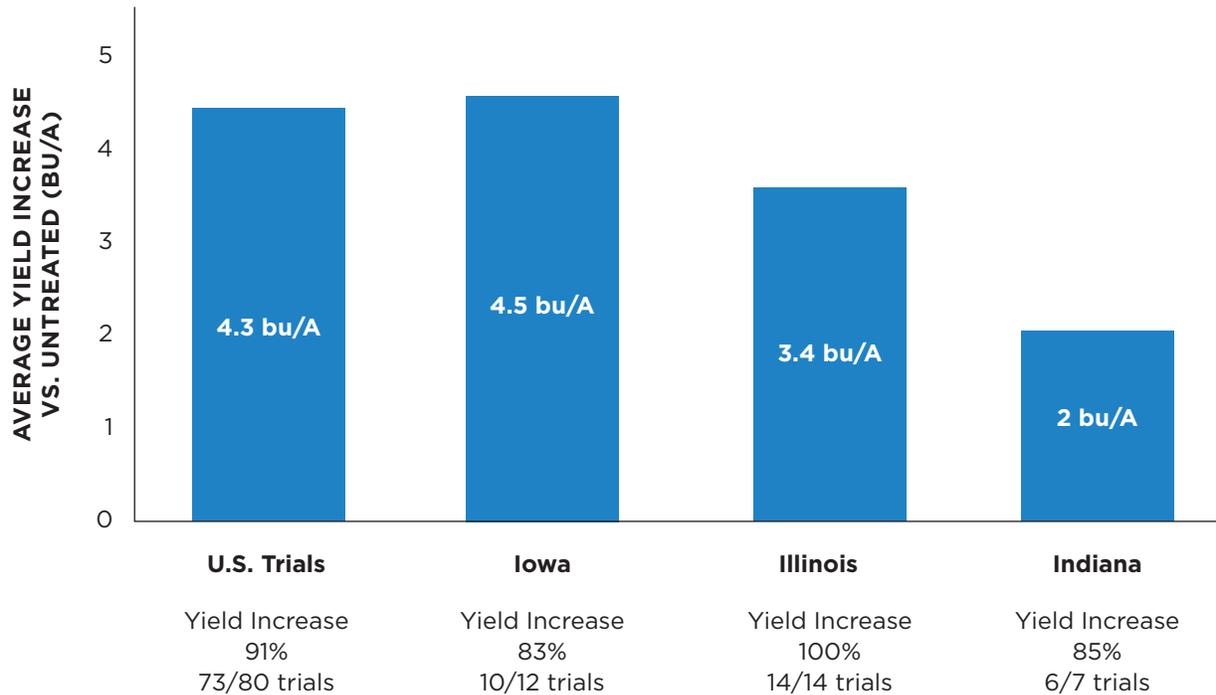
2019 FMC LUCENTO<sup>®</sup> AND TOPGUARD<sup>®</sup> EQ FUNGICIDES  
ON-FARM GROWER YIELD TRIALS

---

# SOYBEANS



# Lucento<sup>®</sup> Fungicide Advantage - % of trials where Lucento fungicide out-yielded untreated comparison and average yield increases.

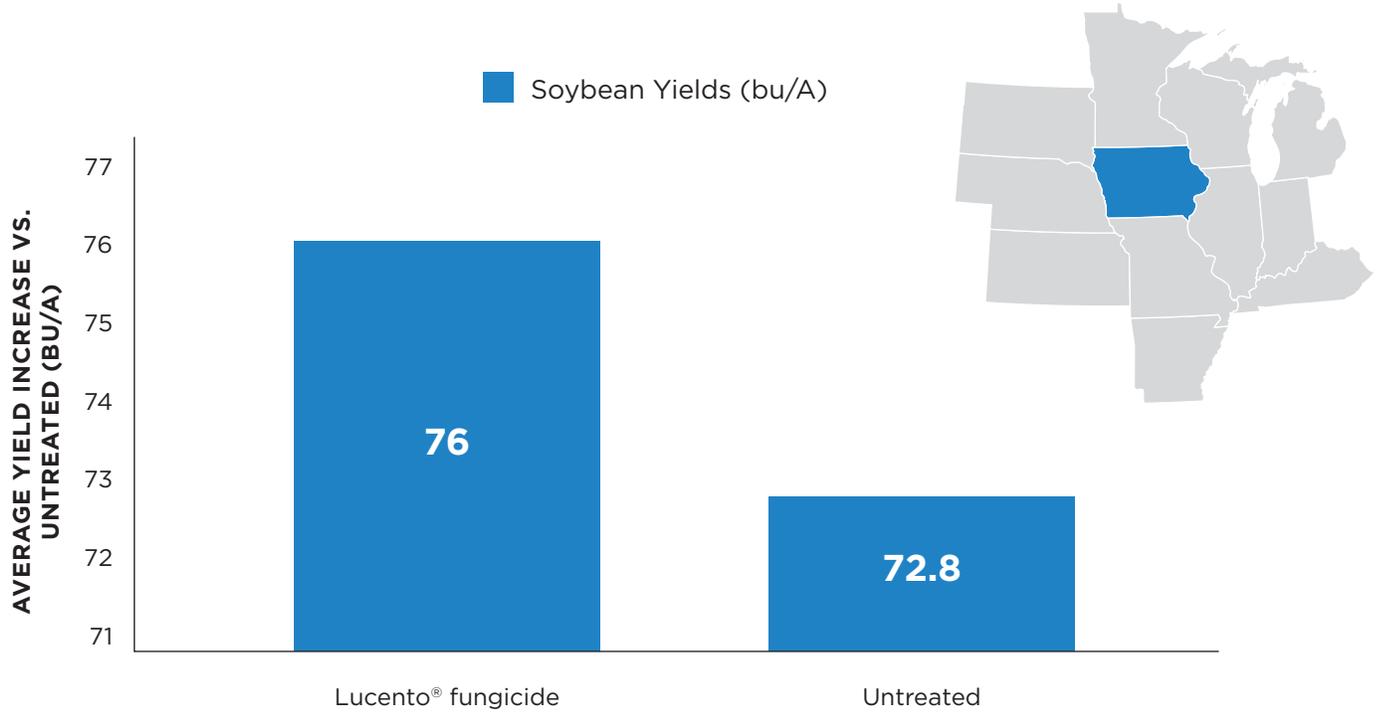


## Lucento<sup>®</sup> fungicide – 2019 On-Farm Grower Trials Across the Midwest Competitive Comparison: Soybeans.

Comparative Treatment	Lucento <sup>®</sup> Fungicide Advantage - % of trials where Lucento fungicide out yielded competitive comparison (head-to-head).	Lucento Fungicide Advantage vs. Competitive Comparison in Head-to-Head trials (bu/A)
Untreated	91% of trials (73 of 80 trials across U.S.)	+4.3 bu/A
Trivapro <sup>®</sup> fungicide	100% (5 of 5 locations)	+2.8 bu/A
Priaxor <sup>®</sup> D fungicide	85.7% (6 of 7 location)	+2.1 bu/A
Delaro <sup>®</sup> fungicide	80% (4 of 5 locations)	+2.2 bu/A
Revytek <sup>™</sup> fungicide	50% (2 of 4 locations)	+1.7 bu/A
Stratego <sup>®</sup> YLD fungicide	100% (4 of 4 locations)	+2.8 bu/A
Aproach <sup>®</sup> /Aproach <sup>®</sup> Prima fungicide	100% (3 of 3 locations)	+3.2 bu/A
Quadris Top <sup>®</sup> SBX fungicide	63% (5 of 8 locations)	+4.6 bu/A
Miravis <sup>®</sup> Neo fungicide	50% (3 of 6 locations)	+1.67 bu/A
Miravis <sup>®</sup> Top fungicide	50% (5 of 10 locations)	+1.0 bu/A

# Lucento<sup>®</sup> Fungicide Grower On-Farm Trials | Iowa Locations

12 Side-by-Side Iowa Grower On-Farm Trials - 2019



Untreated



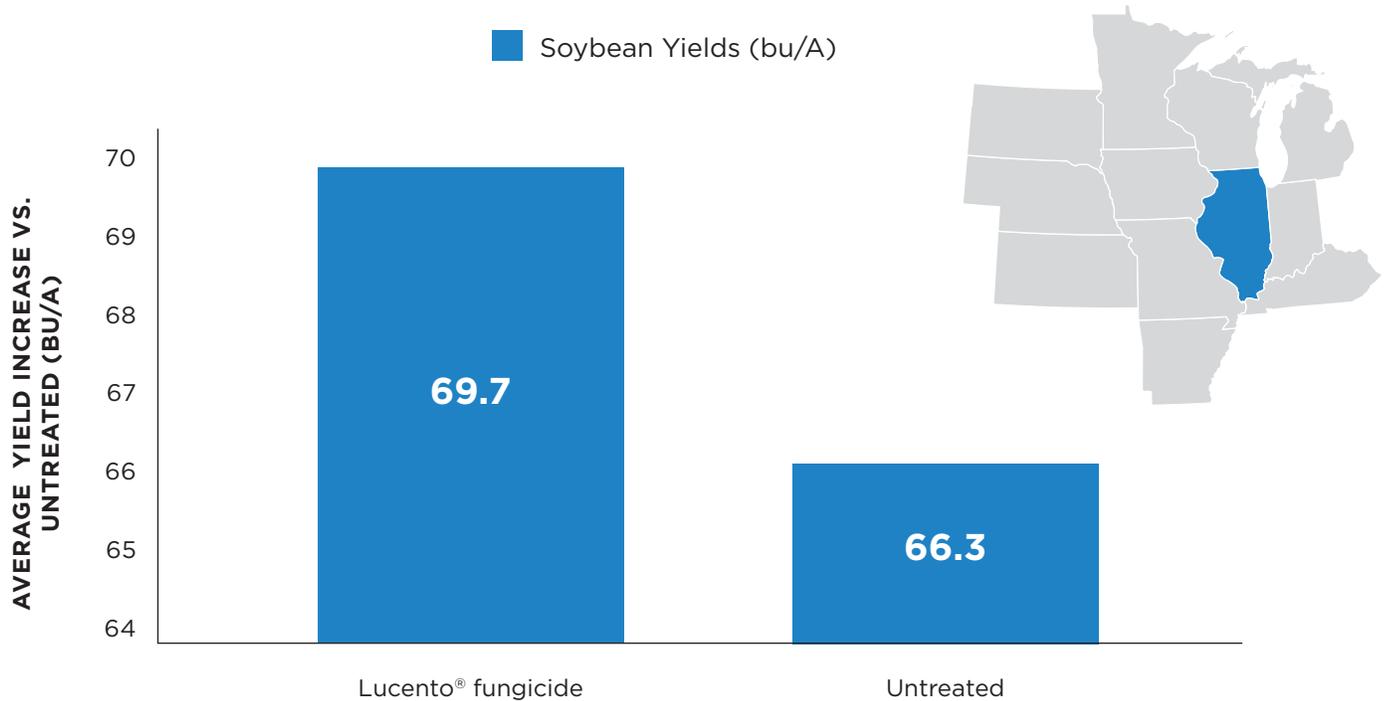
Lucento fungicide (5 oz./A)



Aproach<sup>®</sup> fungicide (9 oz./A)

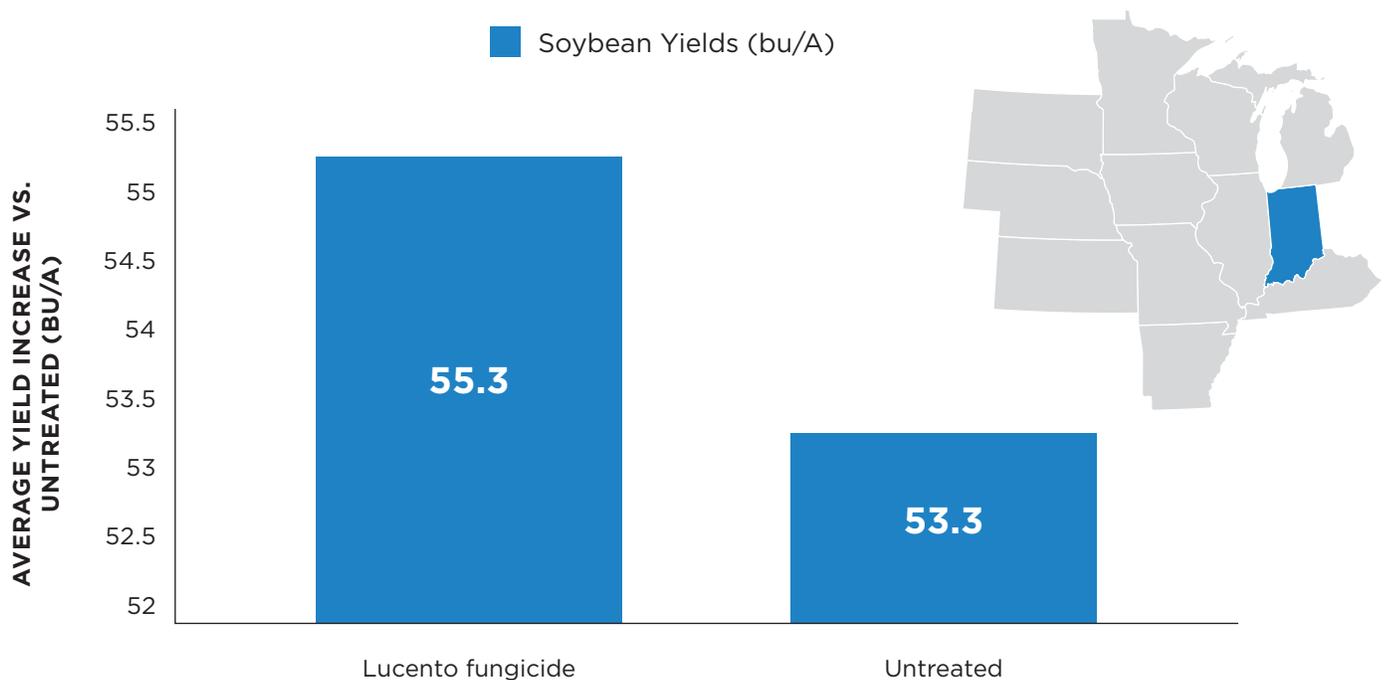
# Lucento® Fungicide Grower On-Farm Trials | Illinois Locations

14 Side-by-Side Illinois Grower On-Farm Trials - 2019



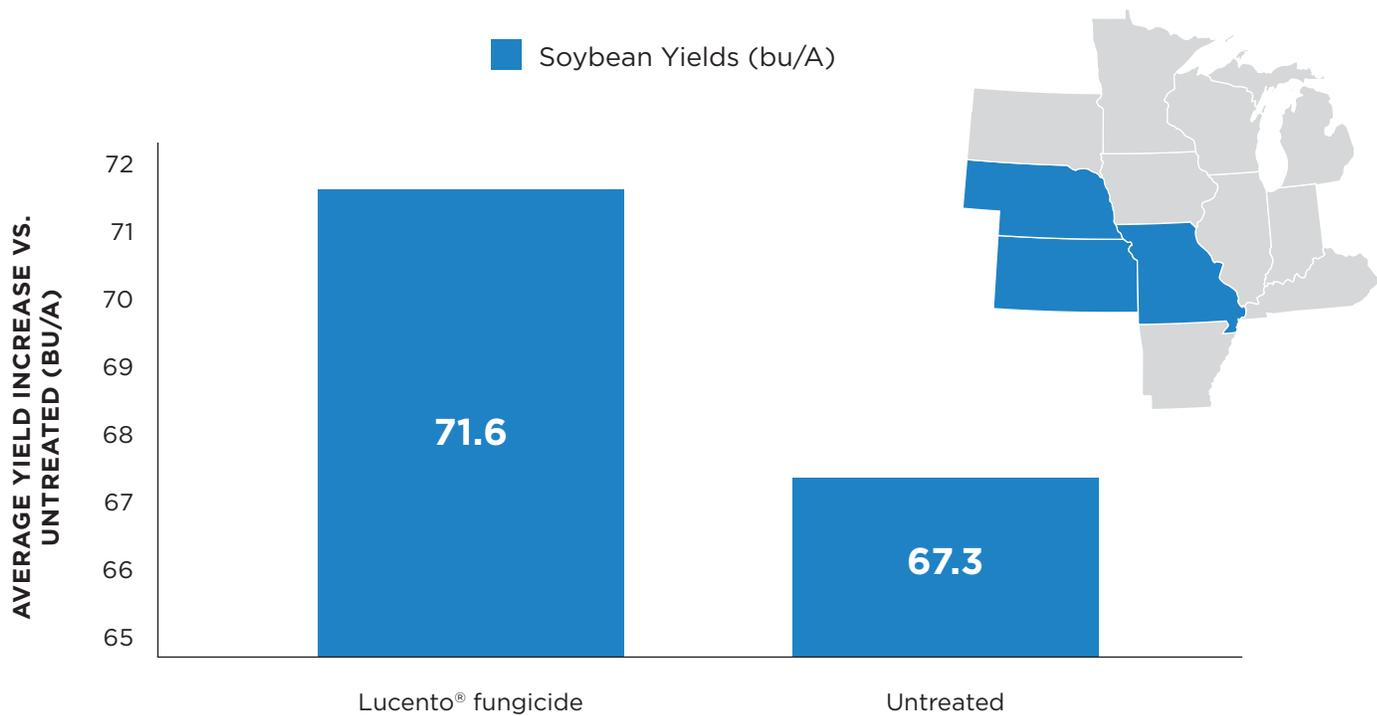
# Lucento Fungicide Grower On-Farm Trials | Indiana Locations

7 Side-by-Side Indiana Grower On-Farm Trials - 2019



# Lucento<sup>®</sup> Fungicide Grower On-Farm Trials | Kansas/Nebraska/Missouri Locations

6 Side-by-Side Grower On-Farm Trials - 2019



## Lancaster Co., NE

49 days after Lucento fungicide treatment



# Lucento® Fungicide Grower On-Farm Trial | Nebraska

JS Lucento fungicide demo | Kearney Co., NE | August 16, 2019



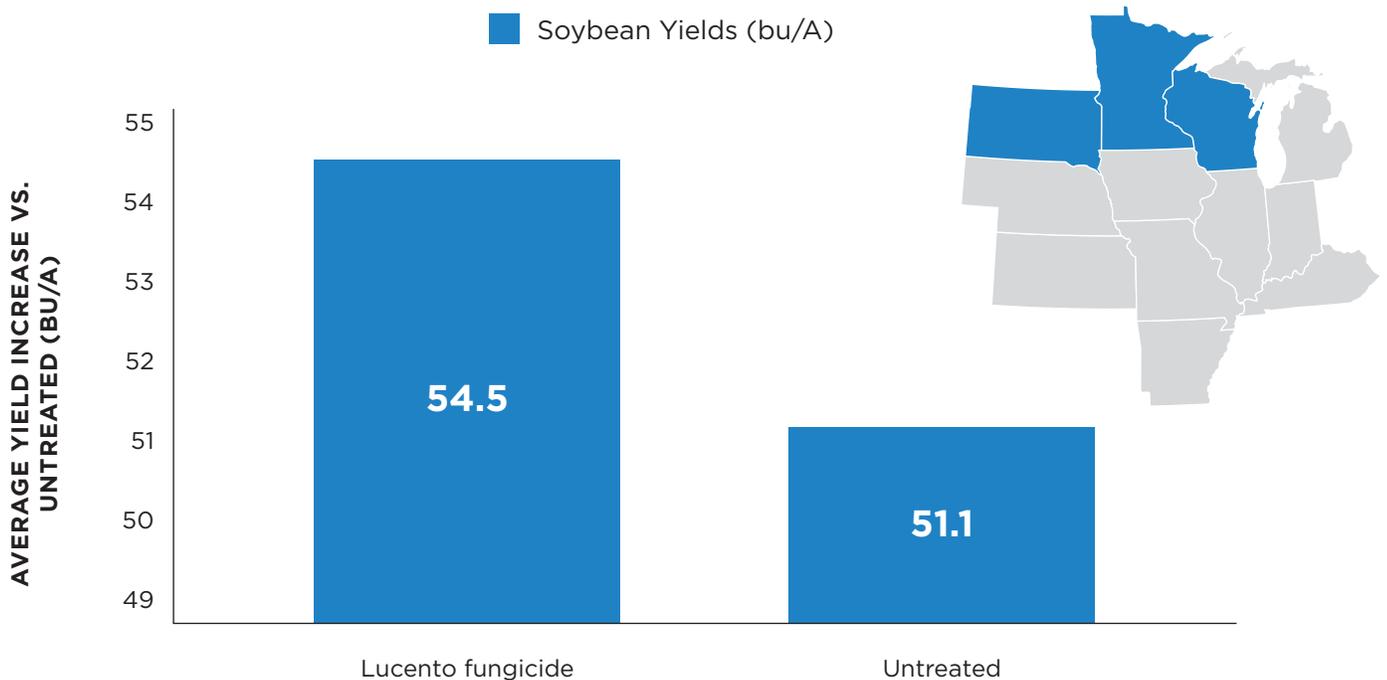
Untreated



Lucento® fungicide

## Lucento Fungicide Grower On-Farm Trials | South Dakota/Minnesota/Wisconsin Locations

10 Side-by-Side Grower On-Farm Trials - 2019



# Soybean Yield Challenge Report

Vernon County, MO

Becks 4991X2 | Planted 6/13/19, Harvested 11/4/19, Fungicide Applied 8/29/19:

Lucento® fungicide 5 oz./A + Hero® insecticide 5 oz./A

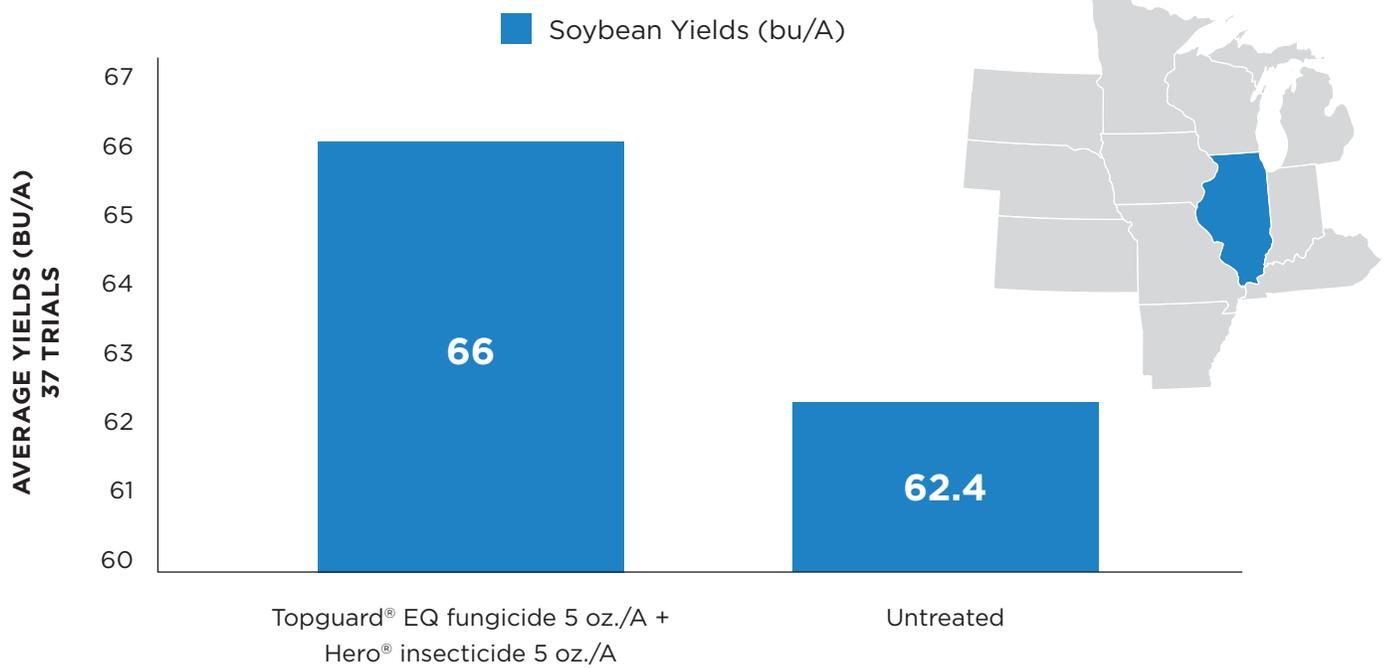
Priaxor® fungicide 7 oz./A + Hero insecticide 5 oz./A

Lucento® fungicide + Hero® insecticide		
Average Yield 77.6 bu/A	Acres 8.5	Moisture 13.6%
Check		
Average Yield 70.9 bu/A	Acres 5.2	Moisture 13.2%
Priaxor® fungicide + Hero insecticide		
Average Yield 75.7 bu/A	Acres 9.0	Moisture 13.4%

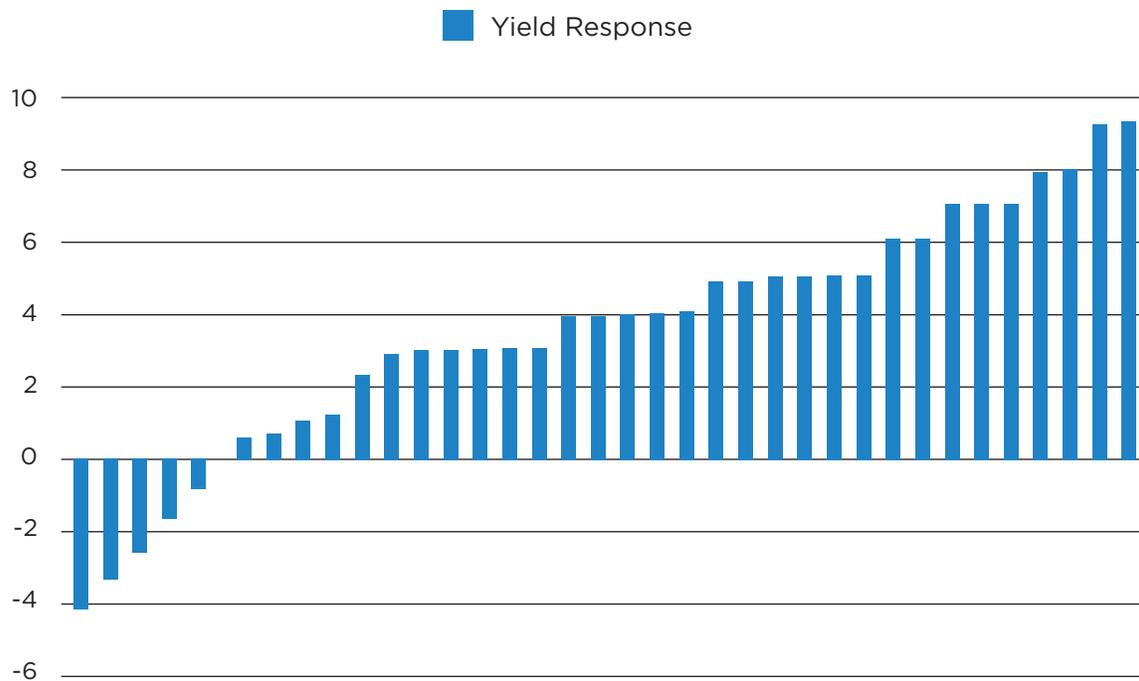


# Topguard® EQ Fungicide + Hero® Insecticide | Illinois Grower On-Farm Trials - Soybeans

37 Side-by-Side Grower On-Farm Trials - 2019



## Topguard EQ fungicide (5 oz./A) + Hero insecticide (5 oz./A) vs. Untreated



Yield increase in 31 of 37 locations (84%)

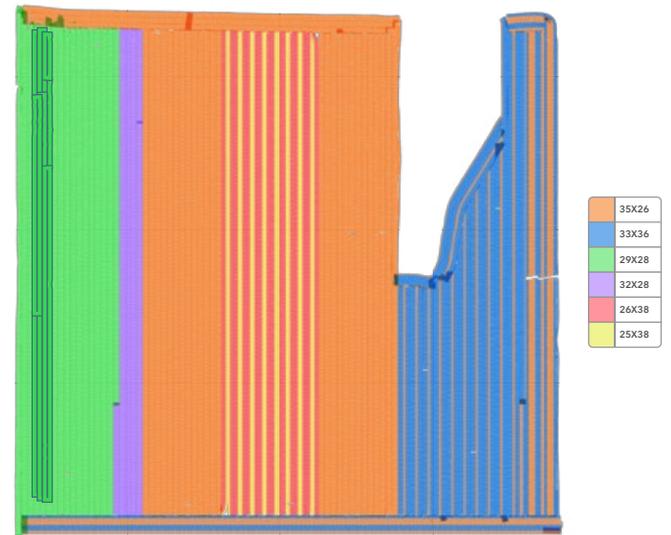
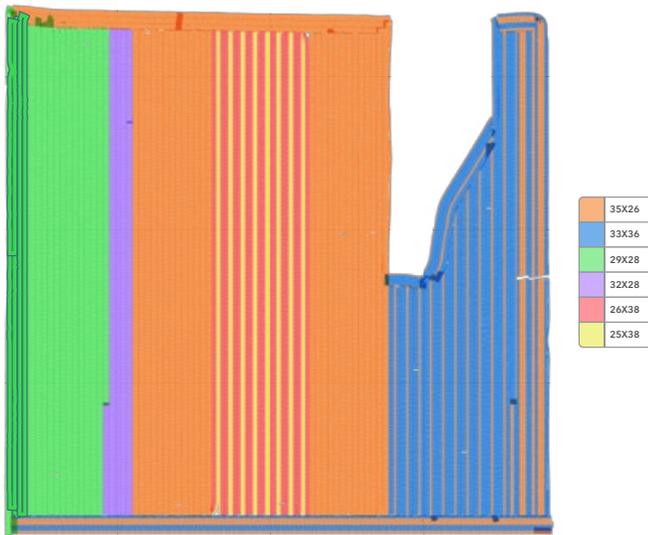
73% location = +2.5 bu/A or greater

54% locations = + 4.0 bu/A or greater

# Lucento® fungicide + Hero® insecticide | David City, NE - Soybeans

Treated Lucento® fungicide + Hero® insecticide trial (west side)

Untreated

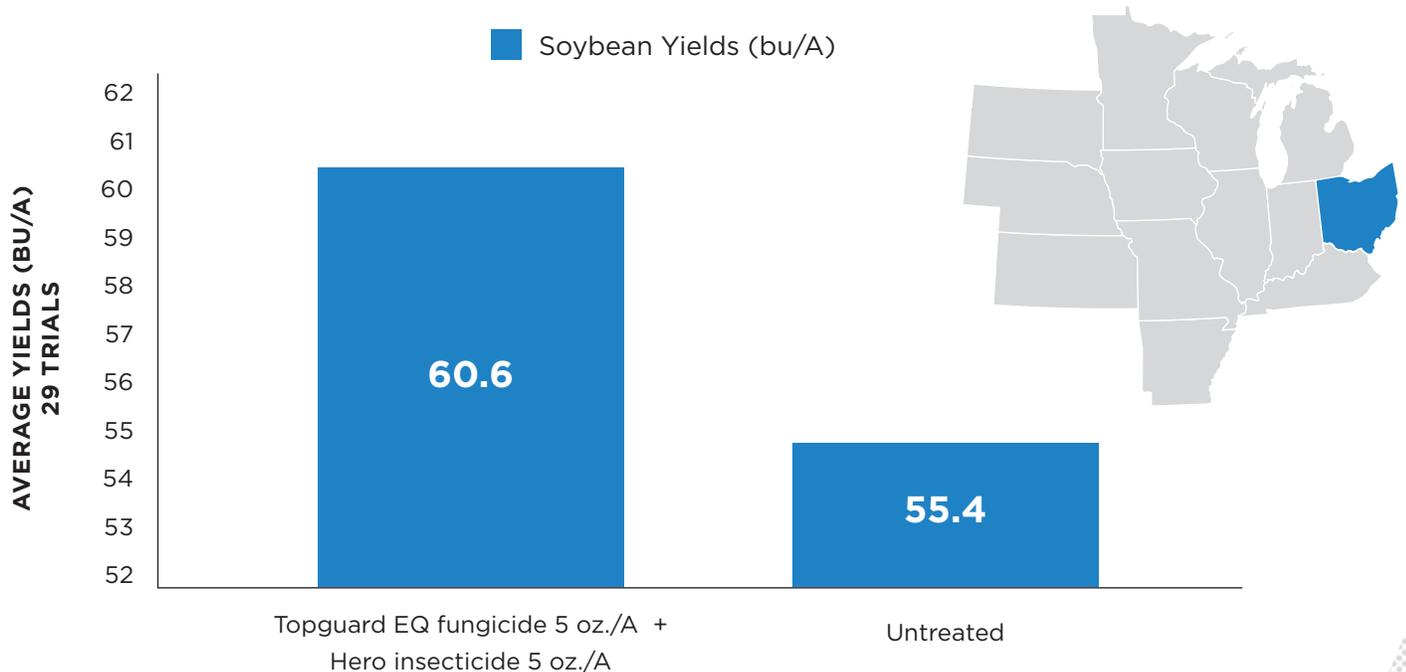


**4** ACRES    **11.3%** MOISTURE    **77.7** YIELD (BU/A)

**4.2** ACRES    **11.4%** MOISTURE    **72.7** YIELD (BU/A)

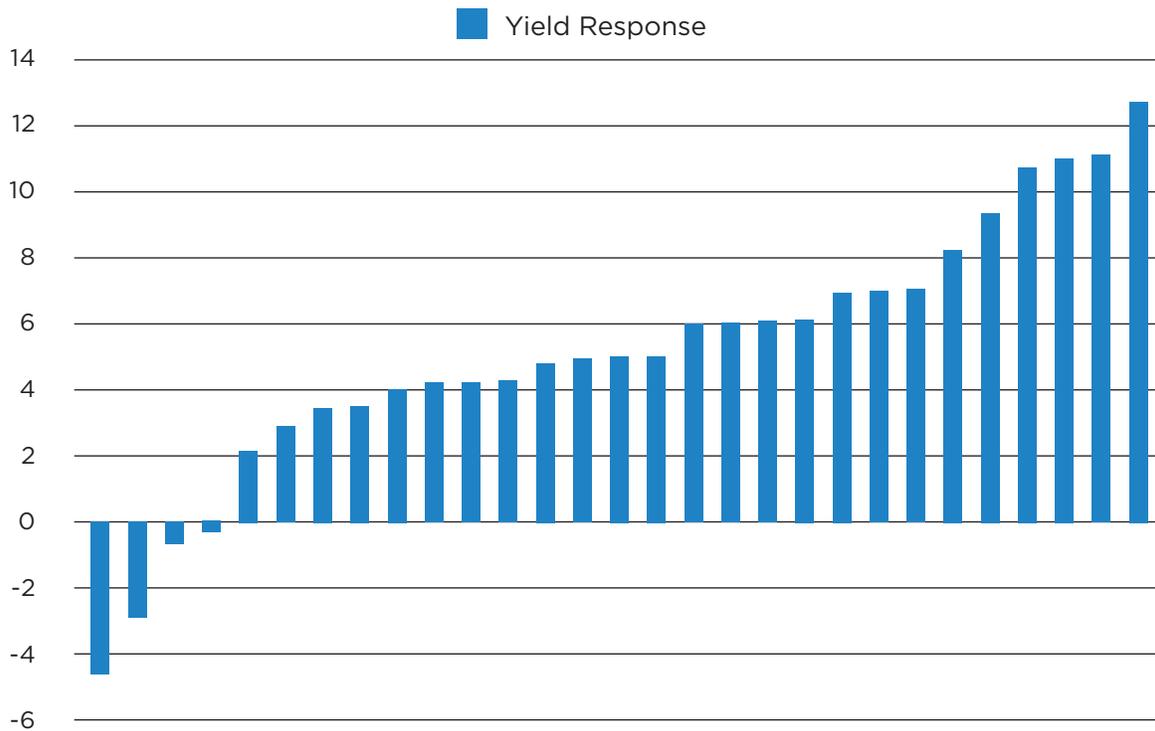
# Topguard® EQ Fungicide + Hero Insecticide | Ohio Grower On-Farm Trials - Soybeans

29 Side-by-Side Grower On-Farm Trials - 2019



# Yield Response (bu/A) Across 29 On-Farm Trials

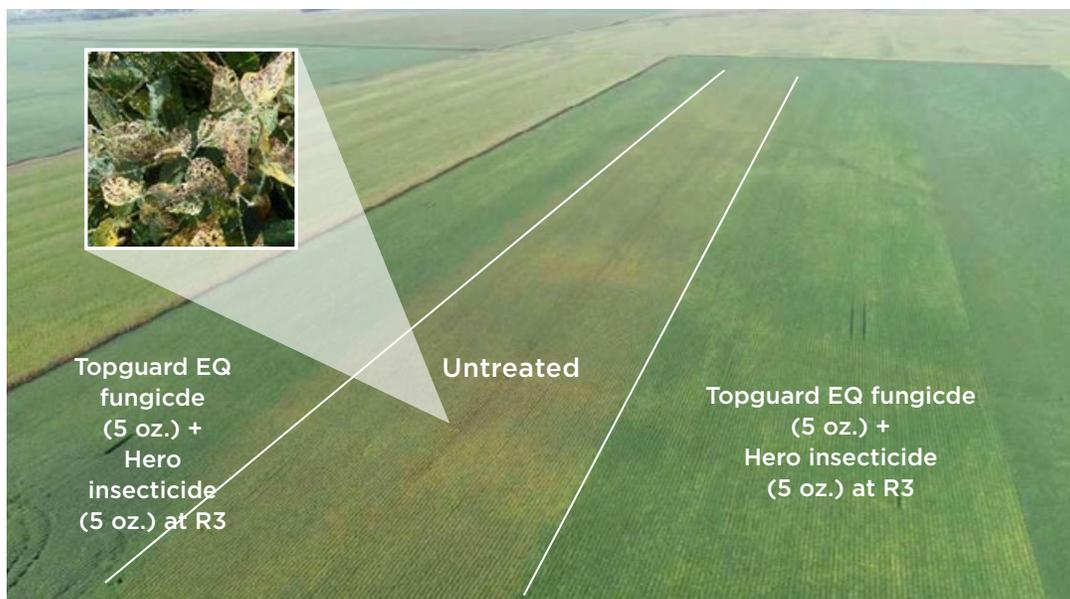
Topguard® EQ fungicide 5 oz./A + Hero® insecticide 5 oz./A vs. Untreated



Yield increase in 25 of 29 locations (86%)  
83% locations = +2.5 bu/A or greater  
72 % locations = +4.0 bu/A or greater

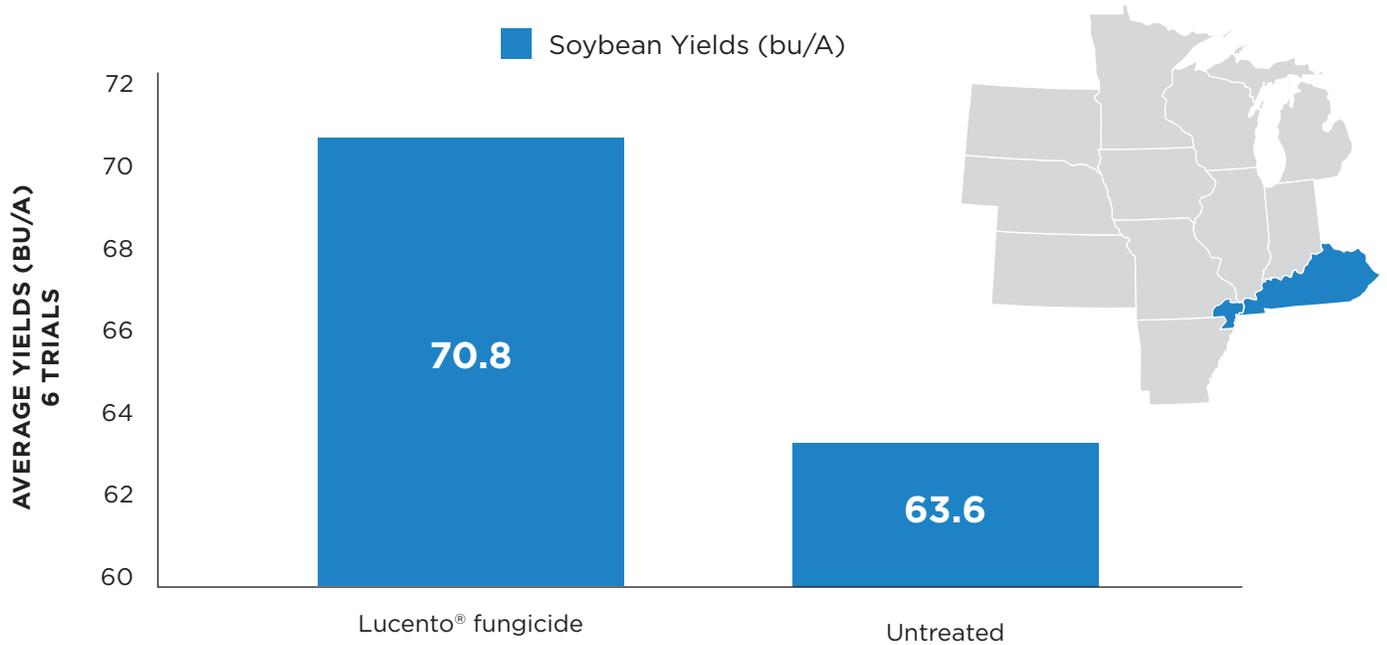
## Topguard EQ Fungicide 5 oz./A + Hero Insecticide 5 oz./A at R3

La Harpe, IL - 2019



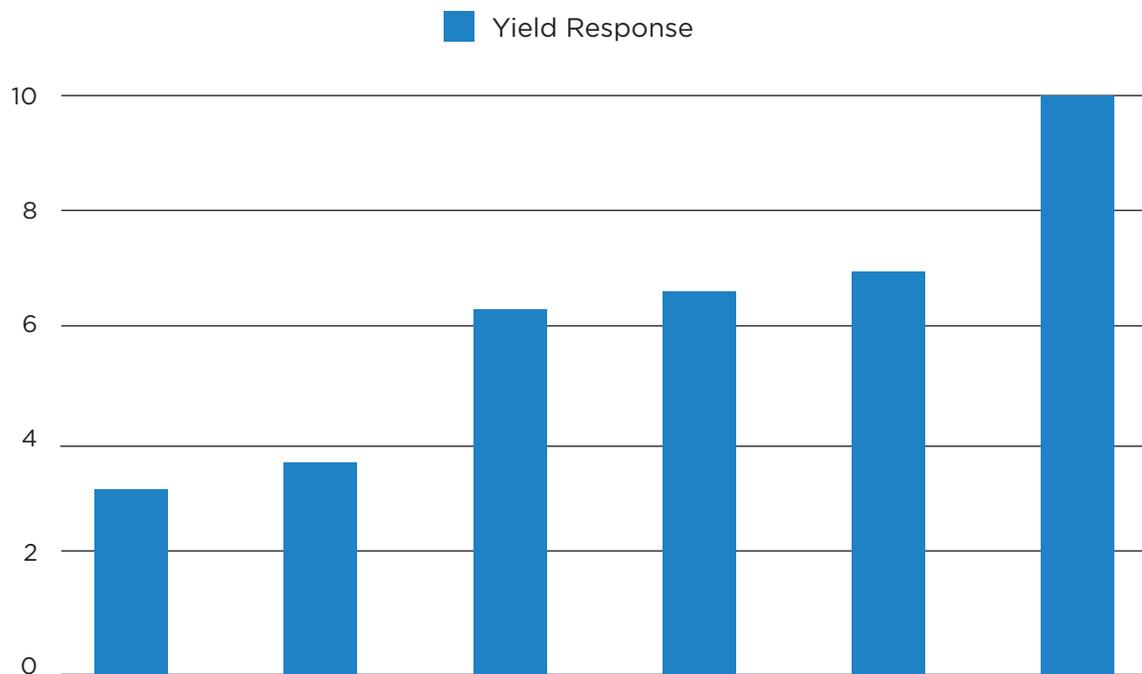
# Lucento® Fungicide Grower On-Farm Trials | KY & MO Bootheel - Soybeans

6 Head-to-Head Trial On-Farm Locations 2019



## Yield Response (bu./A) Across 6 Kentucky On-Farm Trials

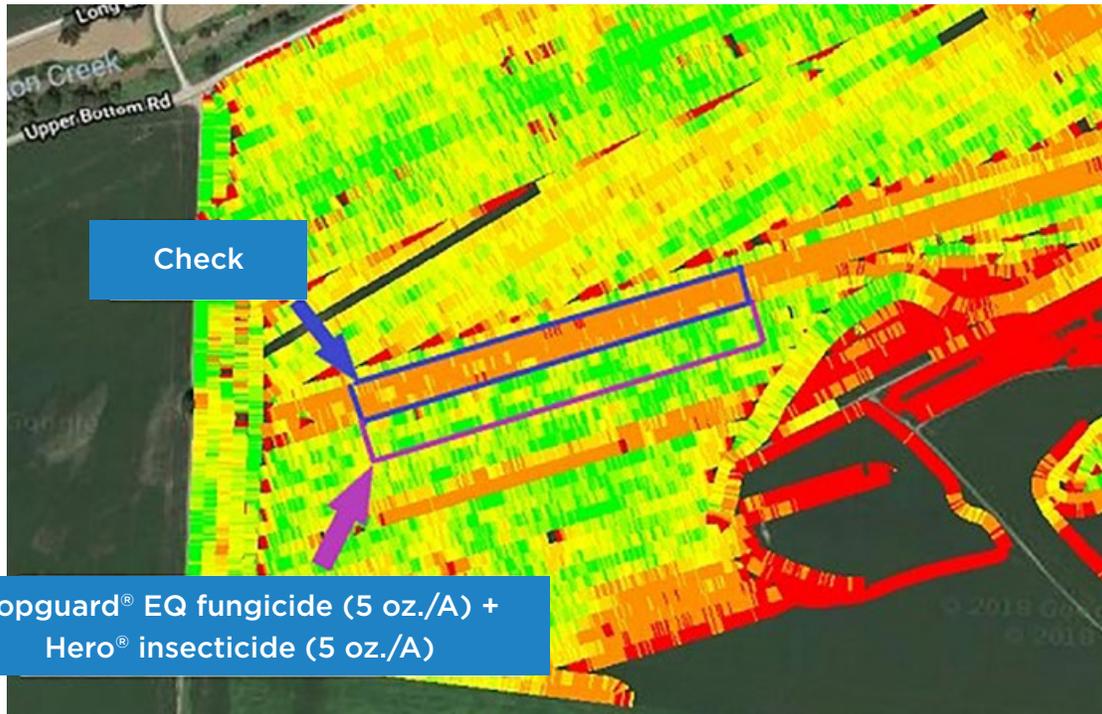
Lucento fungicide 5.0 oz./A vs. Untreated



Yield increase from 3.2 to 25.0 bu/A across 6 trial locations.

# Topguard® EQ Fungicide + Hero® Insecticide - Soybeans

Cayce, KY



Check: 55 bu/A

Topguard EQ fungicide + Hero insecticide: 80 bu/A

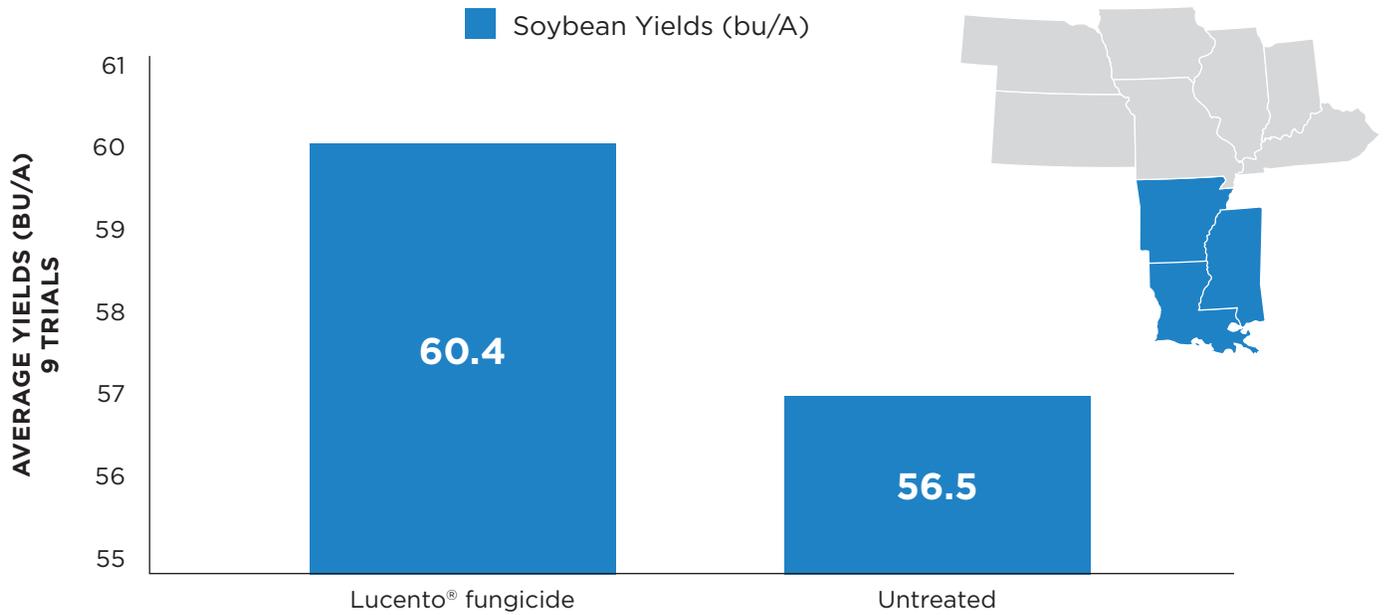
## Lucento® Fungicide | Mid-South Grower On-Farm Trials – Soybeans

6 Side-by-Side Grower On-Farm Trials - 2019

LOCATION	LUCENTO® FUNGICIDE YIELD	COMPETITIVE PRODUCT YIELD
Clarksdale, MS	67 bu/A	Quadris Top® SBX fungicide - 57 bu/A
Monterey, LA	55 bu/A	Miravis® Top fungicide - 54 bu/A
Winnsboro, LA	60 bu/A	Miravis Top fungicide - 59 bu/A
Crawfordsville, AR	76 bu/A	Revytek™ fungicide - 74 bu/A
Crawfordsville, AR	50 bu/A	Stratego® YLD fungicide - 48 bu/A
Tensas Parish, LA	58 bu/A	Aproach® Prima fungicide - 56 bu/A

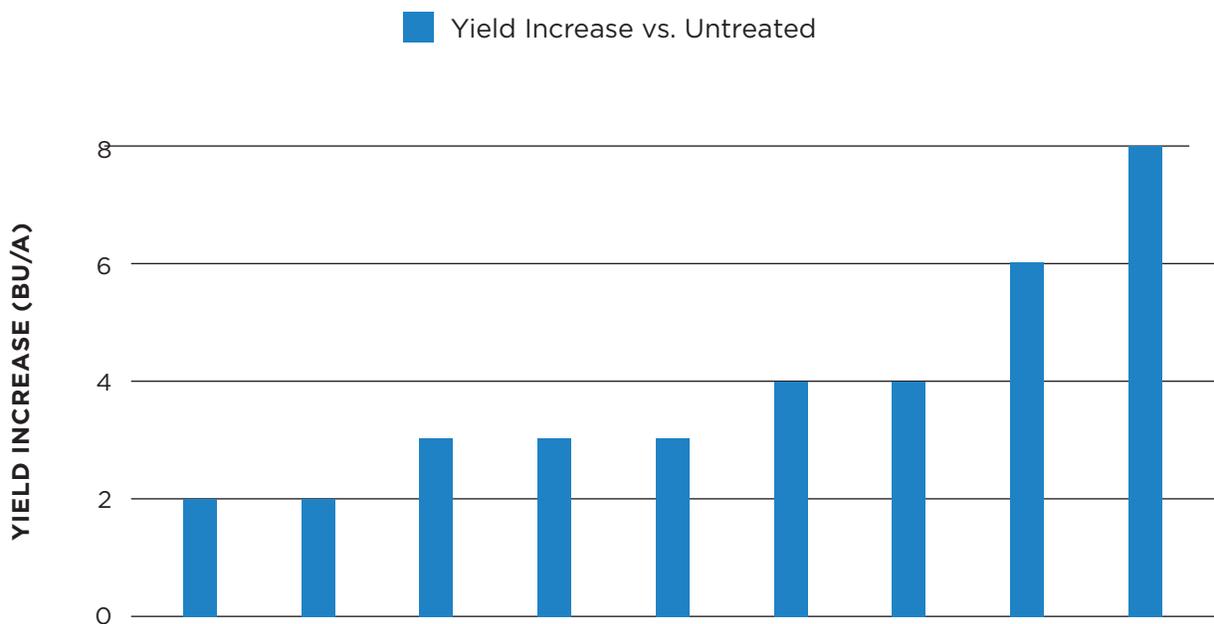
# Lucento® Fungicide Grower On-Farm Trials | Arkansas/Mississippi/Louisiana Locations

9 Side-by-Side Grower On-Farm Trials - 2019



# Lucento Fungicide Grower On-Farm Trials | Arkansas/Mississippi/Louisiana Locations

9 Side-by-Side Grower On-Farm Trials - 2019



2019 FMC LUCENTO<sup>®</sup> AND TOPGUARD<sup>®</sup> EQ FUNGICIDES  
ON-FARM GROWER YIELD TRIALS

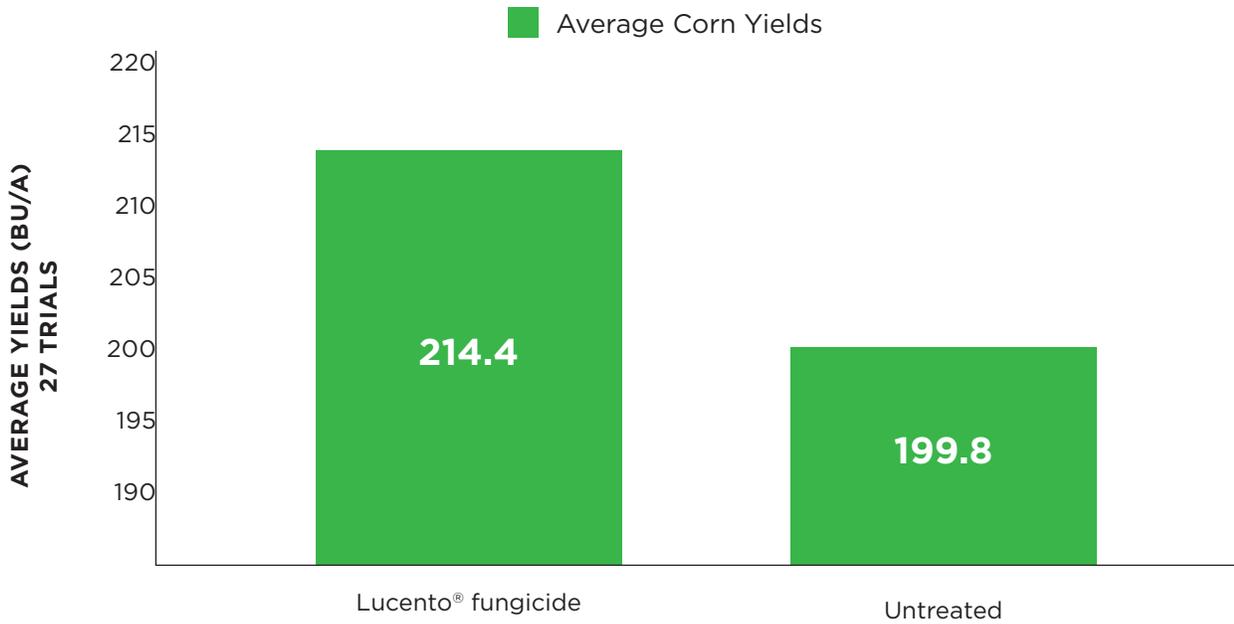
---

**CORN**



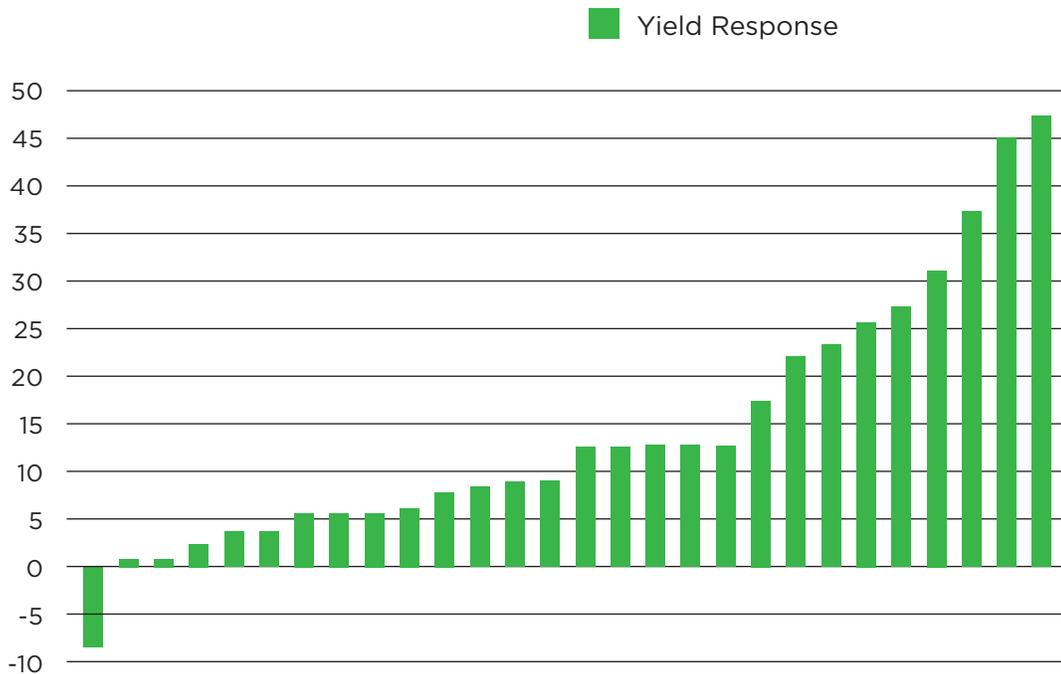
# Lucento® Fungicide | Grower On-Farm Trials in Corn Midwest Locations - 27 Locations - 2019

Average Corn Yields in 27 Side-by-Side Grower On-Farm Trials - 2019



## Yield Response (Bu/A) Across 27 Individual Side-by-Side On-Farm Trials - Corn

Lucento fungicide @ 5 oz./A vs. Untreated



### Yield Range: 27 locations

- Lucento fungicide: 123 - 285 bu/A
- Untreated: 114 - 262 bu/A

\*25 of 27 trials applied at VT-R2 stage corn.

Lucento fungicide increased corn yield in 96% of trials  
 81% locations  $\geq +5.0$  bu/A  
 67% locations  $\geq +8.0$  bu/A  
 52% locations  $\geq +10$  bu/A

## 2019 Lucento® Fungicide On-Farm Grower Trials Across the Midwest Competitive Comparison: Corn

Comparative Treatment	Lucento® Fungicide Advantage - % of trials where Lucento fungicide out yielded competitive comparison (head-to-head).	Lucento Fungicide Advantage vs. Competitive Comparison in Head-to-Head trials (bu/A)
Untreated	96% of trials (24 out of 25 trials across U.S.)	+14.2 bu/A
Trivapro® fungicide	78% (7 of 9 locations)	+3.6 bu/A
Headline AMP® fungicide	75% (3 of 4 locations)	+4.3 bu/A
Delaro fungicide / Delaro® fungicide + Luna® fungicide	100% (3 of 3 locations)	+10.9 bu/A
Veltyma™ fungicide	100% (2 of 2 locations)	+2.3 bu/A

## Lucento Fungicide for Gray Leaf Spot, Southern Rust

Kansas State University, 2019 River Valley Station, Rossville KS.



Lucento fungicide (5 oz.)



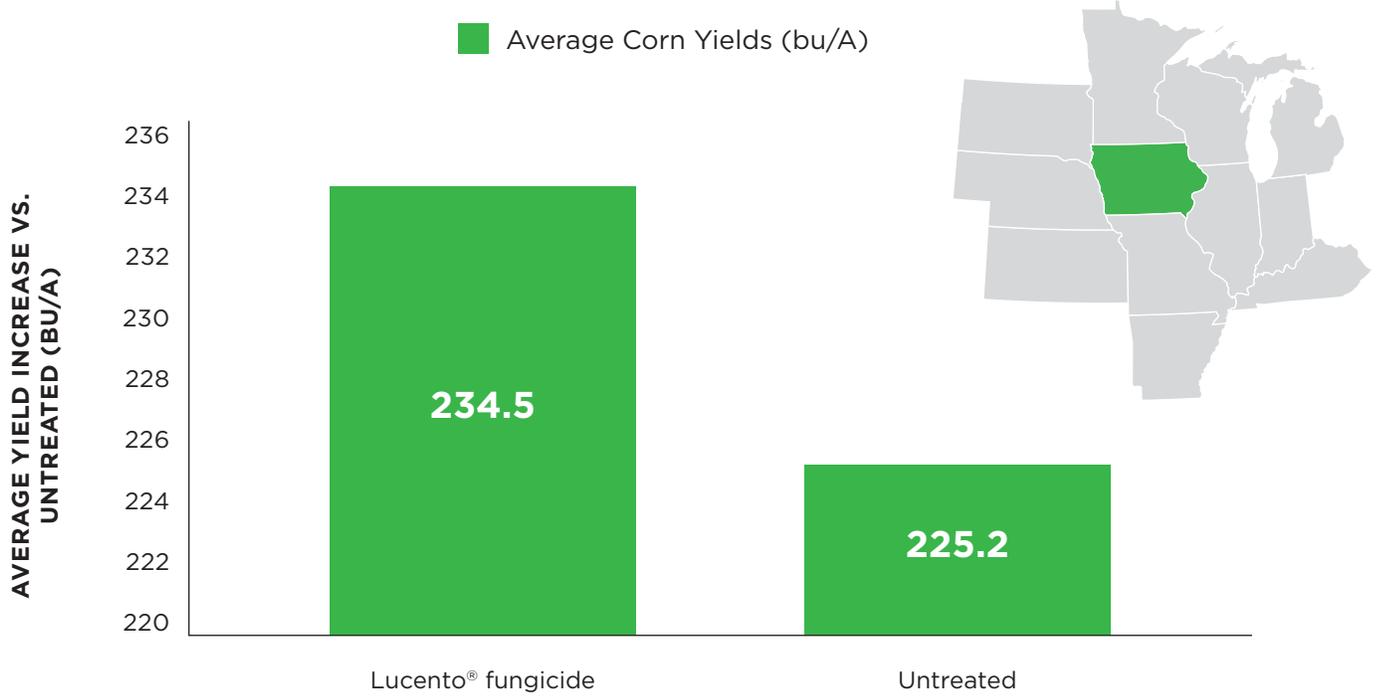
Untreated



Trivapro® fungicide (13.7 oz.)

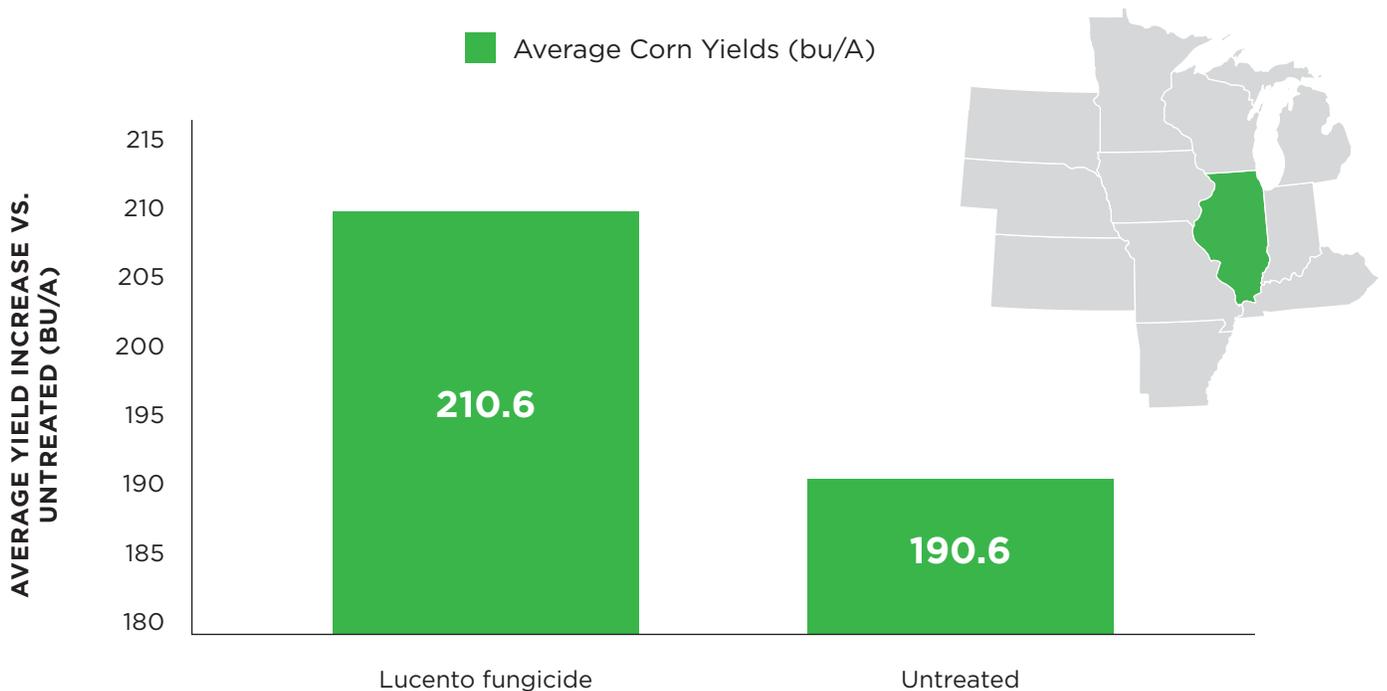
# Lucento® Fungicide Grower On-Farm Trials | Iowa Locations - Corn

5 Side-by-Side Iowa Grower On-Farm Trials - 2019



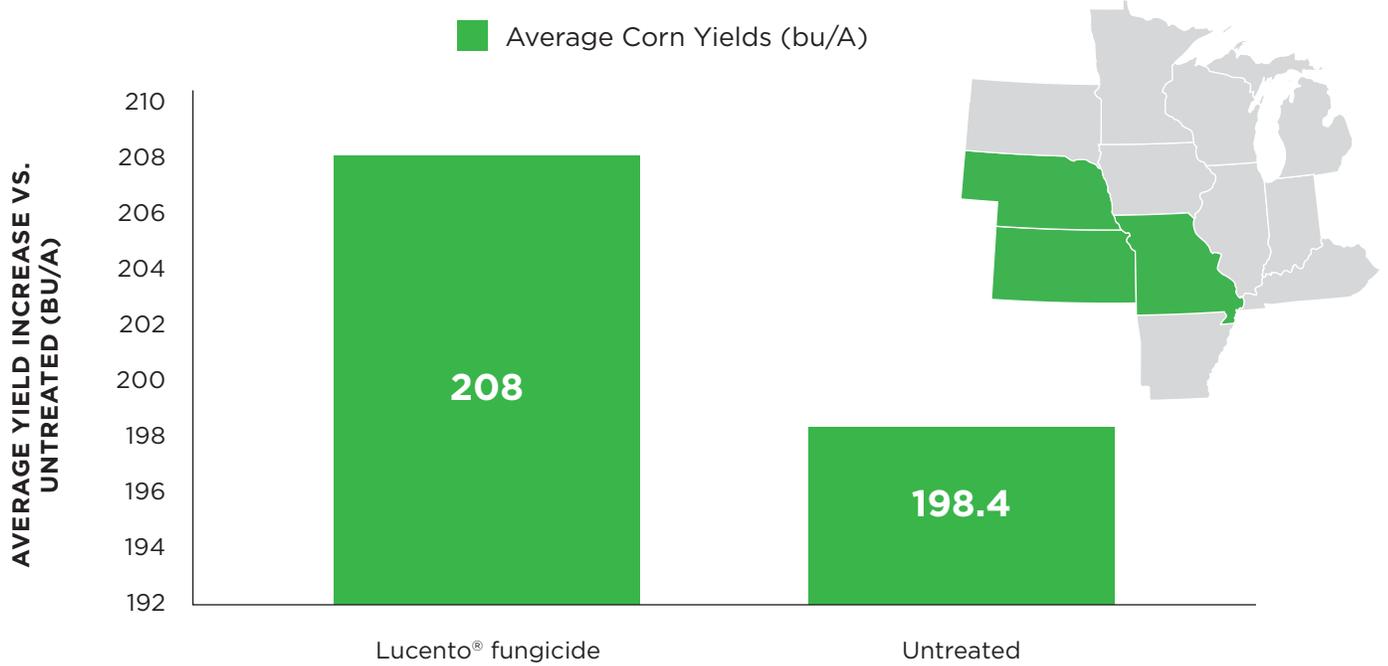
# Lucento Fungicide Grower On-Farm Trials | Illinois Locations - Corn

5 Side-by-Side Iowa Grower On-Farm Trials - 2019



# Lucento® Fungicide Grower On-Farm Trials | NE, KS & MO Locations - Corn

6 Side-by-Side Nebraska/Kansas/Missouri Grower On-Farm Trials - 2019



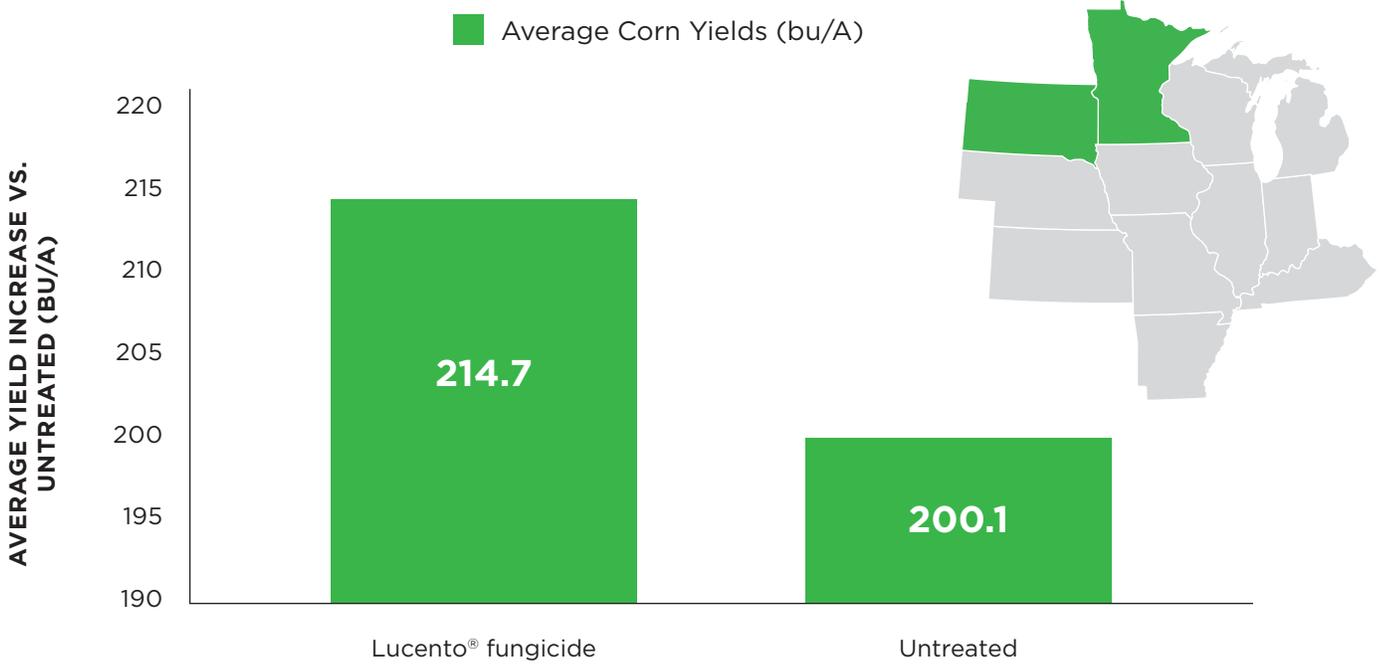
## Waverly, NE

All treatments received Delaro® fungicide at V5. R1 Application applied July 26.



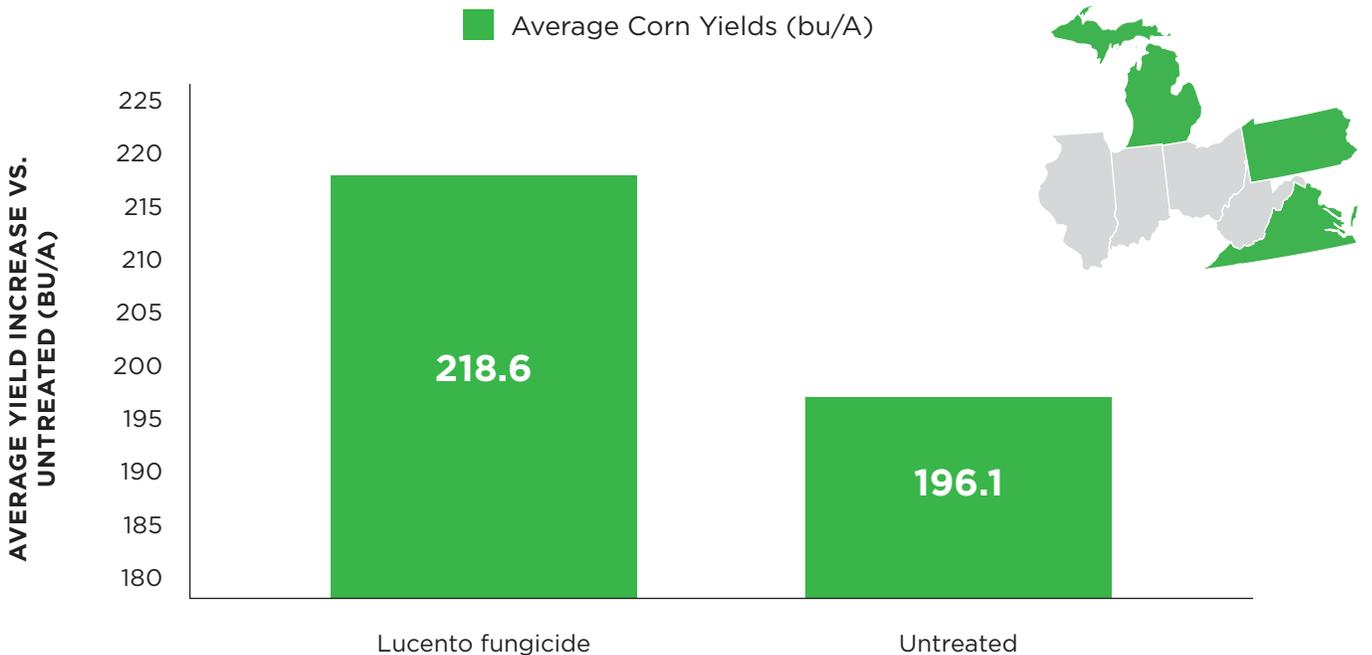
# Lucento® Fungicide Grower On-Farm Trials | MN & SD Locations - Corn

6 Side-by-Side Minnesota/South Dakota Grower On-Farm Trials - 2019



# Lucento Fungicide Grower On-Farm Trials | MI, PA & VA Locations - Corn

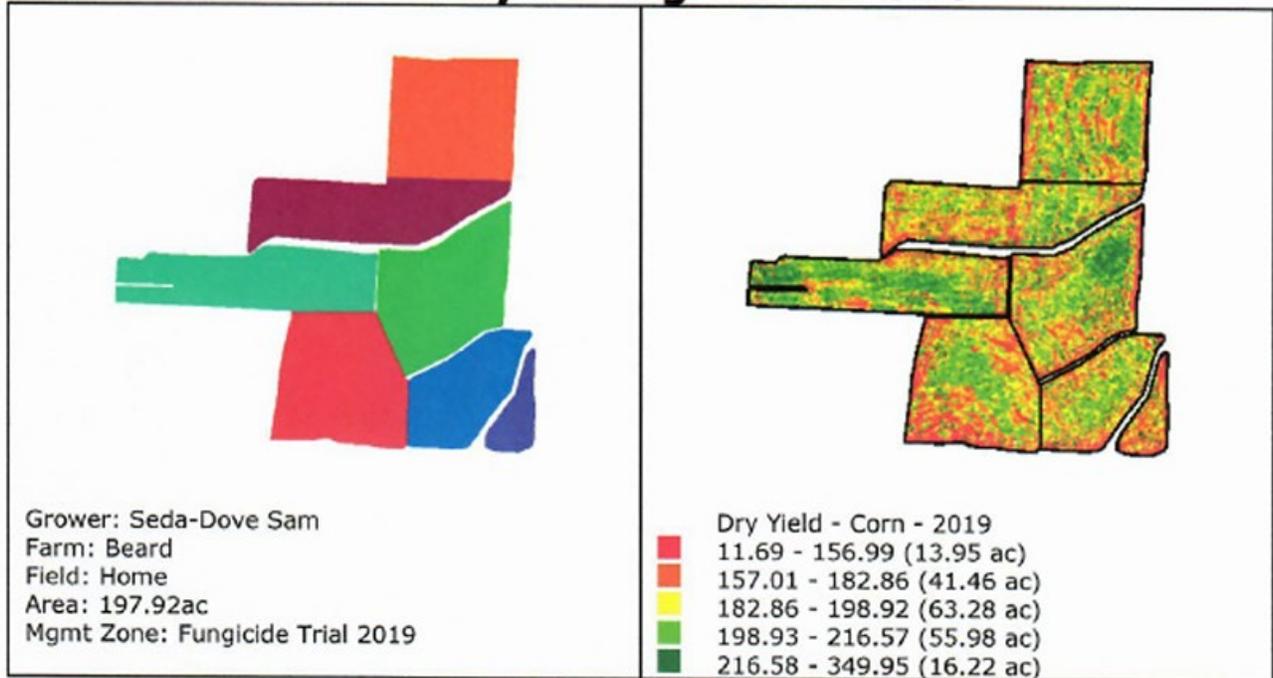
3 Side-by-Side Michigan, Pennsylvania, Virginia Grower On-Farm Trials - 2019



# 2019 Corn Yield Challenge Report

Pettis County, MO

## Yield by Management Zone

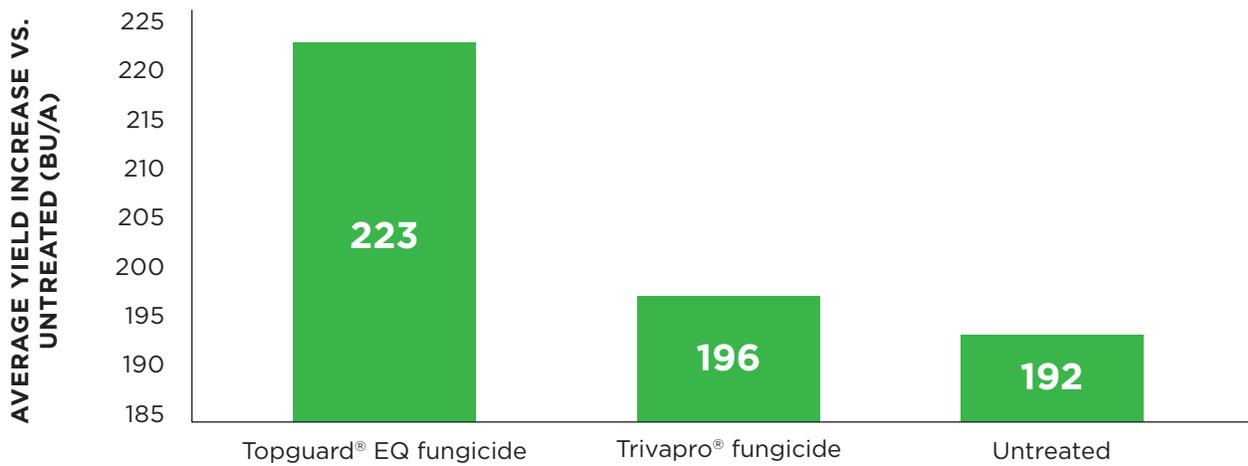


### BUSHEL/ACRE

Lucento® fungicide	197.6
Veltyma™ fungicide	192.9
Delaro® Fungicide	191.4
Headline AMP® fungicide	190.7
Aproach® Prima fungicide	190.6
Trivapro® fungicide	185.5
Untreated	172.1

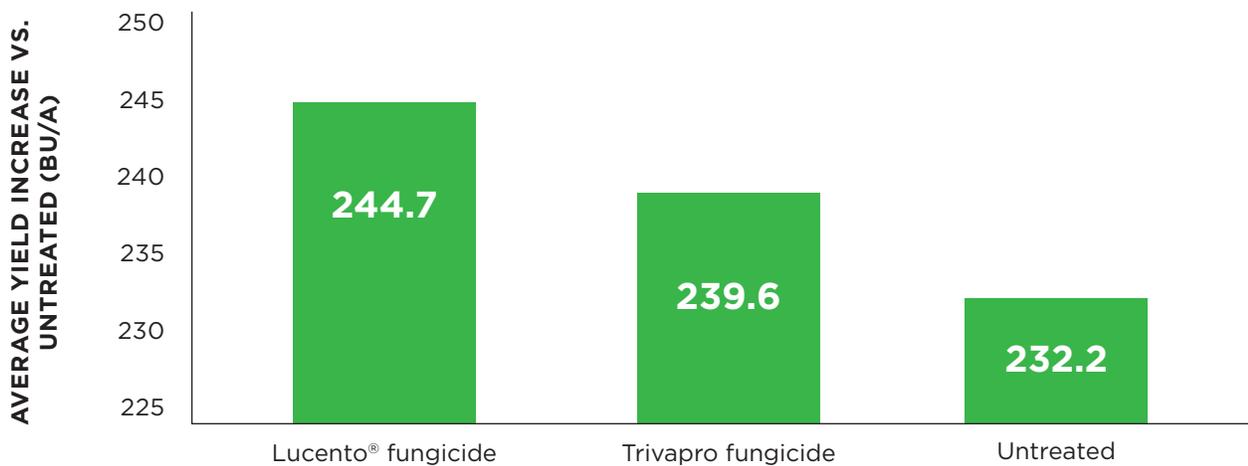
## Topguard® EQ Fungicide Grower On-Farm Trial - Corn

Shawnee County, Kansas - 2019



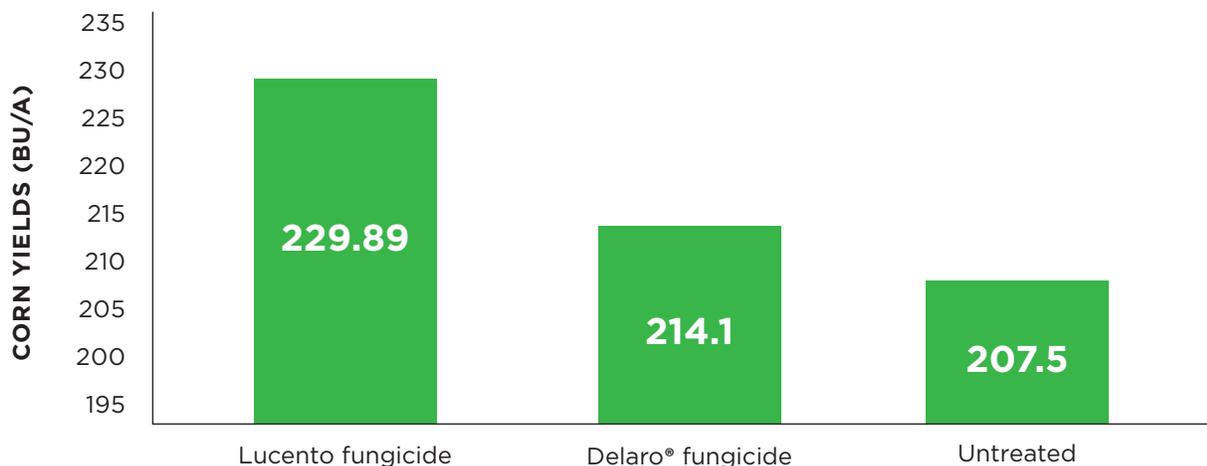
## Lucento® Fungicide Grower On-Farm Trial - Corn

Hull, Iowa - 2019



## Lucento Fungicide Grower On-Farm Trial - Corn

Wells, Minnesota - 2019



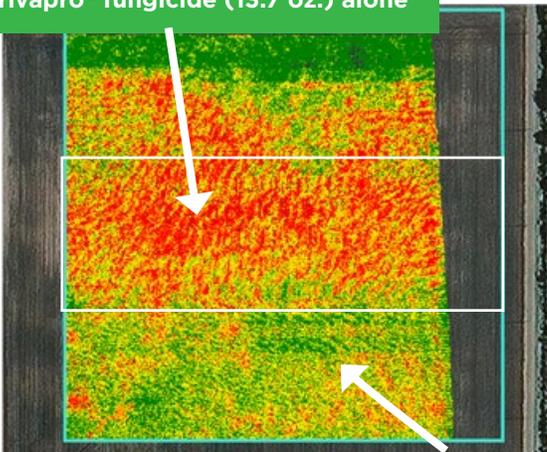
## 2019 Representative Side-by-Side Corn Trial Comparisons (bu/A)

Location	Lucento® fungicide	Untreated
Keyesport, IL	262	215
Wayland, MI	226.8	209.5
Montgomery, MN	218	205
Campbelltown, PA	285	262
Wakonda, SD	188.6	179.5
Mulberry Grove, IL	202	171
Le Center, MN	221	184

## Tar Spot Infestation

Commercial Field - North Judson, IN

Trivapro® fungicide (13.7 oz.) alone



Trivapro fungicide (13.7 oz.)  
fb  
Lucento® fungicide (5 oz.)

Trivapro fungicide  
13.7 oz. @ R1



Trivapro fungicide 13.7 oz. @ R1 FB  
Lucento fungicide 5 oz. @R3/R4



# Dryland Field Corn Demo | David City, NE September 26, 2019



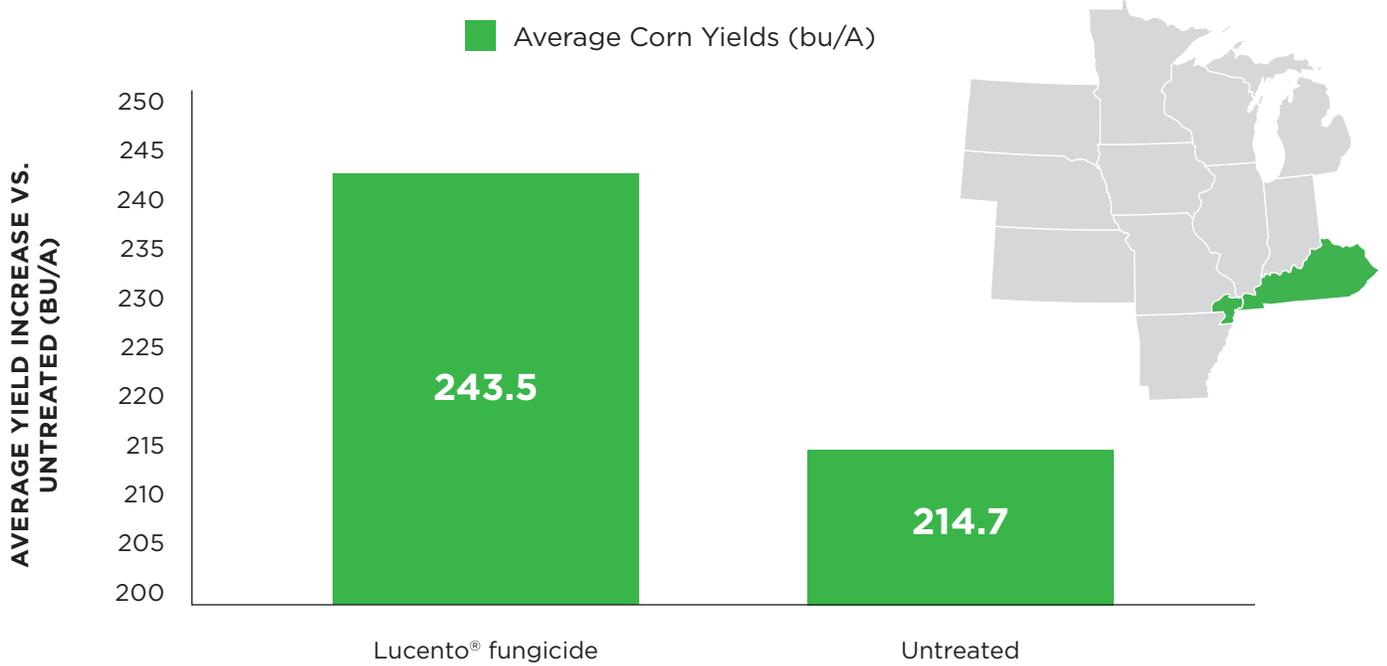
Untreated



Lucento fungicide 5 fl. oz./A at R1

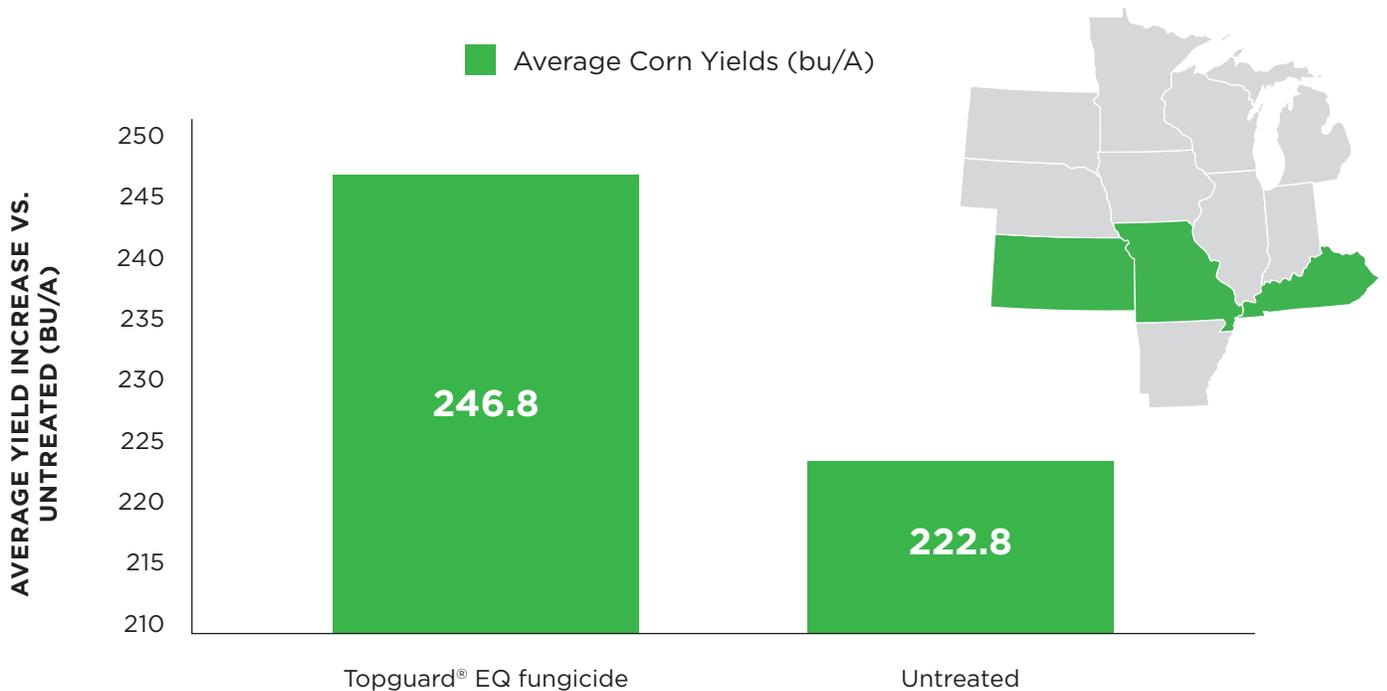
# Lucento® Fungicide Grower On-Farm Trials | KY & MO Bootheel - Corn

2 Side-by-Side Kentucky and Southeastern Missouri Trials - 2019



# Topguard® EQ Fungicide Grower On-Farm Trials | KS, MO and KY Locations - Corn

3 Side-by-Side Trials in Kansas, Missouri and Kentucky - 2019



# FMC FUNGICIDE PORTFOLIO RECOMMENDATIONS

## Soybean Use Guidelines

	 FRAC Group 3 + 7	 FRAC Group 3 + 11
RECOMMENDED USE RATE	5 fl. oz./A	5-7 fl. oz./A
METHODS ALLOWED	Ground, aerial, chemigation	Ground, aerial
ADJUVANTS	NIS or equivalent	NIS or equivalent
MAXIMUM NUMBER OF APPLICATIONS PER SEASON	Two, do not exceed 11 fl. oz. per year	Three, do not exceed 15 fl. oz. per year
APPLICATION TIMING	R1 - R5 (R1 - R3 recommended)	R1 - R5 (R1 - R3 recommended)
PHI	21 days	21 days

## Corn Use Guidelines

	 FRAC Group 3 + 7	 FRAC Group 3 + 11
RECOMMENDED USE RATE	5 fl. oz./A	5-7 fl. oz./A
METHODS ALLOWED	Ground, aerial, chemigation	Ground, aerial
ADJUVANTS	NIS or equivalent	NIS or equivalent
MAXIMUM NUMBER OF APPLICATIONS PER SEASON	Two, do not exceed 11 fl. oz. per year	Two, do not exceed 14 fl. oz. per year
APPLICATION TIMING	V5 - R4 (R1 - R3 recommended)	V5 - V12 (VT-R1 recommended)
PHI	30 days	7 days



**[FMCcrop.com](https://www.fmc-crop.com)**

**Leverage and Hero insecticides are Restricted Use Pesticides.** Always read and follow all label directions, precautions and restrictions for use. Some products may not be registered for sale or use in all states. FMC, the FMC logo, Hero, Lucento and Topguard are trademarks of FMC Corporation or an affiliate. Trivapro, Quadris Top and Miravis are trademarks of a Syngenta Group Company. Priaxor, Revytek, Headline AMP and Veltyma are trademarks of BASF. Delaro, Stratego, Leverage and Luna are trademarks of Bayer CropScience. Approach is a trademark of E.I. du Pont de Nemours and Company ©2020 FMC Corporation. All rights reserved. 20-FMC-0503 04/20