

Soybean R3 Foliar Fungicide Trial: 2019 Location Results

Key question: Are fungicides applied at R3 effective at reducing foliar disease and increasing yield?

Treatments: Strips with fungicide applied at R3 vs. strips with no fungicide application.

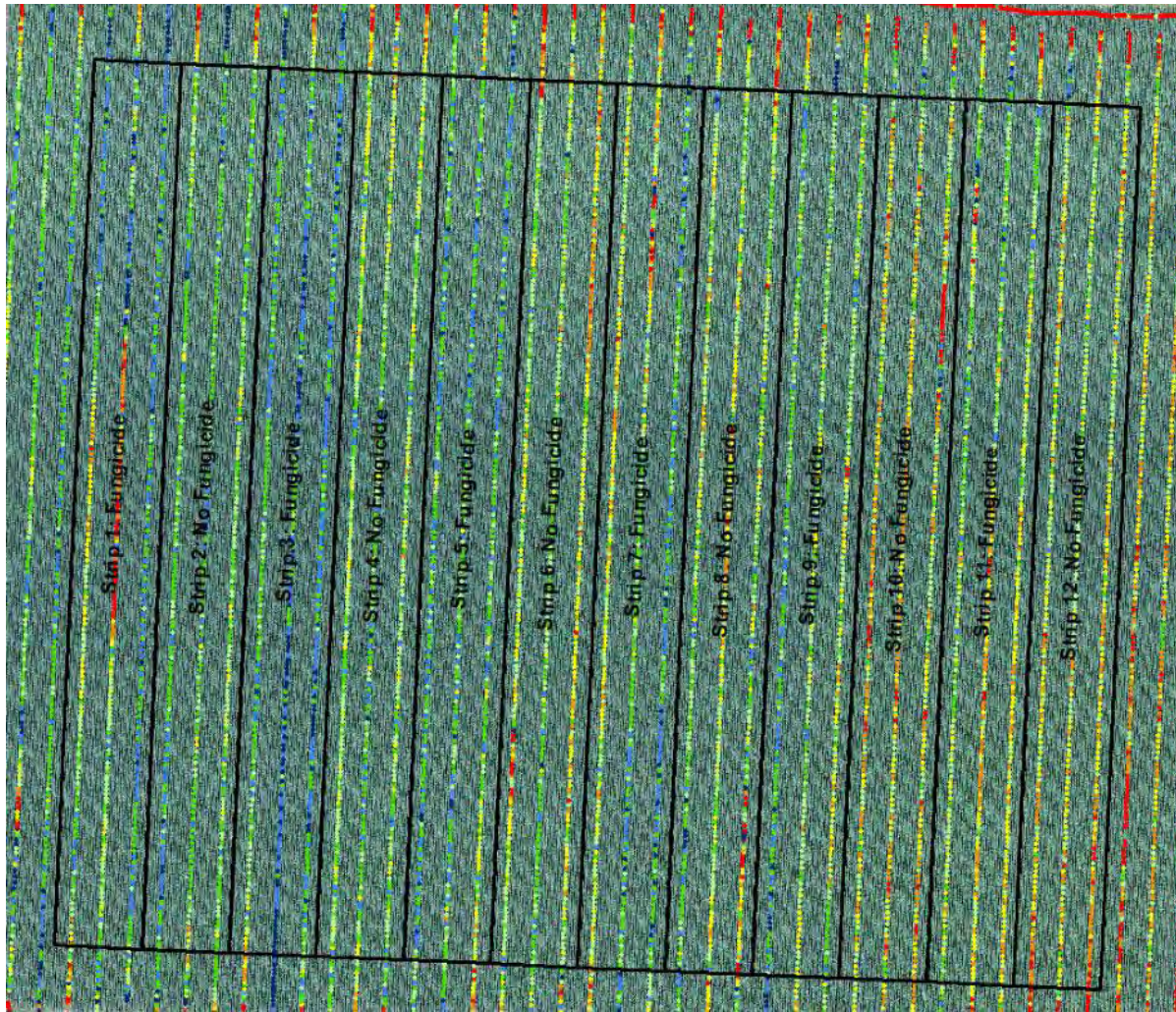
*Farmer's choice of product used.

This on-farm research was supported by the Missouri Soybean Merchandizing Council (award No. 18-415) and University of Missouri Extension.

This on-farm research was only possible with the cooperation of Missouri Soybean farmers who volunteered to implement trials on their fields and the Regional MU Extension faculty that supported them.

Soybean R3 Fungicide Trial 2019 Site 1901 Barton County

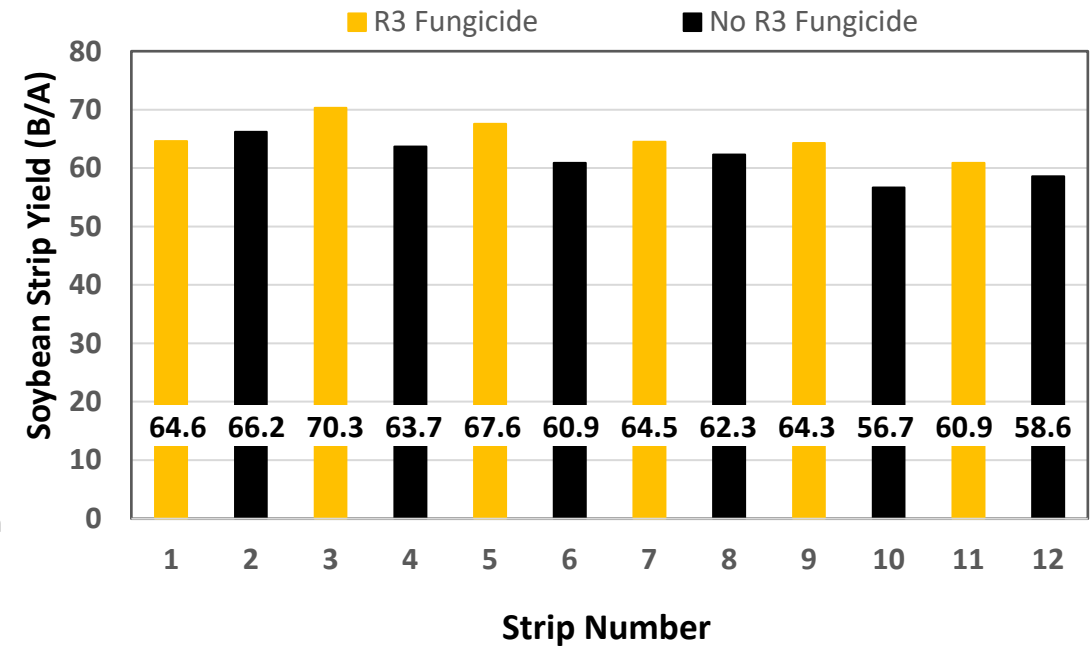
Conclusion: There was strong evidence that R3 fungicide increased yield.



● ≤ 50 ● 51-55 ● 56-60 ● 61-65 ● 66-70 ● 71-75 ● >75 bu/A

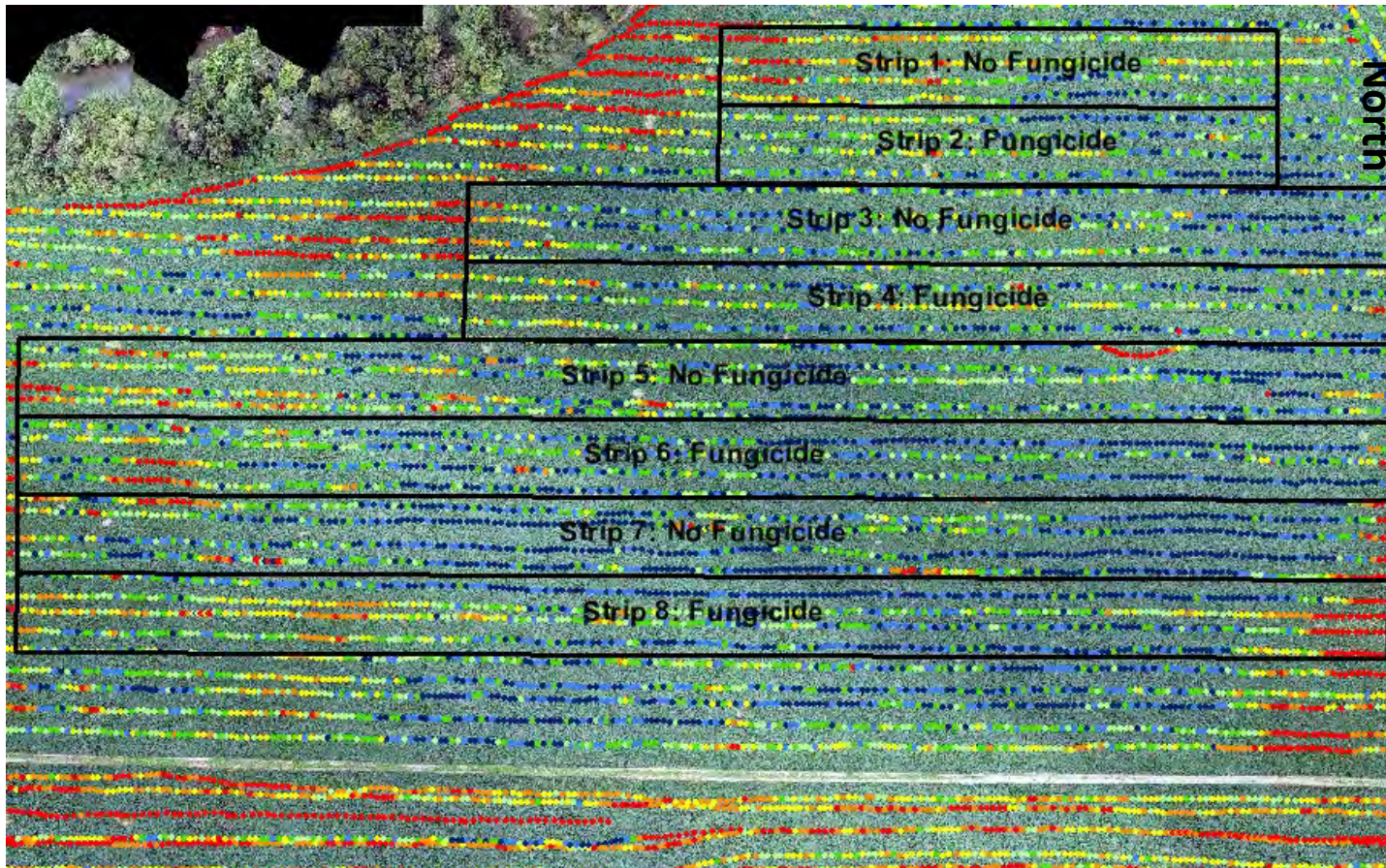
Map of soybean yield and areas used to determine strip yield. Soybean harvested 11/5/2019; imagery taken at 100m on 8/27/2019.

Treatments	Mean	Delta Control
	<i>bushels/acre</i>	
All strips	63.4 (3.8)	--
Control (N)	61.4 (3.4)	--
R3 Fungicide (F)	65.4 (3.2)	4.0



Soybean R3 Fungicide Trial 2019 Site 1903 Greene County

Conclusion: There was no evidence that R3 fungicide increased yield.

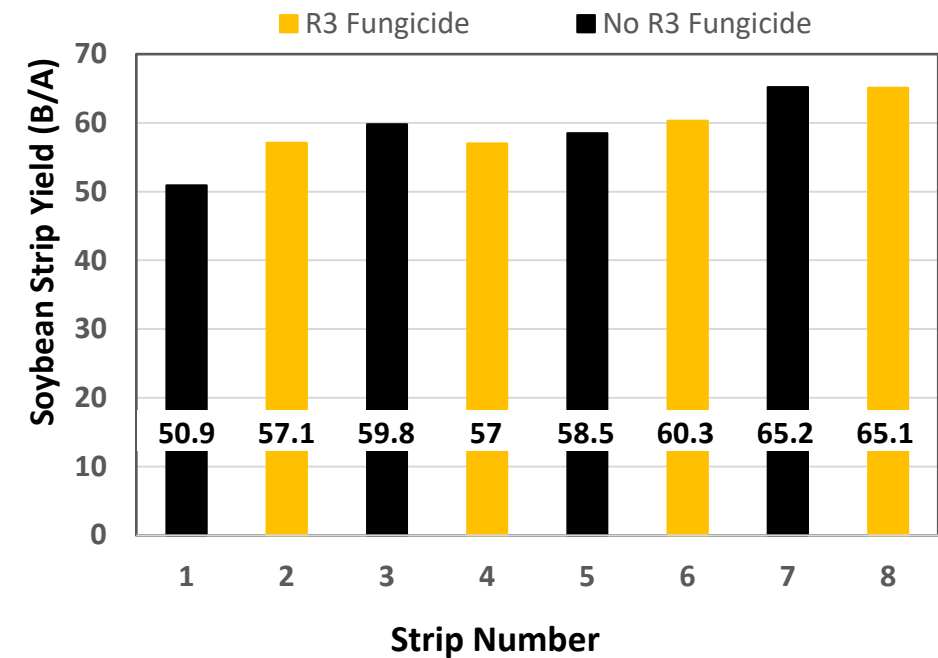


● ≤ 40 ● 41-45 ● 46-50 ● 51-55 ● 56-60 ● 61-65 ● >65 bu/A

Map of soybean yield and areas used to determine strip yield. Soybean harvested 11/5/2019; imagery taken at 100m on 9/10/2019.

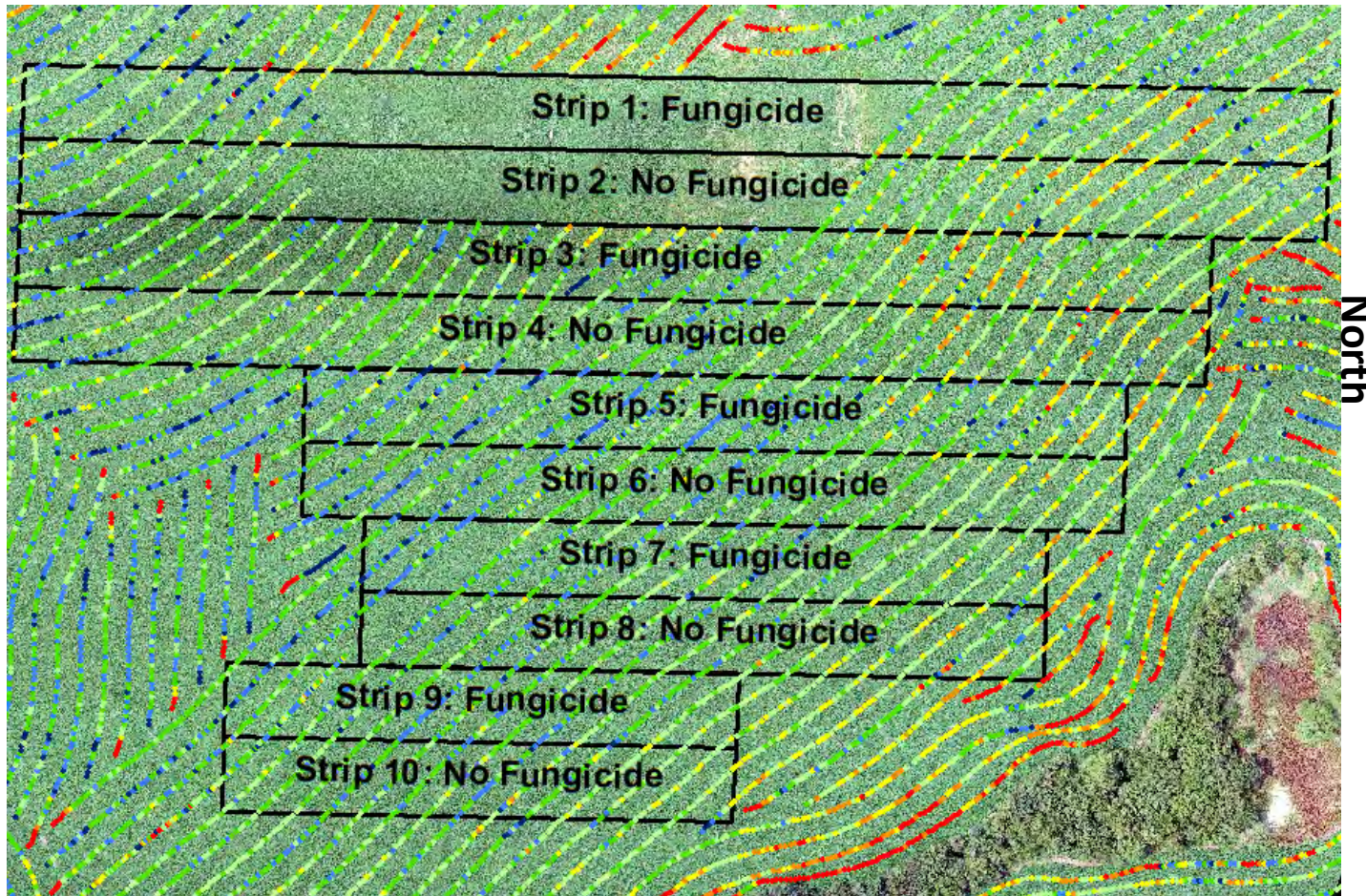
Note that two strips were eliminated because of the road within the fungicide strip on the west side of field.

Treatments	Mean	Delta Control
	<i>bushels/acre</i>	
All strips	59.3 (4.6)	--
Control (N)	58.6 (5.9)	--
R3 Fungicide (F)	59.9 (3.8)	1.3



Soybean R3 Fungicide Trial 2019 Site 1904 Holt County

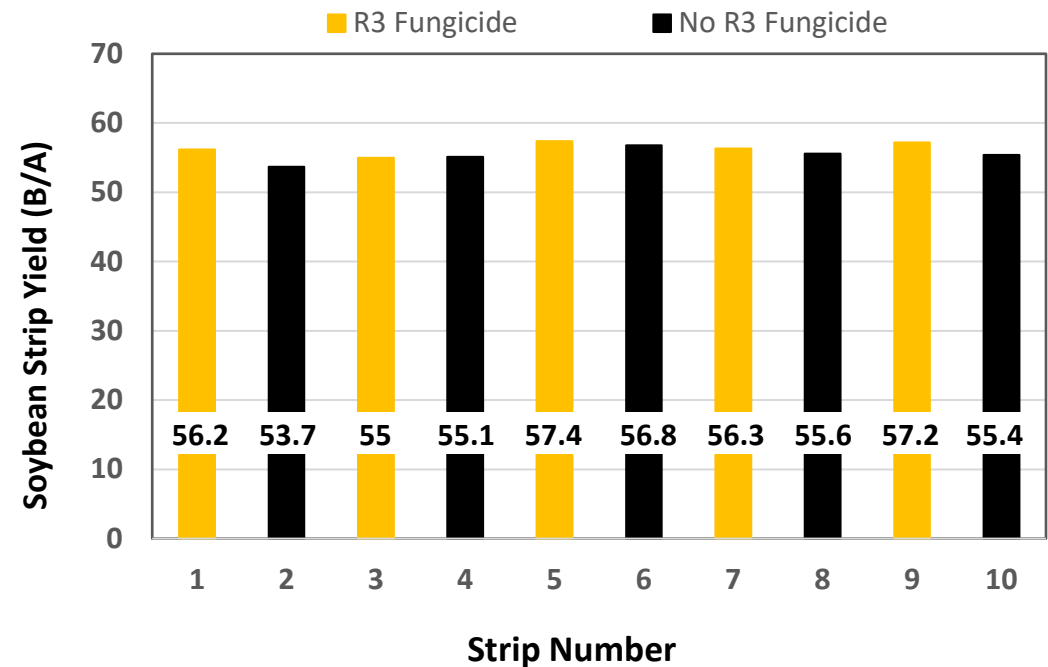
Conclusion: There was clear evidence that R3 fungicide increased yield.



● ≤ 40 ● 41-45 ● 46-50 ● 51-55 ● 56-60 ● 61-65 ● >65 bu/A

Map of soybean yield and areas used to determine strip yield. Soybean harvested 11/6/2019; imagery taken at 100m on 8/20/2019. Note at this location, the harvest pattern parts of the field limited our ability to use the data.

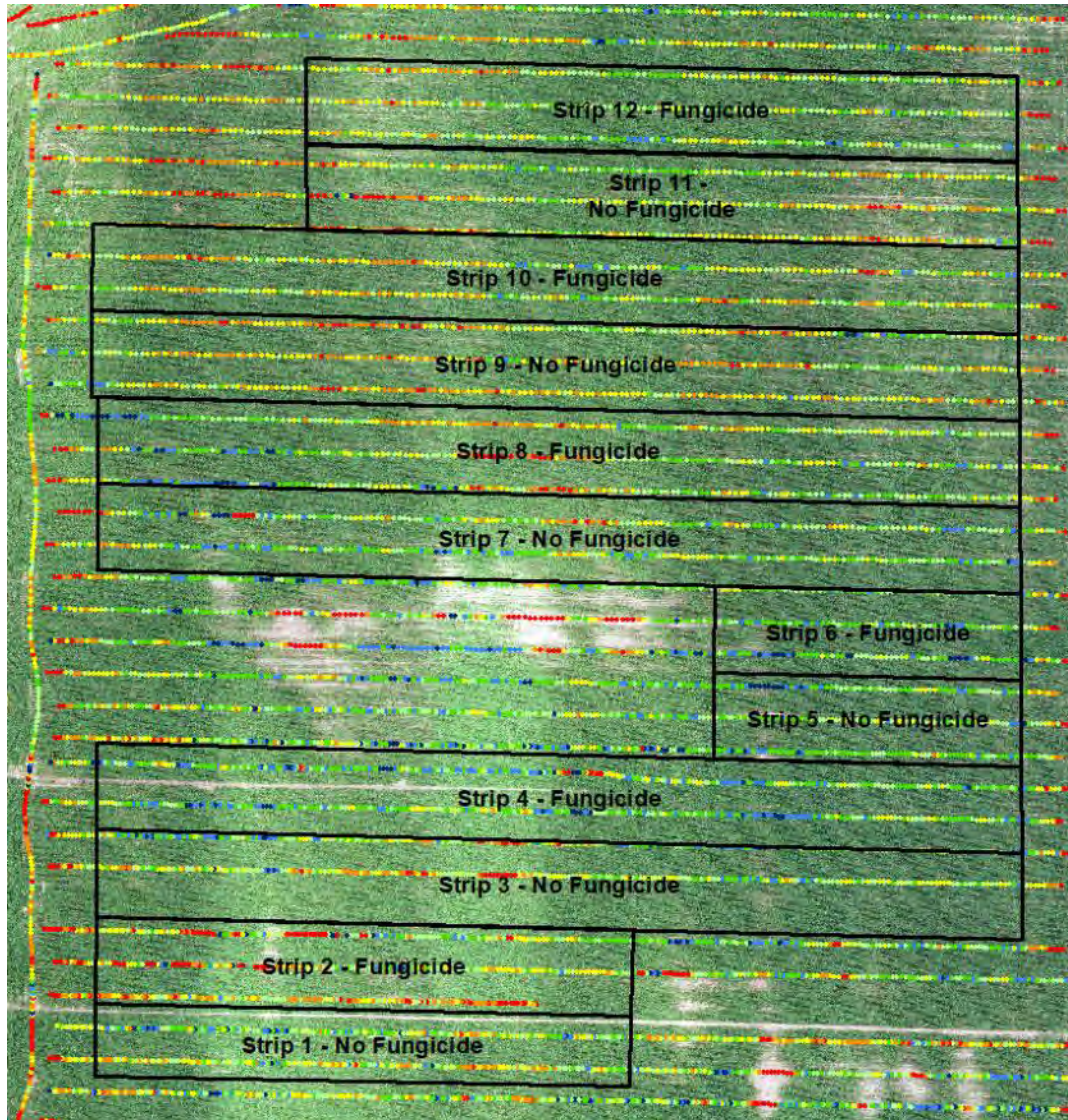
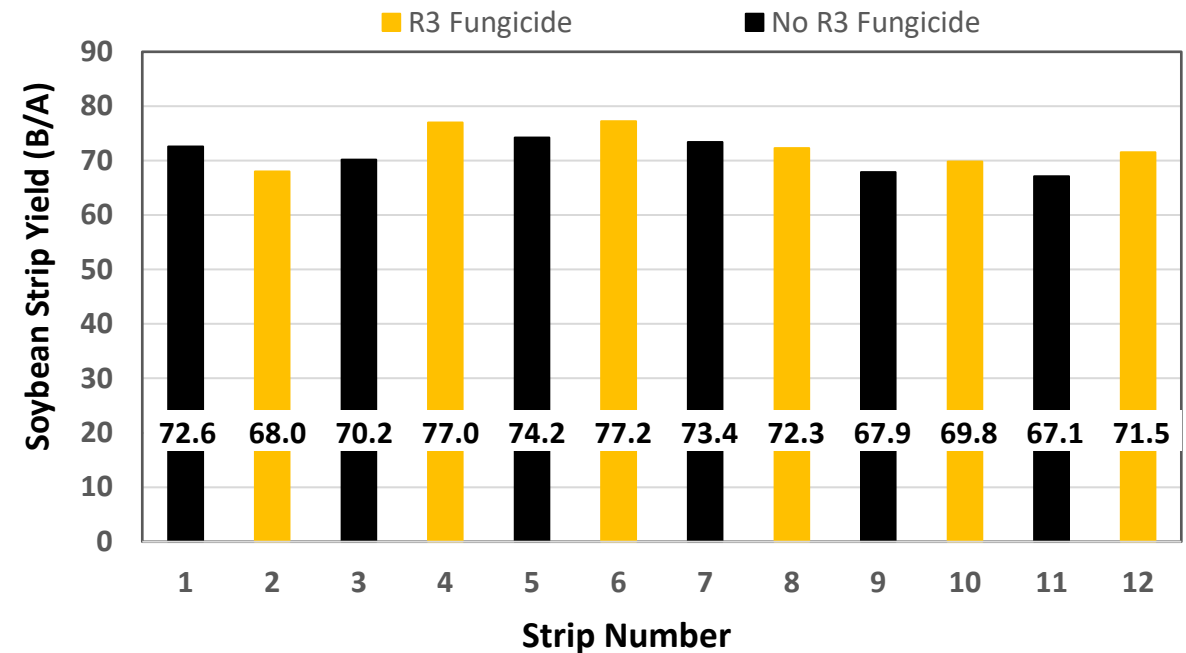
Treatments	Mean	Delta Control
	<i>bushels/acre</i>	
All strips	55.9 (1.1)	--
Control (N)	55.3 (1.1)	--
R3 Fungicide (F)	56.4 (1.0)	1.1



Soybean R3 Fungicide Trial 2019 Site 1906 Lincoln County

Conclusion: There was evidence that R3 fungicide may have increased yield.

Treatments	Mean	Delta Control
	<i>bushels/acre</i>	
All strips	71.8 (3.4)	--
Control (N)	70.9 (3.0)	--
R3 Fungicide (F)	72.6 (3.8)	1.7

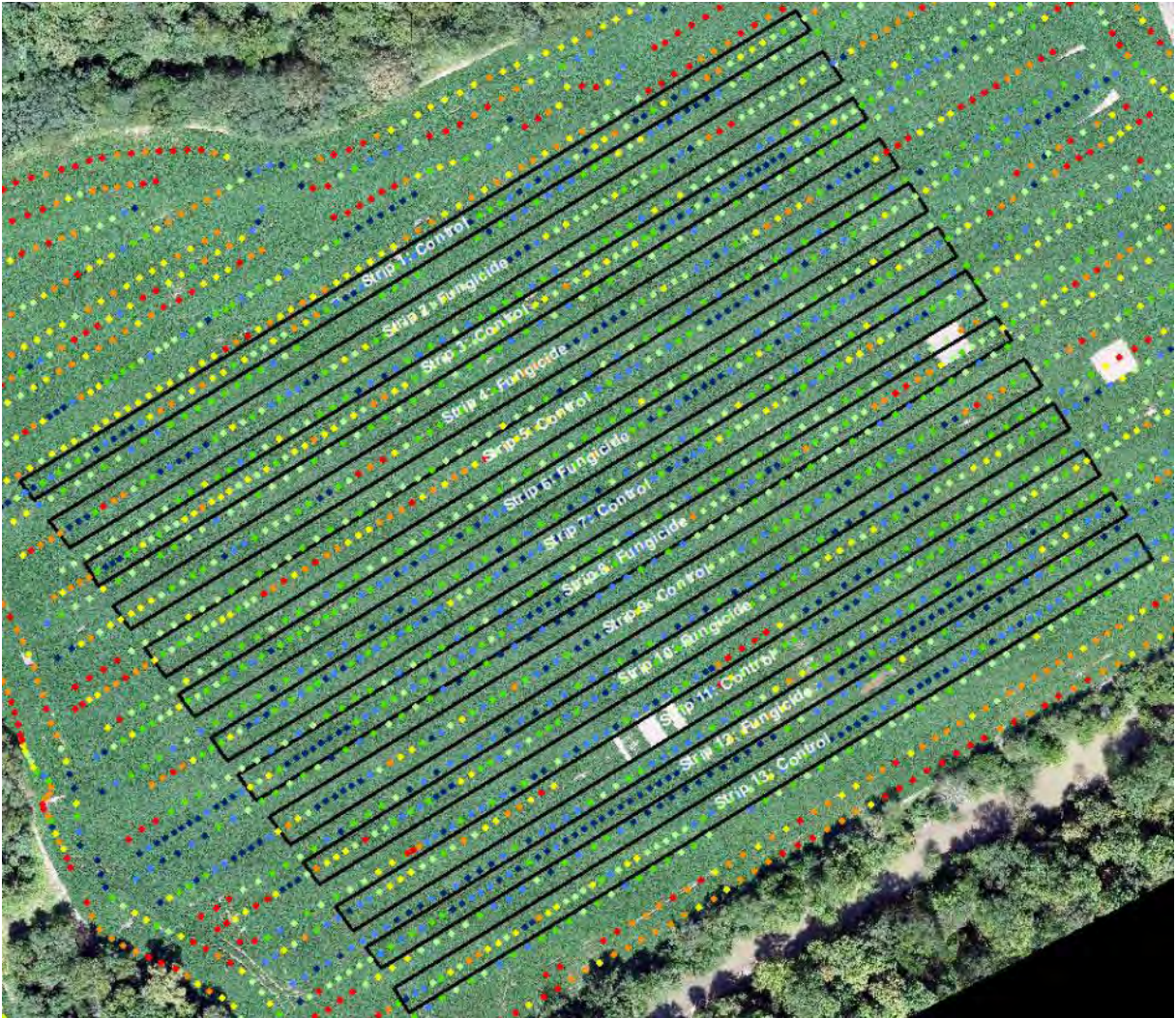


Map of soybean yield and areas used to determine strip yield. Soybean harvested 11/6/2019; imagery taken at 100m on 8/20/2019.

Soybean R3 Fungicide Trial 2019 Site 1908 Marion County

Conclusion: There was weak evidence that R3 fungicide may have increased yield.

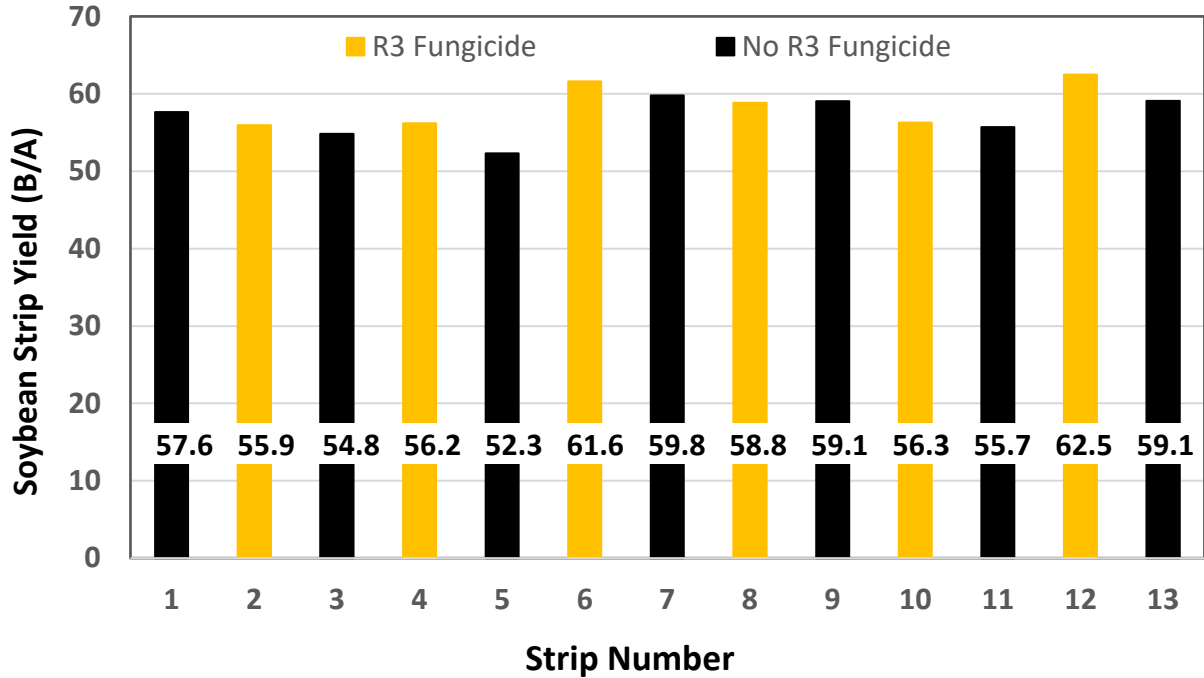
Treatments	Mean (STD)	Delta Control
	<i>bushels/acre</i>	
All strips	57.7 (2.8)	--
Control (N)	56.9 (1.8)	--
R3 Fungicide (F)	58.6 (2.9)	1.7



Map of soybean yield and areas used to determine strip yield. Soybean harvested 11/6/2019; imagery taken at 100m on 8/28/2019.

East side of the treatment area was not used because combine moved partially off the specified treatment areas.

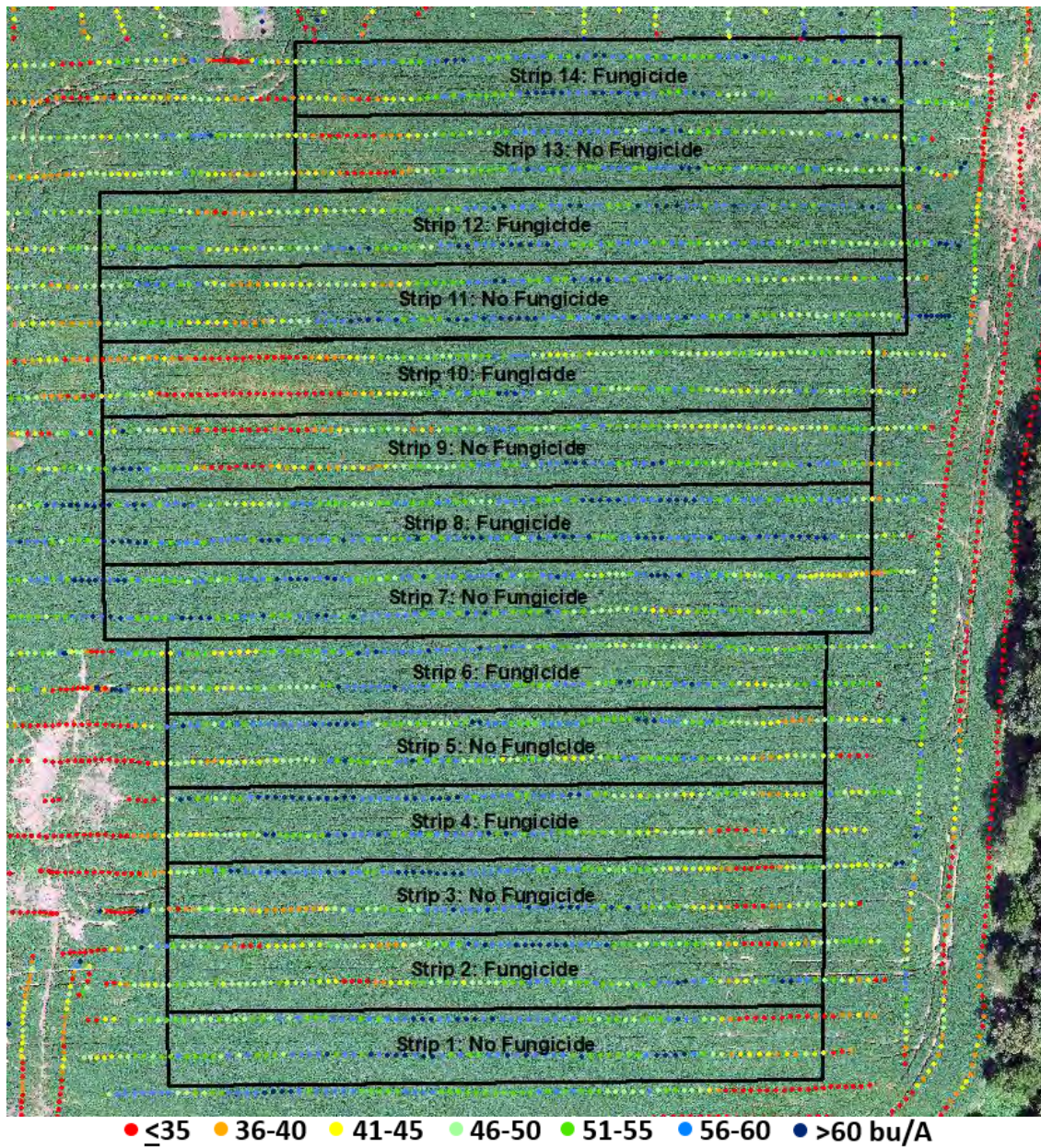
Conclusion: There was limited evidence that fungicide increased yield. The 90% probability range in estimated benefit was -1.5 to 4.5 bushels per acre (mid-point 1.7 bushels per acre).



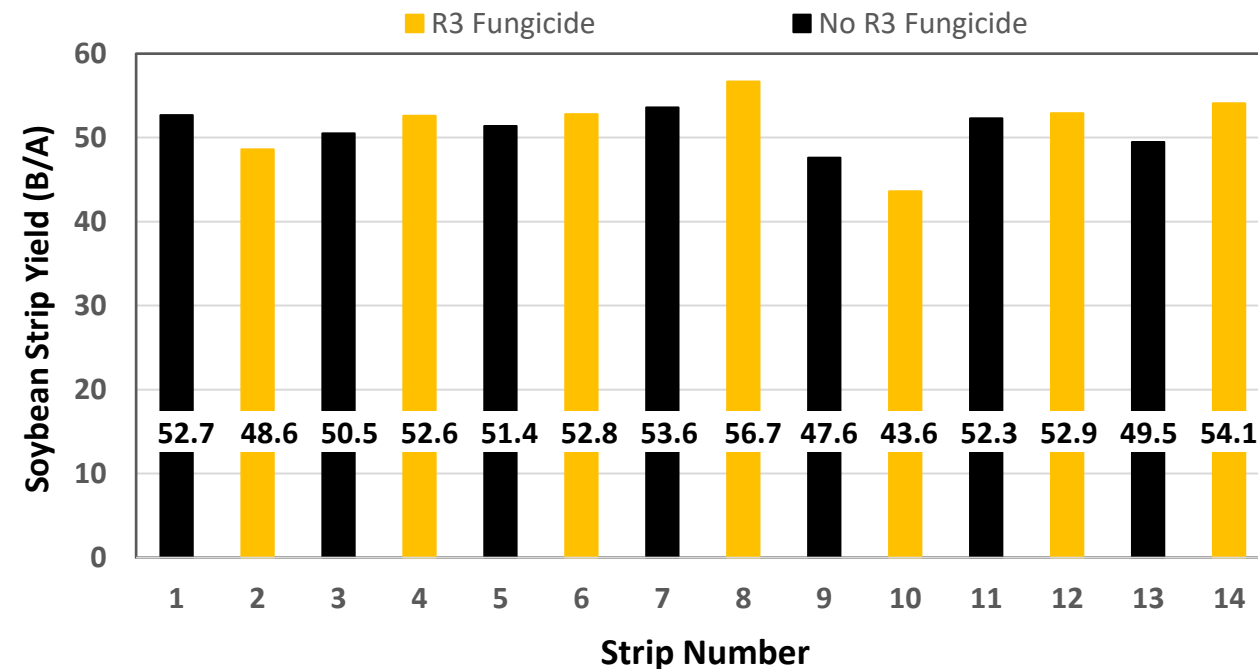
Soybean R3 Fungicide Trial 2019 Site 1909 St. Clair County

Conclusion: There was no evidence that R3 fungicide may have increased yield.

Treatments	Mean	Delta Control
	<i>bushels/acre</i>	
All strips	51.4 (3.2)	--
Control (N)	51.1 (2.1)	--
R3 Fungicide (F)	51.6 (4.3)	0.5



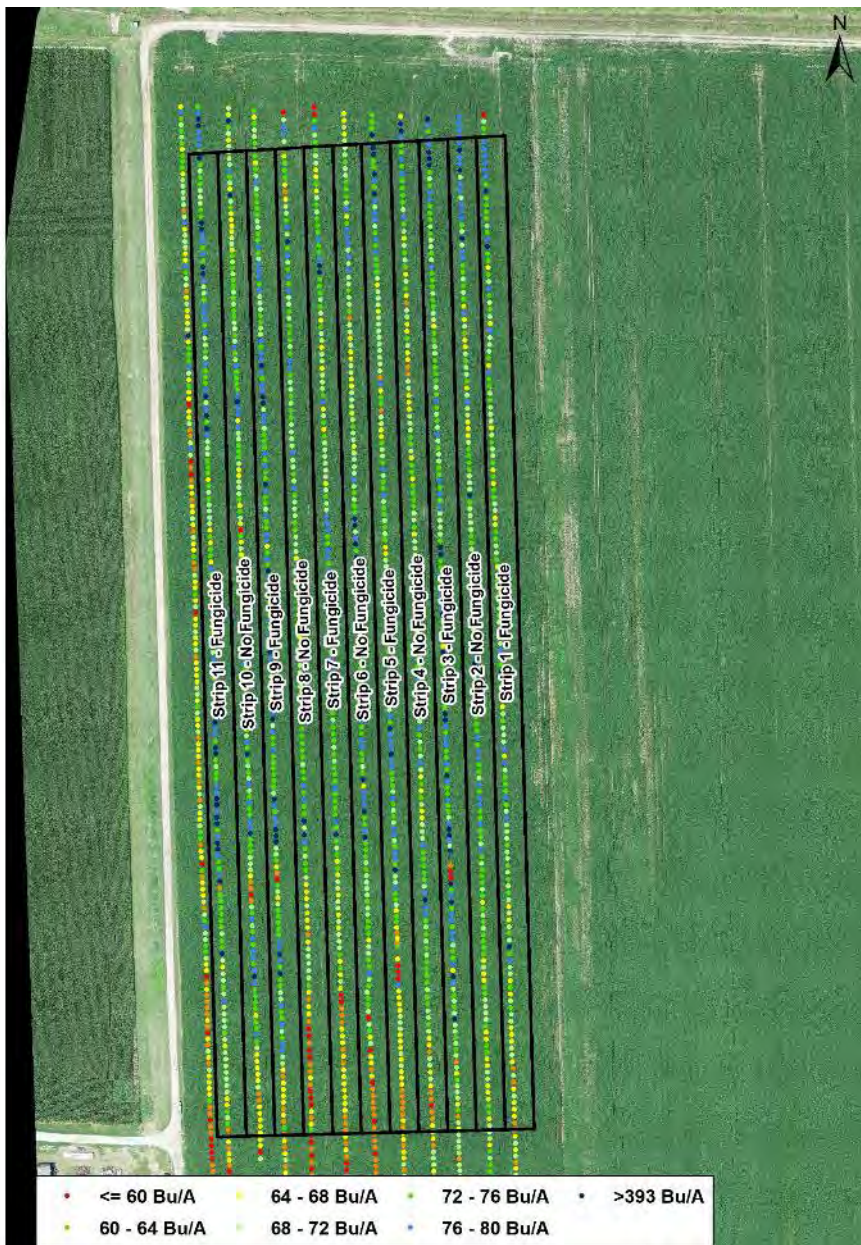
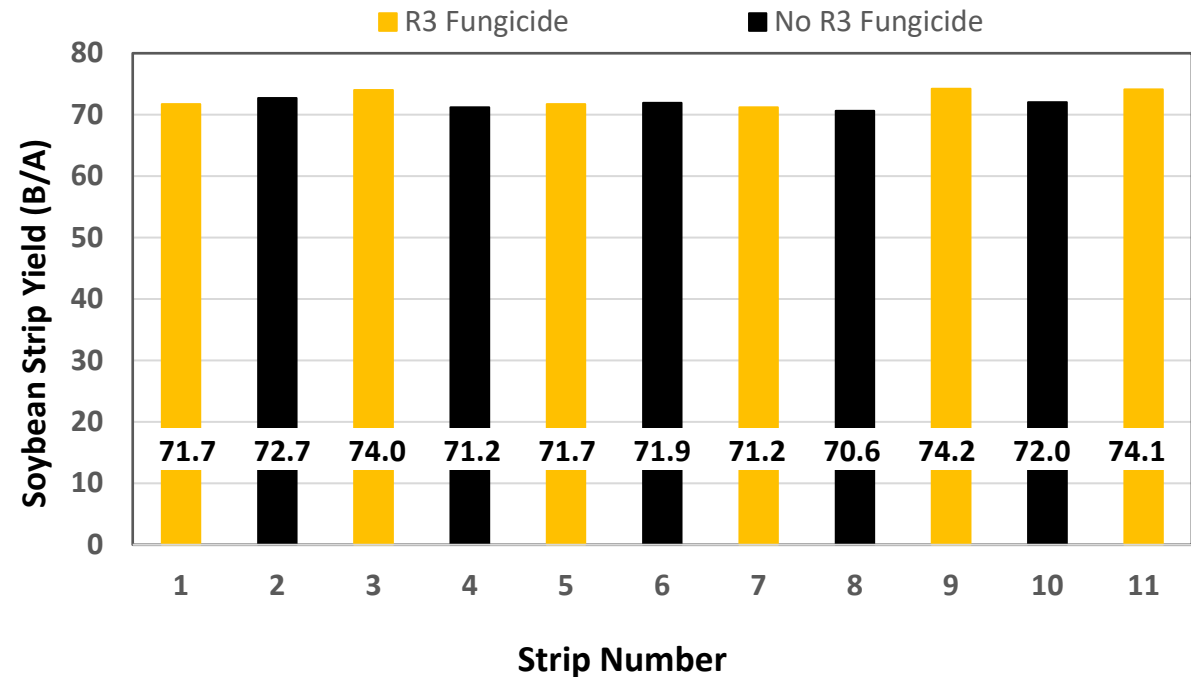
Map of soybean yield and areas used to determine strip yield. Soybean harvested 10/26/2019; imagery taken at 100m on 8/27/2019.



Soybean R3 Fungicide Trial 2019 Site 1910 Buchanan County

Conclusion: There was limited evidence that R3 fungicide increased yield.

Treatments	Mean	Delta Control
	<i>bushels/acre</i>	
All strips	72.3 (1.3)	--
Control (N)	71.7 (0.8)	--
R3 Fungicide (F)	72.8 (1.4)	1.1

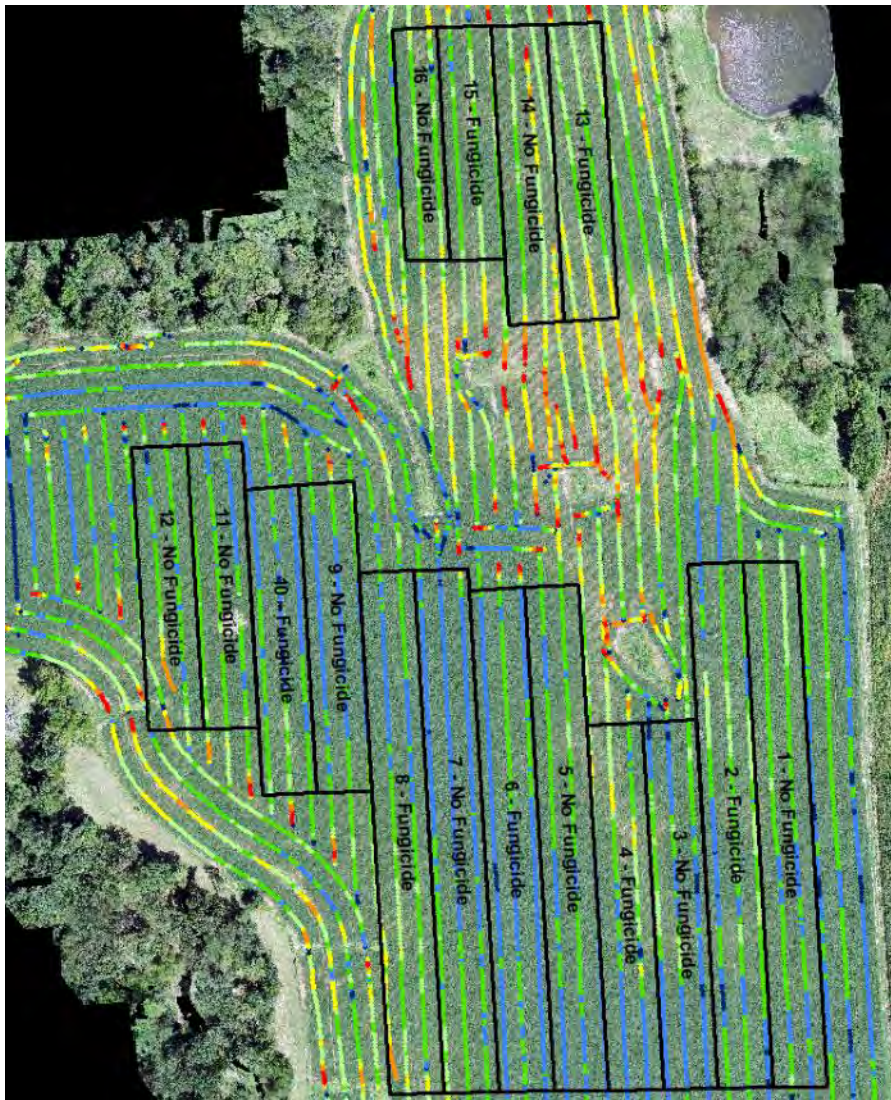
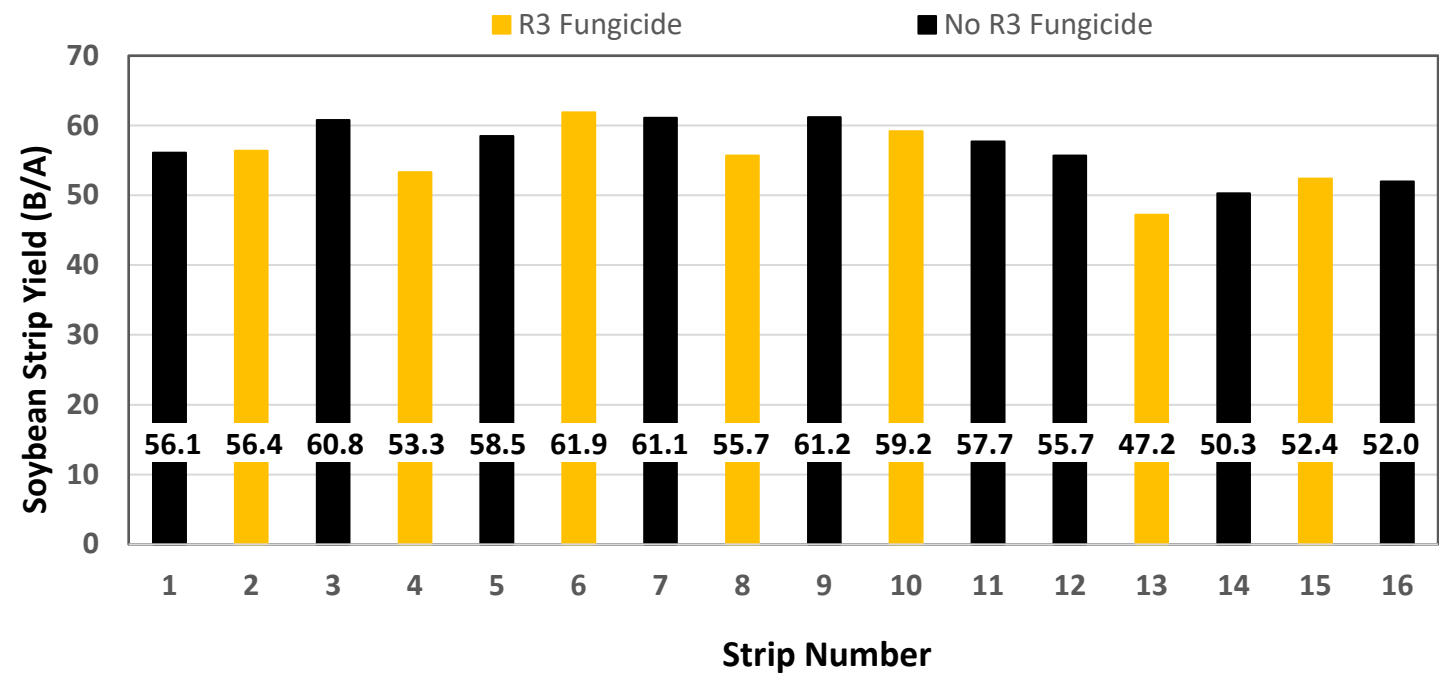


Map of soybean yield and areas used to determine strip yield. Soybean harvested 10/22/2019; imagery taken at 100m on 7/30/2019.

Soybean R3 Fungicide Trial 2019 Site 1911 Perry County

Conclusion: There was no evidence that R3 fungicide increased yield.

Treatments	Mean	Delta Control
	<i>bushels/acre</i>	
All strips	56.2 (4.3)	--
Control (N)	57.2 (4.1)	--
R3 Fungicide (F)	55.3 (4.4)	-1.9



Map of soybean yield and areas used to determine strip yield. Soybean harvested 9/16/2019; imagery taken at 100m on 8/28/2019.

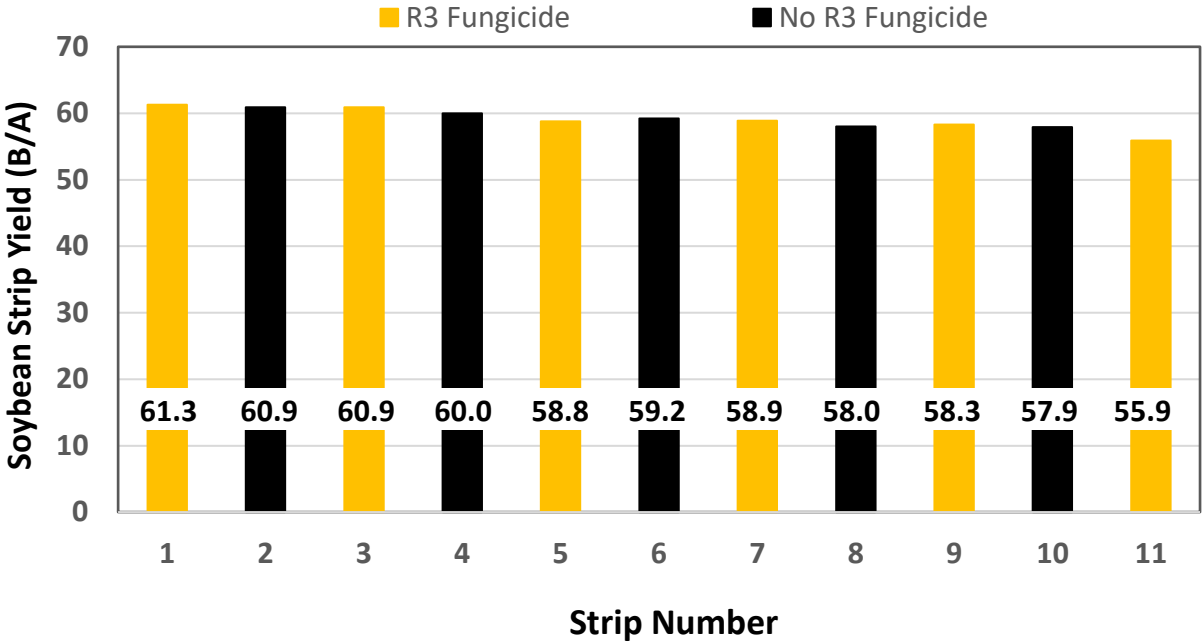
Soybean R3 Fungicide Trial 2019 Site 1913 Mississippi County

Conclusion: There was no evidence that R3 fungicide increased yield.

Treatments	Mean	Delta Control
	<i>bushels/acre</i>	
All strips	59.1 (1.6)	--
Control (N)	59.2 (1.3)	--
R3 Fungicide (F)	59.2 (2.0)	0.0



Map of soybean yield and areas used to determine strip yield. Soybean harvested 10/3/2019; imagery taken at 100m on 8/29/2019.



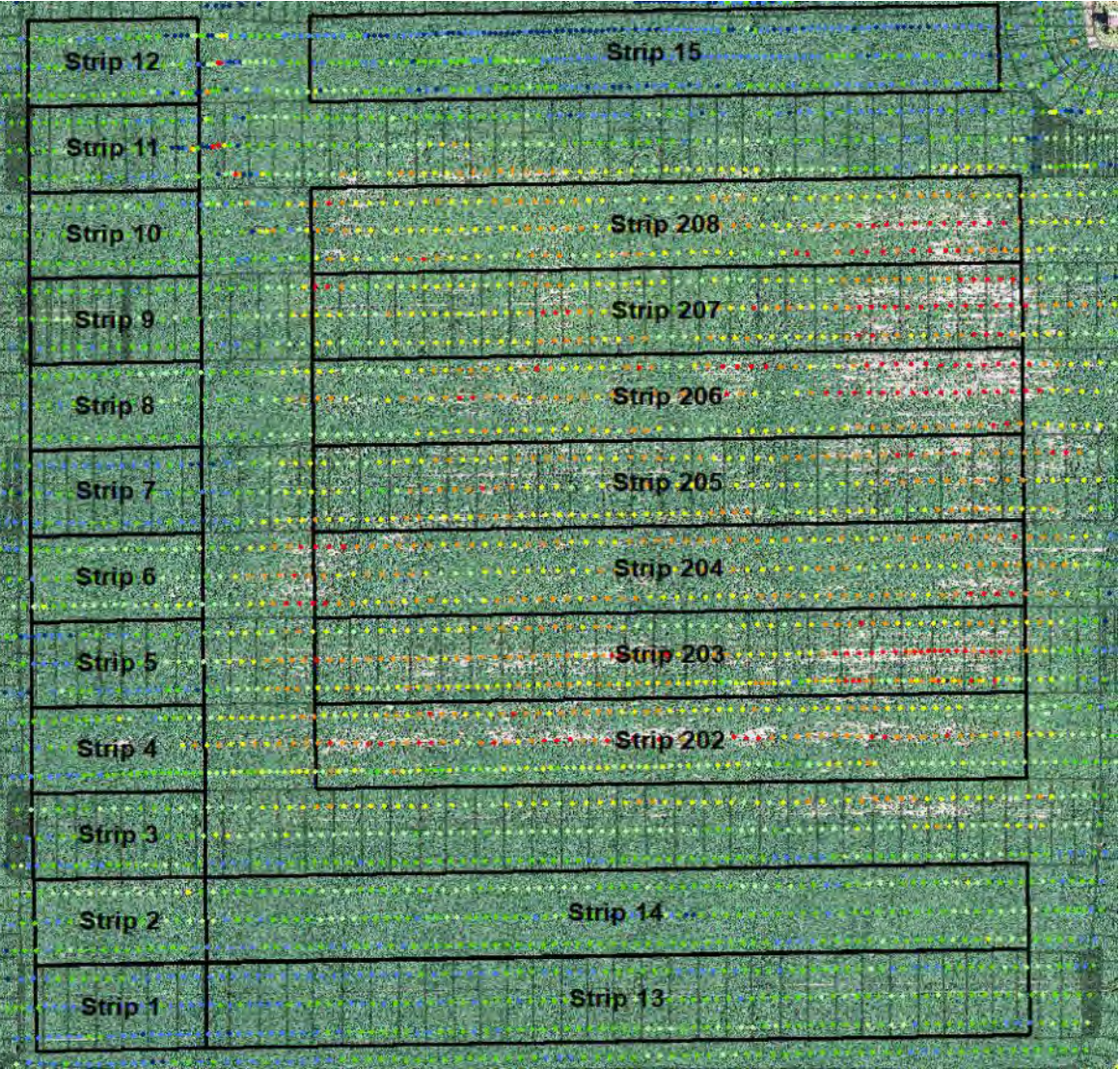
Soybean R3 Fungicide Trial 2019 Site 1914 Ralls County

Edges: There is evidence that this difference was significant.

Treatments	Mean	Delta Control
	<i>bushels/acre</i>	
All strips	56.4 (4.5)	--
Control (N)	55.1 (5.0)	--
R3 Fungicide (F)	58.0 (3.5)	2.9

Middle: There is limited evidence that this difference was significant.

Treatments	Mean	Delta Control
	<i>bushels/acre</i>	
All strips	30.6 (1.9)	--
Control (N)	30.3 (2.5)	--
R3 Fungicide (F)	31.0 (0.9)	0.7



● <20 ● 21-30 ● 31-40 ● 41-50 ● 51-60 ● 61-70 ● >70 bu/A

Map of soybean yield and areas used to determine strip yield. Soybean harvested 10/9/2019; imagery taken at 100m on 8/28/2019.

Note on this location, we analyzed the low yield areas (Strip numbers 202-208) separately from the higher yield areas.