

Spray Application Technology in Soybean: Implications for Disease and Insect Management



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Row spacing by wheel track damage

Row spacing (inches)	Non wheel track	Wheel track	Non wheel vs. wheel
	-----Yield(bu/ac)-----		P-Value
7.5	70.2	64.6	**
15	70.5	66.0	**
30	65.6	64.1	NS
LSD (0.05)	2.3	2.3	-

Yield loss by boom width

Boom width	Yield loss
30	3.6%
45	2.4%
60	1.8%
75	1.4%
90	1.1%



Application timing by wheel track damage

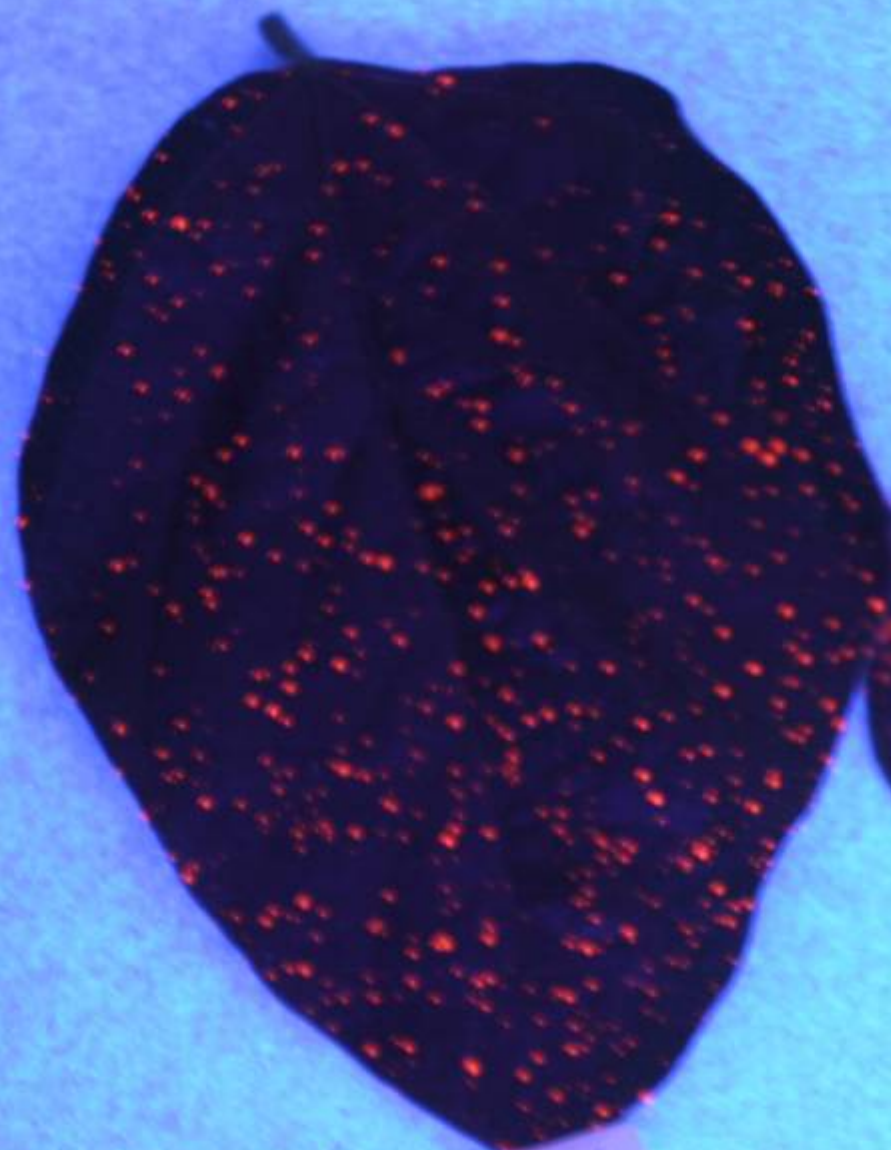
Timing	Non wheel track	Wheel track	Non wheel vs. wheel
	-----Yield (bu/ac)-----		P-value
R1	67.9	65.8	NS
R3	70.5	65.5	**
R5	68.0	63.1	**
R3+R5	69.8	63.1	**
R1+R3+R5	69.0	65.4	**
Control	67.4	66.9	NS
LSD (0.05)	3.3	3.3	-

Materials and Methods

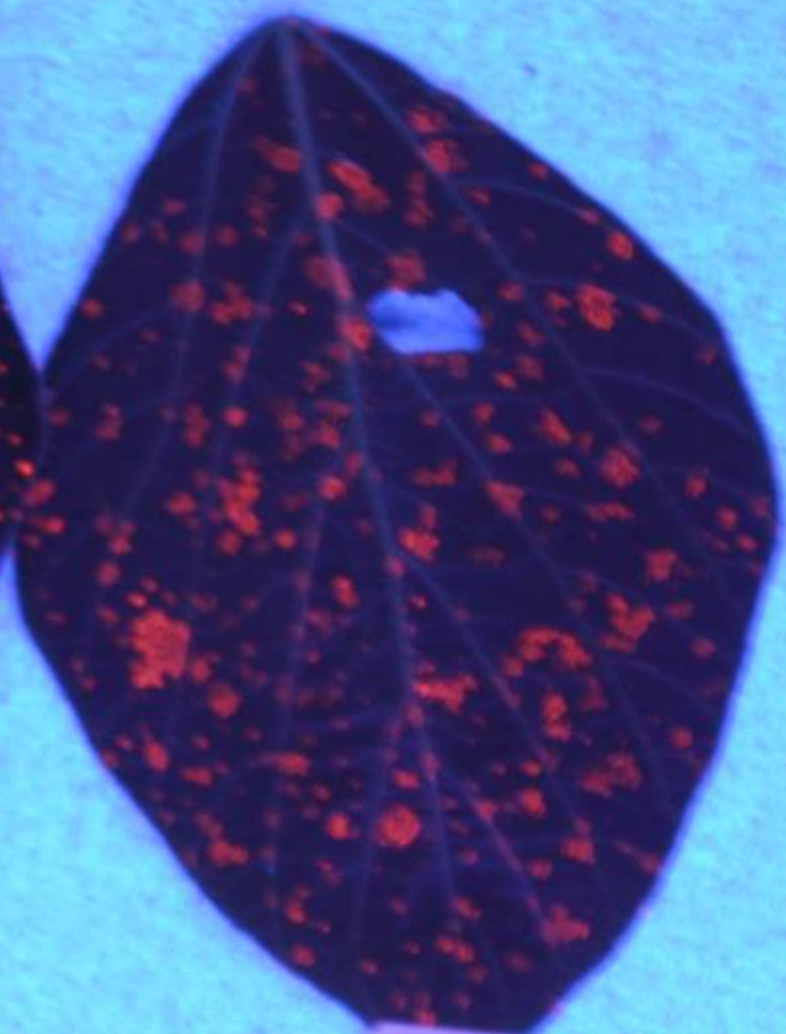
- Dye was applied at R2 soybean
- Compare percent canopy coverage
 - Ground application at 20 GPA
 - Aerial application at 5 and 2 GPA
 - Conventional flat fan tips: TeeJet 1550
 - Aerial application at 1 GPA
 - Electrostatic spray tips: TXVK 8
 - Air Tractor 402; 140 mph; 60 ft swath







111



112



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101

31

Color Plane
 I S H Apply

Lesion HSI

Smooth (Median) ▼

Toggle	
Outline	Smooth
Erode	Dilate
Open	Close blob

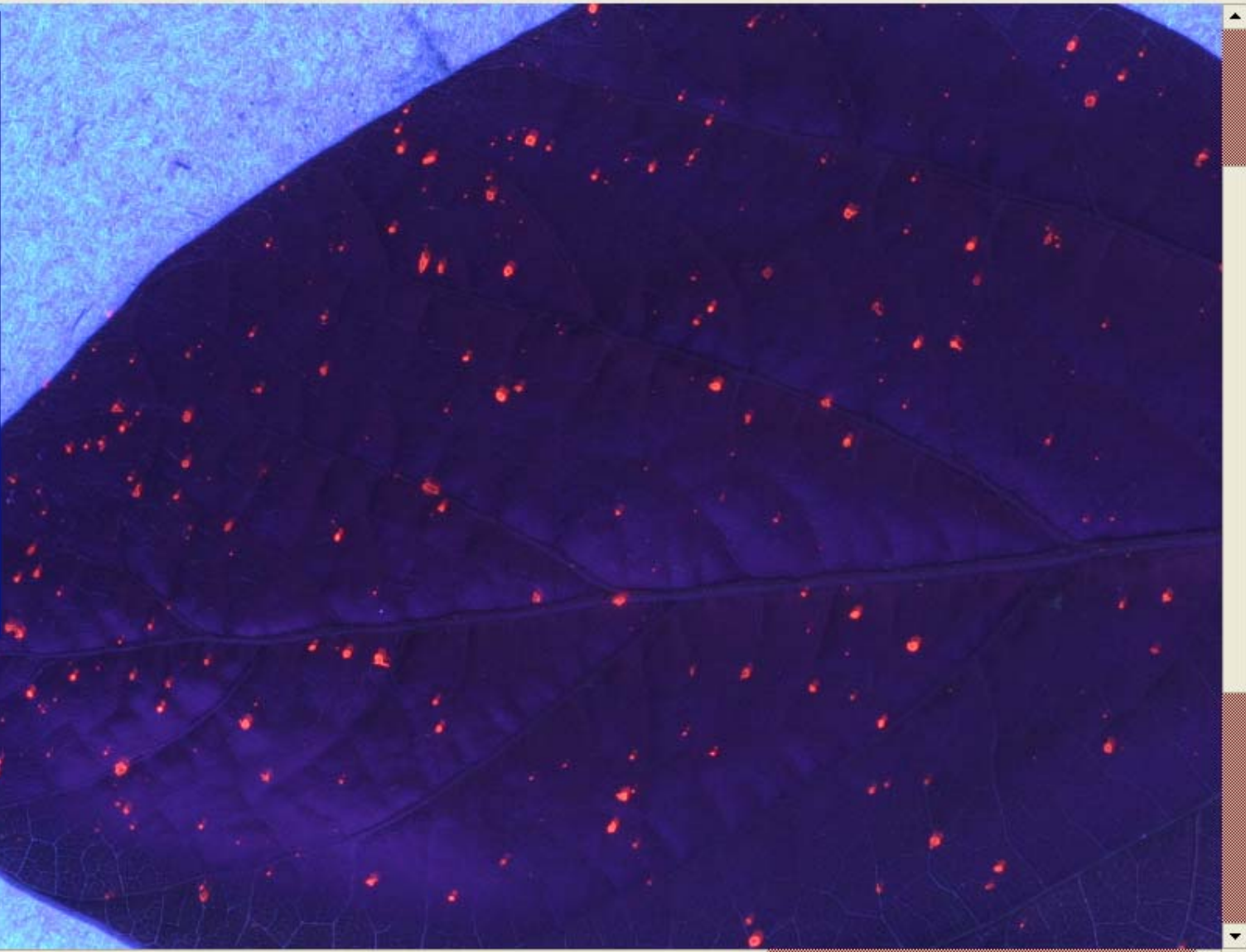
Spreadsheet Ovl Calibrate

Area Lesion

Percent Count

Area
% Area
Count
Root L

Options





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101
31

Color Plane
 I S H

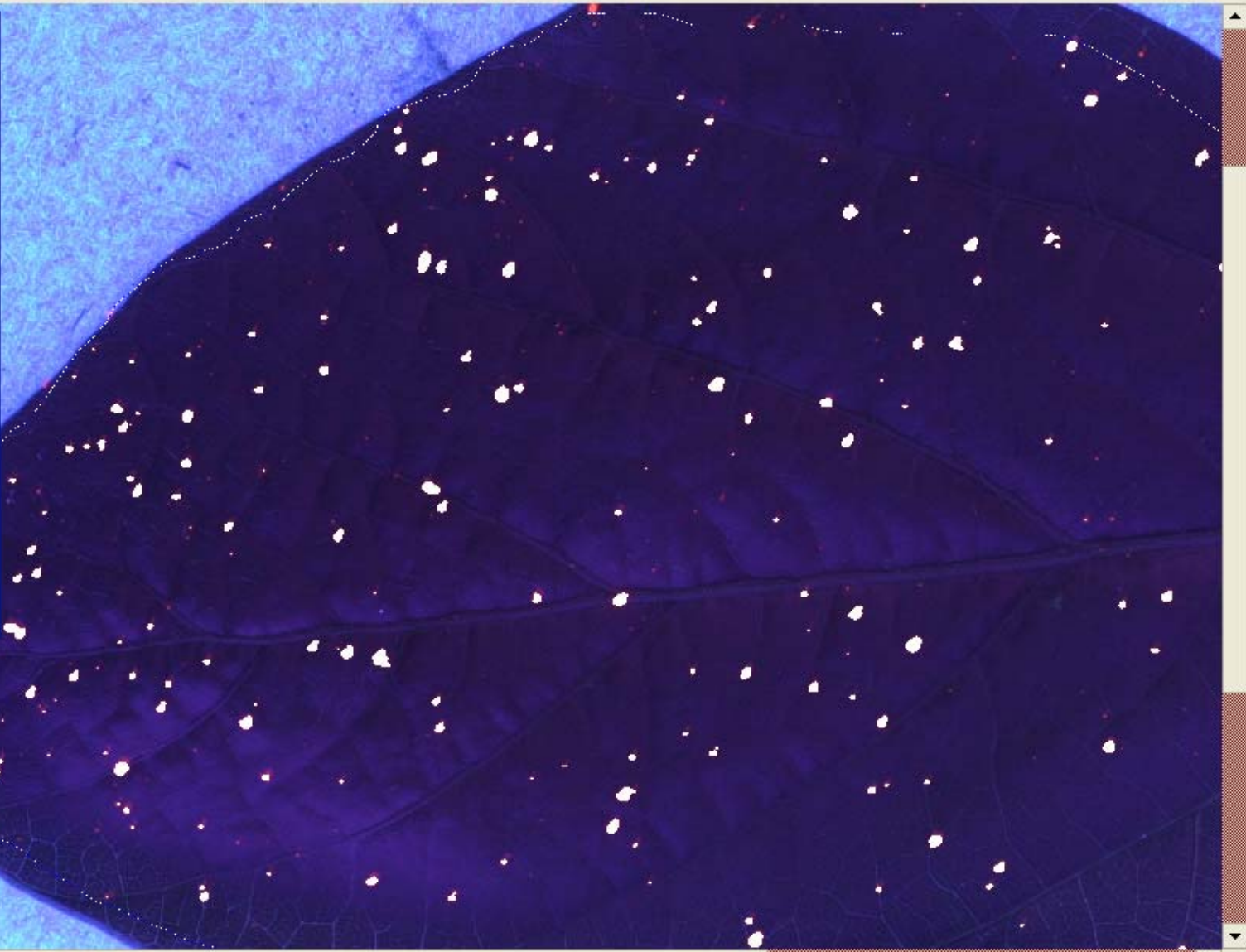
Lesion HSI

Smooth (Median)

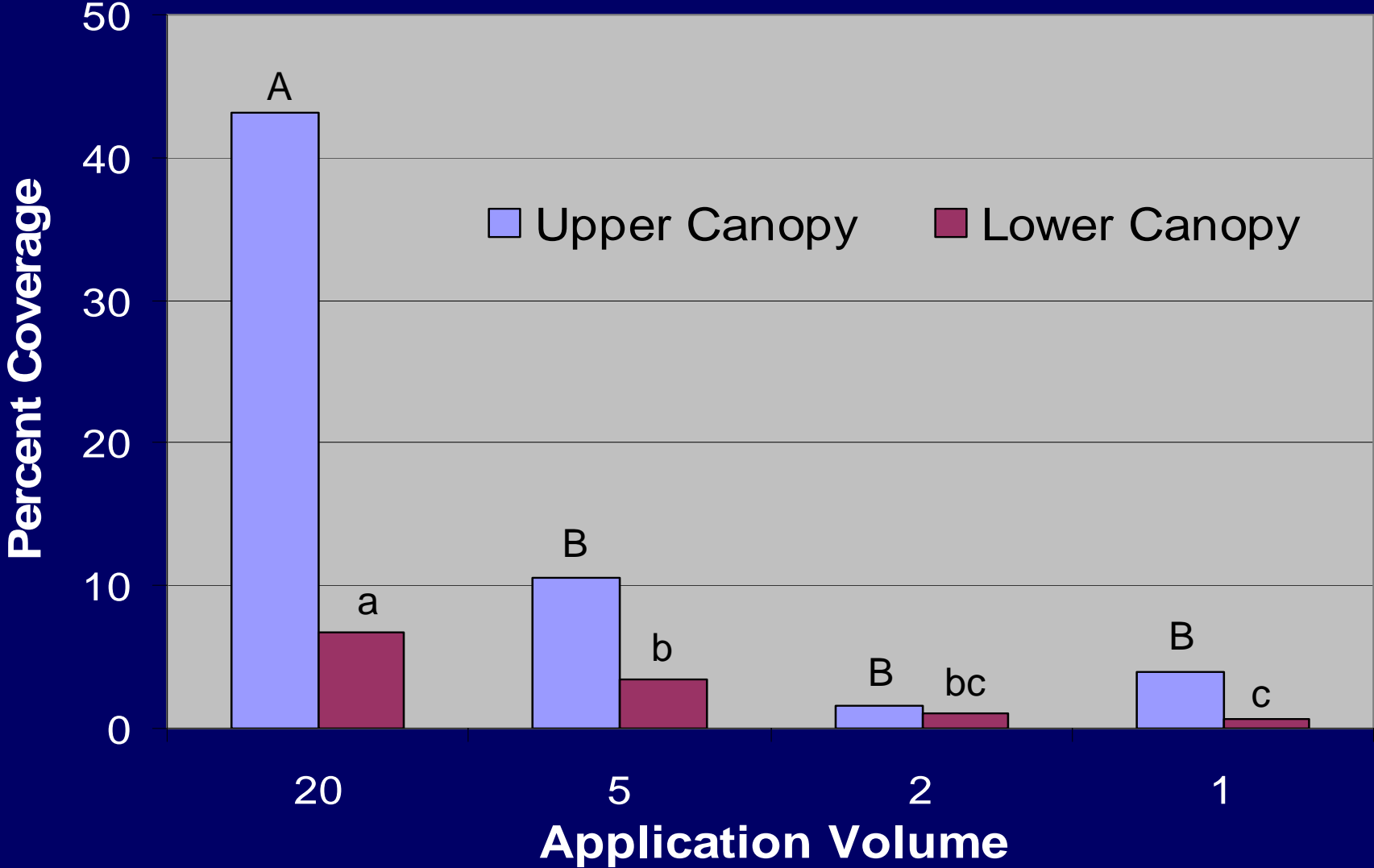
Toggle	
Outline	Smooth
Erode	Dilate
Open	Close blob

Spreadsheet Ovl

Area 452261 Lesion 3746
 Percent 0.83 Count



Impact of Application Volume on Canopy Coverage







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To join the Cool Bean.info mailing list please send an e-mail to Lisa Metts Lmetts1@purdue.edu. Please have "Join Cool Bean.info mailing list" somewhere in the e-mail.



Impact of Fungicide Application Timing and Soybean Row Spacing on Spray Canopy Penetration and Grain Yield

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