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

| Timina | Non wheel | Wheel | Non wheel |
|------------|---------------|-------|-----------|
| | track | track | 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











Impact of Application Volume on Canopy Coverage





