# Soybean Double Inoculant Trial

**Trial ID: 2021-S2IN06 – R.M. of Dauphin**

**Objective:** Quantify the agronomic and economic impacts of seed applied inoculant (single inoculation) vs. seed applied plus in-furrow inoculant (double inoculation) in soybeans. This trial requires a minimum field history of 2 previous soybean crops.

**Summary:** Nodulation ratings were the same for both double and single inoculated soybeans, and nodulation was agronomically sufficient. Soybean seed yield significantly increased by 2.2 bu/ac with double inoculation compared to single inoculation. Double inoculation resulted in an increase in profit/ac compared to single inoculation.

## Trial Information

| | |
|---|---|
| **Treatment** | 1x Signum Soybean Nodulator Granular |
| **Last Soybean Crop** | 2017 |
| **Soybean History** | 2-year history |
| **Soil Texture** | Clay |
| **Previous Crop** | Canola |
| **Tillage** | Conventional |
| **Seeding Date** | May 17 |
| **Variety** | DKB0009-89 |
| **Seeding Rate** | 190 000 seeds/ac |
| **Row Spacing** | 10" |
| **Plant Stand @ V1** | 134 000 plants/ac |
| **Harvest Date** | September 22 |

## Precipitation (mm)

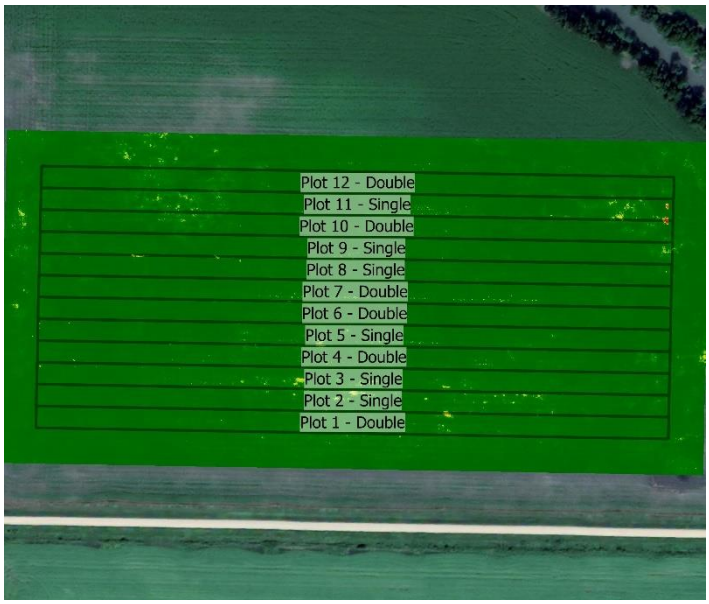
| | May | Jun | Jul | Aug | Total |
|---|---|---|---|---|---|
| **Rainfall** | 23.9 | 70.9 | 30.3 | 89.5 | 214.6 |
| **Normal** | 54.3 | 86.7 | 73.2 | 63.3 | 277.5 |
| **% Normal** | 44% | 82% | 41% | 141% | 77% |

## Nodulation†

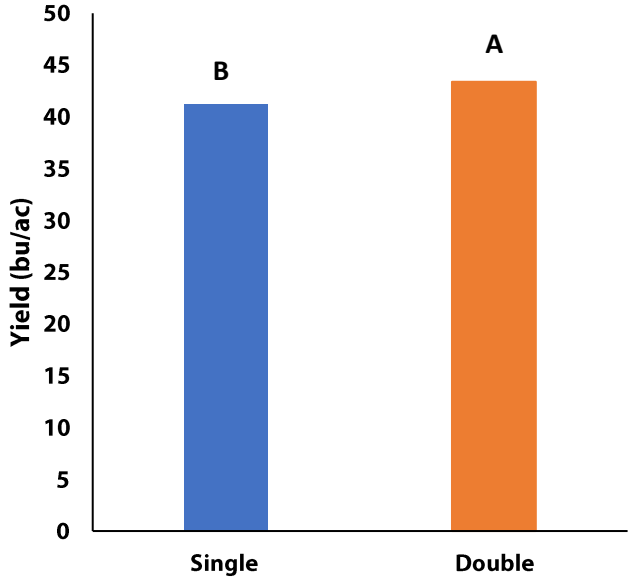
| | Average Nodulation Rating @ R1 |
|---|---|
| **Double** | 4.0 |
| **Single** | 4.0 |

† 0 = no nodules, 1 = Poor (<5/plant), 2 = Fair (<10/plant), 3 = Good (<20/plant), 4 = Excellent (>20/plant)

## NDVI Field Image August 17




## Yield by Treatment

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## Overall Yield & Economics

| | Mean (bu/ac) | Cost† | Change in Profit/ac†† | |
|---|---|---|---|---|
| | | | Long-Term Average ($11-12/bu) | Current Conditions ($13-15/bu) |
| **Double Inoculant** | 43.4 | $13.50/ac | $14 to $16/ac | $17 to $23/ac |
| **Single Inoculant** | 41.2 | $3.50/ac | | |
| **Yield Difference** | 2.2 | | | |
| **P-Value** | 0.0422 | | | |
| **CV** | 5.2% | | | |
| **Significance** | **Yes** | **Economic** | **Yes** | **Yes** |

**† Based on an estimated cost for on-seed + granular in-furrow vs. on-seed only**

**†† Profit is the difference between the change in income/ac, from a significant difference in yield, and the change in cost/ac with for the double inoculant practice. Profit is presented as a range across long-term average soybean prices, and those more similar to current market conditions**