

2012 CMDC

Optimizing Soybean Management

SPECHT

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Soybean Yield Components

$$\begin{aligned}
 & \text{Plants/Acre} \times \text{Nodes/Plant} \times \text{Pods/Node} \times \text{Seeds/Pod} \times \text{Seeds/Pound} \times \text{Pounds/Bushel} = \text{Bushels/Acre} \\
 & \text{Plants/Acre} \times \text{Nodes/Plant} \times \text{Pods/Node} \times \text{Seeds/Pod} \times \text{Seeds/Pound} \times \text{Pounds/Bushel} = \text{Bushels/Acre} \\
 & \text{Plants/Acre} \times \text{Nodes/Plant} \times \text{Pods/Node} \times \text{Seeds/Pod} \times \text{Seeds/Pound} \times \text{Pounds/Bushel} = \text{Bushels/Acre} \\
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 & \text{Plants/Acre} \times \text{Nodes/Plant} \times \text{Pods/Node} \times \text{Seeds/Pod} \times \text{Seeds/Pound} \times \text{Pounds/Bushel} = \text{Bushels/Acre} \\
 & 100,000/\text{Acre} \times 21/\text{Plant} \times 2.5/\text{Node} \times 2.4/\text{Pod} \times 2500/\text{Pound} \times 60/\text{Bushel} = 84/\text{Acre}
 \end{aligned}$$

2012CMDC-7-18-Specht (1)

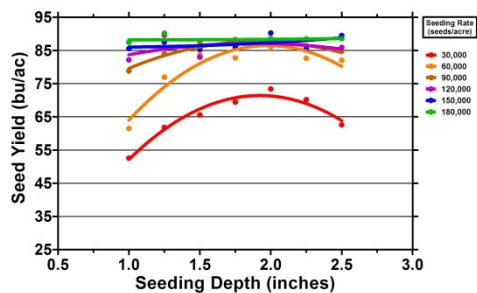
Soybean Yield Components

- Plants/Acre** – Strive for at least 100,000/Acre at Maturity
- Nodes/Plant** – Plant early to optimize Main Stem Node No. (two nodes per week between V1 & R5 stages!)
- Pods/Node** – Inversely dependent on No. of Plants per Acre
- Seeds/Node** – Does not vary much (averages ~2.4 seed/pod) (1-, 2-, 3-, & 4-seed pods: 10, 40, 50, & <0.1%)
- Seeds/Plant** – A product of the above three yield components
- Seeds/Pound** – A varietal “seed size” trait that is inversely related to Seeds/Plant, but governed by August rainfall!

2012CMDC-7-18-Specht (2)

Soybean Yield – Seeding Depth and Rate

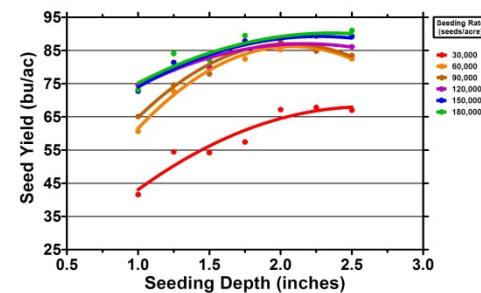
2011 Lincoln P93M11 (30 May)



2012CMDC-7-18-Specht (3)

Soybean Yield – Seeding Depth and Rate

2011 Clay Center P93M11 (04 Jun)



2012CMDC-7-18-Specht (4)

Seeding Rate (Plants/Acre) Effects on Plant Architecture



8.6 plants per foot of row (150K/acre) 30-inch rows

4.3 plants per foot of row (75K/acre) 30-inch rows

Photos courtesy of Jennifer Rees, Extension Educator, SE Rsch & Ext Center

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