2006 SMFD
Management for Improving Crop Water Use
Soybean Irrigation Recommendations:

1. Capture off-season snow and rainfall, to store and conserve it as soil water.
3. Plant a variety with a high yield-to-water response (3 bu/ac per inch).
4. Avoid irrigating during vegetative growth to ensure a deep and wide root system.
Soybean Irrigation Recommendations:
5. Skip irrigation during flowering (R1-R2) to minimize disease risks of rust & white mold, and to lessen lodging potential.
6. Always irrigate at pod elongation (R3-R4), the most yield-sensitive R-stage. Delivers max “yield bang” for the “irrigation buck”.
7. Continue irrigation during seed-filling (R5-R6) as August water is more critical for soybean than corn. Don’t stop too soon!

Three Factors Influence Your Ability to Optimize Your Soybean Yields:
* Soil Type/Conditions
* Seasonal Water Supply
* Your Management
**Soybean Irrigation Pointers:**

1. If your crop rotation is corn/soybean and you are not achieving a long-term Corn/Soy yield ratio of **3.25** (examples: **175/53.8**, **200/61.5**, **225/69.2**, **250/76.9**), then you are likely mismanaging one of the two crops.

2. Soybean yield response to water is linear and a high-yield variety delivers 3.5 bu/ac per inch of irrigation. With 8 inches of water, you could apply all 8 inches to a 100-acre field or apply 1 inch over a 800-acre field. How many here would take the first

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**Soils Differ for Available Water**

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Available Water (in/ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Range</td>
</tr>
<tr>
<td>Fine sand</td>
<td>0.7</td>
</tr>
<tr>
<td>Sandy loam</td>
<td>0.9</td>
</tr>
<tr>
<td>Loam</td>
<td>1.2</td>
</tr>
<tr>
<td>Silt loam</td>
<td>1.4</td>
</tr>
<tr>
<td>Silty clay loam</td>
<td>1.5</td>
</tr>
<tr>
<td>Clay</td>
<td>1.6</td>
</tr>
</tbody>
</table>

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**Take Home Messages**

- Don’t destroy soil structure with tillage and lose soil moisture
- Use residue cover to reduce erosion, crusting, and evaporation
- Select the proper maturity and plant early
- Irrigate primarily during pod fill, sparingly before that
- Don’t shut off too early, fill those pods

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Plant Early - Crop Height Effect

Plant Early - But Do It Right!
- Know the calendar date of last-ever spring frost for your area.
- Plant no earlier than 14 days prior to that calendar date.
- Use a variety with slightly later flowering (i.e., later maturing).
- Use high quality seed and consider treating with a fungicide & insecticide!

Cross-Listed 05CMDG-Specht

Soil Moisture Losses
1/2 to 3/4 inch per trip
Typical Fuel 3/4 gal/A
Custom Rate $7.00/A

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