SOYBEAN SEED QUALITY
Adjust seeding rates with low-germination seed lots for optimum yield potential.

SITUATION
Soybean seed produced during summers with high heat and drought conditions can lead to a wide range in germination rate of seed lots available for the next growing season. The quality of some seed lots may fall below customary industry standards. Be aware of studies that demonstrate how soybean plants can compensate when stands are reduced. Understand factors causing reduced germination and adjust seeding rates, if necessary.

FACTORS TO CONSIDER
• Growing conditions during seed production
• Soybean seeding rates
• Germination quality of seed lots
• Early season vigor

ACTION PLAN

1 KNOW THE OPTIMUM SEEDING RATE FOR YOUR GEOGRAPHY. Seeding rates for optimum soybean yield potential vary by row width, geography, local conditions and environments. Seek local recommendations for ideal seeding rates, dependent on specific variety and yield goals.

2 CHECK SEED TAGS FOR QUALITY PARAMETERS. Check seed tags for each seed lot to determine seed germination percentage. In general, the acceptable industry standard used by seed companies for soybeans is 90 percent. Growers purchasing seed tagged at less than 90 percent should adjust seeding rates to ensure adequate plant stands.

3 ADJUST SEEDING RATE FOR SEED TAGGED AT LESS THAN 90 PERCENT. Divide the planned seeding rate (seeds per acre or seeds per row) by the percent germination listed on the seed tag, expressed as a decimal. For example:
   i. If the planned seeding rate is 160,000 seeds per acre and the seed tag lists the germination percentage as 85 percent, divide 160,000 by 0.85 to get the correct seeding rate of 188,235 seeds per acre.
   ii. A grower plans to plant 30-inch rows at 130,000 seeds per acre (equivalent of 7.4 seeds per foot of row at 90 percent germination), but the seed tag reads 85 percent germination seed. Divide 7.4 by 0.85 to calculate a desired rate of 8.7 seeds per foot of row for the 85 percent germination seed lot.

4 REDUCE EARLY SEASON STRESS. It is important to reduce as much stress as possible on lower-germination seeds during the germination and emergence stages of growth by avoiding planting in cool, wet soils. Plan to plant highest-quality seed lots first, and plant seed lots of lesser quality when soils are warmer and less saturated.

5 HANDLE LOWER-GERMINATION SEED LOTS WITH CARE. Seed lots can be more fragile than usual and should be handled carefully to prevent further damage to individual seeds. Various treatments applied to the seed can lessen the potential for early season stress but do not improve the quality of the seed lot.

Seedling Rate Adjustments for Varying Levels of Germination

<table>
<thead>
<tr>
<th>Row Width</th>
<th>Percent Germination as Given on the Seed Tag</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>90% or Better</td>
</tr>
<tr>
<td>7.5 inch</td>
<td>200,000 (3.0)</td>
</tr>
<tr>
<td>7.5 inch</td>
<td>144,000 (4.7)</td>
</tr>
<tr>
<td>7.5 inch</td>
<td>130,000 (7.4)</td>
</tr>
</tbody>
</table>

SUMMARY
Check the tags of each seed lot to determine germination percentage and seed size. To offset lower seed quality, growers may need to adjust soybean seeding rates to achieve optimum plant populations for high yields and profitability. For more information, contact your local Mycogen Seeds commercial agronomist or trusted agronomic adviser.

Resources:

www.mycogenseeds.com

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