Objective

- Determine the rate of MicroEssentials® SZ™ (12-40-0-10S-1Zn) that can safely be placed with soybean seed in 7.5" and 30" row spacings.

Overview

- Soybeans are sensitive to seed-placed fertilizer.
- Seedbed Utilization (SBU) is the amount of the seedbed over which the fertilizer is spread. This is expressed as % SBU (width of spread divided by the row spacing and multiplied by 100). Therefore, at a given application rate, the more narrow the row spacing, the higher SBU and the lower the potential seed damage.

Trial Details

- **CROP:** Soybean (Glycine max)
- **YEARS:** 2010–2012
- **LOCATIONS:** 9 locations
  United States – ND, SD
  Canada – MB
- **DATA SOURCE:** Field studies conducted by third-party, independent researchers.
- **EXPERIMENTAL DESIGN:** Small-plot RCBD with 4 replications.
- **CROPPING CONDITIONS:**
  - All trials conformed to local cropping practices.
  - Fertilizer was applied with the seed at planting.
  - P2O5 fertilizer rates were 16, 24, 32 and 40 lbs/ac. These rates were equivalent to 40, 60, 80 and 100 lbs/ac of SZ, respectively.
  - Row spacing: 7.5" and 30".
  - Stand counts were taken at 21–30 days after planting.
  - Soil texture was loam for most of the locations.

Summary

- MicroEssentials SZ demonstrated less stand reduction and higher yield at 7.5" row spacing than 30" row spacing. See Fig. 1 and Fig. 2.
- Based on yield in Fig. 2, MicroEssentials SZ can be safely applied with soybean seed up to 40 lbs P2O5/ac (100 lbs MicroEssentials SZ/ac) in 7.5" row spacing.
- Based on yield in Fig. 2, MicroEssentials SZ can be safely applied with soybean seed up to 32 lbs P2O5/ac (80 lbs MicroEssentials SZ/ac) in 30" row spacing.
- MicroEssentials SZ applied in narrow spacing decreases the number of fertilizer granules next to the soybean seeds (higher percent SBU) and allows higher rates of fertilizer to be safely applied with the seed.

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