How Do We Manage For Higher Yielding Soybeans? (A09-cooper151234-Oral)

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Abstract:

Results from 25 years of maximum yield research have identified 3 major barriers to higher soybean yields, water, lodging, and row spacing. Using irrigation to remove water as a yield limiting factor, semidwarf varieties to overcome the lodging barrier and solid-seeding in 7-inch row spacing to minimize the row spacing barrier, over 100 bu/a soybean yields have been obtained. Without irrigation considerable variation in yield from year to year can be expected. To take advantage of favorable moisture years, a grower needs to use a high yield production system every year. In a 10 year study in NW Ohio, comparing the solid-seeded-semidwarf (SSS) system with a wide-row-indeterminate (WRI) system, the SSS system exceeded 70 bu/a 4 out of the 10 years with an average yield of 61 bu/a. This compared to the WRI system that exceeded 60 bu/a only 2 years with an average yield of 49 bu/a. A 4th major barrier to higher soybean yields has recently been identified in maximum yield research, the delayed flowering of soybeans under normal spring temperatures. Early warm springs that trigger earlier flowering can increase the yield potential of soybeans from the 70 to 80 bu/a level to 90 to 100 bu/a.

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