

Seeding rate and between-row spacing

Summary: Narrow-row spacing increased yield. Higher seeding rate increased yield. Higher seeding rate did not increase profit per acre for private company varieties because of the high cost of this seed. Higher seeding rate increased yield and profit per acre only for an NDSU public variety that was not Roundup Ready®. This is because the seed costs for a conventional and public variety were low enough to pay for the increased cost of the higher seeding rate.

We found that a between-row spacing of 15 inches resulted in a yield of 51.8 bu/A in Cass and Richland counties. A between-row spacing of 30 inches yielded only 47.2 bu/A. In side-by-side comparisons, the 15 inch spacing yielded 4.6 bu/A more than the wider rows with 30 inch spacing. These experiments were done on sites where iron-deficiency chlorosis (IDC) was not a problem. Other research at NDSU has shown that the 30 inch row-spacing can sometimes yield more than more narrow-row spacing when IDC was a problem.

We found that at a seeding rate of 200,000 seeds/acre the yield was 50.3 bu/acre. A lower seeding rate of 140,000 seeds/acre resulted in a yield of 48.4 bu/acre. In side-by-side comparisons, using replicated small plots, the higher seeding rate resulted in an increased yield in the fall of 1.9 bu/acre. For conventional (not Roundup Ready®) NDSU varieties, the higher seeding rate increased profit per acre, because the low cost of seed reduced the cost of the higher seeding rate. However, due to the more expensive seed costs of Roundup Ready® varieties, the higher seeding rate of 200,000 seeds/acre did not increase profit per acre. The more expensive seed of private company varieties, either Roundup Ready® or conventional company varieties resulted in no increased profit when seeded at 200,000 seeds/acre.