

## YOU CAN SAVE MONEY WITH LOWER SOYBEAN SEEDING RATES



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With the high cost of soybean seed, the cost of seed is a significant input for soybean farmers. While seeding rates for corn have been increasing, what about soybeans? In previous articles, we have reported local observations on area farms in southeast Nebraska and on-farm research in Nebraska have indicated lower soybean planting populations may be comparable in yield to higher planting populations that have been used for several years. Over 10 years ago I reported on research conducted in south central Nebraska with the Greater Quad County Research Group that conducted on-farm trials under irrigation and dryland. They reported 65.9 bu/ac for a 90,000 planted population compared to 68.6 bu/ac for the 180,000 planted population in a Fillmore County irrigated study. Back in 2007, the Quad County Research Group conducted 7 trails in 5 counties (Fillmore, Seward, Hamilton Clay and York), with planting rates of 90,000, 120,000, 150,000 and 180,000 seeds per acre. In 5 irrigated fields, yields ranged from 59.4 bu/acre at a seeding rate of 90,000 seeds per acre to 60.2 bu/acre at a seeding rate of 180,000 seeds per acre. In 2007 there were no significant differences in soybean yields in plots planted at 90,000, 120,000, 150,000 and 180,000 seeds per acre. The past few years in the Nemaha County area, several area farmers have cut their seeding rates down to 140,000 seeds/ac and as low as 130,000 seeds/ac with consistently excellent soybean yields.

In recent years the Nebraska On-Farm Research Network has continued to conduct research on soybean planting populations under both dryland and irrigated conditions. Results are very consistent in showing soybean yields are similar for planting populations of about 120,000 to 180,000 seeds/acre. With similar yields, profitability is numerically higher, sometimes significantly higher for the lower planting populations. In reviewing the results from previous years' On-Farm Research Network, soybean planting populations have been contrasted and compared from planting populations as low as 80,000 to 180,000 seeds/acre, with consistently similar yields within 2-3 bu/ac and marginal net returns trending higher for the lower planting populations. In data from 2016 in Saunders County, for planting populations of 90, 120, 150 and 180 thousand seeds/ac, soybeans yields ranged from 71-72 bu.ac for irrigated soybeans and 66-67 bu/ac for dryland or rainfed soybeans respectively. In a non-irrigated experiment in Richardson County in 2016, soybeans yielded 66, 67, 68 and 68 bu/ac for 116,130, 160 and 185 thousands seeds./ac planting populations. In 2018 an irrigated field in Saunders County reported 65,64, 62 and 63 bu/ac for planting populations of 100,000, 125,000, 150,000 and 175,000 seeds/ac respectively.

A summary of 14 irrigated soybean trials and 4 non-irrigated trials from 2006-2017 show yields averaged 67.7, 68.4, 68.7 and 69 bu/ac for 90, 120, 150 and 180 thousand planted seeds/ac. In 2019 there were at least 10 experiments that evaluated soybean planting rates through on-farm research. One project, which is a part of a multi-state project involved 6 sites across Nebraska in Cass, Saunders, Hamilton, Adams, Dawson and Lancaster Counties. Planting populations evaluated in this project were 80,000, 110,000, 140,000 and 170,000 seeds/ac. Yields were generally non-significantly different on most sites and soybean yields were usually highest at either the 80,000 or 110,000 seeds/ac planting rate. This experiment was repeated in 2020 and consistently the lower seeding rates of 80,000 or 110,000 seeds/ac yielded similar to the higher seeding rates of 140,000 or 170,000 seeds/ac with similar or sometimes significantly higher marginal net returns. On other experiments in 2019, the 90,000 and 120,000 seeding rates/ac have yielded comparable to the higher seeding rates of 150,000 or 160,000 seeds/ac. A research project evaluating lower soybean planting rates and other improved management practices indicated higher yields for soybeans planted at rates of 99,000 and 110,000 seeds/ac. in Richardson County. This data shows that producers can save money by reducing soybean populations without affecting soybean yields.

To evaluate the On-Farm Research Results go to: <https://cropwatch.unl.edu/farmresearch/resultshome> . The latest results from 2020 are also available. Check out the 2020 soybean population yield results for yourself at: [https://cropwatch.unl.edu/OnFarmResearch/2020\\_NEOnFarmResearchBook\\_WebEdition.pdf](https://cropwatch.unl.edu/OnFarmResearch/2020_NEOnFarmResearchBook_WebEdition.pdf) . You can also

check with your local Extension Educator if you are interested in a hard copy of the 2020 On-Farm Research Report. I have a few at the Nemaha County Extension Office at 1824 'N' St. in the courthouse in Auburn, NE. Demonstrations by seed companies have also confirmed the results of this research by several universities. If you have questions about any of this research, you can contact me at (402) 274-4755 (402) 274-9639 or [glesoing2@unl.edu](mailto:glesoing2@unl.edu).

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April 2021