

News Column

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LATE PLANTED SOYBEANS

Many of you already know that I grew up in Phillips county and I own some land just south of Speed, population 37. We own 160 deeded acres, but when you deduct roads, CRP, and wooded wasteland (wildlife habitat), there are just 110 crop acres. The farm ground is almost level and the soil is good, but water from the hills above runs across part of it during heavy rains.

The average annual rainfall for Phillips county is about 24 inches. Riley county averages closer to 34 inches of rainfall and those extra 10 inches really make a difference.

Our first year growing soybeans in Phillips county was 2013. Since then, we have only grown five soybean crops, with varying degrees of success. Or, maybe I should say varying degrees of failure.

The 2013 crop yielded 10 bushels per acre in a drought. Our 2015 soybean crop looked like 30 bushels per acre until it got hailed. We harvested 16 bushels per acre that year. In 2017 a late gully washer put about half of our beans under water, but we still salvaged 22 bushels per acre.

I think you see the pattern. Soybeans can be a risky proposition in a low-yield environment. But we are stubborn! We harvested 36 bushel per acre beans in 2018, and 41 bushels per acre in 2019. I can live with those yields, even though they are low by Riley county standards.

We are still learning to grow soybeans in the drier Phillips county environment and I

really don't know yet how much knowledge we can transfer from here to there. One thing I am wondering is whether we need a higher seeding rate than what we use in Riley county.

Yes, I know it sounds backwards, but K-State research indicates that the optimum plant population in low-yield environments is higher than is needed for medium and high yield environments. In Riley county the optimal final plant population in medium and high yield environments is about 100,000 plants per acres. Interestingly, our optimum final plant population is closer to 120,000 plants per acre in low yield environments.

Here in Riley County, when we plant our soybeans during what we believe to be the ideal planting window – late May to about June 10 – 120,000 seeds planted per acre should be enough, if you are seeding with a well-maintained planter. With 85% emergence, that would result in a final plant population of 102,000 plants per acre.

From 2005 to 2011 we planted soybean population plots on about a half dozen Riley county farmer fields each year, and we quickly learned that most of our producers were wasting seed. Most were dropping about 150,000 seeds per acre with a planter when we started those plots. A couple of producers dropped their seeding rate to 120,000 seeds per acre after just the first year.

A word of caution might be needed here though. The other really important thing I learned from those plots is that not all planting systems are equal. The final plant population on fields planted with newer or well-maintained planters was 85-95% of the seeding rate. A drill and an older planter gave us final stands that were just 60-65% of the seeding rate.

In case you are curious, the planter that produced the poor stands got replaced pretty quickly after we started reporting final stands in those plots.

We have had good planting conditions in Riley county this spring, so most of our beans

should be in the ground. Something to consider though when planting later, maybe on double-crop beans, is to increase the seeding rate 10-20% when planting after about June 20.

The same soybean cultivar will develop about 50% more productive nodes when planted during the recommended planting window (prior to June 10), versus a late June planting. Therefore it makes sense to put a few more seeds out there to make up for the lost node development caused by the shorter growing season.

Don't get carried away though. Twenty percent more seed will get you back up to 144,000 seeds per acre, and that should do the job – even when planting late – as long as your planter is doing a good job.

If you have questions, you can reach me at the Riley County Extension Office at 785/537-6350. Or, you can send e-mail to gmcclore@ksu.edu.

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