

I farm in NE Montana along the Missouri River and have recently started growing soybeans to replace sugar beets. Our rotation is mainly with spring wheat on an every other year basis. Our first two years we used NDSU variety beans on everything. Below are the notes I took for record keeping in 2019-2020.

<Equipment Used>

- * John Deere 8360R
- * 1910 Air Cart (ground driven)
- * 1890 No-Till Drill (42-1/2 Foot)

* 2019 Planting Info

- * 52 lbs/acre (Different Weights Every Truck Load)
- * 160,000 Actual Seed Rate
- * 140,000 Target Germination Rate

* 2020 Planting Info

- * Germination Rate
 - * 97%-99% (Used 95%)
- * Seed Count/Pound (From Bin)
 - * 3,200 seeds/lb
- * Actual Planting Rate
 - * 200,000 seeds/acre (Irrigated)
 - * 160,000 seeds/acre (Dry Land #1)
 - * 182,400 seeds/acre (Dry Land #2)
 - * 220,000 seeds/acre (Test on Flood Irrigation Ground)
- * Desired Plant Population At Harvest
 - * 190,000 (With 95% Germ.)
 - * 152,000 (With 95% Germ.)
 - * 173,280 (With 95% Germ.)

- * 209,000 (Test on Flood Irrigation Ground)
- * Lbs/Acre
 - * Actual Plant Rate $\div$ Seeds/lbs
 - * 62.5 lbs/acre (Irrigated)
 - * 50 lbs/acre (Dry Land #1)
 - * 57 lbs/acre (Dry Land #2)
 - * 69 lbs/acre (Test on Flood Irrigation Ground)

Needless to say our yield was average or maybe below average our first year, which I expected, and then the second year you can see the changes we made and if it wasn't for an early freeze at the end of September we would've had an outstanding crop. We ended up averaging what we guessed would be around 15-20 bushels below what they consider an average yield for NDSU beans on irrigated ground.

Now, moving onto this year. I had done as much research as i could without becoming confused with an abundance of information and also i reached out to anyone and everyone I know who raises soybeans on irrigated ground in our area. Along with our agronomists help we chose to raise two completely different variety of soybeans this year. The first one was picked specifically for our fields with heavier soil and the second one was a higher yielding and more all around good choice for the rest of our fields.

<Variety for Heavy Soil>

- CP00710X

- CROPLAN (WinPak)

- Roundup Ready 2 Xtend Soybeans
- 155,000 Actual Seeds Planted/Acre
- 3015 Seeds/Pound
- 51.4 lbs/acre
- 15" Row Spacing

<High Yielding Variety for Remaining Fields>

- CP0200X
 - CROPLAN (WinPak)
 - Roundup Ready 2 Xtend Soybeans
 - 155,000 Actual Seeds Planted/Acre
 - 3325 Seeds/Pound
 - 46.6 lbs/acre
 - 15" Row Spacing

There's not much to add to everything above but I did throw a curve ball at myself to see how a lower plant population would do compared to the plant population we used on everything else. These are the notes I took while planting the designated field for my trial.

* Field 7A

- * Variety: CP0200X
- * Air Temp: 50
- * Soil Temp: Greater than or equal to 50 Degrees
- * Actual Acres: 78.55
- * Final Acres with Overlap: 82.78
- * Soil Throughout Field: Consistent/Little to no difference besides drain end of field has slightly heavier soil

<Standard Planting This Year>

- * Variety: CP0200X (East Half of Short Runs and All of Long Runs)
- * Planted in p.m. in the Dark
- * Actual Planting Rate: 155,000 seeds/acre
- * Seeds/Pound: 3325
- * lbs/acre: 46.6
- * 15" Row Spacing
- * Fan Speed: 2790 r/min
- * 6.4 mph
- * Tractor rpm: 1,500
- * 8360R John Deere
- * 1910 Tow-Between Air Cart
- * 1890 No-Till Drill

<Decreased Plant Population Trial>

- * Variety: CP0200X (Short Runs)
- * Planted in p.m. in the Dark
- * Actual Planting Rate: 120,000 seeds/acre
- * Seeds/Pound: 3325
- * lbs/acre: 36.1
- * 15" Row Spacing
- * Fan Speed: 2650 r/min
- * 6.4 mph
- * Tractor rpm: 1,500
- * 8360R John Deere
- * 1910 Tow-Between Air Cart
- * 1890 No-Till Drill
- * <Do NOT Include Far West Middle>
- * Trial Starts on 2nd Middle From West Edge

- * Trial Ends Beginning of 7th Middle From West Edge
- * Total of 5 Middles Planted For Trial

Let me know what you guys think or any tips I could use to better myself for planting next year.