Soybean and Corn Brand Selection (and Variety Crossover Lists)

https://www.evaluationgroupllc.com/projects

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Relative maturities listed in the tables are as reported by the seed company.

<div style="writing-mode: vertical-rl">MEDIUM MATURITY 0.1 - 0.3</div>

Company	Variety	Relative Maturity	Marshall County (bu/ac)	Pennington/ Red Lake County (bu/ac)	Polk County (bu/ac)	Combined (bu/ac)
Legend Seeds	LS 03X852N	0.3	49.7	42.7	49.1	47.7
Peterson Farms Seeds	19X03N	0.3	47.1	48.1	40.8	45.3
Integra	20468	0.2	51.6	43.8	39.9	45.1
Channel	0218R2X	0.2	46.7	45.3	43.1	44.5
Legacy Seeds	LS-0334 RR2	0.3	54.2	43.4	35.4	44.3
Hefty Seed Co.	H02X9	0.2	46.6	43.3	43.1	44.0
Legacy Seeds	LS-0337N RR2X	0.3	51.2	41.3	40.7	43.9
Dairyland Seed	DSR-0305/R2Y	0.3	45.9	46.3	39.6	43.7
Prairie Brand	PB-0240R2	0.2	45.0	42.6	42.4	43.5
Prairie Brand	PB-0146R2	0.1	47.3	43.2	39.9	43.5
Legacy Seeds	LS-0239N RR2X	0.2	50.9	40.9	41.9	43.4
NorthStar Genetics	NS 60264NXR2	0.2	45.8	40.7	42.9	43.1
Golden Harvest	GH0145X	0.1	38.3	43.7	46.4	43.0
Dairyland Seed	DSR-0225/R2Y	0.2	44.6	42.5	41.6	42.9
Legend Seeds	LS 01X850	0.1	43.6	45.3	37.9	42.5
Integra	50309N	0.3	44.7	43.0	38.4	42.1
Proseed	XT 80-20	0.2	44.1	43.0	39.3	41.8
Thunder Seed	3601 R2Y	0.1	43.1	39.7	41.8	41.5
Thunder Seed	SB9903N	0.3	43.2	42.3	35.6	40.4
Prairie Brand	PB-00928R2	0.1	33.4	40.0	44.4	39.6
Proseed	XT 7030	0.3	lost plot	40.8	42.9	N/A
Golden Harvest	GH0391	0.3	lost plot	41.2	39.0	N/A
Dyna-Gro	S03XT29	0.3	lost plot	40.1	38.3	N/A
		Mean	45.8	42.7	41.1	42.9
		CV	13.0%	9.7%	10.9%	11.1%
		LSD (0.1)	NS	NS	NS	NS
		LSD (0.2)	NS	NS	4.8	NS
		Top 1/3	54.2 - 47.3	48.1 - 45.3	49.1 - 44.5	47.7 - 45.0
		Mid 1/3	47.2 - 40.4	45.2 - 42.5	44.4 - 40.0	44.9 - 42.3
		Bottom 1/3	40.3 - 33.4	42.4 - 39.7	39.9 - 35.4	42.2 - 39.6

EARLY MATURITY 00.9 and Earlier

Company	Variety	Relative Maturity	Marshall County (bu/ac)	Pennington/ Red Lake County (bu/ac)	Polk County (bu/ac)	Combined (bu/ac)
Dairyland Seed	DSR-C999/R2Y	0.09	51.0	49.9	44.4	48.4
Channel	00717R2X	0.07	49.6	45.1	42.5	45.7
Dyna-Gro	S009XT68	0.09	51.0	44.2	39.6	44.9
NorthStar Genetics	NS 60083NXR2	00.8	47.7	44.8	41.1	44.5
Peterson Farms Seeds	18X008N	0.08	47.1	44.4	41.8	44.4
Dyna-Gro	S007XT59	0.07	40.6	47.7	43.2	43.9
Legend Seeds	LS 007X956N	0.07	47.7	42.1	40.7	43.5
Legend Seeds	LS 009X852N	0.09	46.9	42.4	39.8	43.0
Hefty Seed Co.	H008X8	0.08	45.4	40.3	41.5	42.4
NorthStar Genetics	NS 0064R2	00.6	37.7	43.8	43.4	41.6
Thunder Seed	39005 R2Y	00.5	42.8	41.0	41.0	41.6
Golden Harvest	GH00866	0.08	39.4	43.4	41.7	41.5
NorthStar Genetics	NS 60092XR2	00.9	43.7	37.6	39.8	40.4
		Mean	45.4	43.6	41.6	43.5
		CV	13.6%	7.3%	7.5%	10.1%
		LSD (0.1)	NS	4.5	NS	NS
		LSD (0.2)	NS	3.4	NS	3.1
		Top 1/3	51.0 - 46.6	49.9 - 45.8	44.4 - 42.8	48.4 - 45.7
		Mid 1/3	46.5 - 42.1	45.7 - 41.7	42.7 - 41.2	45.6 - 43.1
		Bottom 1/3	42.0 - 37.7	41.6 - 37.6	41.1 - 39.6	43.0 - 40.4

Picking Varieties

- Ask yourself "How do I pick the best possible varieties to grow on my farm?"
  - How systematic and thorough is it?
  - Is it good enough? Could I do better?
  - #1 thing you can do on your farm to improve yields that you have direct control over
- *"The search for truth starts with skepticism"*
  - Denis Diderot/Carl Sagan

Problem? What problem?

- Problem as I see it is:
  - There is tons of data scattered across a wide landscape and it is too difficult to interpret longitudinal results.
    - Easily Readable?
    - Actionable?
    - Desired outcome?
    - Objective data?
    - Rapid variety turnover.
    - Attempts at obfuscation?

Overview: (What are we talking about here)

- What are you going to get out of this?
- Picking varieties…what's your method/style?
  - What's my method/style?
- Overview of SoyZ/CornZ/WheatZ Method
- Soybeans then Corn
- Strengths/Weaknesses of my method
- Things that make you go Hmmmm.
- A rant on data thieves and the utility of data
- What am I getting out of this?

What are you going to get out of this

- Specific examples of the importance of multi-year/multi-site yield/IDC data for variety selection.

- Critical reflection about the efficacy of your variety selection process.
  - An example of a systematic method for variety selection.
  - An opportunity to participate

- Upset, maybe.
  - Equal opportunity offender.

- Say, hmmm.

Picking Varieties: What's your method

- My brother in law sells it
- I sell it
- I get a big volume discount if I buy it all from company X
- I feel bad for this salesperson so I should try a little bit
- This sales person is really pesty. If I buy some they'll go away
- Variety X yielded good this year so I'll plant lots more next year
- Seed sales rep said my neighbor had great yields with variety X
- Variety X won my local plot trial so it must be pretty good
- Variety X is cheapest
- Variety X is expensive
- Variety X is new
- I need to buy a little more so I
  - Get the trip/gun/…

'Nobody's Fault but Mine' **~Jimmy Page and the Black Crowes**

What's your style?

- Grant vs. Lee
  - How would they pick varieties for your farm?
  - Grant: Decisive
  - Lee: Analyst

- You are a football coach selecting draft picks to give your team the best chance of success.
  - There are highly touted recruits and there are walk-ons and everything in between.
    - LaQuon Treadwell He was drafted by the Vikings in the first round, 23rd overall of the 2016 NFL draft. vs. Adam Thielen (undrafted free agent)

Solutions…Find the best draft picks

- ## Create a database!
    - 5 years of on-farm testing

- ## Posted online link for reactions in April 2016.
    - Had 3,500 people view the post.
    - Call from major seed company.
    - Still getting random calls and texts.

- ## Other groups have aggregated data (everyone has data), but it's not very good and is part of a larger scheme to use/borrow/steal your intellectual property.
   - FBN
    - https://www.morningfarmreport.com/findmyseed

■Data is the new oil

■ *Evaluation is the systematic acquisition and assessment of information to provide useful feedback about some object*

How does it work…(spare me the technical details)

- If my plane is going to crash, I want to be the one flying it.

- 2014 is not 2015

  - Apples are not Oranges

    - Standardization of plot yields into a score

      - Makes things comparable across years, locations, etc.

      - A Z-score is a measure of the distance in units of standard deviations of a particular value in a data set from the mean of that set of data (in this case, yield).

      - Specifically, it takes into account location variability (by subtracting the observed value from the average and dividing by the location's standard deviation). In this way, it allows one to report the yield as a probability of obtaining an outcome higher or lower than the average. The higher the Z-score the better.
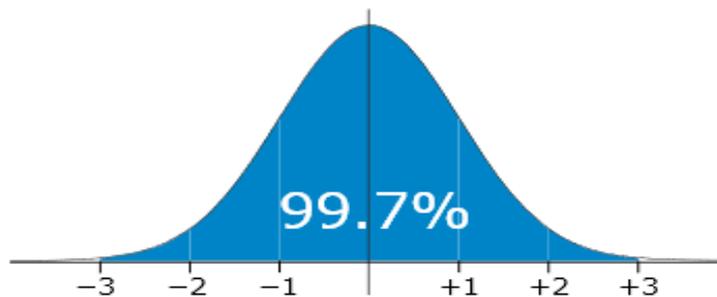
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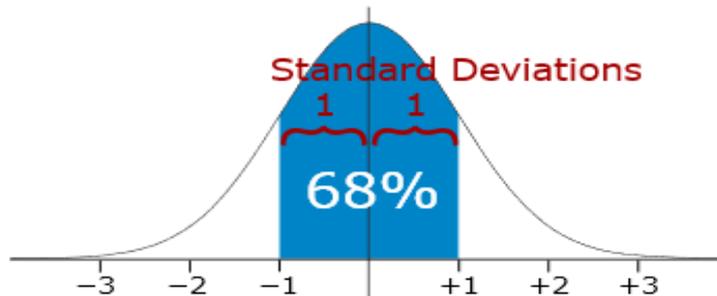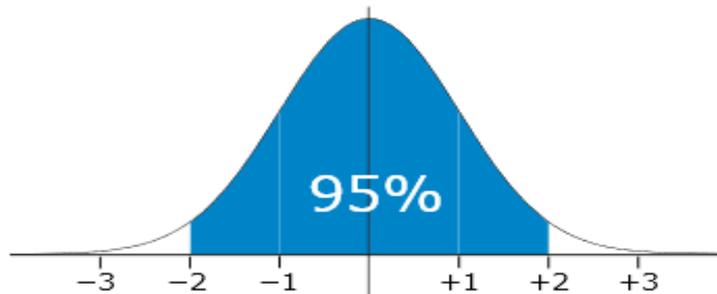
IDC Multi-Year Data, just as important (unless you don't care)

Company	Brand	Year	NDSU IDC	Z-Score
Northstar	0090R2	2014	1.3	-2.128
		2015	2.0	0.189
		2016	2.0	-0.319

	1.76	-.75
	Slightly helpful but misleading	Much more accurate

Oh the Fall From Grace…

Company	Brand	IDC Score-two site mean	Z_Score
REA Hybrids	RX0228	1.6	-2.37
Dairyland	DSR-0509R	1.7	-2.09
Dalman	6903XN	1.7	-2.09

← 2018

49th on the list in 2019. Ouch!
Z=-.81

- Demo of SoyZ data

On-Farm test…

- 2015 IDC killed me.
  - Two varieties turned out to be the same and didn't figure it out until a year later.
- 2016 Top yielder x IDC got destroyed by WM.
  - Best IDC selection won field trials.
- 2017 Figured WM was a fluke, '16 was a wet year.
  - Dry in 17. Still had WM.
    - Not a fluke after that. Variety got dumped.
  - Started focusing on additional agronomic chars
  - Yield and IDC. WM esp.
- 2018 No more WM problems, No IDC problems,
  - Decent yields for limited rains.
- 2019…Um, yeah

Thinking required

- I like to look for the varieties I know or have grown. Where do they fall on the yield curve in the SoyZ model?
    - What varieties unknown appear to be yielding more?
    - Set the threshold for data available? 1 year? 3 years?
    - How important is IDC? Other agronomic characteristics?

- Figured the top yielding IDC trait beans that I can get away with that match my farms Ph levels.

- Figured out that agronomic packages of varieties can be just as important as yield and need to do some leg work once top varieties are identified.

Chat it up

- I like to talk to seed dealers. Ask them "what is/are their most popular varietie(s)? Farmers 'vote' with repeat sales.
  - Then I go back to SoyZ model and see where that recommendation falls in the yield comparisons.
  - Especially for new varieties –they may have very little data.
    - I'm not a huge fan of 'new' varieties due to lack of genetic diversity in soybeans.

- Any dealers that come in pushing a new variety, check it on SoyZ

De-Throne the Stud

- Try to 'de-throne' your best varieties
  - Narrow the list down to the top 5-10 new varieties you are most interested in.
  - Then, do a deep dive. Make phone calls to dealers, read plant characteristics on websites. Go to chat rooms, neighbors, friends, your BIL, etc.

'Bout sums it up

"Why would you plant a new variety based on limited data and pay more? Heck half of the hybrids that have been out for several years have 'data not available' in the tech sheet. I have planted some real garbage corn in the past, I'd rather eliminate poor choices before going "all in". Have a friend that was "chasing the hot new number"… it fell on its face the next year and wasn't in the seed guide that fall… If they want me to plant something unproven it would have to be at a pretty serious discount, much less pay extra, **I can't afford a failure**. *AgTalk Forum Member*

If you have a serious weed problem (waterhemp, ragweed) it may be better to 'rotate' your way out of the problem than rely on chemistries aligned with poor performing varieties.

Weaknesses

- Dependent on trials that may never get planted or harvested.
  - Fewer trials ongoing.
  - Fewer companies engaging in trials.
- Must be patient while data is compiled.
- Not 'leading edge' variety identification.
  - Can ID early promising varieties, but designed more for detecting multi-year consistency. Reliability.
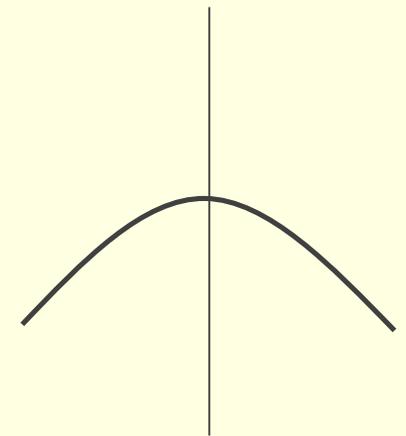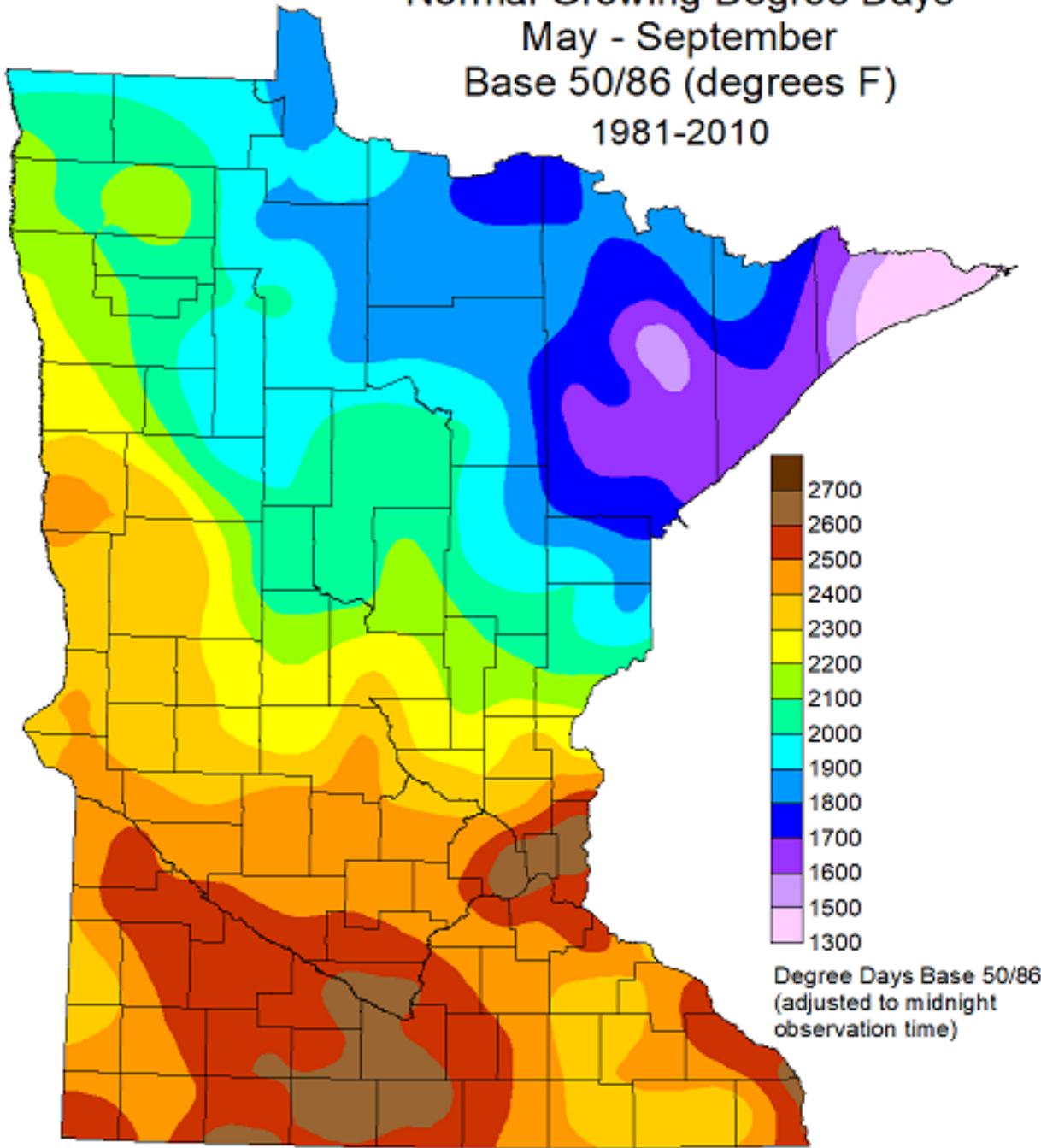
Strengths

- **THE most comprehensive and systematic process for reviewing all early maturing varieties (<.7 mat) available that have been studied by third party researchers (AND includes IDC ratings AS WELL AS variety cross referencing)**

- Brings the 'variety picture' into a new view with deeper understanding.

- Refines your draft picking abilities.

- Satisfies curiosity about both yields and crossovers.
  - Most people just care about cross checking variety numbers.

- Avoid planting same genetics from 2 different companies.
  - White Mold. IDC. Etc. just diversify

CORN

- Fewer test plots. Data harder to come by

Normal Growing Degree Days
May - September
Base 50/86 (degrees F)
1981-2010

Degree Days Base 50/86
2700
2600
2500
2400
2300
2200
2100
2000
1900
1800
1700
1600
1500
1300

Degree Days Base 50/86
(adjusted to midnight
observation time)

State Climatology Office - MNDNR

A climate *normal* is defined as the average of a variable over a continuous three-decade period. At the end of each decade, a new 30-year average is calculated.

Corn GDU's

- **…there is a discernible tendency towards an early onset of spring in Minnesota.**

  - …leads producers towards progressively earlier statewide average planting dates.

    - Earlier planting often leads to earlier emergence.
    - The earlier-emerging plants are taking advantage of heat units previously unavailable to seed still in the ground.

- It is thought that much of Minnesota's growing season warming trend is attributable to increases in overnight temperatures.

- Winners and losers of climate change.

GDU's

- https://mrcc.illinois.edu/U2U/gdd/
- GDU's-Some companies may calculate them differently then you would think.
  - Don't assume, ask.
- Jon W. GDU story

What can I do…(what's your philosophy)

- We can't let our competitive nature overwhelm us.
- What's your mentality?
  - Deficit (greed)
    - Zero-sum game
  - Abundance (contentment)
    - Win/win
  - Strike a balance
- We are all 'Frenemies' here.
  - "**Frenemy**" (also spelled "**frienemy**") is an <u>oxymoron</u> and a <u>portmanteau</u> of "<u>friend</u>" and "<u>enemy</u>" that refers to "a person with whom one is friendly, despite a fundamental dislike or rivalry" or "a person who combines the characteristics of a <u>friend</u> and an enemy".[1] The term is used to describe personal, geopolitical and commercial relationships both among individuals and groups or institutions. This term also describes a competitive friendship.

What can I do? (I don't have the answers…you do)

- When taking surveys, insist that companies provide high quality data through third party research. Not company trials.
- Your seed $ is the same as a 'vote'. Tell seed dealers
  - No 3rd party test plot participation=no sale
  - Tons of varieties never make it into a test plot with a third party. Ask dealers why…Call DSM's
    - Fear? Apathy? Cost?
- If you're a dealer, insist on testing the varieties you're selling in third party trials. Not just company varieties vs. each other. Use top competitor varieties (not straw men).
  - If nothing else to cover your own rear. Due diligence.

What can I do? (I don't have the answers…you do)

- Participate in my process to support transparency and useful analysis of freely available yield and variety number data.

- Encourage soybean grower council reps to support more independent research on variety performance

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Where am I at?

- 50 members to date
- Include longer maturing varieties. All of MN, ND
  - Other states
- Would like to get at least 100 people signed up
- Expand in to Canada
  - They have different brand names for same varieties in the U.S.

Skip out on giving intellectual property away…

- Individual subscription of 150 bucks
- $50 bucks off if you submit 3 <u>or more</u> variety tags.
  - Make sure it's a clear picture. Can email if needed.

How much is your hard won data worth?

- Worth the most to you
- Get an advisor if you need but be wary of who gets access to your data outside your circle.
  - My advice is to keep it local.
    - Hire the new college grad kid down the road.
- $2 bucks an acre +/- for yield map data.
  - If you farm 2,000 acres, one years maps should be worth 4k to the right buyer.
  - You had better save at least $4,000 in chemicals or subscription fees or whatever.
- Other data…

What did you get out of this…

- Specific examples of the importance of multi-year/multi-site yield/IDC data for variety selection.

- Critical reflection about the efficacy and thoroughness of your soybean variety selection process.
  - How thorough is thorough enough for you?
  - An example of a systematic method for selecting new varieties.

- Awareness of an opportunity to access an affordable platform for examining yields, IDC and variety numbers without giving away intellectual property.
  - ID matching variety numbers, find that variety cheaper from a different dealer.
  - Correct variety selection is the single biggest thing you can do to increase production

What am I getting out of this…

- More people signed up=more seed tags/better data/better decision making process
  - Don't engage in 'resulting'
    - Top yielders win trials 60% of the time +/-
  - Enhance the process
  - Enhance my process
- Chance to meet like-minded people
- Chance to share ideas and learn
- Other
  - I don't sell seed. No one in family does. No ties.
  - You can contribute seed tags at any time, as many as you like. No need to sign up, just don't get membership benefits.

Where am I at?

- Add other agronomic factors
  - Work on wheat.
    - Add BLS ratings and explore more.
  - Test weight-corn
  - Other ideas…??

"Smart people learn from their mistakes…really smart people learn from the mistakes of others."

- -Jeff Steer

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218-201-0375