

The NDSU corn breeding program planted 36 experiments across >20 state locations in 2012. Of those experiments 25 were for breeding purposes and 9, specifically, to aid North Dakota farmers select their hybrids for planting in 2013. These are the Eastern NDHybrid Corn Performance Trials and evaluate commercial hybrids available in the market.

The NDSU corn breeding program conducts most state hybrid corn performance trials annually to provide unbiased information and assist farmers in the selection of stable high-yielding lodging resistant and fast-drying corn hybrids. In 2012 (as in previous years) we have commercial hybrid trials including the same hybrids at 9 locations northern, central, and southern ND. **Below are the southern ND trials combined across locations.** It is important to include all traits across locations provided combined data for not only yield but also other traits (e.g., dry down, lodging, and TW)

**SOUTHERN ND (DATA COMBINED ACROSS THREE LOCATIONS). SENT FOR POSTING OCTOBER 8, 2012**

COMPANY	HYBRID NAME	Grain	Grain	Test	Stalk	Root	Dropped
		Yield	Moisture	Weight	Lodging	Lodging	Ears
		bu/A	%	lb/bu	%	%	%
Dahlman	Dahlman R47-35VT3P	176.4	18.9	57.3	0.00	38.43	0.00
Proseed	1288 3111GT	173.6	18.1	55.9	0.00	24.98	0.00
Proseed	990 3000GT	171.6	17.5	57.4	0.00	45.41	0.00
Peterson Farms	PFS 98L90	166.0	18.6	57.8	0.00	25.26	0.00
NuTech	5B-798™	165.0	18.1	58.0	0.00	32.53	0.00
Wensman	W 7268VT3	164.9	19.4	57.5	0.00	30.63	0.00
Seeds2000	2903 GTCBLL	164.7	18.6	57.1	0.00	18.58	0.00
Peterson Farms	PFS 75T93	162.0	17.1	58.8	0.00	24.69	0.00
Monsanto	DKC48-12	160.4	17.9	56.6	0.00	47.54	0.48
G2 Genetics	5X-9402™	160.0	17.1	56.8	0.00	12.35	0.00
Seeds2000	9503 VT2P	159.1	18.6	59.0	0.00	19.76	0.00
Pioneer Hi-Bred	P9675AMX	157.0	18.2	57.1	0.00	34.67	0.00
Pioneer Hi-Bred	P9411HR	153.8	16.9	58.7	0.81	26.93	0.00
Monsanto	DKC43-10	153.6	18.0	56.9	0.00	50.32	0.00
Stine Seeds	9207 3000GT	151.1	17.9	56.7	0.00	14.47	0.00
Hyland	8295	151.1	16.3	57.5	0.00	32.89	0.00
NuTech	5B-9102	147.8	16.7	57.5	0.74	33.78	0.00
Hyland	8300	145.3	17.9	57.9	0.00	44.88	0.00
G2 Genetics	5Z-198™	144.9	17.3	54.9	0.72	33.51	0.00
Seeds2000	9504 VT3P	144.0	18.6	56.9	0.00	19.40	0.00
Monsanto	DKC46-20	143.0	18.8	57.2	0.00	14.87	0.00
Dahlman	Dahlman R48-32VT3P	142.0	17.5	59.5	0.00	65.09	0.00

G2 Genetics	5X-795™	140.9	18.6	56.2	0.00	24.92	0.00
Integra	9455VT3Pro	140.8	17.3	56.6	0.00	21.19	0.00
Seeds2000	9202 VT2P	138.8	18.7	57.0	0.00	29.37	0.00
NDSU HYBRID (CHECK 4)		137.8	19.5	56.6	0.00	23.48	0.00
NDSU HYBRID (CHECK 3)		136.7	<b>14.0</b>	58.2	0.00	22.02	0.00
G2 Genetics	5X-895™	133.8	17.5	56.2	0.00	25.17	0.00
NuTech	5N-001™	132.8	20.1	53.6	0.00	15.26	0.00
Northstar Genetics	94-594	132.5	16.4	59.7	0.00	39.95	0.00
Wensman	W 7140VT3PRO	131.0	15.7	58.7	0.00	7.12	0.00
CHECK 5		130.8	19.6	55.9	0.00	48.80	0.00
G2 Genetics	5H-399™	130.1	17.8	56.6	0.00	46.28	0.00
Proseed	1295 VT3P	125.6	17.7	58.6	0.00	18.05	0.00
Northstar Genetics	96-596	125.6	17.4	56.8	0.81	40.91	0.00
Proseed	1193 VT3P	122.6	17.6	56.3	0.74	32.03	0.00
G2 Genetics	5X-193™	121.8	17.9	58.2	0.00	22.53	0.00
CHECK 2		120.4	15.4	58.9	0.00	31.10	0.00
Proseed	1292 VT2P	119.2	16.9	56.4	0.00	21.21	0.00
CHECK 1		116.1	17.3	57.3	0.74	29.36	0.00
Peterson Farms	PFS 76R92	111.5	16.7	57.5	0.00	27.33	0.00
Stine Seeds	9311 VT3 PRO	103.8	17.5	57.7	0.00	34.81	0.00
	Mean	142.3	17.7	57.3	0.11	29.59	0.01
	LSD (0.05)	20.9	2.4	3.3	1.17	50.42	0.29
	CV	11.9	5.3	2.5	536.6	82.8	1585.9

Avoid looking at individual locations trials and trials with randomized complete block experimental designs (RCBD) having over 25 hybrids even if they look uniform. Otherwise, one hybrid might look better but genetically is not. The larger the number of hybrids in one experiment the larger the variation that cannot be explained by hybrid differences if RCBDs are used. Incomplete block designs like LATTICES help reduce environmental noise (in our trials we had up to 16 % more accuracy for yield alone).

The NDSU corn breeding program grows experiments arranged in lattice experimental designs and in multiple locations. These (contrary to some believes) are easy to use, analyze, and interpret practically and can fix most experimental variation. Efficiencies from lattices over RCBDs are provided for individual locations. **Check Relative Efficiencies out to see how LATTICES compared with RCBD for reducing experiment errors significantly and increasing the accuracy and efficiency for selecting the best hybrids! Largest Efficiencies ranged from 107 % to 122 % making LATTICES up to 22 % more accurate.**

**Information on the genetic variability of hybrids for their accurate selection is worth millions of dollars!**