



## 2025 West Texas Cotton Variety Yield Stability & Pick Lists

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Many sources of variety yield performance data are available from Texas A&M AgriLife Extension and Research trials each year. Replicated Agronomic Cotton Evaluations, or RACE trials, are large-plot, on-farm trials conducted by Extension personnel and grown and managed by grower/cooperators at multiple locations throughout the high plains. Small-plot replicated variety trials are conducted by Texas A&M AgriLife Research at Halfway, Lubbock, and Lamesa, TX, each year by Dr. Carol Kelly and her cotton breeding team. Other AgriLife trials involving the comparison of varieties are conducted by other researchers under various disease, nematode scenarios or under agronomic systems, such as planting dates or irrigation regimes. For this study and factsheet, any AgriLife trial involving the comparison of varieties was compiled and analyzed for yield stability.

### What is yield stability?

While it is advised that growers evaluate variety performance from trials near their farms, and/or that are grown under similar agronomic practices to their farms, most growers may only have a few locations of variety trials at their disposal. These few locations are not sufficient for a grower to evaluate the stability of a variety over a range of environments. Yield stability analyses evaluate how consistent a variety performs under a wide range of yield environments. Some varieties may perform well under a certain yield environment, but may not perform well under other yield scenarios. Knowing yield stability, or predictability of performance, of a variety increases the confidence of the variety selection decision.

For this study, every trial which each variety was tested was used for the analysis. Lint yields of a variety were regressed against the mean lint yield of each trial (Eberhart & Russell, 1966). The resulting regression equation was used to evaluate each variety's stability as such:  $Y = a + b(X)$ , where  $a$  = intercept,  $b$  = slope,  $X$  = mean lint yield of each trial, and  $Y$  = lint yield of the variety at a trial location. The coefficient of determination, or  $R^2$ , describes the deviation of each datapoint from the line of the equation, such that higher  $R^2$  values indicate higher degrees of predictability. Varieties that were commercially available in 2025 were analyzed across years (ranging from 2019 to 2025). In the following table, yield environments ( $X$ ) were set at 500, 750, 1000, 1250, 1500, and 1750 lbs/A. The values for each variety in the various yield environment columns indicate the deviation of

variety performance within each yield environment. Positive values indicate that that variety performed better than average in that yield environment, while negative values indicate that that variety performed below average in that yield environment. For example, Armor9371B3XF averaged 53 lbs/A better than average in the 500 lb/A yield environment, or 553 lbs/A (i.e., 500 + 53). However, that variety performed 34 lbs/A below average in the 1750 lb/A yield environment, or 1716 lbs/A (i.e., 1750 – 34). The number of trials is listed in the ‘# locs’ column, and the year(s) that each variety appeared in AgriLife trials are listed in the ‘Year(s)’ column. The R<sup>2</sup> values are presented in the ‘Predictability’ column.

#### How to interpret the data

Yield responses and predictability values are color coded, such that deeper shades of green indicate better performance, and deeper shades of red indicate poorer performance. Broadly adapted varieties with good predictability are indicated by green shades under every yield environment and green shading under predictability. Higher numbers of locations (# locs column) and multiple years indicate higher degrees of confidence in the data. If the number of locations and/or the number of years tested are lower, further testing in future years may potentially increase the confidence level of a variety’s response.

## 2025 West Texas Cotton Variety Performance and Yield Stability

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As of 12/22/2025

Variety	# locs	Year(s)	500	750	1000	1250	1500	1750	Predictability**
Armor9371B3XF	24	20-25	53	36	18	1	-17	-34	0.93
Armor9413XF	13	23-25	81	76	71	66	61	56	0.94
Armor9442XF	11	21-25	71	44	16	-11	-39	-66	0.88
Armor9512B3XF	11	21-25	96	81	66	51	36	21	0.93
BSD4X	26	21-25	-22	-42	-62	-82	-102	-122	0.91
BSD9X	36	19-25	-5	-25	-45	-65	-85	-105	0.89
BSDTonBusterMagnum	26	21-25	-28	-60	-93	-125	-158	-190	0.95
DP1646B2XF	60	19-23, 25	-19	-31	-44	-56	-69	-81	0.94
DP1822XF	67	19-25	10	30	50	70	90	110	0.93
DP2123B3XF	44	21-25	25	25	25	25	25	25	0.92
DP2143NRB3XF	50	20-25	-12	-4	3	11	18	26	0.93
DP2239B3XF	50	22-25	15	5	-5	-15	-25	-35	0.96
DP2317B3TXF	37	23-25	-31	-41	-51	-61	-71	-81	0.94
DP2328B3TXF	18	23-25	-44	-6	31	69	106	144	0.95
DP2335B3XF	77	23-25	19	22	24	27	29	32	0.96
DP2349NRB3XF	24	22-25	-40	-38	-35	-33	-30	-28	0.95
DP2414B3TXF	13	24-25	28	-2	-32	-62	-92	-122	0.91
DP2436NRB3TXF	40	23-25	-30	-32	-35	-37	-40	-42	0.95
DP2525B3XF	22	24-25	-48	-8	32	72	112	152	0.98
DP2541B3XF	13	24-25	37	12	-13	-38	-63	-88	0.87
DP2644NRXF	11	24-25	85	130	175	220	265	310	0.99
FM757AXTP	19	24-25	-42	-77	-112	-147	-182	-217	0.91
FM765AX	47	24-25	44	54	64	74	84	94	0.96
FM814AXTP	25	24-25	-24	-36	-49	-61	-74	-86	0.94
FM823AXTP	49	23-25	-22	-30	-37	-45	-52	-60	0.95
FM868AXTP	56	23-25	-1	-14	-26	-39	-51	-64	0.96
NG3434B3XF	23	24-25	-35	-5	25	55	85	115	0.93
NG3457B3XF	15	24-25	2	5	7	10	12	15	0.93
NG3576XF	9	25	11	9	6	4	1	-1	0.90
NG4409B3XF	12	24-25	-12	-2	8	18	28	38	0.98
PHY136W3E1	31	23-25	92	117	142	167	192	217	0.89
PHY137W3E1	31	23-25	10	12	15	17	20	22	0.91
PHY205W3FE	79	20-25	42	32	22	12	2	-8	0.90
PHY332W3FE	129	19-25	60	63	65	68	70	73	0.90
PHY357W3FE	15	24-25	160	135	110	85	60	35	0.85
PHY400W3FE	100	19-25	33	41	48	56	63	71	0.96
PHY411W3FE	83	20-25	88	101	113	126	138	151	0.87
PHY415W3FE	62	21-25	26	33	41	48	56	63	0.91
PHY433W3FE	15	24-25	95	63	30	-2	-35	-67	0.78
PHY475W3FE	39	22-24	31	64	96	129	161	194	0.93
ST5855AXTP	8	24-25	-82	-129	-177	-224	-272	-319	0.80
ST5931AXTP	19	24-25	17	47	77	107	137	167	0.82
ST6000AXTP	40	23-25	-35	-53	-70	-88	-105	-123	0.92
UA222	34	19-25	28	-7	-42	-77	-112	-147	0.91
UA248	19	22-25	-43	-98	-153	-208	-263	-318	0.92

\*Values in cells indicate the average yield difference in lbs/A for each yield environment, such that positive values (greens) represent above average yield performance within a yield environment, and negative values (reds) represent below average yield performance within a yield environment. Values derived from solutions at various yield levels from a regression of lint yield of a variety versus the mean lint yield of all varieties in a trial at each location. Darker colors indicate a larger yield difference.

\*\*Higher values represent a higher degree of predictability, based on the R-square of the regression model. See additional footnotes on the other side of this page.

### Pick and Promising Lists

Pick (or recommended) and promising (or recommended on limited, trial use basis) lists were developed from these stability analyses. To qualify for the Broadly Adapted Pick List, a variety had to be tested in more than 25 locations in more than one year, have positive values in every yield environment, and have a predictability value at least 0.90, meaning it has a high degree of predictability. To qualify for the Broadly Adapted Promising List, a variety had to have positive values in every yield environment, but was tested in fewer than 25 locations, and/or in one year, and/or have a predictability value at least 0.85. Further testing in future years may potentially move a variety from the Promising List to the Pick List with better performance. Similar Pick and Promising Lists were developed for Dryland and for Irrigated scenarios. For Dryland lists, the same criteria were used but only considered the 500 and 750 lb/A yield environments to simulate dryland scenarios. For Irrigated lists, the same criteria were used but only considered 1000 lb/A and higher yield environments to simulate most irrigated scenarios in west Texas. Varieties for each list are presented in the table below.

### Additional Information Needed Beyond the Lists

Because the pick and promising lists were developed solely from the stability analyses discussed above, there is additional information that should be considered before selecting a variety. Beyond yield and yield stability, it is important to understand each variety's maturity, native pest resistance, and fiber quality. For instance, a grower in a short-season environment will need to exclude any variety on a pick list that displays later maturity. These additional data can be found at [Lubbock.tamu.edu](http://Lubbock.tamu.edu) or from your seed company and/or ag retailer representatives.

As of 12/22/25

## 2025 West Texas Cotton Variety Pick and Promising Lists

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### Broadly Adapted Pick List

DP1822XF  
DP2123B3XF  
DP2335B3XF  
FM765AX  
PHY137W3E1  
PHY332W3FE  
PHY400W3FE  
PHY415W3FE  
PHY475W3FE

### Dryland Pick List

DP1822XF  
DP2123B3XF  
DP2239B3XF  
DP2335B3XF  
FM765AX  
PHY137W3E1  
PHY205W3FE  
PHY332W3FE  
PHY400W3FE  
PHY415W3FE  
PHY475W3FE

### Irrigated Pick List

DP1822XF  
DP2123B3XF  
DP2143NRB3XF  
DP2335B3XF  
FM765AX  
PHY137W3E1  
PHY332W3FE  
PHY400W3FE  
PHY415W3FE  
PHY475W3FE

### Broadly Adapted Promising List

Armor9413XF  
Armor9512B3XF  
DP2644NRXF  
NG3457B3XF  
PHY136W3E1  
PHY357W3FE

### Dryland Promising List

Armor9371B3XF  
Armor9413XF  
Armor9442XF  
Armor9512B3XF  
DP2541B3XF  
DP2644NRXF  
NG3457B3XF  
NG3576XF  
PHY136W3E1  
PHY357W3FE  
PHY411W3FE

### Irrigated Promising List

Armor9413XF  
Armor9512B3XF  
DP2328B3TXF  
DP2525B3XF  
DP2644NRXF  
NG3434B3XF  
NG3457B3XF  
NG4409B3XF  
PHY136W3E1  
PHY357W3FE  
PHY411W3FE

*Broadly adapted pick list varieties have above average yield across the range of yield environments, and have predictability scores (R-squares) >0.90, and have been tested in >25 locations across at least 2 years.*

*Broadly adapted promising varieties have above average yield across the range of yield environments, and have predictability scores (R-squares) >0.85, but have been tested in <25 locations. Further testing may elevate their status to the 'pick' list, if future performance is above average.*

*Dryland pick list varieties have above average yield across the range of dryland yield environments (up to 750 lbs/A), and have predictability scores (R-squares) >0.90, and have been tested in >25 locations across at least 2 years.*

*Dryland promising varieties have above average yield across the range of dryland yield environments (up to 750 lbs/A), and have predictability scores (R-squares) >0.85, and have been tested in <25 locations. Further testing may elevate their status to the 'pick' list, if future performance is above average.*

*Irrigated pick list varieties have above average yield across the range of irrigated yield environments (>1000 lbs/A), and have predictability scores (R-squares) >0.90, and have been tested in >25 locations across at least 2 years.*

*Irrigated promising varieties have above average yield across the range of irrigated yield environments (>1000 lbs/A), and have predictability scores (R-squares) >0.85, and have been tested in <25 locations. Further testing may elevate their status to the 'pick' list, if future performance is above average.*

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