

PHYTOGEN UPDATE

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2-14-18



Dow AgroSciences



2018 PhytoGen Premium Seed Treatment



TRiO
Seed Treatment

- Disease Protection*
- Insect Protection*
- Nematode Protection*

THE FUTURE OF COTTON

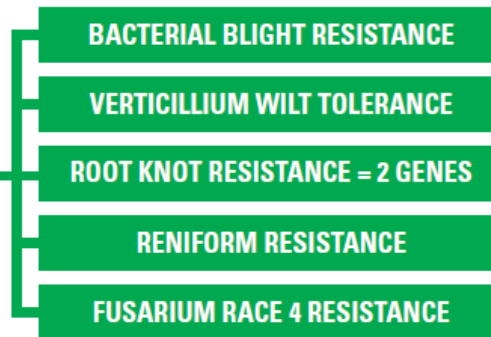
HERBICIDE RESISTANCE



INSECT RESISTANCE TRAITS



PHYTOGEN BREEDING TRAITS



PHYTOGEN PORTFOLIO



2018 Variety Lineup

2018 UPLAND VARIETY GUIDE



NEW FOR 2018

PREMIER

PREFERRED

		Herbicide Tolerance Traits	Insect Protection Traits	Maturity	Leaf Type	Seeding Vigor	Bacterial Blight Resistance	RKN Resistance	PHYTOGEN BREEDING TRAITS					
									Micronaire	Staple Length (Inches/2ND S)	Strength (g/tex)	Stom Tolerance	Node of First Fruiting Branch	Plant Height
— NEW —	PHY 430 W3FE	High-yielding, mid-maturing variety featuring the Enlist™ cotton trait and WideStrike® 3 Insect Protection. PhytoGen Breeding Traits for resistance to bacterial blight.		Mid	Lt Hairy	E	R	—	4.5	1.14/36	32.6	83.8	7.0	Med
— NEW —	PHY 440 W3FE	Mid-maturing variety with the Enlist cotton trait and WideStrike® 3 Insect Protection. Industry-leading fiber quality packaged with high-yield potential. PhytoGen Breeding Traits for resistance to bacterial blight and moderate resistance to Root-knot nematode.		Mid-Full	Smooth	E	R	HR	4.1	1.22/39	34.6	84.3	6.6	Med-Tall
— NEW —	PHY 480 W3FE	Superior yield potential with excellent fiber quality. Mid-maturing variety featuring the Enlist cotton trait and WideStrike® 3 Insect Protection. PhytoGen Breeding Traits include 2-gene Root-knot nematode and bacterial blight resistance. Broadly adapted across the Midsouth and Southeast.		Mid	Semi-Smooth	E	R	HR	4.4	1.16/37	32.3	84.4	7.0	Med
— NEW —	PHY 300 W3FE	High-yielding variety featuring the Enlist cotton trait and WideStrike® 3 Insect Protection. Early maturity with superb fiber quality.		Early-Mid	Semi-Smooth	E	R	—	4.5	1.15/37	31.4	83.5	5.8	Med-Tall
— NEW —	PHY 330 W3FE	High-yielding, broadly adapted variety featuring the Enlist cotton trait and WideStrike® 3 Insect Protection. Early-mid maturity with superb fiber quality.		Early-Mid	Lt Hairy	E	R	—	4.4	1.17/37	31.9	83.9	5.8	Med
— NEW —	PHY 340 W3FE	Early-mid maturing variety featuring the Enlist cotton trait and WideStrike® 3 Insect Protection. Superior yields with excellent fiber quality.		Early-Mid	Lt Hairy	E	R	—	4.5	1.17/37	31.5	83.8	6.0	Med-Tall
— NEW —	PHY 450 W3FE	Mid-maturing variety with high fiber strength and an excellent quality package. High yield potential with industry leading traits including the Enlist cotton trait and WideStrike® 3 Insect Protection.		Mid	Semi-Smooth	E	R	—	4.7	1.14/36	34.9	84.3	7.4	Tall
	PHY 312 WRF	Superior yield potential and seeding vigor in an early maturing variety with excellent fiber quality. Long staple and lower micronaire.		Early-Mid	Lt Hairy	E	MR	—	4.4	1.18/38	31.8	84.2	5.6	Med-Tall
	PHY 333 WRF	Broadly adapted, early-mid maturing variety with outstanding yield potential. Selected for yield consistency and excellent fiber properties.		Early-Mid	Lt Hairy	E	S	—	4.4	1.17/37	31.2	84	5.4	Med-Tall
	PHY 444 WRF	Exceptional fiber quality package, including "Acala-like" staple and lower micronaire. High yield potential in a widely adapted mid-full-maturing, smooth leaf variety.		Mid-Full	Smooth	E	MR	—	4.1	1.24/40	32.7	85	6.9	Med
	PHY 490 W3FE	First commercial variety featuring the Enlist™ cotton trait and WideStrike® 3 Insect Protection. Mid-maturing variety selected for high yield potential and seeding vigor. Very good fiber quality and resistance to Bacterial Blight.		Mid	Semi-Smooth	E	R	—	4.5	1.16/36	34.7	84.2	7.5	Med-Tall

WRF = WideStrike® Insect Protection, Genuity® Roundup Ready® Flex

W3RF = WideStrike® 3 Insect Protection, Genuity® Roundup Ready® Flex

W3FE = WideStrike® 3 Insect Protection, Genuity® Roundup Ready® Flex Enlist™ Cotton Trait

S = Susceptible F = Fair G = Good VG = Very Good E = Excellent R = Resistant

MR = Moderately Resistant

HR = Highly Resistant

Bacterial Blight Ratings

Phytogen	Maturity	Bacterial Blight	Deltapine	Maturity	Bacterial Blight	Stoneville	Maturity	Bacterial Blight	Americot	Maturity	Bacterial Blight
PHY 300 W3FE	Early-Mid	Resistant	DP 1518 B2XF	Early	Resistant	ST 4747 GLB2	Early-Mid	Susceptible	AM UA48	Early	Resistant
PHY 312 WRF	Early-Mid	Moderate Resistance	DP 1522 B2XF	Early-Mid	Susceptible	ST 4848 GLT	Early-Mid	Susceptible	NG 1511 B2RF	Mid	Susceptible
PHY 330 W3FE	Early-Mid	Resistant	DP 1538 B2XF	Mid	Susceptible	ST 4946 GLB2	Early-Mid	Susceptible	NG 3306 B2RF	Early-Mid	Susceptible
PHY 333 WRF	Early-Mid	Susceptible	DP 1553 B2XF	Full	Susceptible	ST 4949 GLT	Early-Mid	Susceptible	NG 3405 B2XF	Early-Mid	Susceptible
PHY 340 W3FE	Early-Mid	Resistant	DP 1555 B2RF	Full	Susceptible	ST 5020 GLT	Mid	Resistant	NG 3406 B2XF	Early-Mid	Susceptible
PHY 430 W3FE	Mid-Full	Resistant	DP 1612 B2XF	Early	Moderate Susceptible	ST 5115 GLT	Mid	Resistant	NG 3517 B2XF	Early-Mid	Partial Resistance
PHY 440 W3FE	Mid-Full	Resistant	DP 1614 B2XF	Early	Susceptible	ST 5517 GLTP	Late-Mid	Resistant	NG 3522 B2XF	Early-Mid	Susceptible
PHY 444 WRF	Mid-Full	Moderate Resistance	DP 1639 B2XF	Mid	Partial Resistance	ST 6182 GLT	Full	Susceptible	NG 3699 B2XF	Early-Mid	Resistant
PHY 450 W3FE	Mid-Full	Resistant	DP 1646 B2XF	Mid-Full	Moderate Resistance	ST 6448 GLB2	Full	Resistant	NG 4012 B2RF	Mid	Resistant
PHY 480 W3FE	Mid-Full	Resistant	DP 1725 B2XF	Early-Mid	Susceptible				NG 4545 B2XF	Mid	Resistant
PHY 490 W3FE	Mid-Full	Resistant	DP 1747 NR B2XF	Full	Susceptible				NG 4601 B2XF	Mid	Susceptible
			DP 1820 B3XF	Early-Mid	Resistant				NG 4689 B2XF	Mid	Resistant
			DP 1823 NR B2XF	Early-Mid	Susceptible				NG 5007 B2XF	Mid-Full	Partial Resistance
			DP 1835 B3XF	Mid	Susceptible						
			DP 1840 B3XF	Mid-Full	Resistant						
			DP 1845 B3XF	Mid-Full	Moderate Resistance						
			DP 1851 B3XF	Full	Partial Resistance						

TOP #15, 2017 LSU AGCENTER OVT

Table 6. Yield performance, fiber characteristics, loan values, and dollar return per acre of cotton varieties grown on an irrigated Sharkey clay soil at the Northeast Research Station, St. Joseph, Louisiana, 2017.

TRT No.	Variety	Lint Yield (lbs./ac.)	Lint (%)	Length (inches)	Uniformity (%)	Strength (g/tex)	Micronaire	Loan Value (¢)	Dollar Return (Acre)
22	PX4A54W3FE	1422	42.8	1.16	84.7	33.1	4.6		
46	ST6182GLT	1352	44.2	1.14	82.5	29.8	4.5		
29	PHY444WRF	1337	40.7	1.23	85.3	31.9	4.0		
39	16R338B3XF	1325	43.0	1.17	83.2	32.2	4.5		
23	PX4A52W3FE	1274	39.8	1.14	84.6	33.2	4.4		
20	PX4A62W3FE	1226	40.2	1.23	85.3	35.4	4.4		
21	PX4A57W3FE	1221	41.7	1.12	82.9	33.9	4.4		
32	PHY312WRF	1208	38.7	1.14	84.8	32.4	4.4		
12	NG4601B2XF	1206	41.0	1.16	84.0	34.2	4.7		
33	PHY300W3FE	1197	41.4	1.16	84.2	32.4	4.5		
30	PHY340W3FE	1188	41.8	1.16	83.0	30.4	4.5		
17	PX3A99W3FE	1180	40.4	1.15	83.9	32.9	4.5		
40	DP1646B2XF	1167	43.1	1.22	84.2	30.5	4.4		
31	PHY330W3FE	1163	42.0	1.14	83.9	32.6	4.5		
34	DP1518B2XF	1153	39.4	1.17	84.9	31.4	4.5		

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Table 7. Yield performance, fiber characteristics, loan values, and dollar return per acre of cotton varieties grown on an irrigated Commerce silt loam soil at the Northeast Research Station, St. Joseph, Louisiana, 2017.

TRT No.	Variety	Lint Yield (lbs./ac.)	Lint (%)	Length (inches)	Uniformity (%)	Strength (g/tex)	Micronaire	Loan Value (c)	Dollar Return (Acre)
36	DP1555B2RF	1363	41.1	1.21	84.3	34.3	4.2		
23	PX4A52W3FE	1237	37.8	1.17	83.8	33.3	4.1		
17	PX3A99W3FE	1226	37.2	1.18	84.1	32.6	4.0		
39	16R338B3XF	1133	43.3	1.17	83.2	31.6	4.4		
26	PX5B76W3FE	1120	37.0	1.18	84.2	32.7	3.9		
15	UA222	1116	36.2	1.21	85.0	33.9	4.7		
7	DG3605B2XF	1095	40.9	1.26	84.1	31.1	4.0		
13	17XC8	1094	42.3	1.17	83.5	30.0	4.4		
18	PX3A82W3FE	1093	37.6	1.16	84.8	35.4	3.8		
45	ST4949GLT	1039	40.7	1.13	82.6	31.7	4.2		
40	DP1646B2XF	1014	40.2	1.25	84.6	31.2	4.3		
19	PX3A96W3FE	1011	35.8	1.15	83.8	32.6	3.9		
25	PX5B73W3FE	966	38.9	1.15	83.8	32.0	4.0		
34	DP1518B2XF	961	37.7	1.15	82.6	30.5	3.5		
6	DG3757B2XF	957	38.4	1.16	83.7	30.8	4.8		

TOP #15, 2017 LSU AGCENTER OVT

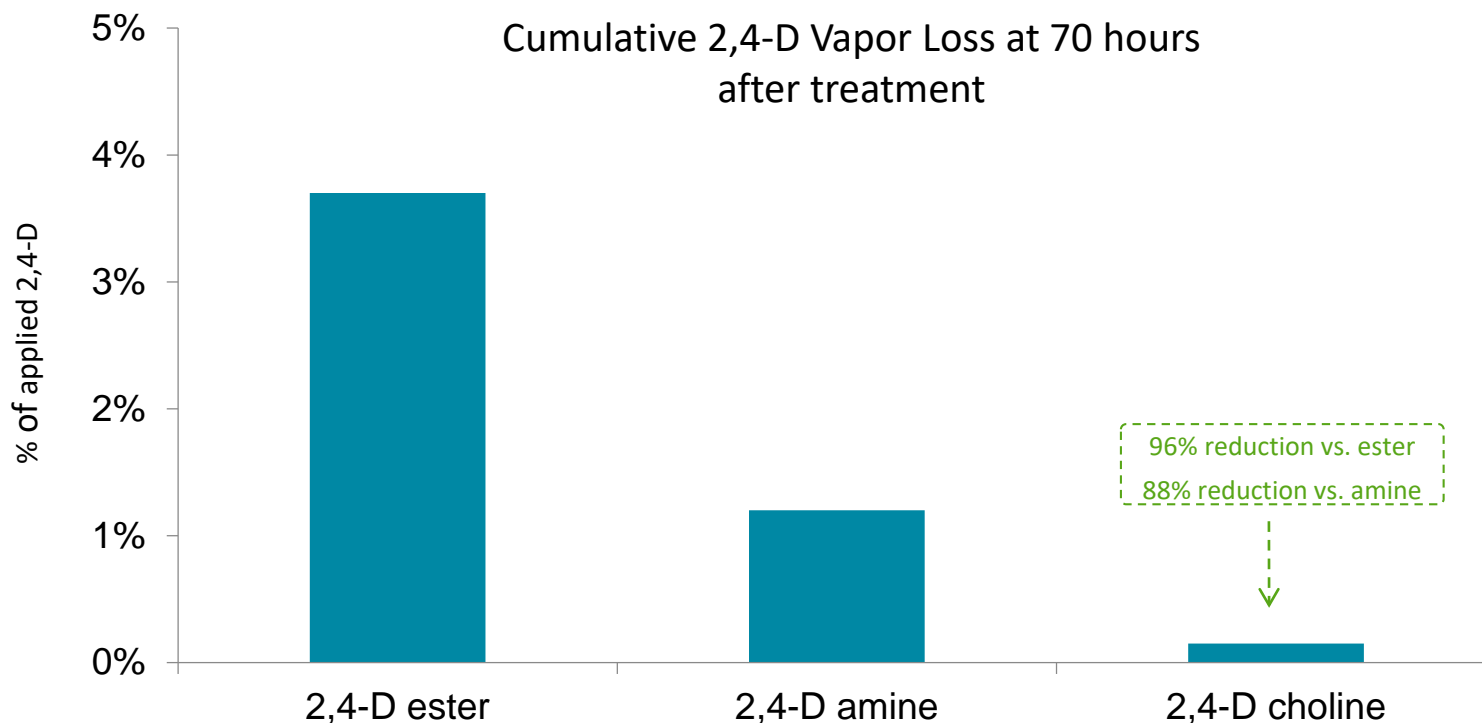
Table 8. Yield performance, fiber characteristics, loan values, and dollar return per acre of cotton varieties grown on an irrigated Moreland clay soil at the Red River Research Station, Bossier City, Louisiana, 2017.

TRT No.	Variety	Lint Yield (lbs./ac.)	Lint (%)	Length (inches)	Uniformity (%)	Strength (g/tex)	Micronaire	Loan Value (c)	Dollar Return (Acre)
23	PX4A52W3FE	1308	42.3	1.15	83.1	33.4	4.8		
34	DP1518B2XF	1236	41.7	1.19	84.0	31.7	4.6		
17	PX3A99W3FE	1211	44.5	1.17	83.1	32.6	4.6		
21	PX4A57W3FE	1200	44.9	1.11	82.2	33.6	4.8		
39	16R338B3XF	1196	43.6	1.20	84.5	33.0	4.7		
13	17XC8	1195	44.6	1.15	83.2	30.9	4.7		
19	PX3A96W3FE	1189	42.3	1.16	83.3	32.5	4.6		
33	PHY300W3FE	1172	44.3	1.14	83.2	32.7	4.7		
28	PHY490W3FE	1141	43.4	1.15	83.9	34.9	4.6		
42	ST4946GLB2	1137	42.1	1.15	83.4	35.0	4.7		
43	ST5020GLT	1134	40.5	1.16	84.7	34.2	4.7		
31	PHY330W3FE	1134	44.9	1.15	83.6	32.8	4.8		
38	16R341B3XF	1131	42.7	1.17	83.4	33.5	5.0		
35	DP1522B2XF	1128	43.0	1.11	82.7	32.3	5.0		
22	PX4A54W3FE	1116	42.7	1.17	84.3	33.8	4.8		

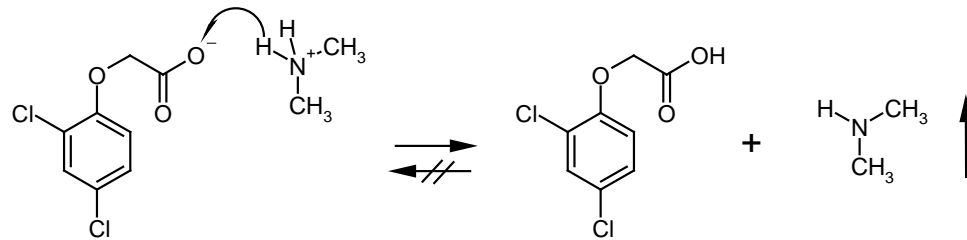
W3FE DELIVERS THE COMPLETE PACKAGE



REDUCTION IN VOLATILITY V. TRADITIONAL 2,4-D

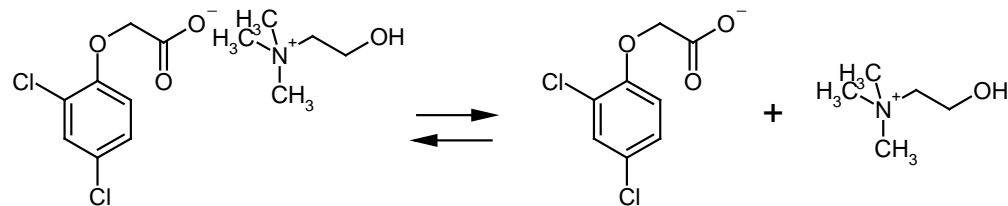


DIFFERENCE IN 2,4-D AMINE V. 2,4-D CHOLINE



2,4-D DMA Salt thermally unstable

DMA is highly volatile, leaving behind 2,4-D acid



2,4-D choline salt dissociates into 2,4-D acid anion and choline cation, both having very low volatility

Apply up to midbloom in cotton



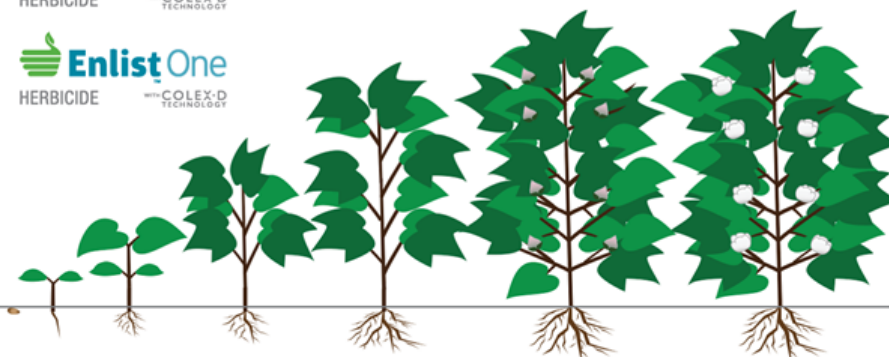
PLANT ENLIST™
COTTON

APPLY SOIL
RESIDUAL HERBICIDE

APPLY ENLIST HERBICIDES
Up to midbloom stage

 **Enlist Duo**
HERBICIDE WITH COLEX-D
TECHNOLOGY

 **Enlist One**
HERBICIDE WITH COLEX-D
TECHNOLOGY



Enlist™ cotton has no plant-back restriction after using an Enlist herbicide for burndown.





DESIGNED TO
THRIVE
FROM THE INSIDE OUT.

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**PhytoGen**
COTTONSEED