

► **New Deltapine Varieties – Class Of '09 Review And Class Of '10 Introduction**

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Monsanto Company introduced 5 new cotton varieties for the 2009 growing season: referred to collectively at the Class of '09. This group included one early maturing variety, DP 0912 B2RF; two early-mid maturing, DP 0920 B2RF and DP 0924 B2RF; one mid maturing: DP 0935 B2RF; and one mid-full maturing variety, DP 0949 B2RF. As a class, these varieties have shown significant yield increases over competitor varieties and industry standards, such as DP 555 BG/RR. The Class of '10 group will also be reviewed during this presentation. Preliminary data indicates that the Class of '10 top candidate lines will make another step in yield potential and fiber quality above the newest competitors and existing industry standards.

Class of '09

DP 0912 B2RF is an early maturity variety with excellent yield potential that was released for commercial sales in the 2009 growing season. The variety has semi-smooth leaf pubescence, medium plant height and a bushy plant type. The average fiber properties of DP 0912 B2RF are ~35 staple, 4.81 micronaire, and 28.3 g/tex fiber strength. The node of the first fruiting branch averages 6.1 nodes. DP 0912 B2RF was developed from the Monsanto cotton breeding program using elite genetics. As a result of these breeding techniques high yields have been reported for several of the new tested varieties including DP 0912 B2RF.

The yield performance of DP 0912 B2RF is improved compared to ST 4554 B2RF in Beltwide comparisons and FM 9180 B2RF in the W. Texas region. DP 0912 B2RF has shown improved lint yield and gin turnout over ST 4554 B2RF, and FM 9180 B2RF. The regional performance of DP 0912 B2RF showed the best performance in N. Southeast, N. Delta, and S. Delta, with strong performance in other full-season markets (S. Southeast, E. Texas, W. Texas, and Arizona/California).

DP 0920 B2RF and DP 0924 B2RF are both early-mid maturity variety with excellent yield potential that were released for commercial sales in the 2009 growing season. Both varieties have semi-smooth leaf pubescence, medium plant height. The average fiber properties of DP 0920 B2RF are 35.5 staple, 4.56 micronaire, and 27.5 g/tex fiber strength with the node of the first fruiting branch average at 6.4 nodes. The average fiber properties of DP 0924 B2RF are ~35.5 staple, 4.61 micronaire, and 28.4 g/tex fiber strength with the node of the first fruiting branch average at 6.2 nodes. DP 0920 B2RF and DP 0924 B2RF varieties were developed from the Monsanto cotton breeding program using elite genetics. The yield performance of DP 0920 B2RF is greater than ST 4554 B2RF in a Beltwide comparison and greater than FM 9180 B2RF in W. Texas testing locations. The yield performance of DP 0924 B2RF is similar to ST 4554 B2RF in a Beltwide comparison and greater than FM 9180 in W. Texas region.

DP 0935 B2RF is a mid maturity variety with consistent yield potential that was released for commercial sales in the 2009 growing season. The variety has smooth leaf pubescence and medium plant height. DP 0935 is a nectariless cotton variety making it less attractive to plant bug infestations. The average fiber properties of DP 0935 B2RF are 35 staple, 4.45 micronaire, and 28.1 g/tex fiber strength. The node of the first fruiting branch averages 6.3

nodes. The yield performance and crop value of DP 0935 B2RF has shown to be higher than ST 4554 B2RF in a Beltwide comparison, greater than DP 555 BG/RR in the S. Southeast region, and greater than FM 9180 B2RF in W. Texas region.

DP 0949 B2RF is a mid-full maturity variety with high fiber quality that was released for commercial sales in the 2009 growing season. The variety has light hairy leaf pubescence, medium to tall plant height. The average fiber properties of DP 0949 B2RF are 35.5 to 36 staple, 4.55 micronaire, and 28.9 g/tex fiber strength. The node of the first fruiting branch averages 6.7 nodes. The yield performance of DP 0949 B2RF has shown to be greater than ST 4554 B2RF and PHY 485 WRF in the southern Cotton Belt. The staple length of DP 0949 B2RF was longer and the lint yield was higher in all three comparison varieties: DP 555 BG/RF, PHY 485 WRF, and ST 4554 B2RF. The crop value of DP 0949 B2RF is greater than ST 4554 B2RF in several regions. The regional performance of DP 0949 B2RF showed the best performance in the S. Southeast, along with strong performance in W. Texas.

Trait	DP 0912 B2RF	DP 0920 B2RF	DP 0924 B2RF	DP 0935 B2RF	DP 0949 B2RF
Maturity	Early	Early-Mid	Early-Mid	Mid	Mid – Full
Leaf Pubescence	Semi-Smooth	Semi-Smooth	Semi-Smooth	Smooth	Lt. Hairy
Plant Height	Medium	Medium	Medium	Med	Med – Tall
Seed Size (seed / lb)	4400 - 4800	4800 - 5200	4400 - 4800	4800 – 5200	4800-5200
Verticillium Tolerance	Good	Good	Good	Good	Good
Micronaire	4.81	4.56	4.61	4.45	4.55
Staple	~35	35.5	~35	~ 35	35.5 to 36
Strength	28.3 g/tex	27.5 g/tex	28.4 g/tex	28.1 g/tex	28.9 g/tex
Node of First Fruiting Branch	6.1	6.4	6.2	6.3	6.7

*Class of '09 variety traits, fiber properties and plant map data based on 2008 Monsanto FACT plots.

Class of '10
The Class of '10 candidate lines were tested in 2009 in over 140 on-farm module-sized trials (NPE), over 200 on-farm strip trials (FACT), and almost 100 university variety trials (OVT's). Even though the harvest has been delayed due to fall rains in the Midsouth; the southeast U.S. and West Texas are producing normal yields from the tests that will advance the Class of '10. In addition to the standard variety tests outlined above, best management practice (BMP) trials of the Class of '10 candidates were conducted for irrigation, plant growth regulators, planting date (SE region), foliar fungicide, and harvest aid timing. Information from the BMP trials will supplement the standard variety tests and provide growers and consultants direction on managing the new Class of '10.

► Burndown Programs In Reduced Tillage Cotton

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Most cotton in the midsouthern United States is grown using some form of reduced tillage; however, true no-till production is uncommon in the Mississippi River Delta region. The most common reduced tillage cotton systems in the Delta are variations of the stale seedbed system. In a stale seedbed system, previous crop residue is destroyed by tillage and raised beds are prepared in the fall and remain fallow through the winter. In the spring, beds may be “rehipped” to facilitate planting. Preplant weed management can be problematic in a stale seedbed system, especially in the presence of glyphosate-resistant (GR) horseweed.

Glyphosate resistance in horseweed was first documented in Mississippi in 2003. Since