

The Future of Biotechnology
Southern Cotton Growers
November 2006 Newsletter

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Cotton producers and agribusiness interests are now well aware of Monsanto's bid to purchase Delta and Pine Land Company (D&PL). Monsanto is the global leader in biotechnology applications in row crops and D&PL is the world's largest cotton seed company. Both are dominant suppliers for cotton growers in Georgia – according to USDA over 95 percent of the cotton planted in the state in 2006 included Monsanto traits and over 90 percent of varieties planted in Georgia originated from D&PL. The acquisition represents a \$1.5 billion investment and would fully enlist the two most dominant forces in U.S. cotton on the same “team.”

The bid arose after lengthy litigation and came together as the two faced arbitration related to an aborted buyout in the late 1990s. To address antitrust concerns, Monsanto has indicated its willingness to divest Stoneville, the cotton seed company it has bought, sold, and re-purchased over the past several years. Interestingly, Monsanto has committed significant capital even this summer to Stoneville to improve its potential as a provider of cotton genetics and partner to deliver biotech traits.

On the other side, in the intervening years since Monsanto's original purchase offer failed, D&PL has been developing varieties with biotech traits from Syngenta and DuPont. The ultimate fate of these advanced lines with D&PL parentage, Syngenta Bt genes, and/or DuPont herbicide-tolerant genes, has not been fully explained. This remains a crucial question.

Benefits to Growers. Putting the most capable trait provider with the strongest, largest cotton genetics company will no doubt streamline product delivery to the farm. Faster, better, more sophisticated – all these superlatives and more probably apply as to the HOW and WHAT Monsanto with D&PL fully harnessed could supply to the U.S. and global cotton industries.

There is no mistaking Monsanto's prowess as a trait provider. They are unequalled in ability, in the techniques and technologies related to genetic modification and in the management skills needed to navigate complex regulatory, legal, and business issues. They have successfully pioneered, delivered, and maintained products that have revolutionized cotton production around the world. Twenty or so years ago, Monsanto staked its future on biotechnology. They have clearly succeeded in monumental ways.

Of the other large, agrichemical / biotech companies, only Bayer with Liberty Link and Dow with Widestrike have even introduced commercial products. In 2006, their market shares remained miniscule, though there are hints that Widestrike may see gains in 2007. Dominance comparable to Monsanto's is difficult to maintain in the realm of cotton varieties, but D&PL has long been "king" in Georgia. For at least 25 years, D&PL varieties have occupied a huge majority of Georgia acres. While D&PL does not enjoy such overwhelming success throughout the Cotton Belt, they had about a 50 percent market share across the U.S. in 2006. The closest rival, FiberMax, was planted on about 27 percent of the U.S. acreage, mostly in Texas.

With the challenges of trait discovery, introgression (gene insertion into cotton), back-crossing, selection, and cultivar development and delivery, Monsanto with D&PL will be an incredible source of technology for the foreseeable future. Their combined efforts will likely bring phenomenal tools to the cotton world.

Concerns for Growers and the Industry. Concerns focus on the continuing, unchallenged dominance of Monsanto in cotton traits. In the late 1990s, Monsanto traits were planted on about 45 percent of the U.S. cotton acreage. In 2006, the percentage was almost 85 percent, and as stated previously, in Georgia the number was 95 percent. Is viable competition a couple of years away ... or 3 to 5 years away ... or maybe never coming?

Without question, growers have demanded Monsanto technology year after year, so much so that available alternatives have become very limited. Most seed company providers no longer even offer conventional varieties, and the reason is growers will not purchase them.

What happens to technology agreements, traits, and advanced lines that D&PL has developed with Syngenta and DuPont? Monsanto has stated that their purpose is not to exercise control over the Syngenta and DuPont traits. In fact, they are willing to develop these technologies and allow the respective companies to set price, etc. Still questions linger regarding IF, HOW, and WHEN these potential products will come to market.

To illustrate the point, D&PL has had Syngenta Bt genes called VIP-Cot for 2 or 3 years and DuPont GAT/Optima genes for a year or so. These transgenes have been incorporated into D&PL lines and are advancing in the developmental pipeline. Commercial products of D&PL VIP-Cot might be available in 3 or 4 years while GAT/Optima might come in 5 or 6 years. Somewhere in D&PL facilities there are small quantities of seed of each of these advancing lines. If the buyout proceeds, where do these advanced lines go? Keep in mind that these seed are D&PL genetics plus Syngenta or DuPont traits. Do the latter two companies have to go back to generation 1 ... and be delayed an additional 4 to 6 years? Of equal consequence, to what viable seed partner can these lines be handed for advancement?

Competition is good for the industry. It improves the quality of products and eventually influences the cost of products. The bottom-line concern is that there be

legitimate, viable competition for the delivery of traits in high yielding, high quality cotton varieties.

As an aside question, it is reasonable to ask why Syngenta and DuPont have not aggressively expanded their relationship with their past and current seed company partner D&PL. They could have made similar steps to acquire D&PL but have chosen to sit on the sidelines. Their past and current relationship with D&PL may be their best if not only hope of delivering biotech traits to the cotton market.

A second aside question might be why can't Monsanto proceed with Stoneville rather than D&PL. They have committed resources to improving Stoneville and it is believable that a rejuvenated Stoneville could increase market share beyond their recent strengths in the upper mid-South. Monsanto has achieved successes with "underdog" companies in the corn industry. Given the strength of D&PL in the southeast, FiberMax in Texas, and Phytogen in the far west, the road might be slower but possible. Regardless, Monsanto would maintain a seed company partner as a means of delivering traits to the cotton industry in addition to the license agreements they currently maintain with each of the seed companies.

Will the Buyout Occur? The consensus is YES this will happen.

The stakes are significant. Should Monsanto fail in satisfying antitrust issues associated with the purchase by August 2007, they will owe D&PL up to \$600 million. The stakes are also significant for the other companies in this mix.

There has been no unified outcry for or against the deal. The cotton industry as a whole has been silent. Growers here and there have grumbled; others are indifferent. Various corporate interests have sought support or strategically, quietly expressed concerns. The final verdict lies in the hands of the U.S. Department of Justice and D&PL stockholders.

Is the deal in the best interests of cotton growers? Everything about the deal is not public and open, and thus answers are prejudiced by limited knowledge. One might provide qualified answers, "If this...if that." For example, acceptance might be more palatable if reasonable pricing were assured. Of what is known, it seems probable that competition – the very thing that might insure quality products at a fair price – is reduced by this deal, making it less than ideal for growers because of the potential for inordinately high costs and few if any viable alternatives. If the buyout proceeds, will competition go away or will would-be, could-be competitors gear up to deliver viable products?