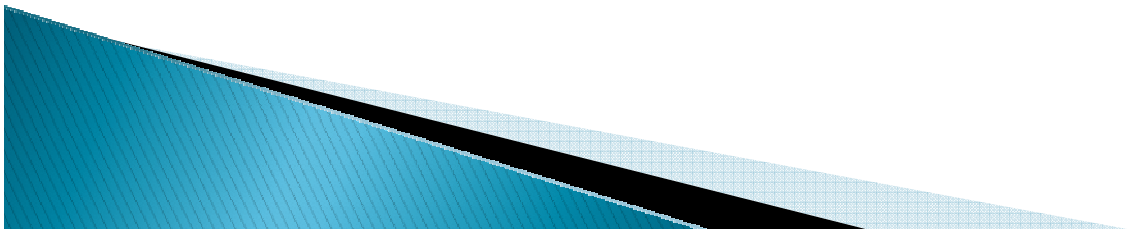


Competition and the Transgenic Seed Industry

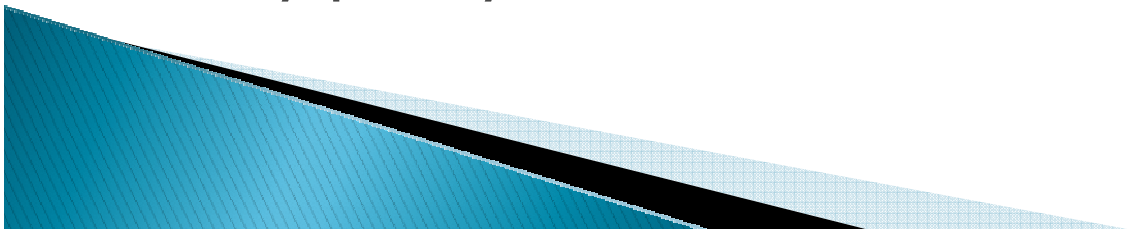
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American Antitrust Institute

Organization for Competitive Markets
2009 Food and Agriculture Conference
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Overview

- ▶ Trends in the industry/relationships between market participants
- ▶ Characteristics of products and markets
- ▶ How should competition work?
- ▶ Why competition, farmers, and consumers are suffering from the exercise of market power
- ▶ Results of competitive problems
- ▶ Examples of competitive issues and problems
- ▶ Key policy issues



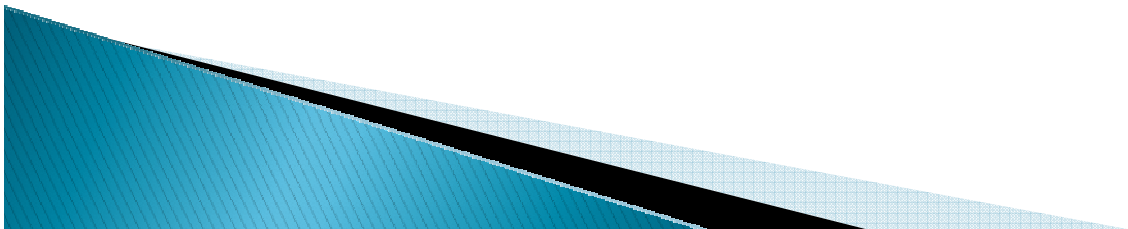
Trends in the Industry

- ▶ The combination of Monsanto and Delta and Pine Land (cotton) would “. . .*provide a complete platform of cutting-edge seed technologies to our global farmer customer base for years to come.*”

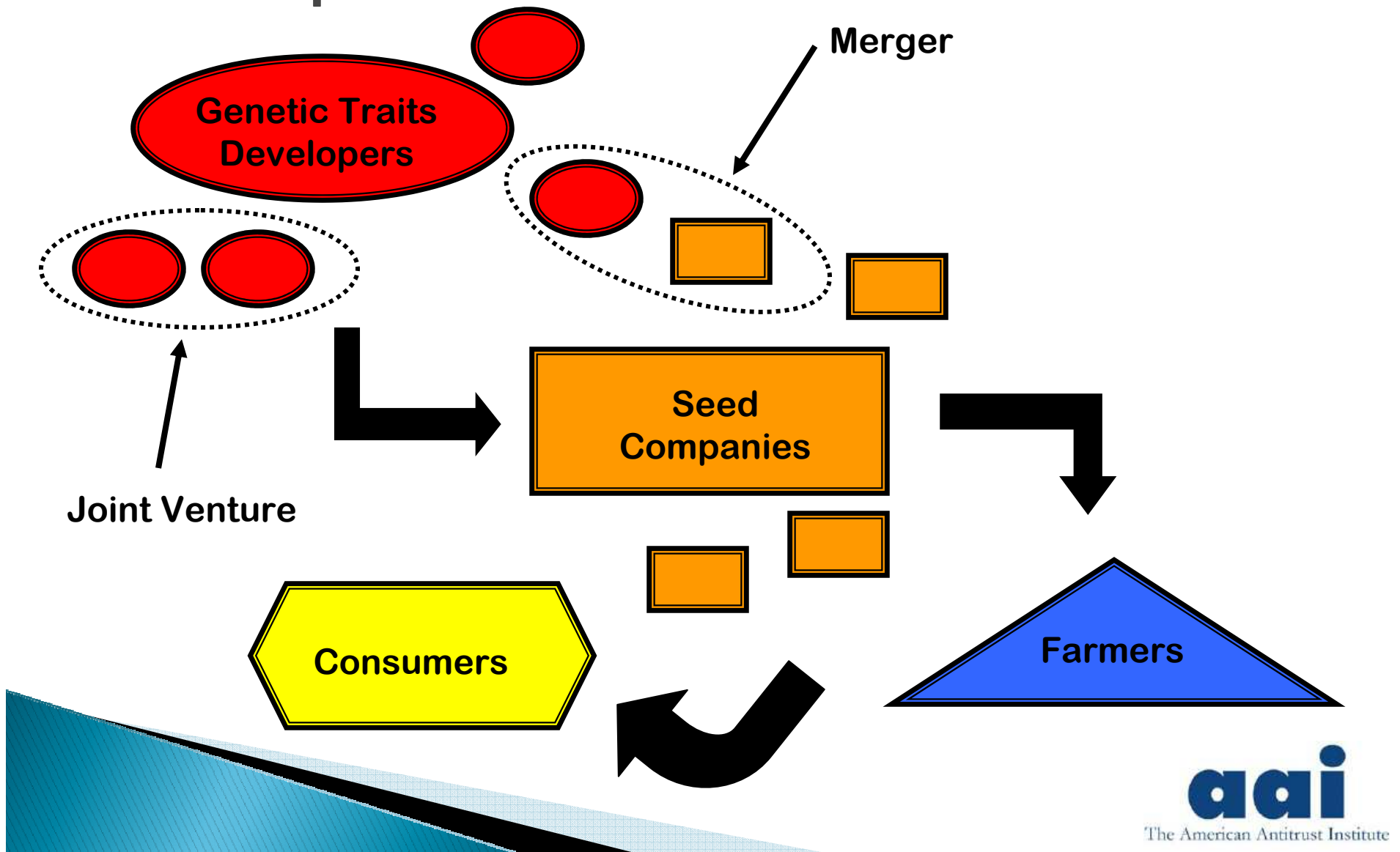
Source: “Monsanto Company to Acquire Delta and Pine Land Company for \$1.5 Billion in Cash,” Monsanto Press Release (August 15, 2006)

- ▶ “*A new gene is worthless without a quality seed base to put it in and the infrastructure to deliver it.*”

Source: “The Agbiotech and Seed Industry,” Furman Seltz LLC, Investment Report (May 1998)

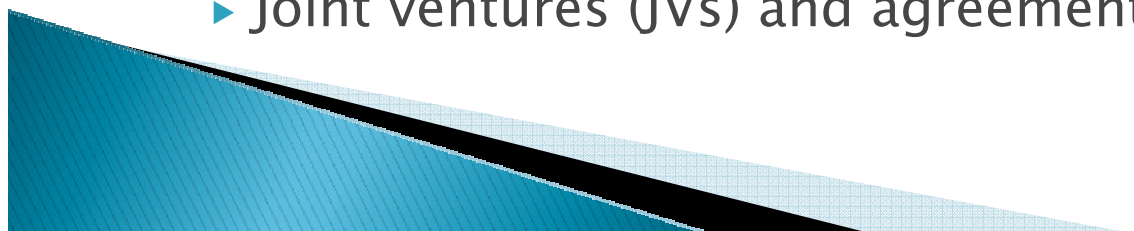


Relationships Between Market Participants



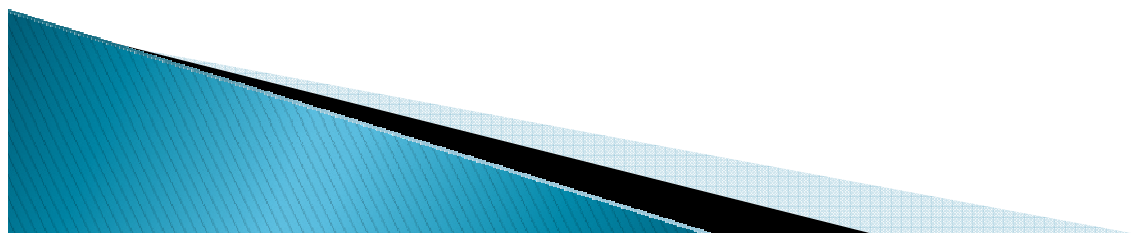
Characteristics of Products and Markets

- ▶ Two major markets
 - ▶ Genetic traits – herbicide tolerant and insect resistant traits for corn, soybeans, cotton
 - ▶ Traited seed – corn, soybeans, and cotton seed that display herbicide tolerance (HT) and insect resistance (IR)
- ▶ High barriers to entry
 - ▶ R&D-intensive, long development lead times
 - ▶ Patented technology
 - ▶ Regulatory approvals (FDA, EPA, etc.)
 - ▶ Brand loyalty
- ▶ Inter-relationships between markets
 - ▶ Integrated ownership of agri-biotech and seed companies
 - ▶ Joint ventures (JVs) and agreements between agri-biotechs



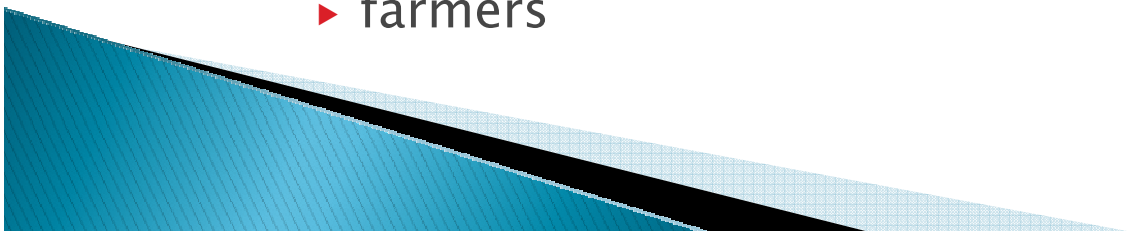
Characteristics of Products and Markets (cont.)

- ▶ Genetic traits
 - ▶ Monsanto is a dominant firm in the markets
 - ▶ Market shares of up to 90%+ for some HT, IR, and stacked traits HT/IR traits in soybeans, corn, and cotton
 - ▶ Markets are extremely highly concentrated – HHIs of ~5,000 – 9,000+
 - ▶ Markets are NOT competitive
- ▶ Traited seed
 - ▶ Monsanto has market shares of ~50% + in licensed germplasm for soybeans, corn, and cotton
 - ▶ Markets are highly concentrated – HHIs of ~3,000 – 5,000
 - ▶ Markets are less competitive



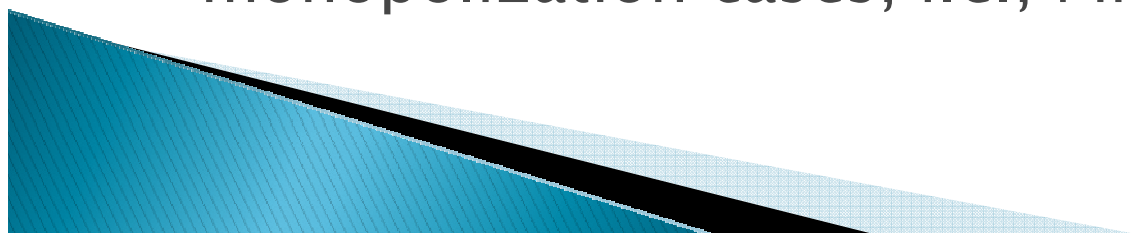
How Should Competition Work?

- ▶ Given that.
 - ▶ Rivalry is for introduction of new genetic traits for ultimate commercialization in traited seed
 - ▶ Competitive product offerings are seeds with multiple stacked HT and IR traits
- ▶ What is needed for competition is.
 - ▶ Unhindered licensing of rivals' traits necessary to create stacked seed products
 - ▶ Access to the broader germplasm market (i.e., through independent seed companies (ISCs)) that is critical for distribution
 - ▶ Many firms in the genetic traits and traited seed markets to ensure alternatives for
 - ▶ rival traits developers
 - ▶ farmers



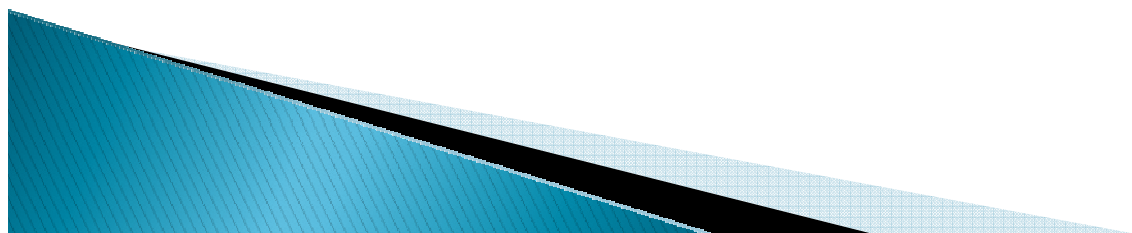
Why Competition, Farmers, and Consumers are Suffering

- ▶ Potential exclusionary practices
 - ▶ Abuse (mis-use) of intellectual property
 - ▶ Exclude rivals from access to needed technology through anti-stacking provisions
 - ▶ Exclude rivals from access to farmers through anti-seed-saving provisions
 - ▶ Monsanto has filed over 50% of patent infringement cases over the last 10 years
 - ▶ Other practices
 - ▶ Bundled incentives and rebates
 - ▶ Some forms of price discrimination
 - ▶ Other practices that can only be exposed by testimonials of farmers and seed companies
- ▶ Same concerns seen in other leading antitrust monopolization cases, i.e., Microsoft, Intel, Kodak!



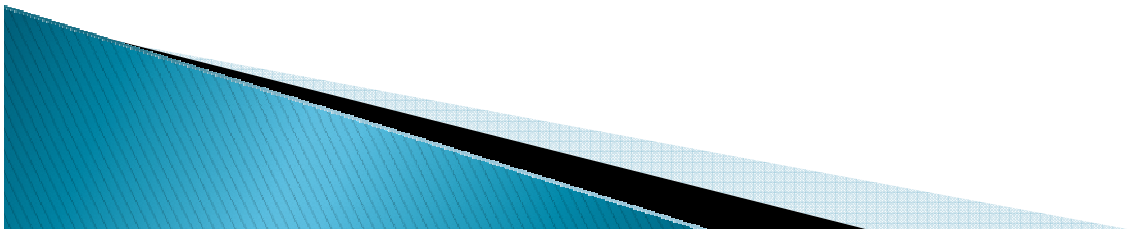
Why Competition, Farmers, and Consumers are Suffering (cont.)

- ▶ Acquisitions of ISCs
 - ▶ Removes ISCs as important distribution channel for rival traits developers
 - ▶ Monsanto acquired 35 seed companies from 1996 – 2008, a substantial portion of total acquisitions
 - ▶ 70% of Monsanto acquisitions occurred from 2004 – 2008 (i.e., an acquisition “spree”)
- ▶ Exclusive cross-licensing JVs
 - ▶ Potential anticompetitive coordination between rival traits developers
 - ▶ Prevents other rivals from getting access to needed technology
 - ▶ Potentially diminishes competition

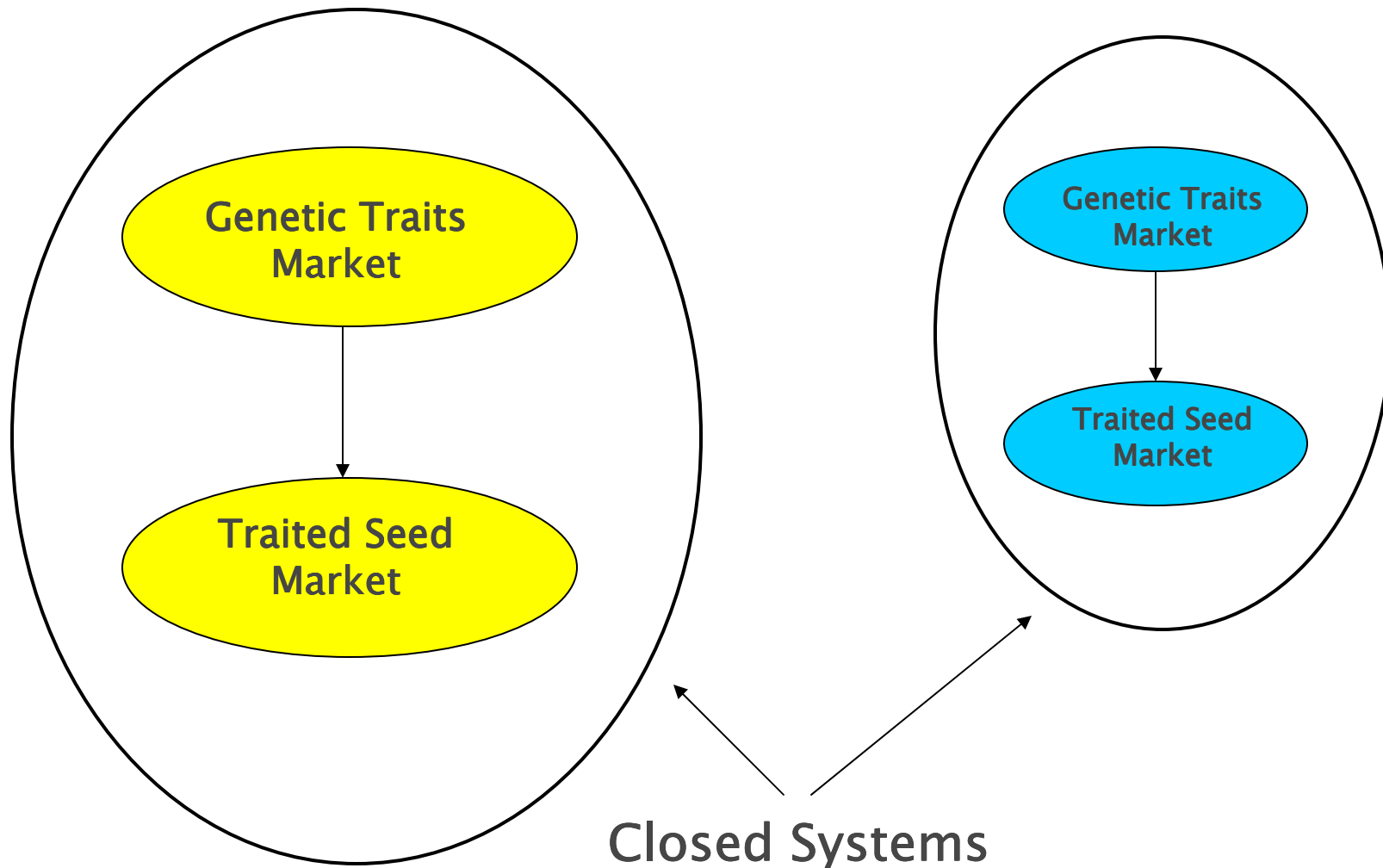


Results of Competitive Problems

- ▶ Lack of access to rival technology or distribution channels creates “closed” seed system impervious to competition
- ▶ When one firm has the dominant system, there is little or no competition
- ▶ Adverse effects of market power on competition, farmers, and consumers
 - ▶ Higher technology fees for farmers
 - ▶ Less choice for farmers and consumers
 - ▶ Higher food prices for consumers
 - ▶ Less innovation
 - ▶ Dominance of the U.S. agricultural supply chain by a single firm

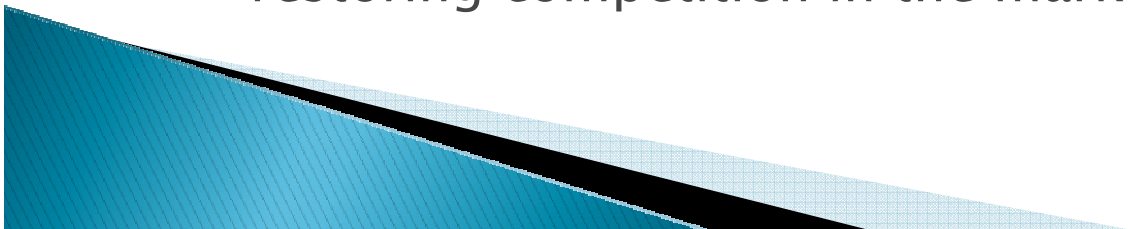


A Dominant Seed “System”



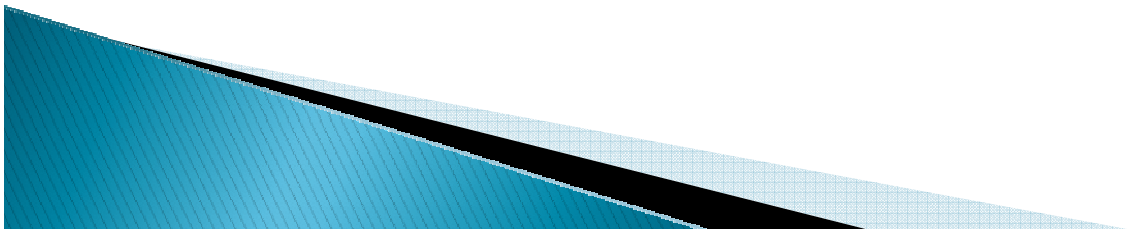
Example – Merger of Monsanto/Delta & PineLand

- ▶ Vertical merger
- ▶ Removed D&PL as an ISC from the market for traited cotton seed
- ▶ Created a single, large cotton system
 - ▶ Monsanto with 96% share of cotton traits
 - ▶ DPL with 50% share of traited cotton
- ▶ Department of Justice (DOJ) consent agreement created a competing “system”
 - ▶ Required Monsanto to divest seed assets, license germplasm, remove anti-stacking provisions in traits licenses
 - ▶ Created a small seed system this is probably ineffective at restoring competition in the market



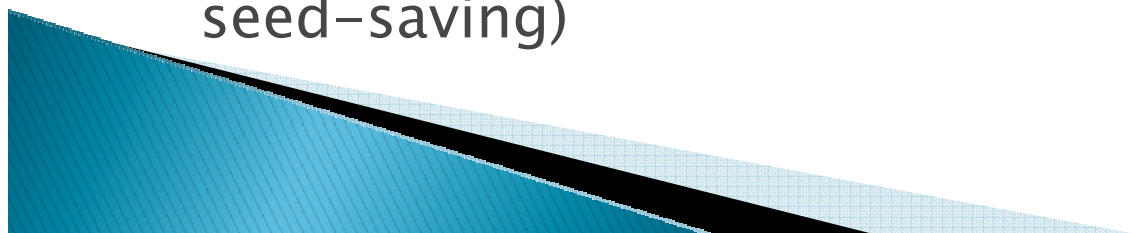
Example – Monsanto/Dow “SmartStax” Agreement

- ▶ Cross-licensing agreement for genetic traits for corn in an 8-gene stack
 - ▶ Multiple traits provide dual modes of action
 - ▶ Reduces need for EPA refuge requirements to deal with growing resistance
- ▶ Could prevent Dow from out-licensing its Herculex insect resistance trait to rivals
 - ▶ Makes it impossible for some rivals to stack Herculex with their traits
 - ▶ Prevents development of alternative system to Monsanto-Dow stacked product



Key Policy Issues – Intellectual Property vs. Antitrust Law

- ▶ Intellectual property law protects innovation while antitrust law promotes competition
- ▶ The two are at loggerheads in the transgenic seed industry– need to restore balance
- ▶ Most infringement cases brought by Monsanto favor the plaintiff, at the expense of competition
- ▶ Supreme Court decision in *Quanta* (patent exhaustion) may help
- ▶ Need better, different arguments for patent mis-use in infringement cases, (e.g., better tying claims involving seed-saving)



Key Policy Issues – Mergers and JVs

- ▶ Need “retrospective” on effects of successive M&A in seed markets
- ▶ DOJ should carefully scrutinize mergers that diminish competition
 - ▶ Loss of ISCs through vertical integration
 - ▶ Worsened by dominant firm, high concentration, barriers to entry
 - ▶ Single-firm seed platforms or systems are becoming the norm so must ensure a sufficient number of competing systems
- ▶ DOJ should carefully scrutinize JVs that diminish competition
 - ▶ Loss of rivalry between traits developers
 - ▶ Inability of rivals to get access to traits
 - ▶ Worsened by dominant firm, high concentration, and barriers to entry

