Agricultural Biotechnology: Facilitating Trade for Food and Feed

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Outline

- Agricultural Biotechnology in U.S. and Global Agriculture
- Issues Affecting Agricultural Trade
- U.S. Government Approaches to Trade and Agricultural Biotechnology
Biotech Crop Countries and Mega-Countries*, 2014

*19 biotech mega-countries growing 50,000 hectares, or more, of biotech crops.

Source: Clive James, 2014.
Global Adoption Rates (%) for Principal Biotech Crops, 2014

Source: Clive James, 2014
Hectarage based on FAO Preliminary Data for 2012.
Global Area of Biotech Crops, 1996 to 2014: By Crop (Million Hectares, Million Acres)

Source: Clive James, 2014
Global Area of Biotech Crops, 1996 to 2014: Industrial and Developing Countries

Source: Clive James, 2014
Biotechnology and Trade

Source: Brooks and Barfoot, 2014
RTA Expansion 1975

Source: IDB Integration and Trade Sector based on INTrade.
RTA Expansion 1995

Source: IDB Integration and Trade Sector based on INTrade.
RTA Expansion 2014

Source: IDB Integration and Trade Sector based on INTrade.
U.S. Commodity Exports (2014)

- Corn: $10.6 billion to 71 countries
  (93 percent biotech)

- Soybeans and Products: $30.5 billion to 110 countries
  (94 percent biotech)

- Cotton: $4.4 billion to 68 countries
  (93 percent biotech)
Industry Corn Biotechnology Portfolio*

A Steady Pipeline of Events

Pre-Commercial 2012-2013
- Herbicide Tol. (DuPont Pioneer)
- Insect Protection (DuPont Pioneer)
- RW Duracade (Syngenta)
- Roundup Hybridization System (Monsanto)

Late Development
- Lep/Coleopteran Protection DP 4114 (DuPont Pioneer)
- Nitrogen utilization (Dow)
- Herbicide tolerance (Bayer CropScience)
- Multiple Mode Herbicide Tolerance (DuPont Pioneer)
- Novel Insect Traits (Bayer CropScience)

Early Development
- 2nd Gen. Drought Tol. (Monsanto/BASF)
- Nitrogen utilization (Monsanto/BASF)
- Improved Feed (BASF)
- Coleopteran Protection III (DuPont Pioneer)
- Novel Insect Traits (Syngenta)

*Estimated commercialization pipeline of corn biotech events prepared by the U.S. Grains Council. Commercialization dependent on many factors, including successful conclusion of regulatory process.
Soybean Industry Portfolio
Pipeline of biotech events and novel trait releases

Source: Pipeline information from industry & published sources: May 2014
Issues Affecting Trade of Products Derived from Modern Biotechnology

- Lack of regulations in developing countries
- Asynchronous Authorizations
- Low Level Presence
- Labeling
- Field Trial Permits
- Liability Issues
- “Opt Out” on approvals
U.S. Government Approaches

- Sustained working-level
- Bilateral
- Plurilateral
- Multilateral
- Trade agreement negotiations
- Trade and technical capacity building and outreach
The Future?

- Scientific advances will continue to provide tools to improve crop varieties and animal breeds.

- Businesses need predictability and certainty in regulatory processes.

- Enabling policy environments will allow products of these innovations to be used and traded globally in a reliable manner.

- Stewardship on the part of technology developers is critical to help facilitate trade.