

# Peaceful Coexistence in the Alfalfa World

A Seed Industry Perspective

Oct. 10, 2007



# Agenda

- Coexistence
- Adventitious Presence (AP)
- Federal Seed Act
- Seed Industry Views
- Moving forward with controlling AP in alfalfa

# What is Peaceful Coexistence?

- Coexistence implies
  - An openness that different entities can exist together
  - A level of mutual respect for groups with different viewpoints and interests
  - That we are striving to meet the needs of all stakeholders
  - A willingness to dialogue and work together
  - Ongoing struggle and accomplishment

# PEACEFUL COEXISTENCE

Among Growers of: Genetically Engineered,  
Conventional,  
and Organic Crops



SUMMARY OF A Multi-Stakeholder Workshop

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# From NASDA/Pew Document

- Definitions of Peaceful Coexistence:
  - Protects producer and consumer choice,
  - Means that proponents of each crop system are not battling each other,
  - Is a journey, not a destination
  - Is an economic issue, not a safety issue.

# What is Adventitious Presence (AP)?

- AP is the presence of unintended impurities.
- AP is the technically unavoidable, naturally occurring, presence of foreign materials in a product.
- Historically, AP in food, feed, and seed has been accepted in laws, regulations, and standards that make allowances for AP and ensure that their presence is safe.

# Everyday Examples of AP

- “Sugar Free” foods may contain up to 0.5 g of sugar per serving (FDA).
- “Nonfat Yogurt” may contain up to 0.5% milk fat (FDA).
- “Decaf” coffee may contain up to 3% caffeine (FDA).
- “Organic” products may contain up to 5% of listed synthetic substances (including pesticides) and up to 5% of the EPA allowable levels for prohibited pesticides (USDA Organic Rule).

# What is AP in the Seed Industry?

- In the case of seed production, we are mainly concerned about unwanted genetic material.
  - Off-types lead to non-uniform field appearance
  - Herbicide or insect resistant products with plants without the resistance gene
  - Conventional Products containing transgenes
- Causes of AP:
  - Pollen Flow
  - Physical mixing during handling



# Federal Seed Act

- AP is considered the “same as” as long as the kind of crop does not change (ref 201.9).
- AP of kind or variety less than 5% of the hybrid does not need to be labeled. (ref 201.11a).
  - Pioneer purity standards are substantially higher than 95% for hybrids
- The challenges with AP have increased with biotech traits authorized in one country but not yet globally authorized.
  - Also, increased ability to detect very small amounts of impurities

# ASTA Views

## Varietal Purity Standards

- The seed industry assures seed varietal purity by production based on best management practices, quality assurance, quality control checks, which are primarily visual assessments.
- The U.S. system under the Federal Seed Act, based on “truth in labeling” and variety purity standards which are implicit in FSA through the establishment of official tests and tolerances, allow for variations due to sampling errors.
- Current system has served the seed industry and grower well, but raising awareness may improve understanding of how new technologies fit into the system.

ASTA = American Seed Trade Association



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# ASTA Views Varietal Purity and Biotech Traits

- As biotech traits are commercialized, they will become part of the genetic off-types and will be held to reasonably low levels by the same quality assurance procedures as other off-types.
- Requirements on adventitious presence for approved traits should be market-driven and voluntary.

# ASTA Views - Testing

- All test results are, at best, an estimate of the true purity of the respective seed lot; the accuracy of this estimation can be improved by standardizing seed sampling procedures and test plans, performing process validation and standardizing data analysis and reporting procedures.
- When developing testing guidelines, it is critical to fully understand and balance the desire for accuracy and sensitivity against the true cost of the testing program (including discarded material) and the subsequent economic and market impact on the grower and producer.

# Seed Quality Standards

- The level of seed purity is based on internal standards, seed laws and contractual specifications.
  - Across seed product lines, Pioneer standards typically exceed seed law and contractual standards
- The type of purity test depends on the intent and desired result.
  - Ensuring the desired biotech trait is in the seed
  - Ensuring that a biotech trait is not present in non-biotech seed

# ASTA Summary View

- National and foreign organic policies and regulations should support the co-existence and viability of conventional, biotech and organic agriculture.
- Coexistence is an economic issue, not a safety issue.
- It is the responsibility of the individual grower, agri-production chain, or the contracting party producing specific products to implement management practices to reach the quality standards necessary to market a differentiated product.

# Current Status in Alfalfa

- Best Practices and AP results document from Forage Genetics released ~2 weeks ago.
- Company and grower experiences 2006, 2007.
- We have information and experience from the FSA and ASTA and other parts of the seed industry.
- Here today to work toward consensus on best practices.

# Best Practices – Key Issue Pollen Flow

- Isolation, isolation, isolation (location, location, location)!!
  - Need real-time knowledge of where GMO and non-GMO fields are located (map)
  - Learn from Sunflower, sweet corn
  - Parties able to facilitate the process (eg. AOSCA, NASDA, State Crop Improvement)
- Monitor and adjust isolation requirements as needed.



Example of Mapping Program.



# Bottom Line

- The seed industry can provide tools, but
  - Guarantee of 100% purity is not possible
  - Individual entities are responsible for their own Identity Preserved (IP) practices
  - Economic opportunities exist for growing organic, conventional, and GMO alfalfa
  - The goal is to achieve a meaningful coexistence of all types of cropping systems, including biotech, conventional and organic
  - Using the tools available for IP, this balance can be achieved

# Peaceful Coexistence in the Alfalfa World

Questions?

