



# **Coexistence Challenges**

## **Organic, Non-GMO, GMO and Beyond**

### **Balancing Markets and Choice**

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# Personal perspective

Merchant - goal happy client

Supply selected varieties corn and soy to buyers making foods, food ingredients, feeds

Clients North and South America, Asia and EU

IP goal – PURITY/HOMOGENEITY

GMO complicates  
Functional GMO complicates exponentially



# Values, Conflicts, Challenges

## Why IP

- Product issues
- Process issues
- Market issues

## Purity/homogeneity/consistency

Processor survey

Texas A&M expert

Tokyo Coop

General Mills results with IP



## Unwanted GMO “contamination” AKA adventitious presence

- Seed
- Cross pollination
- Errors in
  - Planting
  - Harvesting
  - Handling
  - Storing
- Consider a super GMO, a GMO that changes functional characteristics of other corns X miles away.

# AC21

## USDA Advisory Committee on Biotechnology and 21<sup>st</sup> Century Agriculture

- Committee charge
  1. Compensation, if any?
  2. Compensation mechanism
  3. What actions/policies appropriate to facilitate coexistence
- Support – top down
  - Tom Vilsack
  - Kathleen Merrigan



- Composition
  - Broad based representative of the greater ag community
- Results:
  - Recommends 1-5
  - Position of USDA
  - Next steps

# AC21 – issues and perspectives

- Damage from adventitious presence
  - Any?
  - Quantify?
  - Organic – process v. market
- Compensate – how?
  - Risk retention fund
  - Insurance program
  - Compensation fund

## Who pays for economic losses due to adventitious presence?

- Biotech seed provider
  - IP grower himself
  - Neighboring farmer
  - US general fund
  - Crop check-off fund

Key: Who is responsible?



# AP tolerance

- Tolerance levels
  - Critical to any compensation scheme
  - Critical to planning by/for
    - Seed companies and buyers
    - Farmers
    - Merchandisers
    - End users
  - Market factors
    - Cultural
    - Functional

Agreement - NONE

- **Segregation protocols**
  - Hybrid selection and seed purity testing
  - Contract planting with reasonable segregation designed to meet buyer tolerances for impurity
  - Equipment cleaning and segregation
  - Strip tests
  - Lab tests
  - Final delivery tests

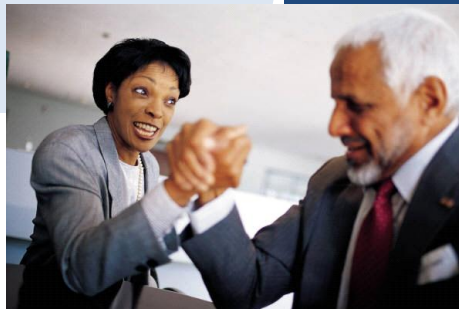
**Buyers need numbers!**



# Value choices, conflicts

- Responsibility among links in supply chain
  - Shared between neighbors
  - Shared between neighbors and biotech providers
  - 100% to IP producer
  - 100% to biotech provider
  - 100% to the neighbor whose crop DNA damages the IP producers crop
- Science reigns v Market reigns

NO agreement



## Biotech image

**Concern:** Any conditions imposed on biotech will suggest that the US government does not support biotech as healthy and safe.

**Counter:** Conditions are just market distinctions and leave the buyer to choose what he wishes. Conditions do not imply endorsement or criticism.

# Amylase Corn – Common Ground

- USDA recently approved a new GMO amylase corn. Huge increase in IP challenge
- Who wins?
  - Ethanol industry ,why and how?
  - Seed supplier
- Who loses?
  - Food industry, how? why? 1 kernel in 10,000? 18 in 10,000?
  - Farmers wanting market choice
  - Buyers wanting to avoid quality issues

- **Iowa – a projection**
  - Ethanol production base
  - Ethanol processor demand for this amylase corn
  - Power of even subtle contamination at levels less than now detectable by strip tests
  - Risk to those buying for other corn markets
  - Consequence
    - Loss of choice to Iowa farmers
    - Loss of production choice to buyers
    - Loss of diversity



**De facto private zoning of the Cornbelt**



# AC21 address common threat

Loss coverage due to AP from GEFT requires consideration of scope, scale and nature of damage traced to GEFT. The same considerations could address the cultural conflict as well.

- **Scope: AP from GEFT will impact**
  - **Farmers producing same GE crop with different trait profiles**
  - **Farmers producing same crops for non-GMO markets**
  - **Farmers producing same crop for organic markets**
  - **AP issues will become more universal, no longer a niche consideration but a commodity issue as well**
- **Why? Market incompatibility, functional and cultural**

# Policy Issue – Co-Existence and Choice

- How do we manage the introduction of genetically engineered functional traits (GEFT) to optimize development, minimize market disruption and support producer/buyer choice?
- Can we fashion acceptable regulation? Or do we leave it to the market? To the courts and class action law suits?

**No longer just an organic or GMO issue but a common agricultural issue, a purity issue, a choice issue.**

What recommendations can AC21 or you offer to promote peaceful coexistence among genetically engineered functional traits, between genetically engineered cultural and functional traits, and between genetically engineered anything and non-GMO and organic production?

Same questions as before with better audience attention and more sharing.



# Suggestion – 1<sup>st</sup> prevent

- Standards: Define non-GMO for particular purposes
  - Set tolerances for acceptable AP
    - In seed
    - In crops
  - For traits regarded as
    - Cultural
    - Functional
  - Consider market as well as practicality
- Seed: Protect the commercial gene pool against disruptive introductions
  - Weigh market impact as well as safety
  - Require
    - Market impact analysis
    - Dispersion study
    - Containment plan
    - Traceability
    - Transparency
  - Build containment into the tech contract with the farmer
  - Condition approval on reasonable containment

## Regulatory standards, tools

Goal: Your crop must not unreasonably damage your neighbor's crop

- Pura-maize gene (1950s)
- Markers, visual if possible
- Segregation distance
- Seed provider AND farmer responsible for following rules
  - Fines and/or damages
- Otherwise exclude from pool
- Canada and consistency

**Coexistence  
needs improved  
regulation**

# Contain on the farm, protect neighbors

- Farm: Incentivize containment
  - Develop and incentivize BMP
    - Notify neighbors of sensitivity
    - Establish reasonable segregation distances for region and locale
    - Segregation responsibility to be shared between neighbors as adjusted for impact factors including topography, wind, timing
    - Consider CRP or other conservation incentives
    - Limiting liability/damage for those following BMPs
    - Accept variances if producer assumes the risks including risk of damage to neighbor
  - Work with county FSA offices to educate and monitor
  - Check compliance with seed technology containment requirements

## Regulatory standards, tools

Goal: Your crop must not unreasonably damage your neighbor's crop

- Pura-maize gene (1950s)
- Markers, visual if possible
- Segregation by distance, by pollination timing
- Seed provider AND farmer responsible for following rules



# Then compensate for unavoidable AP

- **Direct losses**

- Payment by patent holder and/or source farmer
- Payment by insurance funded by patent holder
- Payment by other insurance arrangement

- **Avoidance losses**

- **Difficult puzzle**
- **Leads to discussions of national land use policy, private zoning arrangements, lost farm income and lost farm land values**
- **Joys of class action lawsuits**
- **Loss of US reputation as reliable supplier**



# Points and Blue Corn Irony

- **Points**
  - Coexistence is too often an empty promise. Effective coexistence today requires changes in behavior.
  - No bad players (conceptually). There is room for coexisting paths if players respect others' rights.
  - Trait value is not universal
  - Tools exist to let neighbors grow conflicting crops without damage to each others' markets
- **Blue corn story – share the pain**
  - Mary Howell
  - Response



# Questions – Comments - Perspectives



Thank You

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