Merchant goal – happy client

Selected varieties corn and soy to buyers making foods and feeds

Clients North and South America, Asia and EU

Contract farm production 12 states, 3 countries

Co-existence issue – focus on corn, the pollen escape factor

Conceptual conflict
  - Wonderful new hybrid X
  - Greatly rewards some
  - Greatly damages others

How do we as a community deal with that?
  - Open range for “safe” seed?
  - Consider market, economic choices?
  - Regulate to protect markets?
Client Values, Supply Challenges

- Product advantages
- Process advantages
- Market advantages

CONSISTENCY
- Processor survey
- Texas A&M expert
- Fortune 500 experience

- USDA corn seed collection > 20,000 accessions
- Commercial pool perhaps 1,000 hybrids
- Variations, contaminations
  - Pollen - open range policy
  - Seed supply impurities
  - Errors in planting, harvesting, handling, shipping
Practical Solution – IP Programs

- Get what buyer wants, avoid contamination
  - Contract production of selected hybrid
  - Follow segregation protocols from seed selection and planting to delivery to buyer
  - 3rd party testing, verification
  - Buyer testing

- 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
Cultural Distinctions – IP Factors

- **Conventional now means GMO**
  - US corn crop >84% GMO

- **Non-GMO**
  - Definitions vary

- **Organic**
  - Defined under US law as process factor

**Buyer camps**

- **Endorse**
  - Health & environmental concerns
  - Examples
    - Japanese coop – 30 years
    - US food companies

- **Defer acceptance**
  - Legal rule
  - Health, environmental concerns
  - Social concern
  - Examples

- **Reject**
  - Examples
Buyer Rules – Mostly

- Precautionary principle
- Tolerance standards
  - Zero not an option in US
  - Japan at 5/1/0.5%
  - EU at 0.9% ... perhaps 0.5%
  - UK chains at 0.1%
  - Korea at 0.0% (officially)
- Co-existence? Yes except for Korean buyers trying to meet their official tolerance levels

- Certified organic – IP challenge re GMOs
  - Process standard
  - Tested to some tolerance standard
    - Background GMO levels
    - Complications from setting market limit
    - Consequences
      - Discourage US organic production
      - Encourage organic supply from India and China
  - As is, with just the process standard, organic certification remains the gold standard for non-GMO corn
USDA just approved a new GMO amylase corn. Huge increase in IP challenge.

Who wins?
- Ethanol industry
  - Why?
  - How?
- Seed supplier

Who loses?
- Food industry, how? why? 1 kernel in 10,000?
- Farmers wanting market choice
- Buyers wanting to avoid quality issues more so than those just wanting to avoid GMO

Iowa – a projection
- Installed ethanol production base
- Ethanol processor demand for this amylase corn
- Power of even subtle contamination at levels less than now detectable by strip tests, even most lab 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
Policy Issue – Co-Existence and Choice

• Issue broader than the GMO and organic conflicts.

• Goes to:
  - Commercial importance of purity, consistency
    - Farmer choice of markets
    - Buyer choice of qualities

• How do we?
  - Balance conflicting values
  - Encourage innovation
  - Protect markets
    § Domestic
    § International
  - Protect choice for farmer and buyer
Suggestions

• Build better fence around commercial seed pool

• Consider economic and market impact of new traits before approving planting

• Grant authority to USDA
  - National policy – broad
  - Local/regional – detailed

• Work through seed companies

• Not just an organic or GMO issue but an agricultural issue, a purity issue, a choice issue

• Regulatory standards, tools
  - Your crop must not unreasonably damage your neighbor’s crop
    ▪ Pura-maize gene (1950s)
    ▪ Markers, visual if possible
    ▪ Segregation distance
    ▪ Fines and/or damages
    ▪ Seed provider AND farmer responsible for following rules
  - Otherwise exclude from pool
  - Canada and consistency

Coexistence needs improved regulation
Questions – Comments - Perspectives

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Thank You