

# Segregating GE Crops, Cultural and Functional Challenges



NABC 27 Penn State  
June 2, 2015 Lynn Clarkson  
[www.clarksongrain.com](http://www.clarksongrain.com)

# Perspective

- Merchant – goal
- IP purpose
- Supply corn & soy segregated by varieties and market distinctions, Identity Preserved (IP)
- Contract with farmers before planting to secure suitable supplies
- Ship by container, truck, rail, barge, ships; in bulk, bags and boxes; prepared and ready to cook or bin run.
- Secure growers by paying premiums that justify continuing participation in IP programs



# Identity preservation - IP

- ❑ Purpose: Supply corn/soy to buyers seeking non-GE, organic or particular GEs selected for competitive advantage
- ❑ Buyers: distinction range
- ❑ Evolution of distinctions
  - Visible, reasonably obvious
  - Invisible, test to know



**2015:** Contamination due to adventitious , unintended presence of unwanted GE traits has become the single biggest challenge to meeting client quality standards.

**Bias:** Pro-coexistence, against production that ruins the neighbor's ability to serve his preferred markets.

**Pro:** Continued improvement in crop production and functionality

# Managing for purity

- Define NON-GMO!
- Zero: Impossible
- 5%: Who will buy?
- Japan example
  - Official
  - Food/feed
  - Flex
- EU labeling standard
- US and Canada
- Organic development analogy from late 90's

Tolerance levels – fixed or changing

Crop protective traits – tolerance level

Functional traits – tolerance set at level of functionality

Who defines? Private groups? Government? State or federal?

Fungible declines as IP grows

# Contracting production

- ❑ Establish contract production standards
- ❑ Lay out segregation protocols, suggested, required
- ❑ Establish verification and testing standards



- Incentivize producer: reward quality, purity
  - Corn incentives
  - Soy incentives
- Verify with documentation
- Verify with testing - challenges
  - Representative sample
  - Transparent test with same accurate results at point of shipment AND point of delivery – role for government

# Managing Contamination Vectors

## ❑ Seed

- ❑ Test and label before distribution
- ❑ Test at farm before planting
- ❑ New higher level of purity
  - ❑ Buy seeds from EU
  - ❑ More extreme domestic isolation

## ❑ Field

- ❑ Clean equipment
- ❑ 3<sup>rd</sup> party inspect/test during production
- ❑ Buffers for purity

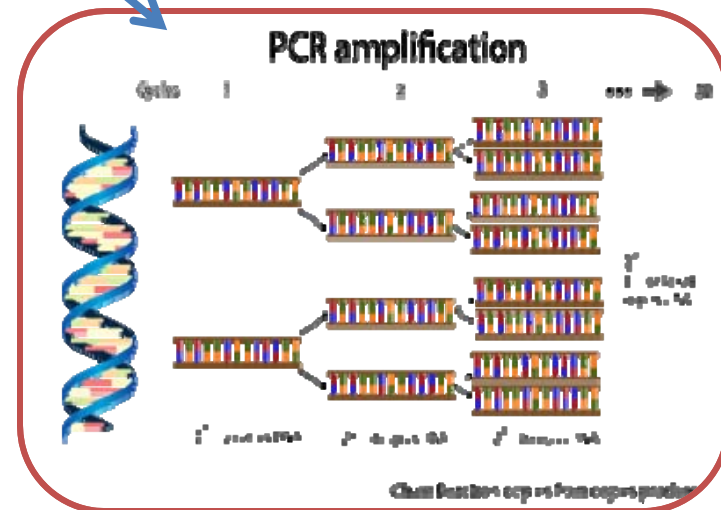


## Post harvest

- Clean conveyors, storage bins, trucks
- Test and approve inventory on farm before delivery
- Test each load on arrival 1<sup>st</sup> commercial receiving point
- Test each load on shipment to subsequent receiving point...at final destination
- Sampling/testing issues/choices

# Verification – testing for traits

- ❑ ELISA tests – pro, con
  - 1/400; \$ and ¢/bu
- ❑ PCR tests – pro, con
  - 1/1,000; \$\$\$
  - 1/10,000; \$\$\$
- ❑ Cultural standards
- ❑ Functional standards



# The GMO wrinkle for Organic Farmers

## Are organic products free of GMOs?

Organic standards are process based. NOP regulations prohibit use of genetically modified organisms, prohibit commingling or contamination during processing and handling, and require preventative practices to avoid contact with GMOs. Organic agricultural products should have minimal if any GMO contaminants. However, organic food products do not have a zero tolerance for the presence of GMO material.



But certified organic crops might and not be merchantable as organic because most organic buyers have added a NON-GMO requirement. Potential loss from adventitious presence

- Corn - \$9/bu
- Soybeans - \$20/bu



# Vision for US Agriculture

- ❑ Goal – support farmer choice, protect farmer from being market dominated by his neighbor.
- ❑ Goal – Support buyer choice of hybrid/quality, GE presence, production methods.
- ❑ Goal – Support continuing technical and market improvements of corn and soy.

**How can we  
balance and respect  
these values?**



# Suggestions toward peaceful coexistence

- ❑ Acknowledge that significant market distinctions such as GMO merit the respect of labeling.
- ❑ Agree to federal NON-GMO labeling (not GMO labeling)
- ❑ Define the meaning of Non-GMO: having less than “X” GMO content. What’s value of X? 0.9%? Other? Arguments in play.
- ❑ Enforce truthful labeling through the FTC or USDA
  - Credibility value of government versus competing private groups
  - NOP & organic market analogy
  - GIPSA grain standards: government defines some values, negotiation others

Agree that farmers do not have the right to damage their neighbors’ market choice, that farmers raising conflicting crops must follow reasonable protocols to minimize adventitious presence, perhaps sharing a segregation buffer.

**Voluntary cooperation or regulation?**

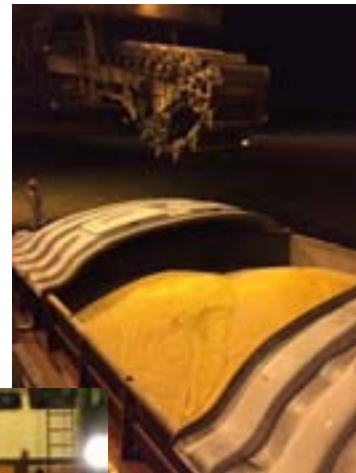
# Seed Approval Suggestion - Benefit

- ❑ Consider market disruption as well as safety before welcoming new traits into the commercial seed pool.
- ❑ For less disruptive traits, establish appropriate buffers as part of approval.
- ❑ For functionally disruptive traits, require markers that permit detection and segregation, as well as buffer distances.
- ❑ Require appropriate segregation requirements be included in the contracts between seed provider and farmer so that all parties understand their responsibilities for protecting neighbors and promoting supply purity.

## Potential benefits

- Minimize expensive conflicts over labeling
- Ease the controversy over introducing new traits
- Minimize resolution via tort law and class actions
- Satisfy many who want a reliable label
- Support US farmers - conventional, non-GMO and organic – as disciplined suppliers to the world

# IP – field to Panamax



# Questions – Comments



Thank You

**Lynn Clarkson** [Lynn.Clarkson@ClarksonGrain.com](mailto:Lynn.Clarkson@ClarksonGrain.com)

- Member, USDA AC21 committee
- Member, Organic Trade Association (OTA)
- Member, National Grain and Feed Association
- Member, Illinois Grain Dealers Association
  - Member, Illinois Farm Bureau
  - Member, Illinois Corn Growers Assn
  - Member, Illinois Soybean Assn
- Member, US Soy Export council (USSEC)
- Former member, OTA Board of Directors
- Former member, USDA GIPSA Advisory Committee
- Former member, ag advisory committees UIUC

