What are the Available Tools for Co-Existence of GE and Non-GE Alfalfa?

Rod Christensen, Executive Secretary
National Alfalfa and Forage Alliance
December 13, 2011
• Brief overview of the tools that are available
• Coexistence is not a new phenomenon in agriculture
  – seed certification program, now 70 years old, allows for the coexistence of seed production of various varieties in the same area
  – been successfully adopted by growers of most crops for seed production and products such as sweet corn.
The alfalfa seed and forage alfalfa industries, under the leadership of the National Alfalfa and Forage Alliance, have developed tools specific to our industry that complement existing programs and procedures.
1. Cooperation/ Communication

- THE most important tool
- U.S. alfalfa industry is well-developed and capable of addressing specialized contract requirements
- Every situation cannot be foreseen nor can a rule be written for every contingency
• It is paramount that parties involved at every level, growers, companies, government agency representatives, make known their intentions and promulgate an extensive and civil discourse throughout the process.

• Many problems are avoided from the beginning.

• COOPERATION - COMMUNICATION
2. Association of Official Seed Certifying Agencies (AOSCA)

A Long Standing and Essential Tool

Tools Include

- genetic purity of seed stocks
- appropriate special isolation between commercial seed production fields and neighboring alfalfa seed/hay production fields or feral plants
- a required crop rotation between seed production of different varieties on the same land.
- The AOSCA seed certification program is designed to reduce genetic off-types to < 2%.
3. Alfalfa Seed Stewardship Program (ASSP)

- In 2010, AOSCA launched (input from seed companies)

- A voluntary, fee-based identity preserved program of process certification for the production of alfalfa seed destined for APS markets

- Certification can be achieved through either a process based procedure requiring a minimum five mile isolation distance, or through a results based procedure requiring testing of replicate samples
• The ASSP program is an industry procedure established for **specific needs and markets**.

• NAFA’s Coexistence documents and Best Management Practices are not intended to meet the ASSP levels of isolation and testing.
4. California Crop Improvement Association (CCIA) Alfalfa Pinning Map

- A need to establish a formal system of communication between seed producing companies and others.
- In 2010 the industry collaborated with CCIA to develop a web-based alfalfa seed field isolation "pinning" map for alfalfa seed production in the Western U.S.
- Pinning both APS and GE alfalfa seed production fields
- Accessible only to state seed certifying agencies and to genetic suppliers who use the information to help growers in planting plans
5. Monsanto Technology Use Guide (TUG)

• Primarily for alfalfa forage producers
• Provides the stewardship, environmental, weed management, and other use guides for Roundup Ready Alfalfa
• The entire guide can be accessed online at,
  • or by calling 1-800-ROUNDUP (1-800-768-6387)
TUG

- Detailed guidance regarding such things as
  - Insect resistance management
  - Regional planting restrictions
  - Weed resistance management
  - Grain or feed use agreements
  - Selling crops with biotech traits
  - Moving material containing biotech traits
  - And other useful information
6. The National Alfalfa and Forage Alliance (NAFA)

- Has been a leader in the development of a number of documents outlining procedures and practices that help facilitate coexistence.

- The full text of all of the documents can be accessed at: www.alfalfa.org/policy.
NAFA Tools

- Coexistence Documents
- Best Management Practices (BMP)
- Commitment from four largest Genetic Suppliers
- Grower Opportunity Zones (GOZ)
1. Coexistence for Alfalfa Seed Export Markets
   - Tested non-GE seed, adequate isolation, identity preserved protocol, application of ASSP to assure non GE status.

2. Coexistence for Organic Alfalfa Seed & Hay Markets
   - Compliments USDA’s Nat’l. Organic Program (NOP)-regulates standards needed for any farm to be organic. Both are processed based programs. Both tolerate a low level threshold for pesticides, weed seeds, varietal seed impurities.

3. Coexistence for Alfalfa Hay Export Markets
   - Key export regions-Columbia Basin in WA, Imperial Valley, some others. Tested non-GE seed, minimize possibility of gene flow by observation of flowering and harvest time, management of lot identity and testing of lots destined for export.
1. **Best Management Practices for Roundup Ready Alfalfa Seed Production in the United States**

   - **Contractor Responsibilities** – isolation distances (900 ft.-leafcutter, 1 mile-alkali, 3 miles-honey), reporting GPS coordinates, RRA seed training, contracts stipulating bee pollinators, etc.

   - **Grower Responsibilities** – follow policies in contracts, follow laws and regulations, manage bees to minimize pollen flow, manage weeds, destroy fields, sanitize equipment.

2. **Best Management Practices for Adventitious Presence-Sensitive Alfalfa Seed Production.**

   - Sensitivity levels vary by market – practices will evolve over time. Gen. Suppliers in NAFA committed to utilizing these methods as developed – helping develop them. AOSCA and Gen. Suppliers developed Alfalfa Seed Stewardship Program (ASSP) – Process OR Results based program.
Commitment from four Largest Genetic Suppliers

- Cal West Seed,
- Dairyland Seeds,
- Forage Genetics International
- Pioneer Hi-Bred International
Grower Opportunity Zones (GOZ)

- GOZs are grower organized geographic zones designed to help the industry segregate and concentrate APS or GE alfalfa seed production.
- They are formed by following procedures outlined on the NAFA website.
- Critical tool in coexistence

[www.alfalfa.org/policy](http://www.alfalfa.org/policy)
Grower Opportunity Zones (GOZ)

- AP-SENSITIVE GOZ. This is a zone for seed production of APS alfalfa seed and conventional alfalfa seed. RRA seed production would not be allowed in an APS GOZ.
- GE GOZ. This is a zone for seed production of GE and conventional alfalfa seed that is destined for markets that are not APS. APS alfalfa seed production would not be practical in a GE GOZ.
- There are currently 11 organized GE GOZs. There is 1 APS GOZ in process with two more GOZs being considered.
Conclusion

- These tools are just that – tools.
- They are there to assist in coexistence efforts.
- They will not work in every case or answer every question.
- An underlying foundation of every tool is the principle of communication and cooperation.
  - Without this these tools will have only marginal, if any, success.