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The Adoption of Biotechnology in Latin America

Rod C. Townsend
Director of Regulatory Affairs
Pioneer Hi-Bred International, Inc.

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Rod Townsend Ph.D.
Director of Regulatory Affairs
Pioneer Hi-Bred International, Inc.

Factors that promote adoption of GM crops by growers

- Availability of safe, well adapted products with demonstrable grower benefits;
  - reduced input and/or management costs,
  - simpler and/or more effective management,
  - reduced environmental impact,
  - improved yields,
  - increased crop value,
  - secure market.

Factors that inhibit adoption of GM crops.

- Overly restrictive regulatory system
- lack of adapted products
- lack of information about product management and performance,
- concerns about environmental safety,
- uncertainty about food/feed safety,
- low consumer acceptance in key markets;
  - segregation and labeling requirements.

Intellectual Property Protection

- Patent protection available for genes and methods in key Latin American markets (e.g., Argentina and Brazil), but no patent protection for plants,
- Plant Variety Protection in Argentina and Chile has recently become available in Brazil,
  - Will have significant impact on introduction of new varieties of improved non-hybrid crops (e.g., soybeans) into Brazil,
  - Increased private sector competition for government (EMBRAPA) breeding programs.

Grower acceptance of products

- Current GM products with “input” traits represent value to growers in Latin America;
  - glyphosate resistant soybean,
  - insect protected (Bt) corn and cotton,
- technology is safe to use, simple and effective,
- reduces input costs and protects crop yield,
- reduces environmental impact,
- growers need to see benefits in their own operations,
- availability of adapted products limited.

Export markets

- Consumer acceptance of GM foods is key factor in determining rate of technology adoption;
  - apparently good acceptance in U.S.
  - strong resistance in N. Europe (segregation & labeling),
  - uncertainty in Japan (labeling?).
- how large is demand by processors for GM-free grains and oilseeds?
- strong interest in GM-free contract growing,
- can Latin American countries capture markets by keeping certain crops and or regions GM-free (e.g., Australia GM-free for oilseed rape)?

Argentina

- Leading the way on adoption of new technologies
- experienced regulatory oversight capabilities,
- many tests of GM crops,
- commercial approval for glyphosate resistant soybeans and Bt corn and cotton,
- planting of glyphosate resistant soybeans may reach 60% of total acreage this year,
- public research programs with GM crops.

Chile

- Little interest in current commercial GM crops (don’t grow soybeans and don’t need Bt corn),
- important off-season location for seed production,
- well developed regulatory oversight for small scale plantings of seed crops,
- GM seed crops must be re-exported.

Brazil

- Strong potential demand for new technology,
- system of regulatory oversight in place,
- number of small scale trials of GM crops,
- approved glyphosate resistant soybeans,
- coordinated blocking action by public interest groups opposed to technology (e.g., Brazilian Institute for Consumer Defense),
- concern about acceptance of crops in key export markets (e.g., Europe and Japan),
- public sector research on GM crops.

Columbia, Uruguay, Venezuela and Central America

- Interest in GM crops (e.g., Bt cotton in Columbia),
- developing systems of regulatory oversight (Venezuela and Columbia),
- moving more slowly - looking hard at Argentina and Brazil,
- likely to be opposition from public interest groups in some countries (e.g., Latin American Declaration on Transgenic Organisms; Quito Declaration, January 1999).

Conclusions

- The prerequisites are in place to insure rapid adoption of genetically modified grain and oilseed crops in key exporting countries in Latin America,
- likely to be short term delays due to;
  - availability of products adapted to the environment,
  - need to demonstrate benefits to growers,
  - actions by anti-biotech., public interest groups,
- key factor will be acceptance of genetically modified commodities in export markets of Europe and Japan and any associated requirements to segregate GM and non-GM crops.