



AEIC Meeting

October 10, 2018 – Portland, ME



Biotechnology Plant Product Stewardship

Product Stewardship is a life cycle approach to product management.

...includes attention to the responsible introduction
and use of products.

...it is managing biotechnology-derived plant products from their discovery
and development, to their use and eventual discontinuation.



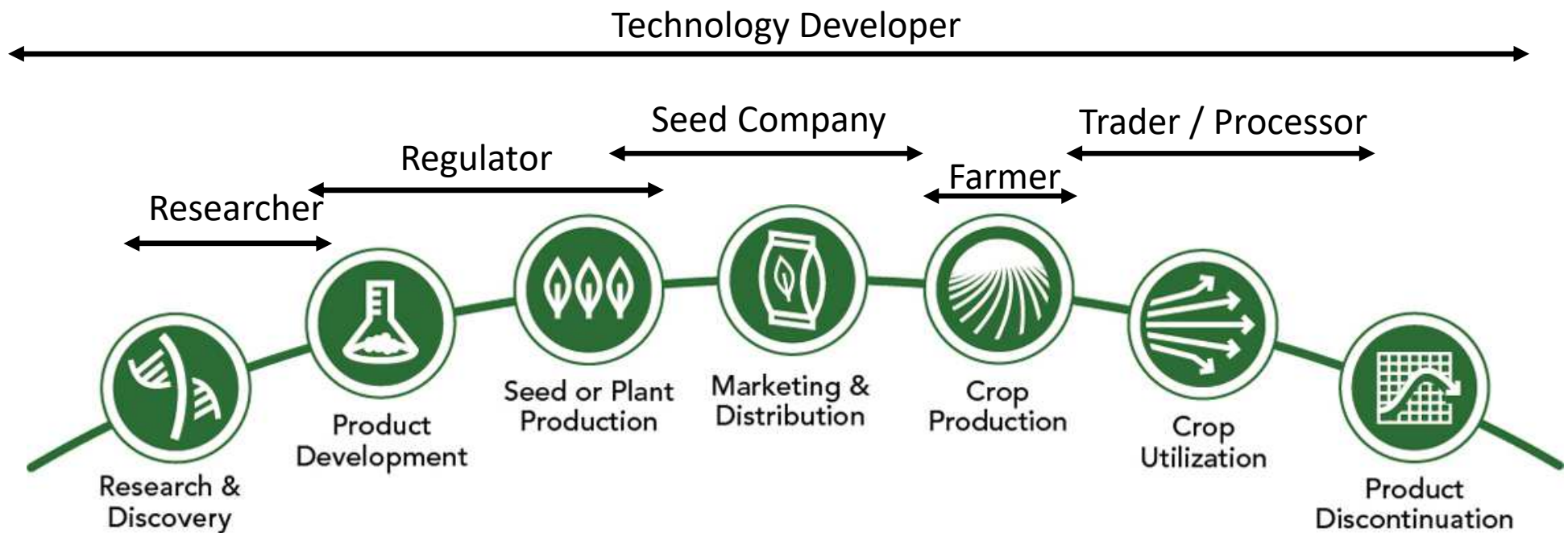
Biotechnology Plant Product Stewardship



Plant Product Life Cycle

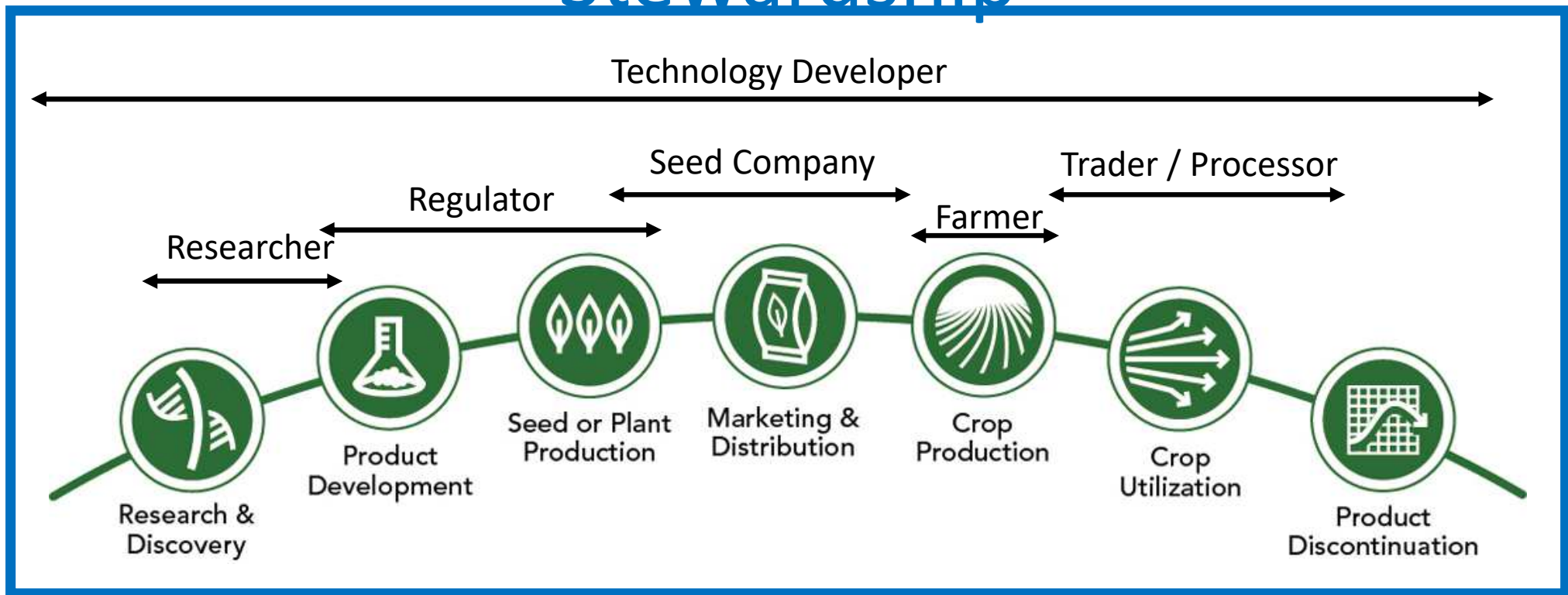


Biotechnology Plant Product Stewardship

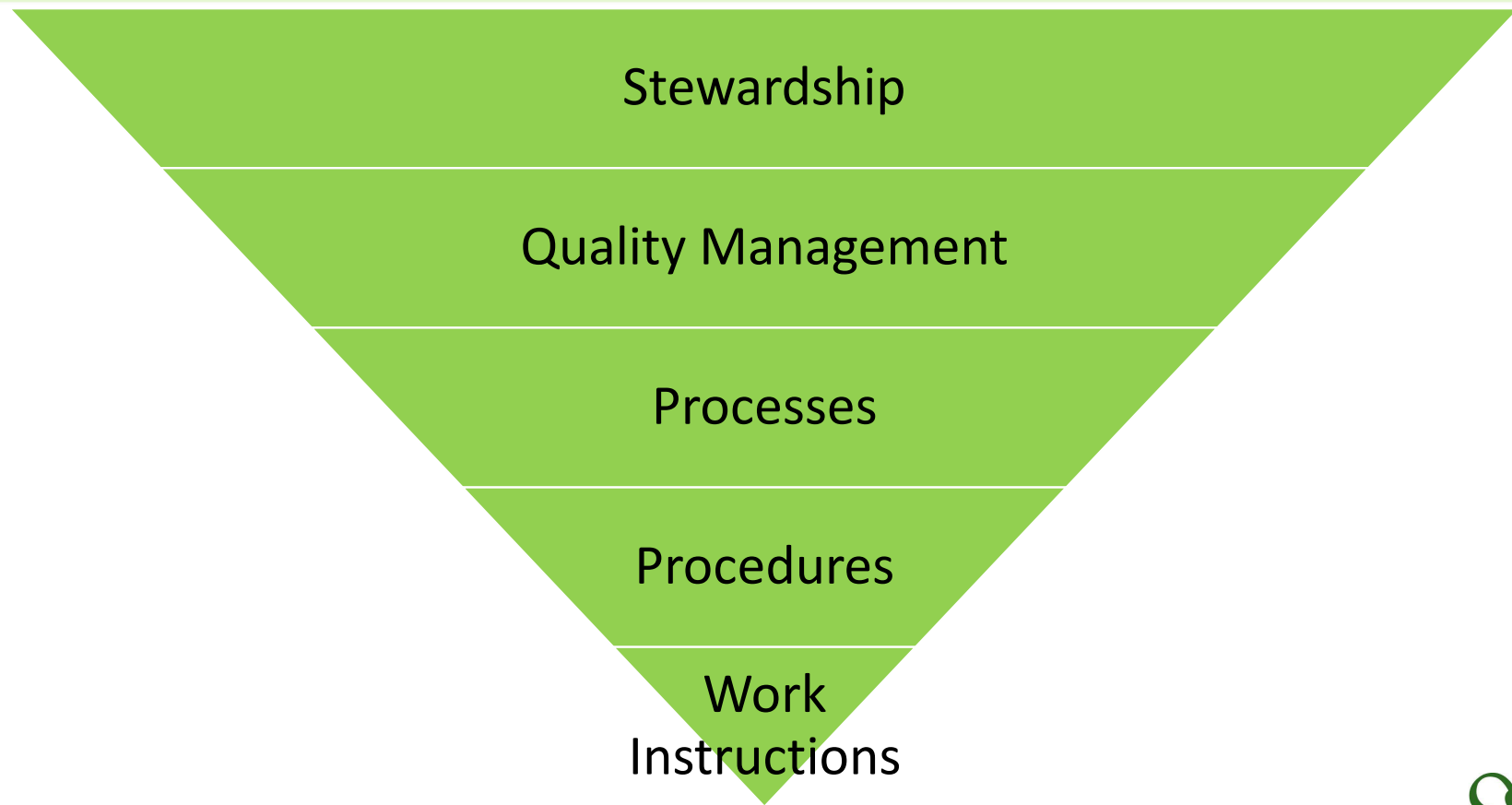


Biotechnology Plant Product Stewardship

Stewardship



Stewardship and Quality Management



Industry Sharpens Focus on Stewardship

Stewardship and Quality Challenges

- **Non-Compliance**
- **Trade Flow Disruption**
- **Product Performance**
- **Resistance**
- **Asynchronous Approvals**
- **Uneven Regulatory Frameworks**



Excellence Through Stewardship (ETS)

The agricultural biotechnology industry is highly committed to the responsible management of its products and continues to invest in product stewardship practices and quality management systems. Excellence in stewardship is the key to maintaining the freedom to operate across the value chain.



Excellence Through Stewardship (ETS) is a global industry-coordinated organization that promotes the universal adoption of product stewardship programs and quality management systems for the full life cycle of biotechnology-derived plant products.



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Establishing Stewardship & Goals

Establish **Quality Management Systems** in each phase of the life cycle.

This includes:

- Standard Operating Procedures
 - Records
 - Processes
 - Forms
- Work Instructions

Support Regulatory Compliance

Maintain Plant Product Integrity

Assist in Preventing Trade Disruptions

Maximize Technology Benefits

Share Best Practices

Promote Stakeholder Engagement

Drive Continuous Improvement

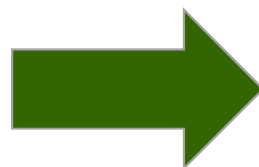


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ETS and Biotechnology Plant Product Stewardship

- Advances the collective industry's stewardship performance
- Highlights industry commitment to responsibly manage products
- Provides industry developed and proven best management practices
- Demonstrates integrity and credibility with independent verification
- Contributes to availability and marketability of products
- Offers forum for dialogue

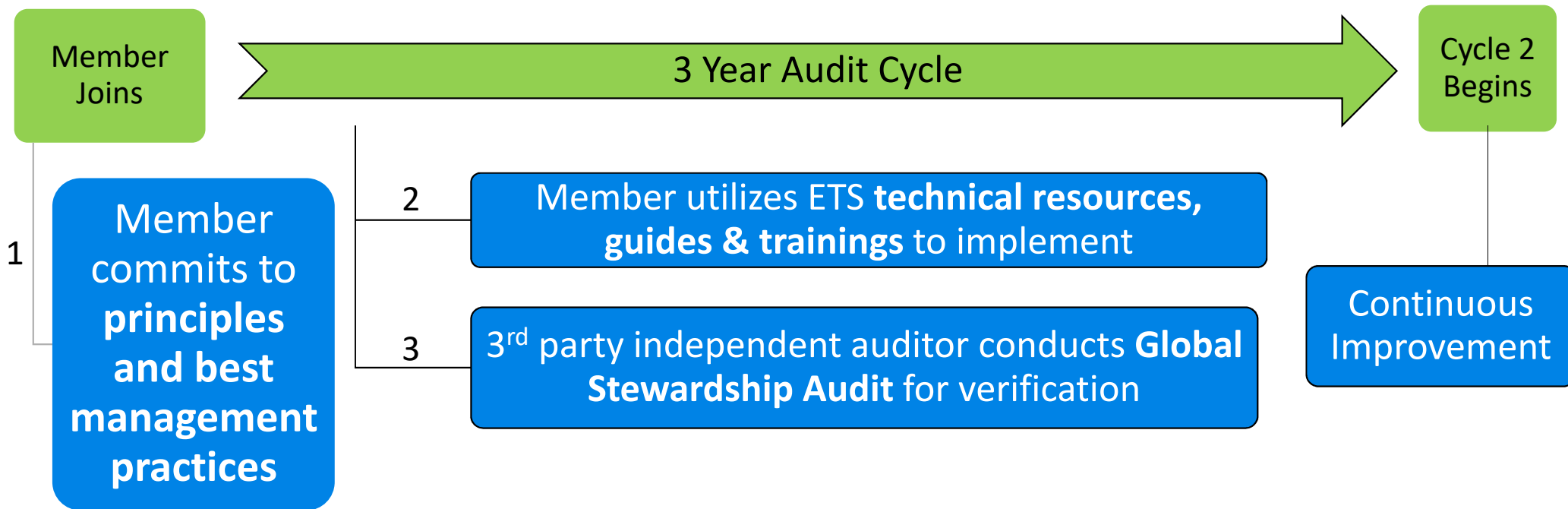


Expands the Freedom to Operate

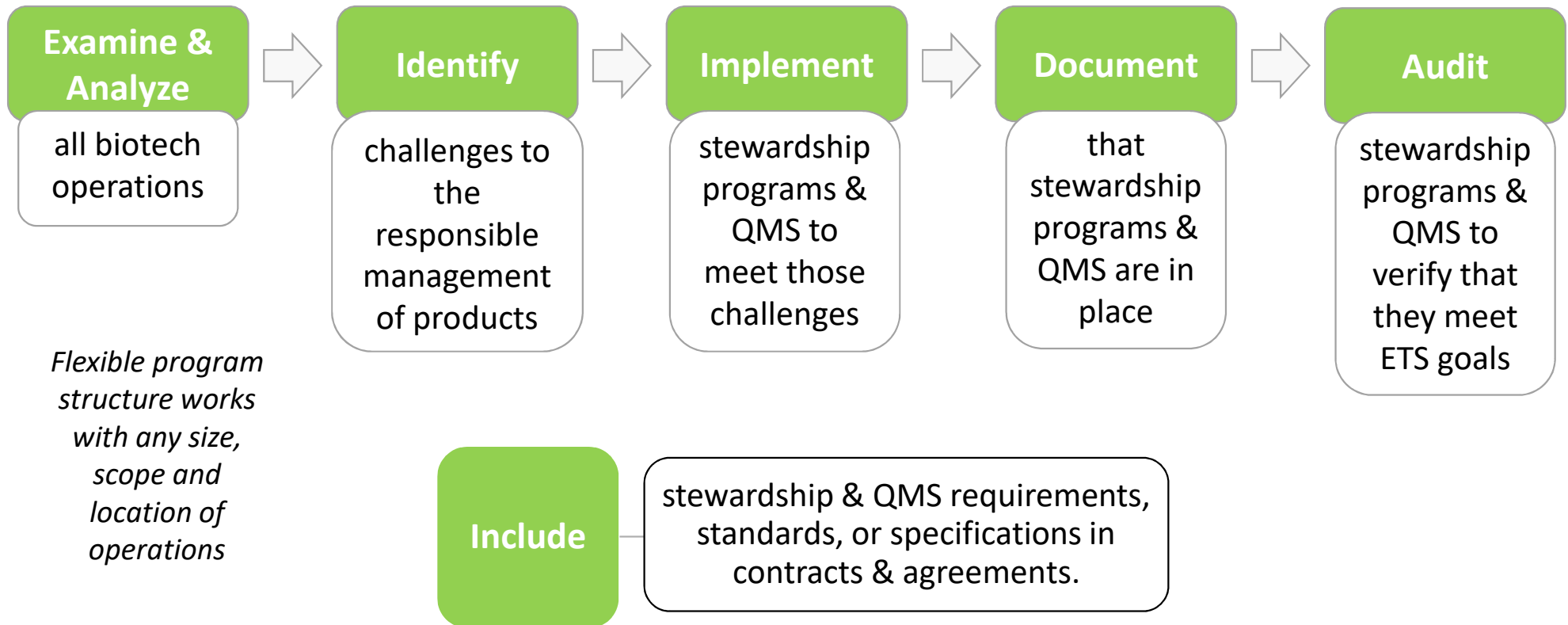
Assists in achieving industry, individual company, government goals on product development



Excellence Through Stewardship's Components



Principles and Best Management Practices



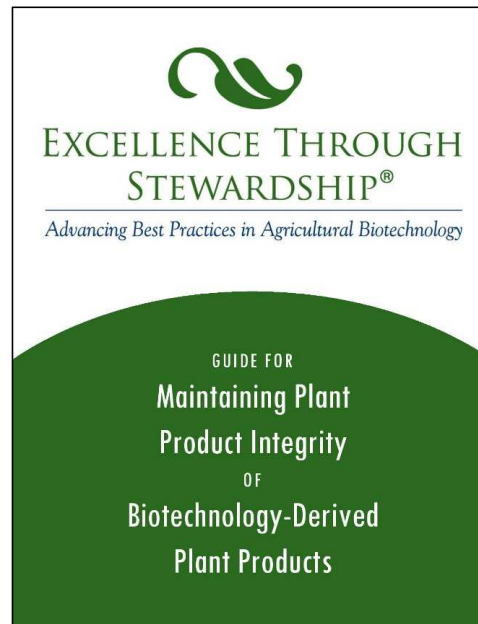
Global Stewardship Audit

Auditable Components

General Product Stewardship

Maintaining Plant Product Integrity

Incident Response Management



Resistance Management

Product Launch Stewardship

Product Discontinuation



Global Stewardship Audit



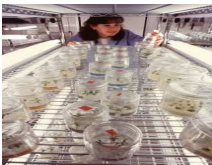
Headquarters



Containment Facility



Confined Field Trial



Laboratory

Auditable Operations



Commercial Plant and Seed Distribution



Plant and Seed
Multiplication



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ETS – Audit Program

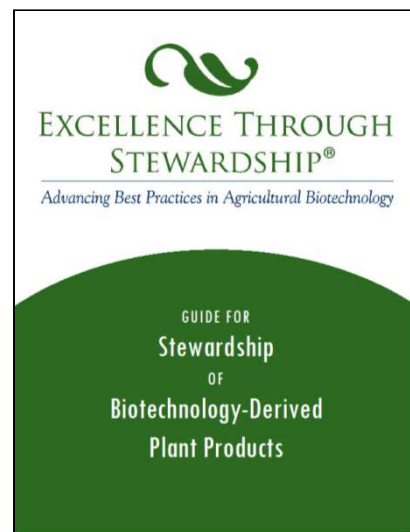


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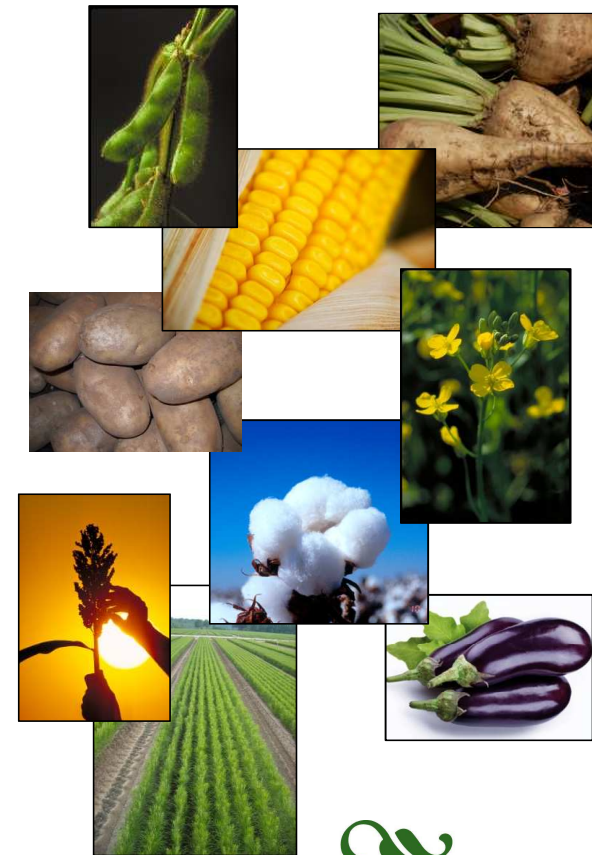
Technical Resources, Guides and Training

- ETS Guides
 - Stewardship of Biotechnology-Derived Plant Products
 - Maintaining Plant Product Integrity
 - Resistance Management
 - Product Launch Stewardship
 - Product Discontinuation
 - Incident-Response Management
- Implementation Path
- Audit Guide
- Forms
- Checklists
- Webinars
- Multimedia
- Self Assessment Tools
- Ask-an-expert
- Case Studies



ETS Membership

ETS members have operations across the product life cycle from the **laboratory through commercial seed production**. They are also engaged in activities across a wide range of products from **corn and soybeans to trees and potatoes**.



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ETS Regular Members

3rd Millennium Genetics
 African Agricultural Technology Foundation
 AgReliant Genetics
 Agritech Rural
 BASF Plant Science
 Bayer CropScience
 Beijing Origin State Harvest Biotechnology Limited
 Cargill
 CIAT (International Center for Tropical Agriculture)
 CIMMYT (International Maize and Wheat Improvement Center)
 CIS Semillas S.A.
 China Seed
 CSS Farms
 Curimapu
 DBN (Beijing DaBeiNong Biotechnology Inc.)
 Dow AgroSciences
 DuPont Pioneer
 Forage Genetics
 Genective
 IITA (International Institute of Tropical Agriculture)
 INDEAR (Instituto de Agrobiotecnología Rosario S. A.)
 IRRI (International Rice Research Institute)

KWS
 Limagrain
 LP Sementes & Biotecnologia
 Mahyco (Maharashtra Hybrid Seeds Co. Ltd.)
 Monsanto Company
 Pannar Seed
 Pinto Piga Seeds
 R & D Research Farm
 Rothamsted Research
 S & W Seed Company
 Satus Ager
 Semillas Altue
 Semillas del Sur
 Semillas Tuniche
 Semilla Gereneración 2000 Ltda
 Simplot Plant Sciences
 Sinobioway
 Sociedad Exportadora Importadora Hortisem Ltda.
 South African Sugarcane Research Institute
 Syngenta
 Winter Seed Ltda.
 Wisconsin Crop Innovation Center



As of 01/30/2018– Refer to www.ExcellenceThroughStewardship.org for the most up-to-date list of members.

ETS Associate Members




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THANK YOU!

www.ETS.bio

