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

Stewardship

Technology Developer

Research & Discovery
Product Development
Seed or Plant Production
Marketing & Distribution
Crop Production
Crop Utilization
Product Discontinuation

Researcher
Regulator
Seed Company
Trader / Processor
Farmer
Stewardship and Quality Management

Stewardship

Quality Management

Processes

Procedures

Work Instructions
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.
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

Excellence Through Stewardship®
Advancing Best Practices in Agricultural Biotechnology
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

1. Member Joins
   - Member commits to principles and best management practices

2. 3 Year Audit Cycle
   - Member utilizes ETS technical resources, guides & trainings to implement

3. Continuous Improvement
   - 3rd party independent auditor conducts Global Stewardship Audit for verification

Cycle 2 Begins
Principles and Best Management Practices

Examine & Analyze
all biotech operations

Identify
challenges to the responsible management of products

Implement
stewardship programs & QMS to meet those challenges

Document
that stewardship programs & QMS are in place

Audit
stewardship programs & QMS to verify that they meet ETS goals

Flexible program structure works with any size, scope and location of operations

Include
stewardship & QMS requirements, standards, or specifications in contracts & agreements.
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

Auditable Operations

Containment Facility

Headquarters

Confined Field Trial

Laboratory

Plant and Seed Multiplication

Commercial Plant and Seed Distribution
ETS – Audit Program
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 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.
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 Agrobiotecnologia 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 Gneración 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

International Food Policy Research Institute/Program for Biosafety Systems

Feed the Future South Asia Eggplant Improvement Partnership
THANK YOU!
www.ETS.bio