

# INTRODUCTION TO CROPLIFE INTERNATIONAL DETECTION METHODS DATABASE

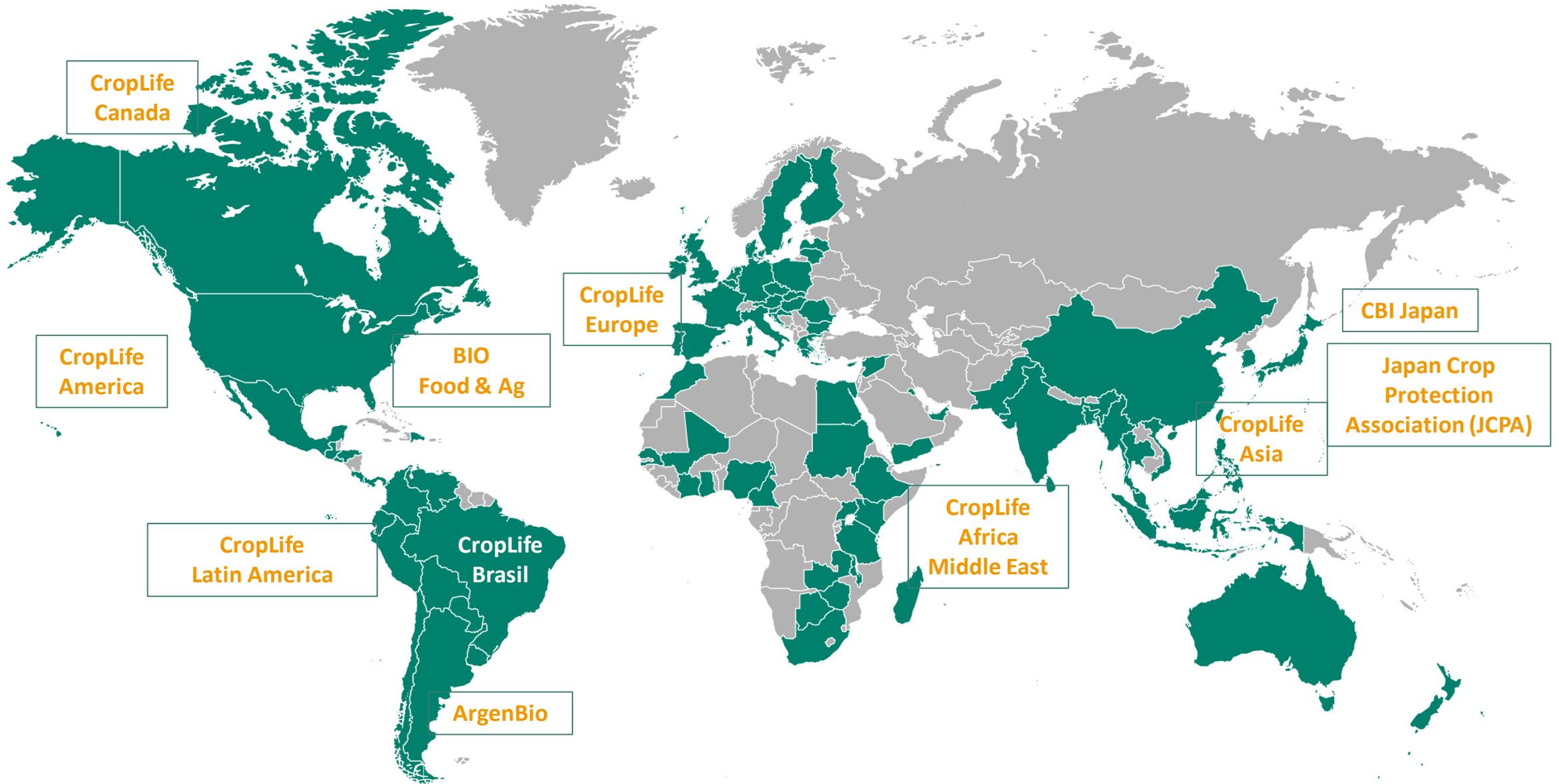
GMO ANALYSIS AND NEW GENOMIC TECHNIQUES  
INTERNATIONAL CONFERENCE

Berlin - 14-16 March, 2023

# Member Companies

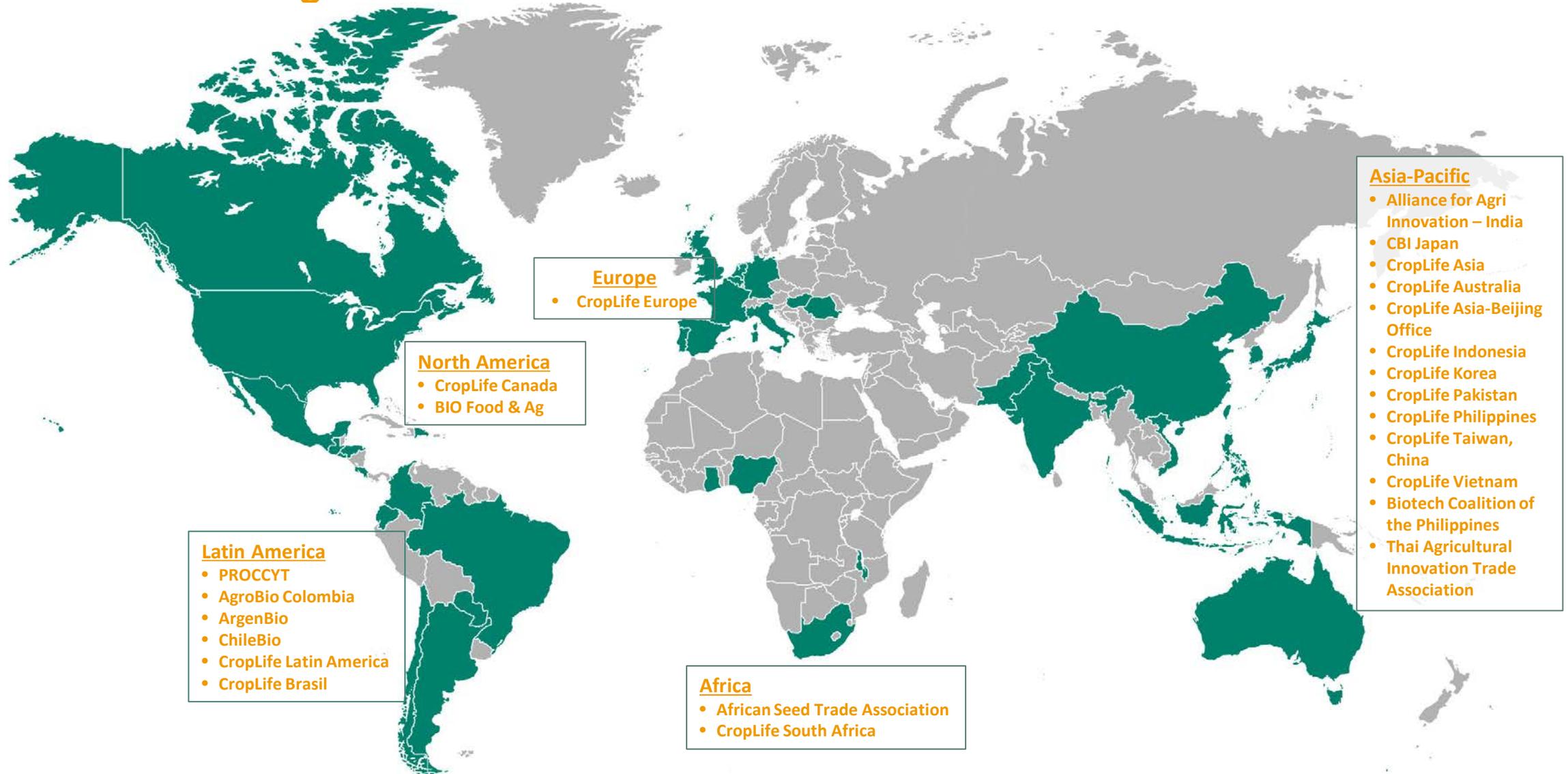


# Member Associations



# Plant Biotech Network

## 24 National & Regional Associations



# Biotech Information Tools

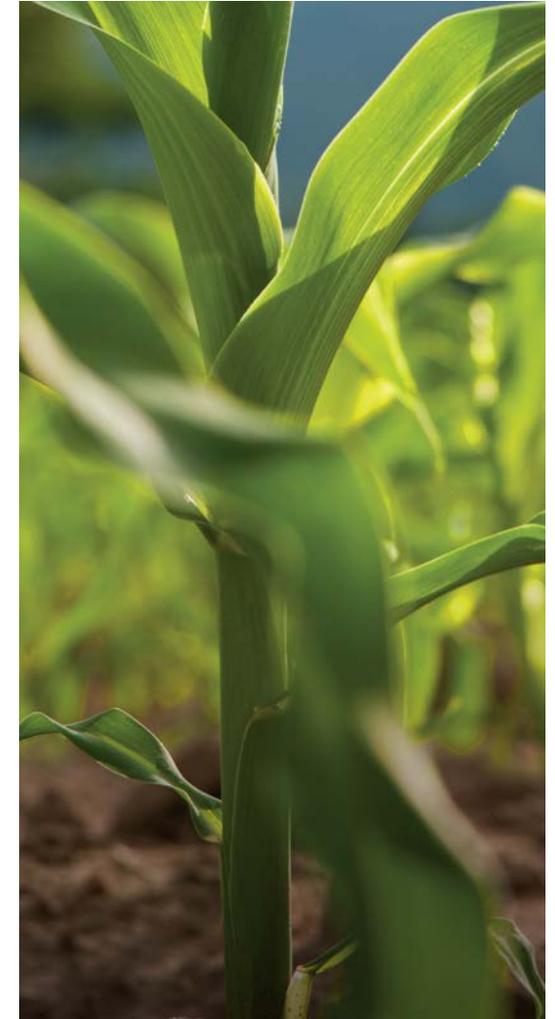


## Maintained by CropLife International

- **Detection Methods database** (<https://detection-methods.com/>)
  - Public database of GM detection methods, maintained by CropLife International member companies
- **BiotradeStatus website** (<http://www.biotradestatus.com/>)
  - Public website and database for the Regulatory and Market Status of specific agricultural biotechnology products
- **AgbioInvestor GM monitor database** (<https://gm.agbioinvestor.com>)
  - Public website with information about GM approvals and planted area
  - Approvals are based on publicly available data
- **GMOAnswers website** (<http://gmoanswers.com/>)
  - Public website created to provide accurate and validated answers to questions about GMOs
  - Provides easy access to information about GMOs in food and agriculture

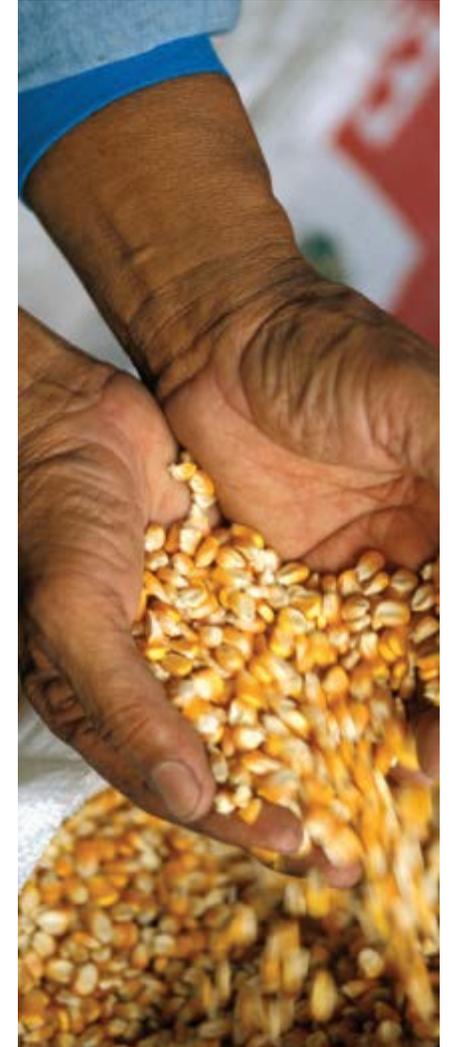
# Detection Methods Expert Team

- Encourage international standardization and promote implementation of harmonized, practical and science-based regulations for the development, validation, and utilization of detection methods for GM crops
- Provide technical expertise, develop consensus positions and provide answers to regulatory agencies
- Work together with value chain stakeholders to provide access to diagnostic methods and appropriate reference materials
- Manage and maintain the CropLife Detection Methods Database



# Detection Method Database Goals

- Fulfill member company commitment to make detection methods and reference materials available for regulatory requirements, consumer preference and stewardship of our products
- Ensure robust and consistent testing by sharing validated, industry-developed detection methods that are compliant with standardized guidelines
- Facilitate method access to customers and end-users (e.g. regulators, seed companies) to meet their needs (e.g. LLP testing) without specific license agreements
- Provide transparency to downstream stakeholders and governments
- Support global trade and reduce the potential for trade disruptions



# Key Features of Database

- Includes validated event-specific PCR-based methods from member companies
- Links to sources to purchase protein-based methods (e.g. lateral flow strips)
- Links to sources of certified reference material (AOCS, IRMM)
- Publication of methods is typically at the time of commercial sales



# The Detection Methods Homepage

(<https://detection-methods.com/>)



CropLife INTERNATIONAL  
Meeting challenges in a growing world

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## The CropLife International Detection Methods Database

### Background

Genetically modified (GM) crops were first introduced in 1994 and have now been adopted by farmers in more than 70 countries (ISAAA Brief 54). As a result, grain trade of GM crops continues to increase, and harmonization of detection methods is important to ensure consistent testing and efficient global trade.

Regions or countries have frequently adopted different approaches for the detection of GM crops and their products. These discrepancies can lead to variations in analytical results and even differing results between laboratories which could contribute to trade disruptions. GM traits in the marketplace are increasingly complex and require specialized and accurate detection methods. CropLife International and its members remain committed to supporting global trade by sharing industry-developed detection methods compliant with standardized guidelines. Harmonizing on these detection methods provides a path to the global harmonization of testing for GM crops and the reduction of the potential for trade disruptions.

### The Database

CropLife International members have made these detection methods and related materials available in this online and searchable database. It comprises full descriptions of validated DNA methods based on PCR, and lists providers for protein-based detection methods for GM crops produced by CropLife members.

It is updated frequently and includes detection methods for commercialized GM crops developed by the four major private plant biotechnology developers (BASF, Bayer, Corteva, and Syngenta). [Methods may be licensed](#) freely by governments for regulatory purposes and for the detection of low levels of these GM crops.

SEARCH THE DATABASE  
Filter products by crop, protein, developer, and more.

**Subscribe to new alerts:**  
Complete the form below to receive an alert when new methods are added:  
Enter email address...  
Subscribe  
You are able to unsubscribe at any time.

Homepage Information

Additional Information

Click to access database

# The Database - Selecting a Method



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## Search for a detection method:

*Selecting Cotton, Potato & Monsanto will display all methods applicable to (Cotton OR Potato) AND developed by Monsanto*

All Crops

Alfalfa  
Canola/Oilseed Rape  
Corn/Maize  
Cotton  
Potato

Scrolling bar

All Developers

BASF Agricultural Solutions Seed US LLC  
Corteva Agriscience  
Forage Genetics International  
KWS  
Monsanto

All Products

Agrisure Duracade® Corn/Maize  
Agrisure Viptera® Corn/Maize  
Agrisure® 3000GT Corn/Maize  
Agrisure® 3120 Corn/Maize  
Agrisure® CB/LL Corn/Maize

All Events (by common name)

281-24-236 x 3006-210-23  
3272  
5307  
59122  
A2704-12 / LL27

All Events (by OECD identifier)

DAS-24236-5 x DAS-21023-5  
SYN-E3272-5  
SYN-05307-1  
DAS-59122-7  
ACS-GM005-3

All Proteins

2mEPSPS  
ADD  
AHASL  
AMY797E  
APH4

# The Database - Selecting a Method



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## Search for a detection method:

Selecting Cotton, Potato & Monsanto will display all methods applicable to (Cotton OR Potato) AND developed by Monsanto

- All Crops
- Alfalfa
- Canola/Oilseed Rape
- Corn/Maize
- Cotton
- Potato

- BASF Agricultural Solutions Seed US LLC
- Corteva Agriscience
- Forage Genetics International
- KWS
- Monsanto
- Syngenta

- All Products
- Agrisure Duracade® Corn/Maize
- Agrisure Viptera® Corn/Maize
- Agrisure® 3000GT Corn/Maize
- Agrisure® 3120 Corn/Maize
- Agrisure® CB/LL Corn/Maize

- All Events (by common name)
- 281-24-236 x 3006-210-23
- 3272
- 5307
- 50122
- A2704-12 / LL27

- All Events (by OECD identifier)
- DAS-24236-5 x DAS-21023-5
- SYN-E3272-5
- SYN-05307-1
- DAS-50122-7
- ACS-GM005-3

- DMO
- DvSnf7
- eCry3.1Ab
- FADZ-1A
- FATB1-A
- doxv247

Sort products by: Product Title | Date Modified

### Product Information

[Agrisure Duracade®](#)  
Corn/Maize

Hyperlink to DM  
for product

Events: (5307)  
Proteins: eCry3.1Ab and PMI  
Developed by Syngenta

Modified  
08 Jul  
2021

### Subscribe to new alerts:

Complete the form below to receive an alert when new methods are added:

Enter email address...

# Product Pages

## Agrisure Duracade® Corn/Maize

Developed by Syngenta

For more information about Agrisure Duracade® Corn/Maize, please refer to the published descriptions:

- [Syngenta](#)

5307  
(SYN-05307-1)

CERTIFIED REFERENCE MATERIAL:  
➤ AOCs

PROTEIN METHODS:  
eCry3.1Ab PMI  
Envirologix Romer Labs

PCR METHODS:  
Quantitative RT

Hyperlink to certified reference material (CRM) provider homepage

### PROTEIN METHODS:

eCry3.1Ab	PMI
Envirologix	Romer Labs
Romer Labs	

Providers for protein detection kits  
( ELISA and Lateral Flow Strips)

Are you undertaking fee-for-service testing?

Yes

No

Hyperlink

# Simple Way to License and Access Member Company Methods



## Limited License for Detection of Event-Specific Transgenic DNA

1. By checking the "Agree" box you on behalf of your organization (collectively "Licensee") are granted a non-transferable, limited, non-exclusive, royalty-free license ("License") by the member company listing the method(s) ("Company") to use the method(s) and information disclosed to you through this portal for the sole purpose of detecting the seed purity, grain quality, or p development or commercializ

Please complete the form below to agree to the above license and download the metho

### All fields required

First Name:

Last Name:

On behalf of:

Email:

Phone:

Street:

City:

State:

Postal/Zip Code:

Country:

I Agree

2. By checking the "Agree" box, information, or any variation ( party. For purposes of the pre Furthermore, Licensee will n embodiment of the method(s) otherwise. In addition License written permission of the Con
3. Except as permitted herein, tl commercialize new events or is here by granted a paid-up, IP resulting from the breach.
4. Licensee also agrees and col or implied, of any kind or for e any consequence of such use e.g., any resulting loss, dama
5. Licensee affirms that it will ac

1 - Information for limited license

2 - Complete form

3 - Check email

Thank you.

Please check your email for a link to your download.

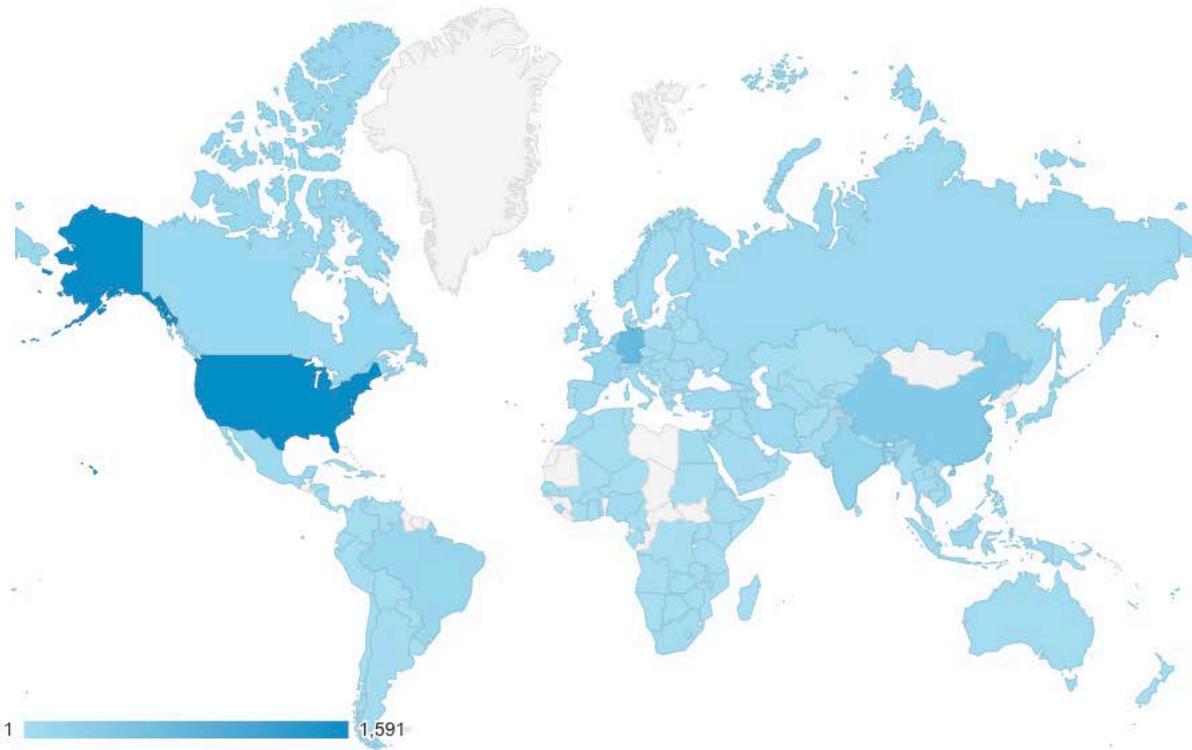
4 - Download method

syngenta

Event 5307 Maize

Real-time, Event-specific Polymerase Chain Reaction Method

# Database - Access Metrics (2022)



1.	 United States	<b>1,396</b> (25.47%)
2.	 Germany	<b>639</b> (11.66%)
3.	 China	<b>307</b> (5.60%)
4.	 Netherlands	<b>266</b> (4.85%)
5.	 India	<b>164</b> (2.99%)
6.	 Austria	<b>155</b> (2.83%)
7.	 France	<b>126</b> (2.30%)
8.	 United Kingdom	<b>122</b> (2.23%)
9.	 Iran	<b>104</b> (1.90%)
10.	 Brazil	<b>98</b> (1.79%)

# Benefits to users

- Enables governments and companies to test commodities and food and feed products without additional legal agreements (unless performing fee-for-service testing)
- Users can be assured they are using up-to-date methods developed and validated by the trait developer
- Questions, inquiries can be sent directly to trait developer
- Database linked to Biosafety Clearing House information on LMOs (Living Modified Organisms)





# **ADDITIONAL BIOTECH INFORMATION RESOURCES**



# BiotradeStatus

(<http://www.biotradestatus.com/>)



This database only maintains information about the commercial status of agricultural biotechnology seeds from CropLife International member companies and may not be reflective of other companies that are selling or commercializing these products.

Market Status

Select the Market Status:

- Commodity Cultivation
- Last Seed Sales
- Non Commodity Cultivation
- Import
- Closed Loop Cultivation
- Not Commercialized

Type of Authorization

Select the Authorized For Option:

- Environmental/Cultivation
- Feed
- No Longer Authorized
- Environmental/Import
- Refer to Individual Event Status
- Food
- Safety Certificate

Crop

Select Crop:

- All Commodities
- Corn

Select Company:

- All Companies
- Syngenta

Company

Product

Select by:

- | Event Name                          | OECD Unique Identifier(s)                    | Product |
|-------------------------------------|--|---------|
| <input type="checkbox"/>            | 3272 X Bt11 X MIR604 X TC1507 X 5307 X GA21* |         |
| <input checked="" type="checkbox"/> | 5307   |         |
| <input type="checkbox"/>            | Bt11   |         |
| <input type="checkbox"/>            | Bt11 X DAS-59122-7 X MIR604 X TC1507 X GA21* |         |
| <input type="checkbox"/>            | Bt11 X GA21*                                 |         |
| <input type="checkbox"/>            | Bt11 X MIR162 X GA21*                        |         |
- \* Indicates Combined Event Product

Select Country:

- All Countries
- Argentina
- Australia/New Zealand
- Brazil
- Canada
- China
- Colombia

Country

Select by Last Updated Date:

- All Dates -OR-  Specific Dates:  to

Search

Reset Fields

# BiotradeStatus

Total Results Returned: 52

( 1 2 ) » [Last Page](#) ( [View All Results](#) )

Group Results:  Country  Product  Event  Market Status  Authorized For

← **Sorting options**

Display:  Product Name  Event Name  OECD Unique Identifier

Modify Search

Perform New Search

## ARGENTINA

Company	Product	Event	Crop	Market Status	Authorized For	Updated
Syngenta	Agrisure Duracade™ E-Z Refuge™ 5222	Bt11 X MIR162 X MIR604 X TC1507 X 5307 X GA21	Corn	Not Commercialized	Environmental/Cultivation, Food, Feed	05/05/2022
Syngenta	Agrisure Duracade	5307	Corn	Not Commercialized as a Single Event	Environmental/Cultivation, Food, Feed	02/20/2020

## AUSTRALIA/NEW ZEALAND

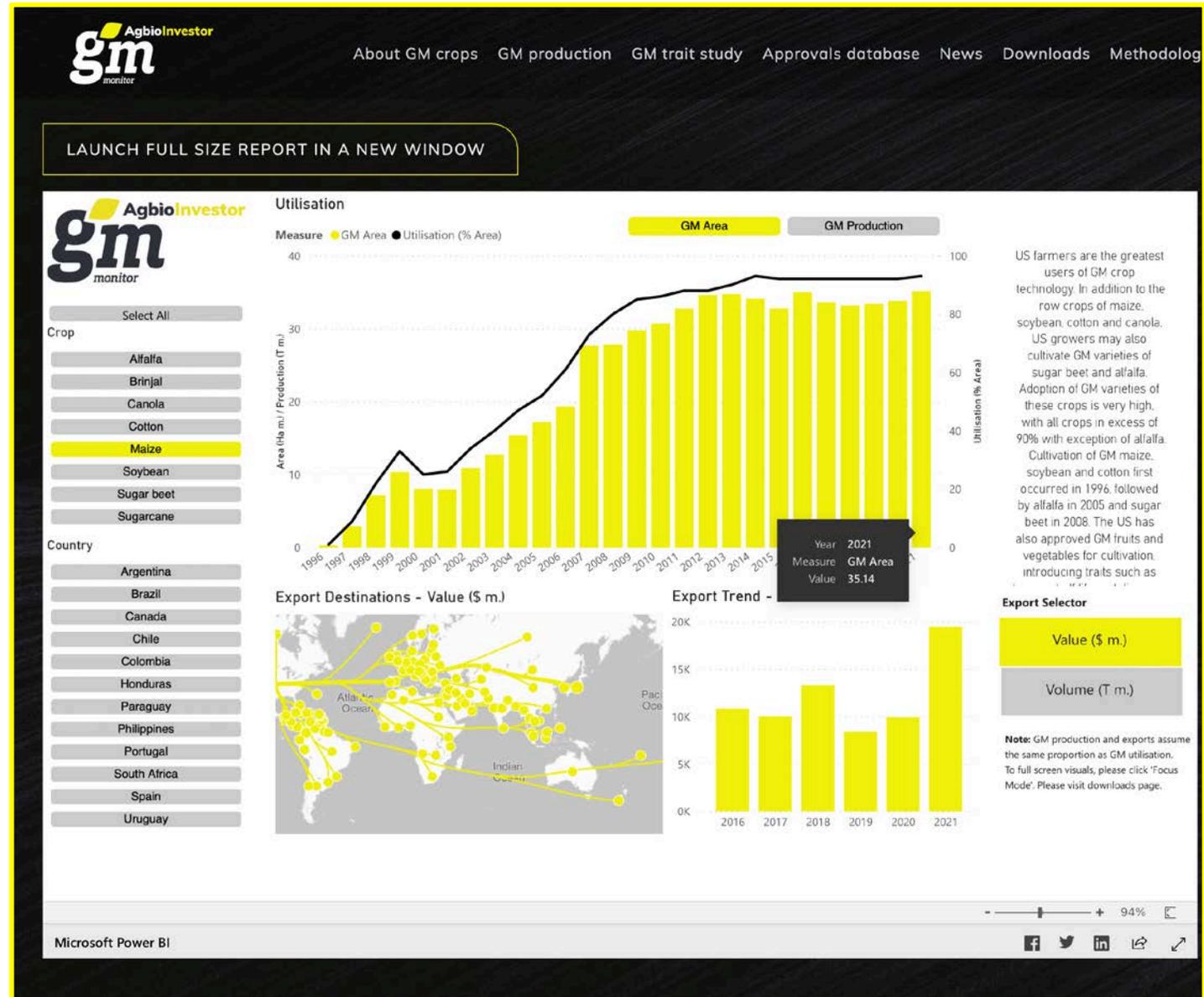
Company	Product	Event	Crop	Market Status	Authorized For	Updated
Syngenta	Agrisure Duracade™ E-Z Refuge™ 5122	Bt11 X MIR604 X TC1507 X 5307 X GA21	Corn	Import	Refer to Individual Event Status	05/08/2020
Syngenta	Agrisure Duracade™ E-Z Refuge™ 5222	Bt11 X MIR162 X MIR604 X TC1507 X 5307 X GA21	Corn	Import	Refer to Individual Event Status	05/08/2020
Syngenta	Agrisure Duracade 5332	Bt11 X MIR162 X MIR604 X MON 89034 X 5307 X GA21	Corn	Not Commercialized	Refer to Individual Event Status	05/08/2020
Syngenta	Agrisure Duracade	5307	Corn	Not Commercialized as a Single Event	Food	02/20/2020

## BRAZIL

Company	Product	Event	Crop	Market Status	Authorized For	Updated
Syngenta	Agrisure Duracade™ E-Z Refuge™ 5222	Bt11 X MIR162 X MIR604 X TC1507 X 5307 X GA21	Corn	Not Commercialized	Environmental/Cultivation, Food, Feed	05/08/2020
Syngenta	Agrisure Duracade	5307	Corn	Not Commercialized as a Single Event	Environmental/Cultivation, Food, Feed	02/20/2020

# AgbioInvestor – GM Monitor

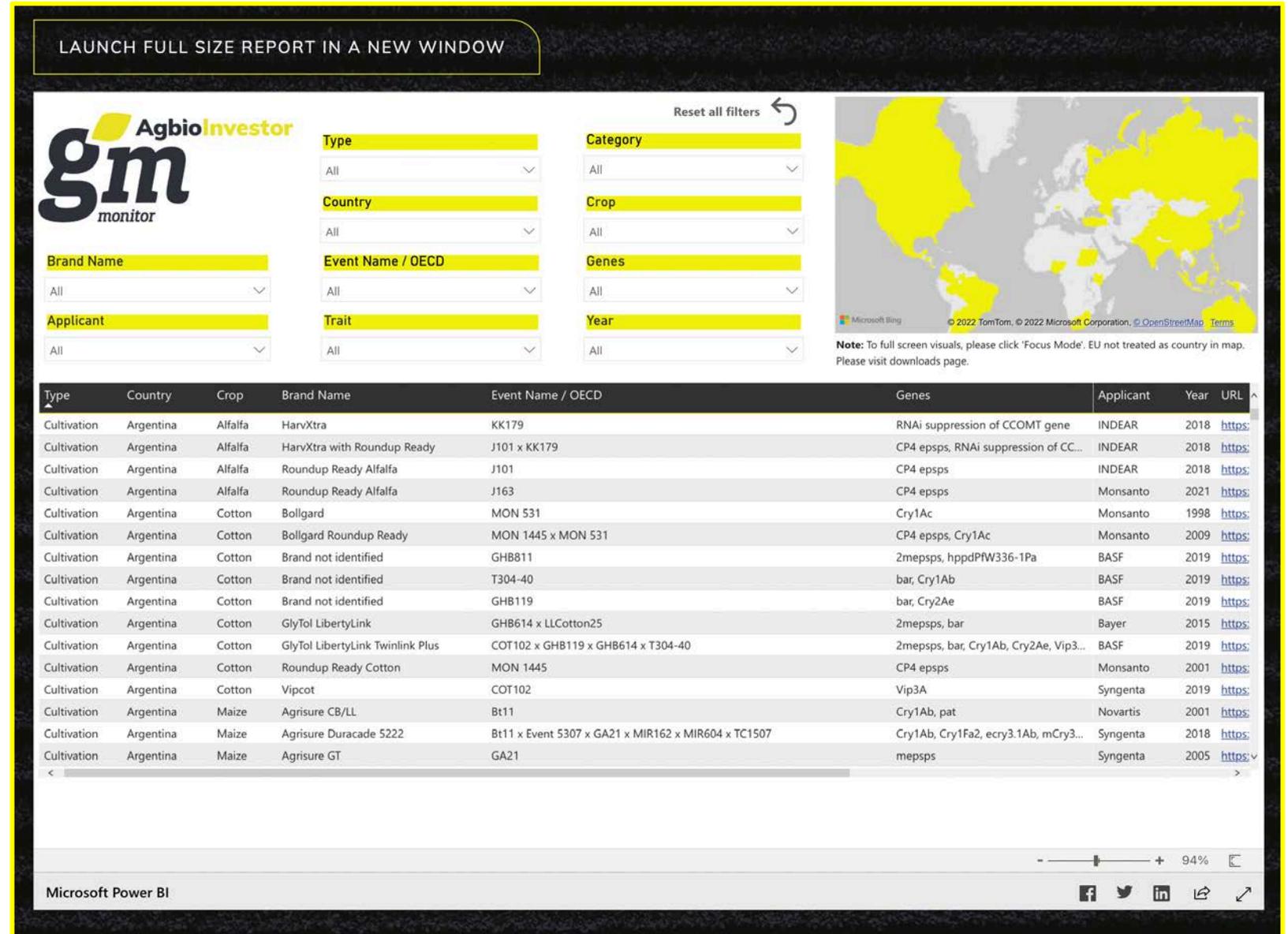
- GM production acreage and export information
- Interactive graphics unveil additional information
- Downloadable data



# AgbioInvestor – GM Monitor

- Approvals Database
- Visual/Interactive map to access country information
- URL to regulatory agency website

LAUNCH FULL SIZE REPORT IN A NEW WINDOW



**AgbioInvestor gm monitor**

Reset all filters ↶

**Type**: All

**Country**: All

**Brand Name**: All

**Applicant**: All

**Event Name / OECD**: All

**Trait**: All

**Category**: All

**Crop**: All

**Genes**: All

**Year**: All

**Note:** To full screen visuals, please click 'Focus Mode'. EU not treated as country in map. Please visit downloads page.

Type	Country	Crop	Brand Name	Event Name / OECD	Genes	Applicant	Year	URL
Cultivation	Argentina	Alfalfa	HarvXtra	KK179	RNAi suppression of CCOMT gene	INDEAR	2018	<a href="#">https:</a>
Cultivation	Argentina	Alfalfa	HarvXtra with Roundup Ready	J101 x KK179	CP4 epsps, RNAi suppression of CC...	INDEAR	2018	<a href="#">https:</a>
Cultivation	Argentina	Alfalfa	Roundup Ready Alfalfa	J101	CP4 epsps	INDEAR	2018	<a href="#">https:</a>
Cultivation	Argentina	Alfalfa	Roundup Ready Alfalfa	J163	CP4 epsps	Monsanto	2021	<a href="#">https:</a>
Cultivation	Argentina	Cotton	Bollgard	MON 531	Cry1Ac	Monsanto	1998	<a href="#">https:</a>
Cultivation	Argentina	Cotton	Bollgard Roundup Ready	MON 1445 x MON 531	CP4 epsps, Cry1Ac	Monsanto	2009	<a href="#">https:</a>
Cultivation	Argentina	Cotton	Brand not identified	GHB811	2mepsps, hppdPW336-1Pa	BASF	2019	<a href="#">https:</a>
Cultivation	Argentina	Cotton	Brand not identified	T304-40	bar, Cry1Ab	BASF	2019	<a href="#">https:</a>
Cultivation	Argentina	Cotton	Brand not identified	GHB119	bar, Cry2Ae	BASF	2019	<a href="#">https:</a>
Cultivation	Argentina	Cotton	GlyTol LibertyLink	GHB614 x LLCotton25	2mepsps, bar	Bayer	2015	<a href="#">https:</a>
Cultivation	Argentina	Cotton	GlyTol LibertyLink Twinlink Plus	COT102 x GHB119 x GHB614 x T304-40	2mepsps, bar, Cry1Ab, Cry2Ae, Vip3...	BASF	2019	<a href="#">https:</a>
Cultivation	Argentina	Cotton	Roundup Ready Cotton	MON 1445	CP4 epsps	Monsanto	2001	<a href="#">https:</a>
Cultivation	Argentina	Cotton	Roundup Ready Cotton	COT102	Vip3A	Syngenta	2019	<a href="#">https:</a>
Cultivation	Argentina	Maize	Agrisure CB/LL	Bt11	Cry1Ab, pat	Novartis	2001	<a href="#">https:</a>
Cultivation	Argentina	Maize	Agrisure Duracade 5222	Bt11 x Event 5307 x GA21 x MIR162 x MIR604 x TC1507	Cry1Ab, Cry1Fa2, ecry3.1Ab, mCry3...	Syngenta	2018	<a href="#">https:</a>
Cultivation	Argentina	Maize	Agrisure GT	GA21	mepsps	Syngenta	2005	<a href="#">https:</a>

Microsoft Power BI

# Wrap-up

- Provision of standardized validated detection methods is needed to enforce biosafety regulations, and support global trade, product traceability and stewardship
- Methods developed and validated by members are made available through the Detection Methods Database
- The database provides easy access to methods without specific license agreements
- Products linked to sources for CRMs and protein detection kits
- Member companies manage, update and maintain a database
- Questions can be directly addressed to product developers
- Publication of taxon-specific methods coming soon
- Additional information through CropLife International include “BiotradeStatus” and “AgbioInvestor-GM Monitor” databases.

# Thank You!

