

## Biosafety Clearing-House (BCH)

LIVING MODIFIED ORGANISM (LMO)


BCH-LMO-SCBD-112717-2

[? Decisions on the LMO ? Risk Assessments](#)

LAST UPDATED: 09 FEB 2021


### Living Modified Organism identity

The image below identifies the LMO through its unique identifier, trade name and a link to this page of the BCH. Click on it to download a larger image on your computer. For help on how to use it go to the LMO quick-links page.



**DAS-Ø15Ø7-1 X MON-ØØ81Ø-6 X SYN-IR6Ø4-5**  
Insect resistant herbicide tolerant maize

Read barcode or type above URL into internet browser to access information on this LMO in the Biosafety Clearing-House © SCBD 2012

<https://bch.cbd.int/database/record?documentID=112717>


Name

Insect resistant herbicide tolerant maize

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Transformation event

TC1507 x MON810 x MIR604

Unique identifier

DAS-Ø15Ø7-1 x MON-ØØ81Ø-6 x SYN-IR6Ø4-5

Developer(s)

- **ORGANIZATION:** DUPONT POINEER | [BCH-CON-SCBD-106199-2](#)

#### ORGANIZATION

Dupont Poineer  
Private sector (business and industry)  
Chestnut Run Plaza 720/1S5 974 Centre Road  
Wilmington,, Delaware  
19805, United States of America

Description

The stacked maize line TC1507×MON810×MIR604 was obtained through the traditional cross breeding of each of the parental organisms to produce a maize that expresses each of cry1F, pat, cry1Ab, and cry3Aa2 genes. The expression of these genes are expected to confer resistance to Lepidoptera and Coleoptera, and tolerant to glufosinate herbicide.

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Recipient Organism or Parental Organisms

The term "Recipient organism" refers to an organism (either already modified or non-modified) that was

subjected to genetic modification, whereas “Parental organisms” refers to those that were involved in cross breeding or cell fusion.

**BCH-ORGA-SCBD-246-6** ORGANISM | ZEA MAYS (MAIZE, CORN, MAIZE) |

Crops

**BCH-LMO-SCBD-14841-13** LIVING MODIFIED ORGANISM | DAS-Ø15Ø7-1 - HERCULEX™ I MAIZE |

Resistance to diseases and pests (Insects, Lepidoptera (butterflies and moths)), Resistance to herbicides (Glufosinate)

**BCH-LMO-SCBD-14750-19** LIVING MODIFIED ORGANISM | MON-ØØ81Ø-6 - YIELDGARD™ MAIZE |

Resistance to diseases and pests - Insects - Lepidoptera (butterflies and moths)

**BCH-LMO-SCBD-15105-12** LIVING MODIFIED ORGANISM | SYN-IR6Ø4-5 - AGRISURE™ RW ROOTWORM-PROTECTED MAIZE |

Mannose tolerance Resistance to diseases and pests - Insects - Coleoptera (beetles) - Western corn rootworm (Diabrotica virgifera) Selectable marker genes and reporter genes

## Characteristics of the modification process

Vector

PHI8999A, PV-ZMBK07, and pZM26

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Techniques used for the modification

Cross breeding

Genetic elements construct

P-MTL-MAIZE 2.560 kb  
CS-mCry3A 1.800 kb  
T-nos-RHIRD 0.250 kb

P-ubi1-MAIZE 0.980 kb  
I-1\_ubi1-MAIZE 1.010 kb  
CS-pmi-ECOLX 1.180 kb  
T-nos-RHIRD 0.250 kb

P-e35S-CaMV 0.610 kb  
I-hsp70-MAIZE 0.800 kb  
CS-Cry1Ab-BACTU 3.460 kb

P-ubi1-MAIZE 1.980 kb  
CS-cry1F-BACTU 1.820 kb  
T-orf25-RHIRD 0.720 kb

P-35S-CaMV 0.550 kb  
CS-pat-STRVR 0.550 kb  
T-35S-CaMV 0.200 kb

Introduced or modified genetic element(s)

Some of these genetic elements may be present as fragments or truncated forms. Please see notes below, where applicable.

**BCH-GENE-SCBD-103881-2** METALLOTHIONEIN-LIKE GENE PROMOTER | (MAIZE, CORN) |

Promoter

**BCH-GENE-SCBD-43634-3** MCRY3A | BACILLUS THURINGIENSIS - BT, BACILLUS, BACTU |

Protein coding sequence | Resistance to diseases and pests (Insects, Coleoptera (beetles), Western corn rootworm (Diabrotica virgifera))

**BCH-GENE-SCBD-100269-8** NOPALINE SYNTHASE GENE TERMINATOR |

Terminator

**BCH-GENE-SCBD-100362-7** UBIQUITIN GENE PROMOTER | (MAIZE, CORN) |

Promoter

**BCH-GENE-SCBD-103627-5** UBIQUITIN INTRON 1 | (MAIZE, CORN) |

Intron

**BCH-GENE-SCBD-15003-7** PHOSPHOMANNOSE ISOMERASE GENE | (BACTERIA) |

Protein coding sequence | Mannose tolerance, Selectable marker genes and reporter genes

**BCH-GENE-SCBD-100359-7** HSP70 INTRON | (MAIZE, CORN) |

Intron

**BCH-GENE-SCBD-14985-12** CRY1AB | BACILLUS THURINGIENSIS - BT, BACILLUS, BACTU |

Protein coding sequence | Resistance to diseases and pests (Insects, Lepidoptera (butterflies and moths))

**BCH-GENE-SCBD-14987-8** CRY1F | BACILLUS THURINGIENSIS - BT, BACILLUS, BACTU |

Protein coding sequence | Resistance to diseases and pests (Insects, Lepidoptera (butterflies and moths))

**BCH-GENE-SCBD-100363-5** ORF25 POLYA TERMINATOR SEQUENCE |

Terminator

**BCH-GENE-SCBD-100287-7** CAMV 35S PROMOTER |

Promoter

**BCH-GENE-SCBD-15002-4** PHOSPHINOTHRICIN N-ACETYLTRANSFERASE GENE |

Protein coding sequence | Resistance to herbicides (Glufosinate)

**BCH-GENE-SCBD-100290-6** CAMV 35S TERMINATOR |

Terminator

**BCH-GENE-SCBD-100366-6** CAMV ENHANCED 35S PROMOTER |

Promoter

Notes regarding the genetic elements present in this LMO

#### **DNA insert from TC1507 vector PHI8999A**

TC1507 modified with the insertion of the Cry1F gene to confer resistance to the European corn borer (*Ostrinia nubilalis*). A transformation cassette coding for phosphinothricin (PPT) herbicide tolerance, specifically glufosinate ammonium, was also inserted into the organism.

#### **DNA insert from MON810 vector PV-ZMBK07**

MON810 contains a truncated portion of a synthetic form of the cry1Ab gene which confers resistance against lepidoptera

#### **DNA insert from MIR604 vector pZM26**

Cry3A gene was modified for enhanced expression in maize and such that the amino acid sequence of the synthetic version of Cry3A is the same as the native protein, except for the modified serine-protease recognition site. The *pmi* gene encodes the enzyme phosphomannose isomerase (PMI) that allows the plants to utilise mannose as a carbon source and is used as a selectable marker.

For additional information on this LMO, please refer to the records of the parental LMOs.

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## **LMO characteristics**

#### Modified traits

Resistance to diseases and pests

Insects

Coleoptera (beetles)

Lepidoptera (butterflies and moths)

Resistance to herbicides

Glufosinate

#### Common use(s) of the LMO

Food

Feed

#### Detection method(s)

##### External link(s)

? [DAS-Ø15Ø7-1 - EU Reference Laboratory for GM Food and Feed \(EURL-GMFF\)](#) ( *English* )

? [MON-ØØ81Ø-6 - EU Reference Laboratory for GM Food and Feed \(EURL-GMFF\)](#) ( *English* )

? [SYN-IR6Ø4-5 - EU Reference Laboratory for GM Food and Feed \(EURL-GMFF\)](#) ( *English* )

#### Additional Information

##### Other relevant website addresses and/or attached documents

? [DAS-Ø15Ø7-1 x MON-ØØ81Ø-6 x SYN-IR6Ø4-5 - ISAAA](#) ( *English* )

[BCH-LMO-SCBD-112717-2](#)

## Further Information

Questions about the Cartagena Protocol on Biosafety or the operation of the Biosafety Clearing-House may be directed to the Secretariat of the Convention on Biological Diversity.

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