

Biosafety Clearing-House (BCH)

LIVING MODIFIED ORGANISM (LMO)

BCH-LMO-SCBD-104817-2

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

LAST UPDATED: 24 JUL 2013

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.



CBD

<https://bch.cbd.int/database/record?documentID=104817>

DP-Ø9814Ø-6 X DAS-59122-7
Maize modified for insect resistance and herbicide tolerance



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

Name

Maize modified for insect resistance and herbicide tolerance

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Transformation event

98140 x 59122

Unique identifier

DP-Ø9814Ø-6 x DAS-59122-7

Developer(s)

- [ORGANIZATION: PIONEER HI-BRED INTERNATIONAL INC.](#) | [BCH-CON-SCBD-14931-2](#)

ORGANIZATION

Pioneer Hi-Bred International Inc.
Private sector (business and industry)
7100 NW 62nd Avenue PO Box 1000
Johnston, Iowa
50131, United States of America
Phone: +1 515 535-3200
Website: www.pioneer.com/

Description

The stacked maize line DP-Ø9814Ø-6 and DAS-59122-7 was obtained through the traditional cross breeding of each of the parental organisms to produce a maize that expresses each of the cry34Ab1, cry35Ab1, gat4621, phosphinothricin acetyltransferase, and acetohydroxyacid synthase genes. The expression of these genes are expected to confer resistance to

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Lepidoptera and Coleoptera, and tolerant to glufosinate, Sulfonylurea and glyphosate herbicide.

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-15165-13 LIVING MODIFIED ORGANISM | DAS-59122-7 - HERCULEX™ RW ROOTWORM PROTECTION MAIZE |

Pioneer Hi-Bred International Inc. | Resistance to diseases and pests (Insects, Coleoptera (beetles)), Resistance to herbicides (Glufosinate)

BCH-LMO-SCBD-48466-7 LIVING MODIFIED ORGANISM | DP-Ø9814Ø-6 - OPTIMUM™ GAT™ MAIZE |

Pioneer Hi-Bred Northern Europe Sales Division GmbH | Resistance to herbicides (Glyphosate, Sulfonylurea)

Characteristics of the modification process

Vector

PHP17662 and PHP24279

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Techniques used for the modification

Cross breeding

Genetic elements construct

P-ubi1-MAIZE 0.900 kb	L-ubi-MAIZE 0.080 kb	I-1_ubi1-MAIZE 1.010 kb	CS-gat-BACLI 0.440 kb	T-pinII-SOLTU 0.320 kb
P-ubi1-MAIZE 0.000 kb	CS-cry34Ab1-BACTU 0.000 kb	T-pinII-SOLTU 0.000 kb		
P-pox-WHEAT 0.000 kb	CS-cry35Ab1-BACTU 0.000 kb	T-pinII-SOLTU 0.000 kb		
P-35S-CaMV 0.000 kb	CS-pat-STRVR 0.000 kb	T-35S-CaMV 0.000 kb		
T-pinII-SOLT 0.310 kb	CS-ahas-M 1.920 k.	P-ahas-MAIZE 0.660 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-100362-7 UBIQUITIN GENE PROMOTER | (MAIZE, CORN) |

Promoter

BCH-GENE-SCBD-103927-2 UBIQUITIN 5' UNTRANSLATED REGION | (MAIZE, CORN) |

Leader

[BCH-GENE-SCBD-103627-5](#) UBIQUITIN INTRON 1 | (MAIZE, CORN) |

Intron

[BCH-GENE-SCBD-48363-4](#) GLYPHOSATE-N-ACTEYLTRANSFERASE GENE |

Protein coding sequence | Resistance to herbicides (Glyphosate)

[BCH-GENE-SCBD-100367-4](#) PROTEINASE INHIBITOR II GENE TERMINATOR | (POTATO) |

Terminator

[BCH-GENE-SCBD-14994-9](#) CRY34AB1 | BACILLUS THURINGIENSIS - BT, BACILLUS, BACTU |

Protein coding sequence | Resistance to diseases and pests (Insects, Coleoptera (beetles))

[BCH-GENE-SCBD-100368-6](#) PEROXIDASE GENE PROMOTER | (WHEAT) |

Promoter

[BCH-GENE-SCBD-14995-8](#) CRY35AB1 | BACILLUS THURINGIENSIS - BT, BACILLUS, BACTU |

Protein coding sequence | Resistance to diseases and pests (Insects, Coleoptera (beetles))

[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-48364-5](#) ACETOHYDROXYACID SYNTHASE GENE | (MAIZE, CORN) |

Protein coding sequence | Resistance to herbicides (Sulfonylurea)

[BCH-GENE-SCBD-103926-4](#) ACETOHYDROXYACID SYNTHASE GENE PROMOTER | (MAIZE, CORN) |

Promoter

Notes regarding the genetic elements present in this LMO

DNA insert from DAS-59122-7 vector PHP17662

The cry34Ab1 and cry35Ab1 genes, isolated from the common soil bacterium *Bacillus thuringiensis* (Bt) strain PS149B1, produce the insect control proteins (delta-endotoxins) Cry34Ab1 and Cry35Ab1. The pat gene was isolated from the soil bacterium *Streptomyces viridochromogenes* and confers tolerance to herbicides containing glufosinate ammonium.

DNA insert from DP-Ø9814Ø-6 vector PHP24279

Expresses the GAT4621 and ZM-HRA proteins. The GAT4621 protein is a glyphosate acetyltransferase (GAT), confers tolerance to the herbicide glyphosate. The acetohydroxyacid synthase (AKA acetolactate synthase) gene confers tolerance to ALS-inhibiting herbicides, such as chlorimuron and thifensulfuron.

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)

Resistance to herbicides

Glufosinate

Glyphosate

Sulfonylurea

Common use(s) of the LMO

Food

Feed

Detection method(s)

External link(s)

? [DAS-59122-7 - EU Reference Laboratory for GM Food and Feed \(EURL-GMFF\)](#) (*English*)

Additional Information

Other relevant website addresses and/or attached documents

? [DP-9814Ø-6xDAS-59122-7 - OECD](#) (*English*)

[BCH-LMO-SCBD-104817-2](#)

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.

Secretariat of the Convention on Biological Diversity

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