

Biosafety Clearing-House (BCH)

LIVING MODIFIED ORGANISM (LMO)

BCH-LMO-SCBD-43624-10

[? 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.



SYN-BTØ11-1 X SYN-IR6Ø4-5
Agrisure™ CB/LL/RW 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=43624>


Name

Agrisure™ CB/LL/RW maize

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Transformation event

Bt11 x MIR604

Unique identifier

SYN-BTØ11-1 x SYN-IR6Ø4-5

Developer(s)

- [ORGANIZATION: SYNGENTA](#) | [BCH-CON-SCBD-45399-1](#)

ORGANIZATION

Syngenta

Website: <http://www.syngentaseeds.com/seedsmain.aspx>

Description

The stacked maize line SYN-BTØ11-1 x SYN-IR6Ø4-5 was obtained through the traditional cross breeding of each of the parental organisms to produce a maize that expresses each of mCry3A, pmi, Cry1Ab and PAT genes. The expression of these genes are expected to confer resistance to Lepidoptera and Coleoptera, and tolerant to glufosinate herbicide and the ability to use mannose as a carbon source.

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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-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

BCH-LMO-SCBD-14797-15 LIVING MODIFIED ORGANISM | SYN-BTØ11-1 - YIELDGARD™ MAIZE |

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

Characteristics of the modification process

Vector

pZM26 and pZO1502

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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-35S-CaMV
0.510 kb

I-ADH1 intron 6
0.470 kb

CS-Cry1Ab-BACTU
1.850 kb

T-nos-RHIRD
0.250 kb

P-35S-CaMV
0.420 kb

I-ADH1 intron 2
0.180 kb

CS-pat-STRVR
0.550 kb

T-nos-RHIRD
0.250 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-14985-12 CRY1AB | BACILLUS THURINGIENSIS - BT, BACILLUS, BACTU |

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

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

Protein coding sequence | Resistance to herbicides (Glufosinate)

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

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

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

Promoter

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-100287-7](#) CAMV 35S PROMOTER |

Promoter

[BCH-GENE-SCBD-103625-2](#) ALCOHOL DEHYDROGENASE 1, INTRON 6 | (MAIZE, CORN) |

Intron

[BCH-GENE-SCBD-103867-1](#) ALCOHOL DEHYDROGENASE 1, INTRON 2 | (MAIZE, CORN) |

Intron

Notes regarding the genetic elements present in this LMO

DNA insert from Bt11 vector pZO1502

Insect-resistant and herbicide tolerant maize produced by inserting the cry1Ab gene to confer resistance to the European corn borer (*Ostrinia nubilalis*), and the phosphinothricin N-acetyltransferase (PAT) encoding gene to confer tolerance to phosphinothricin (PPT) herbicide, specifically glufosinate ammonium.

DNA insert from MIR604 vector pZM26

MIR604 is a genetically modified maize developed to confer field protection against corn root worms. The mcry3A gene from *Bacillus thuringiensis* codes for a Bt-toxin (Cry3A), which confers resistance to western corn rootworm (*Diabrotica virgifera virgifera*), northern corn rootworm (*Diabrotica longicornis barberi*) and other related coleopteran species.

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)

Western corn rootworm (*Diabrotica virgifera*)

Lepidoptera (butterflies and moths)

European corn borer (*Ostrinia nubilalis*)

Resistance to herbicides

Glufosinate

Selectable marker genes and reporter genes

Common use(s) of the LMO

Food

Feed

Detection method(s)

External link(s)

? [SYN-BTØ11-1 - 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

? [SYN-BTØ11-1 x SYN-IR6Ø4-5 - CERA](#) (*English*)

[BCH-LMO-SCBD-43624-10](#)

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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