

## Biosafety Clearing-House (BCH)

LIVING MODIFIED ORGANISM (LMO)


BCH-LMO-SCBD-46334-8

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

LAST UPDATED: 28 JAN 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.



BCS-GHØØ2-5  
GlyTol™ Cotton GHB614

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=46334>



Name

GlyTol™ Cotton GHB614

EN

Transformation event

GHB614

Unique identifier

BCS-GHØØ2-5

Developer(s)

- [PERSON: BAYER CROPSCIENCE](#) | [BCH-CON-CA-7708-1](#)

**PERSON**

Bayer CropScience

Description

GlyTol cotton event GHB614 contains a stably integrated gene 2mepsps. The 2mepsps gene was generated by introducing mutations into the wild-type epsps (wt epsps) gene from maize, leading to a double mutant EPSPS protein with two amino acid substitutions (2mEPSPS). This modification confers the protein a decreased binding affinity for glyphosate, allowing it to maintain sufficient enzymatic activity in the presence of the herbicide. Therefore, the plants bearing this gene are tolerant to glyphosate herbicides.

EN

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-12080-6** ORGANISM | GOSSYPIMUM HIRSUTUM (COTTON) |

Crops

Point of collection or acquisition of the recipient organism or parental organisms

Variety: Coker 312

EN

## Characteristics of the modification process

Vector

pTEM2

EN

Techniques used for the modification

Agrobacterium-mediated DNA transfer

Genetic elements construct

V-LB-RHIRD  
0.024 kb

P-h4a748-ARATH  
1.011 kb

I-H3-ARATH  
0.516 kb

TP-OPT  
0.372 kb

CS-epsps-MAIZE  
1.337 kb

T-H4-ARATH  
0.742 kb

V-RB-RHIRD  
0.024 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-46333-8** 5-ENOLPYRUVYLSHIKIMATE-3-PHOSPHATE SYNTHASE | (MAIZE, CORN) |

Protein coding sequence | Resistance to herbicides (Glyphosate)

**BCH-GENE-SCBD-101419-4** OPTIMIZED TRANSIT PEPTIDE |

Transit signal

**BCH-GENE-SCBD-101415-9** TI PLASMID LEFT BORDER REPEAT |

Plasmid vector

**BCH-GENE-SCBD-104647-3** HISTONE H4 GENE PROMOTER | (THALE CRESS) |

Promoter

**BCH-GENE-SCBD-104648-2** HISTONE H3 GENE II INTRON 1 | (THALE CRESS) |

Intron

**BCH-GENE-SCBD-104646-4** HISTONE H4 GENE 3' UTR | (THALE CRESS) |

Terminator

**BCH-GENE-SCBD-101416-6** TI PLASMID RIGHT BORDER REPEAT |

Plasmid vector

Notes regarding the genetic elements present in this LMO

Southern blot analysis indicated that a single insertion of the complete T-DNA as constructed occurred in the GHB614 line. There was no indication that any portion of the vector backbone also integrated into the GHB614 line.

EN

## LMO characteristics

Modified traits

Resistance to herbicides  
Glyphosate

Common use(s) of the LMO

Food  
Feed  
Fiber/textile

## Detection method(s)

External link(s)

? [BCS-GH002-5 - EU Reference Laboratory for GM Food and Feed \(EURL-GMFF\)](#) ( *English* )  
? [BCS-GH002-5 - CropLife International Detection Methods Database](#) ( *English* )

## Additional Information

Other relevant website addresses and/or attached documents

? [Bayer CropScience: Petition for Determination of Nonregulated Status for Glyphosate-Tolerant cotton.pdf](#) ( *English* )  
? [GMO Compass](#) ( *English* )

BCH-LMO-SCBD-46334-8

## 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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