

Summary Notification Information Format

A. General information

A1. Details of notification

Notification Number

B/BE/23/V1

Member State

Belgium

Date of Acknowledgement

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Title of the Project

R&D Field trial to evaluate the phenotype and yield of maize lines gene edited for reduced height

Proposed period of release

15-04-2023 till 30-11-2023

A2. Notifier

Name of the Institute

INARI Agriculture N.V.

A3. Is the same GMPt release planned elsewhere in the Community?

No.

A4. Has the same GMPt been notified elsewhere by the same notifier?

No

B. Information on the genetically modified plant

B1. Identity of the recipient or parental plant

- a) family: *Poaceae*
- b) genus: *Zea*
- c) species: *Zea mays*
- d) subspecies: *mays*
- e) cultivar/breeding line: inbred variety GIBE0104
- f) common name: maize

B2. Description of the traits and characteristics which have been introduced or modified, including marker genes and previous modifications

The edited maize lines have a shorter stature due to an edit in a transcription factor gene resulting in an altered expression. This impacts internode elongation and, hence, plant height.

B3. Type of genetic modification

CRISPR-Cas targeted gene editing

B4. In case of insertion of genetic material, give the source and intended function of each constituent fragment of the region to be inserted

Small maize native genetic elements were inserted in the maize genome. These elements alter the expression of the transcription factor.

B6. Brief description of the method used for the genetic modification

The plants have been modified using CRISPR-Cas. A maize inbred variety was transformed with Cas. Via biolistic transformation of immature maize kernels the native genetic element, specific designed guide RNAs, and a plasmid encoding a visual marker and a selectable marker cassette were introduced in this Cas editor line. Plants with the desired edits were selected and all other elements were segregated out in the next generation. The plants no longer contain any foreign genetic material.

B7. If the recipient or parental plant is a forest tree species, describe ways and extent of dissemination and specific factors affecting dissemination

Not applicable.

C. Experimental Release**C1. Purpose of the release**

Analysis of the phenotype and yield potential of the edited maize plants under field conditions.

C2. Geographical location of the site

ILVO research institute in the municipality of Wetteren, East-Flanders.

C3. Size of the site (m²)

1824 m² including border rows

C4. Relevant data regarding previous releases carried out with the same GM-plant, if any, specifically related to the potential environmental and human health impacts from the release

Not applicable

D. Summary of the potential environmental impact from the release of the GMPts

The potential environmental impact of the edited maize lines is expected to be negligible. The modification has no effect on survivability or persistence. There is no effect on the mode of reproduction. The edited maize can cross with other maize. Maize has no sexually compatible relatives in Belgium. The modification does not target any organism or effect herbivores or other non-target organisms. No health impacts are expected on the people handling the edited maize plants, nor effects on biogeochemical processes.

E. Brief description of any measures taken for the management of risks

Special care will be taken for any seed material be transported to and from the trial site.

Border rows of conventional maize will be planted around the actual field trial as pollen catch plants. The trial will be located at least 200 m away from any other maize. In case such a distance cannot be guaranteed (e.g. should a maize cultivation be observed on shorter distance), additional measures will be taken to avoid pollen flow (bagging of male part of the plants or detasseling). Furthermore, a 1.80 m high wire fence will surround the field trial to prevent accidental intruding and accidental removal or spread of modified maize material.

At the end of the trial, all plants, including the conventional border rows, will be harvested and inactivated.

F. Summary of foreseen field trial studies focused to gain new data on environmental and human health impact from the release

Not applicable

G. Final report

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H. European Commission administrative information

I. Consent given by the Competent Authority