

## Document 4-1

## Results of the study by the crop subcommittee

Name: maize herbicide glyphosate resistant and Lepidoptera resistant maize

( mEPSPS, cry1Ab, Zea mays subsp. mays(L.) Iltis) (GA21 × MON810, OECD UI: MON-00021-9 × MON-00810-6)

Contents of first-class use, etc.: Use, cultivation, processing, storage and transportation for food or feed

Carrying and disposing, and the incidental actions

Applicant: Nippon Monsanto Co., Ltd.

The Agricultural Products Subcommittee will submit an application based on the biodiversity impact assessment document submitted by the applicant.

When using this stack line maize in accordance with the first class use regulations

The contents of the applicant's assessment on the impact of biodiversity on the total mainly

The confirmed items are as follows.

In addition, this stack line maize has been added to the herbicide glypho by the conventional cross breeding method.

Sart-resistant maize (MON-00021-9) and Lepidoptera pest resistant maize

(MON-00810-6) was crossed and these parent lines were

At the study group for assessment of impact on product diversity, the same

It is judged that there is no risk of biodiversity impact when using the first class.

#### 1 Interaction related to the intended trait

Glyphosate resistance gene derived from MON-00021-9 ( mEPSPS) MEPSPS protein encoded by White matter has high substrate specificity and is a MON-00810-6 derived Lepidoptera insect res (Cry1Ab)

The Cry1Ab protein encoded by has been reported to have no enzymatic activity. But

What mEPSPS What cry1Ab It is unlikely that traits imparted by will affect each other

Be

Regarding the tolerance of glyphosate herbicide to this stack maize, weeding

In the spraying test and for resistance to Lepidoptera,

G Ostrinia nubilalis ) Using a bioassay

It has been certified.

Based on the above, for this stack maize, the characteristics of the parent

It is thought that there is no change in the character to be evaluated other than having it.

## 2 Competitive advantage

This stack maize is resistant to glyphosate herbicide derived from MON-00021-9.

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And MON-00810-6-derived Lepidoptera pest resistance. However, glyphosate

However, it is considered that there is no selective pressure under the environment, and the damage caused by Lepidoptera is

It is not the main factor that makes it difficult for corn to grow in Japan's natural environment

Therefore, both of these properties are not properties that enhance competitive advantage.

Therefore, the stack line maize will not have a competitive advantage over the parent line.

I think. This suggests that biodiversity impacts due to competitive advantage

We concluded that the applicant's conclusion that there was no risk of occurrence was reasonable.

## 3. Productivity of harmful substances

This stack maize has the ability to produce mEPSPS protein from MON-00021-9 and

Also has Cry1Ab protein productivity from MON-00810-6. Cry1Ab protein is Lepidoptera

While having insecticidal action against insects, mEPSPS protein is harmful to animals and plants

It is confirmed that this stack line maize has both proteins.

Even if it has both, the productivity of the harmful substances will not be higher than the parent strain.

available. This can have an impact on biodiversity due to the productivity of harmful substances.

The applicant's conclusion that this is not the case was deemed appropriate.

## 4 Crossability

There are no wild plants that can be crossed with corn in our natural environment.

Therefore, wild plants that could be affected are not identified, and

We concluded that the applicant's conclusion that there would be no risk of diversity would be appropriate.

Based on the above, this stack line maize was used according to the first class use regulations.

The biodiversity impact assessment conclusion that there is no risk of biodiversity impact

Was judged to be appropriate.

