

Document 4-1

Results of the study by the crop subcommittee

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Name: Resistance to Lepidoptera and Coleoptera and herbicides glufosinate and glyphoser

Resistant maize (modified cry1F, cry1Ab, cry34Ab1, cry35Ab1, pat , cp4 epsps, Zea
Mays . Subsp Mays (L.) Iltis) (1507 × 59122 × MON810 × NK603, OECD UI:

Ten

DAS-01507-1 × DAS-59122-7 × MON-00810-6 × MON-00603-6) (Bt Cry1F maize
line 1507, Bt Cry34 / 35Ab1 Event DAS-59122-7, MON810 and NK603

Having a combination of transgenes and isolated from the corn

Includes those of later generations (excluding those that have already been approved by the Class I Usage Regulations).)

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

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Disposal and related actions

Applicant: DuPont

20 The Agricultural Products Subcommittee is based on the biodiversity impact assessment submitted by the applicant and
Biodiversity when using this stack maize in the 1st class according to the 1st class regulations

The contents of evaluation by the applicant regarding sexual effects were examined. Mainly confirmed items are as follows
It is as follows.

This stack maize is resistant to Lepidoptera and pesticide glufosinate.

Resistant maize (DAS-01507-1), Coleoptera pest resistance and glufosinate herbicide

Resistant corn (DAS-59122-7), Lepidoptera resistant corn (MON-00810-6)

And the herbicide glyphosate-tolerant maize (MON-00603-6)

These parental lines were created at the Biodiversity Impact Assessment Study Group.

Biodiversity when individually using the same type 1 as this stack maize

It has been determined that there is no risk of impact.

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1 Interaction with intended traits

The specificity of the Bt protein involves the structure of the protein, which is different in the pest midgut cells.

This was thought to bind to different receptors. In addition to this, the stack system approved so far

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In this study, there was no report that the Bt protein showed a synergistic effect.

In sorghum, each Bt protein (modified Cry1F protein, Cry1Ab protein, Cry34Ab1 protein)

, Cry35Ab1 protein) interact to change the specificity of these Bt proteins
It was not thought. Also, the substrate and action of PAT protein and CP4 EPSPS protein are different.
The metabolic pathways involved are also independent of each other, and reports that Bt protein has enzymatic activity
Therefore, even if these proteins are expressed in this stack maize
It is thought that it does not cause unexpected metabolites by acting on the host and changing the metabolic system of the host.
The Therefore, there is a mechanism between these proteins expressed in this stack maize.
It was thought that there was no effective interaction.
Lepidoptera and Coleoptera pest resistance and herbicide group of this stack maize

-1-

Page 2

Rufosinate resistance and glyphosate resistance are similar to their parent lines,
These proteins from each parental line are found in the plants of this stack line maize.
It is unlikely to have a functional interaction and is evaluated in addition to having the traits of the parent line
It was thought that there was no change in the character.

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2 Results of biodiversity impact assessment

(1) Competitive advantage

Maize, the taxonomic species to which the host belongs, has been used for a long time in Japan.
However, it has not been reported to grow naturally in Japan's natural environment.

Ten Parent line of this stack maize (DAS-01507-1, DAS-59122-7, MON-00810-6
And MON-00603-6) were investigated for various traits related to competitive advantage.
As a result, for some characteristics, one of the two recombinant varieties of the parent strain tested
Showed statistically significant differences from the non-recombinant maize, but the other
These are not competitive, as there are no differences and no significant differences in other properties.
15 It was thought that it was not a difference that would increase the superiority.
In this stack maize, the modified cry1F gene and cry1Ab gene
Resistance to crustacea is caused by cry34Ab1 and cry35Ab1 genes
Resistant to eye pests, but with Lepidoptera and Coleoptera pests
Food damage is a major factor that makes it difficult for corn to grow in Japan's natural environment.
20 There is no. Therefore, the application of these traits causes the corn that is the cultivated crop to grow naturally,
It is difficult to think of increasing competitive advantage. In addition, this stack line contains the pat gene and
And cp4 epsps gene confer resistance to the herbicides glufosinate and glyphosate
However, in natural environments where it is difficult to apply these herbicides,
It is unlikely that resistance traits will increase the competitive advantage of this stack line.
twenty five From the above, this stack maize and DAS-01507-1, DAS-59122-7,
MON-00810-6 and MON-00603-6 have a combination of transgenes to each
Thus, the progeny lines isolated from the corn are due to competitive advantage
We concluded that the applicant's conclusion that there is no risk of biodiversity impact is reasonable.

30 (2) Productivity of hazardous substances

Maize, the taxonomic species to which the host belongs, has been used for a long time in Japan. Has a proven track record, but the productivity of harmful substances affecting wild animals and plants is known. Absent.

35 Modified Cry1F, Cry34Ab1, Cry35Ab1, Cry1Ab, PAT and CP4 EPSPS proteins are not homologous to known allergens.

It has been certified. In addition, harmful substances in the parent line of this stack line (other secreted from the roots, etc. Affects other plants and soil microorganisms, affects other plants after the plant has died) For the productivity of those that give the

40 As a result, it seems to suggest that the productivity of harmful substances is increasing in all tests. There was no significant difference. Therefore, unintended harm in this stack system It is unlikely that the substance will be produced.

On the other hand, this stack maize has been modified by the modified cry1F gene and cry1Ab gene. Resistance to Lepidoptera is caused by the cry34Ab1 and cry35Ab1 genes. Resistance to eye pests is given. From this, this stack line maize

-2-

Page 3

Lepidoptera with pollen that feed directly or scatter from this stack maize There are concerns about the effects on insect species and Coleoptera insect species. It is difficult to think that it grows locally around the cultivation field of corn. It was considered very unlikely to be affected by the level.

Five From the above, this stack maize and DAS-01507-1, DAS-59122-7, MON-00810-6 and MON-00603-6 have a combination of transgenes to each Therefore, the progeny strains separated from the corn are organisms caused by the productivity of harmful substances. We concluded that the applicant's conclusion that there is no risk of diversity impact is reasonable.

Ten (3) Crossability

Are there any wild plants that can be crossed with corn in the natural environment in Japan? Thus, no wild plants that could be affected were identified, and biodiversity The applicant's conclusion that there was no risk of reverberation was deemed appropriate.

15 3 Conclusion of the crop subcommittee

Based on the above, this stack maize and DAS-01507-1, DAS-59122-7, MON-00810-6 and MON-00603-6 have a combination of transgenes to each The progeny line separated from the corn was used in accordance with the first class use regulations. Biodiversity impacts that are unlikely to affect biodiversity in Japan We concluded that the conclusions of the evaluation document are valid.

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