Reference 6

Opinions of academics

Specialized academic experts are responsible for ensuring biodiversity through regulations such as the use of genetically modified organisms. The following genetic recombination that has been filed under the provisions of Article 4, Paragraph 2
The effects of biodiversity when used in accordance with the first-class usage regulations for living organisms, etc. have been studied.
Opinions were compiled according to the paper.

Record

1. Name: Cotton with resistance to glufosinate herbicide and resistance to Lepidoptera
(Modified bar , cry2Ae, Gossypium hirsutum L.) (GHB119, OECD UI: BCS-GH005-8)
Contents of first-class use: cultivation, storage, transportation and disposal in an isolated field
action
Applicant: Bayer CropScience Corporation

2 Name: Cotton with resistance to glufosinate herbicide and resistance to Lepidoptera
(Modified bar , modified cry1Ab, Gossypium hirsutum L.)
(T304-40, OECD UI: BCS-GH004-7)
Contents of first-class use: cultivation, storage, transportation and disposal in an isolated field
action
Applicant: Bayer CropScience Corporation

3 Name: Herbicide glyphosate resistant cotton
(2mepsps, Gossypium hirsutum L.) (GHB614, OECD UI: BCS-GH002-5)
Contents of first-class use, etc .: Use, processing, storage, transportation and disposal for food or feed
Acts incidental to these
Applicant: Bayer CropScience Corporation

4 Name: Herbicide glyphosate and glufosinate resistant corn
(Modified Cp4 Epsps, Pat, Zea Mays Subsp. Mays (L.) Iltis)
(NK603 × T25, OECD UI: MON-00603-6 × ACS-ZM003-2)
Contents of first-class use, etc .: Use, cultivation, processing, storage, transportation and waste for food or feed
Abandonment and acts accompanying them
Applicant: Japan Monsanto Co., Ltd.

5 Name: Heat-resistant α-amylase production and resistance to butterfly and Coleoptera pests and herbicides
Glufosinate and glyphosate resistant corn
(Modified Amy797E , modified Cry1Ab , modified Cry3Aa2, Pat, MEPSPS, Zea Mays Subsp. Mays
(L.) Iltis) (3272 × Bt11 × MIR604 × GA21, OECD UI: SYN-E3272-5 ×
SYN-BT011-1 × SYN-IR604-5 × MON-00021-9) (3272, Bt11, MIR604 and GA21
Each having a combination of transgenes, separated from the corn

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

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

Applicant: Syngenta Seed Co., Ltd.

(Attachment)

Results of studies at the Biodiversity Impact Assessment Study Group

1. Name: Cotton with resistance to glufosinate herbicide and resistance to Lepidoptera
(Modified bar, cry2Ae, Gossypium hirsutum L.) (GHB119, OECD UI: BCS-GH005-8)

Contents of first-class use: cultivation, storage, transportation and disposal in an isolated field
action

Applicant: Bayer CropScience Corporation

(1) Results of biodiversity impact assessment

A. Competitive advantage

Cotton, the biological species to which the host belongs, has a track record of long-term use in Japan.
So far, no example has been reported.

This recombinant cotton is resistant to Lepidoptera due to the transferred cry2Ae gene.
The herbicide glufosinate tolerance is conferred by the gene. However, for Lepidoptera
The damage caused by this is not the main factor that makes cotton difficult to grow in our natural environment
it is conceivable that. Also, under natural conditions where it is difficult to assume that the herbicide glufosinate is sprayed
Of the herbicide glufosinate is considered to increase competitive advantage
Hateful.

Competing in field trials in Spain and the United States and in P1P laboratories in Japan
We investigated various traits related to superiority. As a result, in the survey in Spain,
The cotton plant height was significantly lower than that of the non-recombinant control cotton.
There was no statistically significant difference between plants regarding plant height.
It is not considered a change in character. In the US survey, the total number of recombinant cottons
Was significantly less than the control non-recombinant cotton. This small number is a competitive issue
Therefore, even if this difference occurs, this recombinant
It is not considered to increase the competitive advantage of the data.

Based on the above, this recombinant cotton can be used in isolated fields based on certain work procedures in a limited environment.
Affected within the scope of cultivation, storage, transportation and disposal
Potential wild animals and plants are not identified, and biodiversity shadows due to competitive advantage
The applicant's conclusion that there was no risk of reverberation was deemed appropriate.

B. Productivity of hazardous substances

Cotton, the taxonomic species to which the host belongs,
It is not known to produce substances that affect breath or growth.

In addition, there is no report that Bt protein shows enzyme activity, and Cry2Ae protein is
The modified PAT protein has high substrate characteristics.
Transfer acetyl groups to compounds other than glufosinate, a substrate that has isomerism
Does not change the host metabolic system for any protein.
it is conceivable that.

In P1P laboratories in Japan, harmful substances of this recombinant cotton (secreted from roots and other plants and
That affect soil microorganisms and that affect other plants after the plant has died
As a result of comparing the presence or absence of productivity in the control test and the follow-up test,
There was no significant difference.

Cry2Ae protein and modified PAT protein are known as a result of homology search of amino acid sequences.
It has been confirmed that it does not have a sequence that is structurally similar to the allergen.

This recombinant cotton is a Cry2Ae protein, and Lepidoptera insect species that live around the isolated field
Chopping with replacement cotton, or when eating pollen scattered from this recombinant cotton
The possibility of affecting the survival of Coleoptera insect species was considered. Therefore, it may be affected.
As a wild animal, 64 species of lepidopterous insects and cotton inhabiting the isolated field
Six species of Lepidoptera that are known to have been identified.

However, all of these Lepidoptera insect species are endangered class I, endangered class II and semi-
It was not designated as an endangered species, and no species distributed only around the isolated field were found.
Therefore, the effects of feeding this recombinant cotton plant on the larvae of Lepidoptera are
Limited to the local presence in the isolated field, but such a possibility is low and
It is unlikely that close feeding will affect population maintenance.

In addition, as for the effect of feeding pollen scattered from this recombinant cotton, cotton pollen
Because it is heavy and sticky, it is unlikely to be scattered by the wind.
The enclosure was considered very limited. Therefore, the lepidoptera that do not eat cotton
It was considered unlikely that the insect species would be affected by the pollen of this recombinant cotton.

Based on the above, this recombinant cotton can be used in isolated fields based on certain work procedures in a limited environment.
Within the scope of the cultivation, storage, transportation and disposal of
Applicant's conclusion that there is no risk of biodiversity effects due to biogenicity is reasonable
It was judged.

C. Crossability

There are no wild plants that can be crossed with cotton in our natural environment.
Wild plants that may be affected are not identified, and biodiversity effects resulting from crossability may occur.
The applicant's conclusion that this is not the case was deemed appropriate.

(2) Conclusion based on biodiversity impact assessment report

Based on the above, this recombinant cotton is an isolated field based on certain work procedures in a limited environment.
In Japan, within the scope of cultivation, storage, transportation and disposal,
The conclusion of the biodiversity impact assessment report that there is no risk of impact on biodiversity is reasonable

It was judged.

2 Name: Cotton with resistance to glufosinate herbicide and resistance to Lepidoptera
(Modified bar , modified cry1Ab, Gossypium hirsutum L.)
(T304-40, OECD UI: BCS-GH004-7)
Contents of first-class use: cultivation, storage, transportation and disposal in an isolated field
action
Applicant: Bayer CropScience Corporation

(1) Results of biodiversity impact assessment

A. Competitive advantage

Cotton, the biological species to which the host belongs, has a track record of long-term use in Japan.
So far, no example has been reported.

This recombinant cotton is resistant to Lepidoptera pests by the modified cry1Ab gene transferred.
The gene imparts tolerance to the herbicide glufosinate. However, Lepidoptera
The damage caused by the damage is not the main factor that makes it difficult for cotton to grow in the natural environment of Japan.
I think. In addition, it is difficult to assume that the herbicide glufosinate is sprayed.
Below, it is considered that tolerance to the glufosinate herbicide increases competitive advantage.
It ’s hard.

Competing in field trials in Spain and the United States and in P1P laboratories in Japan
We investigated various traits related to superiority. As a result, in the Spanish survey,
The plant height was significantly higher than that of the non-recombinant control cotton.
In the survey, there was no statistically significant difference between strains, and the difference was always recognized with a certain tendency.
Therefore, it is considered that the change is not due to genetic recombination.

Based on the above, this recombinant cotton can be used in isolated fields based on certain work procedures in a limited environment.
Affected within the scope of cultivation, storage, transportation and disposal
Potential wild animals and plants are not identified, and biodiversity shadows due to competitive advantage
The applicant's conclusion that there was no risk of reverberation was deemed appropriate.

B. Productivity of hazardous substances

Cotton, the taxonomic species to which the host belongs,
It is not known to produce substances that affect breath or growth.

In addition, there is no report that Bt protein shows enzymatic activity, and modified Cry1Ab protein is
It is thought to function independently of the host metabolic system, and the modified PAT protein is a highly functional group.
It has quality specificity and transfers the acetyl group to compounds other than the substrate glufosinate.

It is difficult to think about this, so it is not possible to change the metabolic system of the host for any protein.

It is not considered.

In P1P laboratories in Japan, harmful substances of this recombinant cotton (secreted from roots and other plants and

That affect soil microorganisms and that affect other plants after the plant has died

Of the radish used as the test plant.

Germination rate, plant height, fresh weight and dry weight were investigated. As a result, the plant height in the succeeding crop test

A statistically significant difference was observed between this recombinant group and the non-recombinant control group.

Since it showed a high value, it was considered that this recombinant cotton did not produce harmful substances.

It should be noted that the modified Cry1Ab protein and the modified PAT protein

It has been confirmed that there is no sequence that is structurally similar to known allergens.

This recombinant cotton is a modified Cry1Ab protein that allows Lepidoptera insect species to inhabit the isolated field.

When you eat this recombinant cotton, or when you eat pollen scattered from this recombinant cotton,

The possibility of affecting the survival of Lepidoptera insect species was considered. Therefore, it may be affected

As a wild animal, 64 species of lepidopterous insects and cotton that live around the isolated field

Six species of lepidopterous pests known to do were identified.

However, all of these Lepidoptera insect species are endangered class I, endangered class II and semi-

It was not designated as an endangered species, and no species distributed only around the isolated field were found.

Therefore, the effects of feeding this recombinant cotton plant on the larvae of Lepidoptera are

Limited to the local presence in the isolated field, but such a possibility is low and

It is unlikely that close feeding will affect population maintenance.

In addition, as for the effect of feeding pollen scattered from this recombinant cotton, cotton pollen

Because it is heavy and sticky, it is unlikely to be scattered by the wind.

The enclosure was considered very limited. Therefore, the lepidoptera that do not eat cotton

It was considered unlikely that the insect species would be affected by the pollen of this recombinant cotton.

Based on the above, this recombinant cotton can be used in isolated fields based on certain work procedures in a limited environment.

Within the scope of the cultivation, storage, transportation and disposal of

Applicant's conclusion that there is no risk of biodiversity effects due to biogenicity is reasonable

It was judged.

C. Crossability

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

Wild plants that may be affected are not identified, and biodiversity effects resulting from crossability may occur.

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

(2) Conclusion based on biodiversity impact assessment report

Based on the above, this recombinant cotton is an isolated field based on certain work procedures in a limited environment.

In Japan, within the scope of cultivation, storage, transportation and disposal,

The conclusion of the biodiversity impact assessment report that there is no risk of impact on biodiversity is reasonable

It was judged.

3 Name: Herbicide glyphosate resistant cotton

(2mepsps, Gossypium hirsutum L.) (GHB614, OECD UI: BCS-GH002-5)

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

Acts incidental to these

Applicant: Bayer CropScience Corporation

(1) Results of biodiversity impact assessment

A. Competitive advantage

Cotton, the biological species to which the host belongs, has been imported for a long time in Japan and used for processing.

However, it has not been reported to become self-sufficient in Japan.

This recombinant cotton is given resistance to the herbicide glyphosate by the transferred 2mepsps gene.

However, it is unlikely that glyphosate will be a selective pressure in the natural environment,

This trait does not appear to enhance competitive advantage.

In 2008, in the isolated fields in Japan, as the various traits related to competitive advantage,

And growth characteristics, adult wintering ability, seed production, shedding ability, dormancy, and germination rate

did. As a result, there was a statistically significant difference between the lines regarding germination rate of seeds for cultivation test

However, these seeds for cultivation test differ in the harvesting place, and in the case of the control variety, the weather before harvesting is irregular.

Therefore, it was considered that seeds with a higher germination rate than GHB614 could not be obtained. Also harvested species

Regarding the germination rate of offspring and their air-dried seeds, there is no statistically significant difference between GHB614 and control varieties.

The difference in germination rate observed in the seeds for cultivation test was

It is thought that this is not an effect. In 2007, in a specific net room in Japan,

A comparative study was conducted with the host regarding low-temperature tolerance, but there was a statistically significant difference between the two.

I couldn't.

From the above, wild animals and plants that may be affected by the use of the first type, etc. are not identified,

The applicant concluded that there was no risk of biodiversity impact resulting from competitive advantage.

The argument was judged to be valid.

B. Productivity of hazardous substances

Cotton seeds are desaturated with gossypol and saturated fatty acids, which are toxic to non-ruminants.

It contains cyclopropene fatty acids that inhibit and cause discoloration of chicken eggs and decrease in hatchability.

Is known. However, there have been no reports of wild animals preying on cotton seeds.

Yes. For cotton, production of harmful substances that affect the habitat or growth of wild animals and plants
Sex has not been reported.

This recombinant cotton produces 2mEPSPS protein conferring glyphosate resistance.
It is confirmed that there is no homology in amino acid sequence with known allergens and toxins
ing. In addition, 2mEPSPS protein has the same high substrate specificity as EPSPS protein.
It is considered that it does not affect the host's metabolic system and does not produce harmful substances.
available.

Furthermore, in isolated field tests in Japan, harmful substances of this recombinant cotton (secreted from the roots)
Those that affect other plants and soil microorganisms, and other plants after the plant body has died

The presence or absence of the productivity of the product obtained by the subsequent crop test, soil microflora test and plow test
As a result of comparison, no statistically significant difference was found between the control group.

From the above, wild animals and plants that may be affected by the use of the first type, etc. are not identified,
Conclusion by the applicant that there is no risk of biodiversity effects resulting from the productivity of hazardous substances
Was judged to be appropriate.

C. Crossability

There are no wild plants that can be crossed with cotton in our natural environment.
Wild plants that may be affected are not identified, and biodiversity effects resulting from crossability may occur.
The applicant's conclusion that this is not the case was deemed appropriate.

(2) Conclusion based on biodiversity impact assessment report

Based on the above, when this recombinant cotton is used in accordance with the first class regulations,
The conclusion of the biodiversity impact assessment report that there is no risk of impacting biodiversity is valid
It was judged.

4 Name: Herbicide glyphosate and glufosinate resistant corn

(Modified Cp4 Epsps, Pat, Zea Mays Subsp. Mays (L.) Iltis)

(NK603 × T25, OECD UI: MON-00603-6 × ACS-ZM003-2)

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

Abandonment and acts accompanying them

Applicant: Japan Monsanto Co., Ltd.

This stack maize was produced from the inbred lines of NK603 and T25 by the cross breeding method.
These parent lines are individually considered at the Biodiversity Impact Assessment Study Group.
Biodiversity impact is likely to occur if the same type 1 use as this stack maize is used.
It is judged that this is not the case.

Modified CP4 EPSPS protein and PAT protein have different modes of action and act independently
It is known that Each of these proteins has a high substrate specificity.
Therefore, it is considered that the plant metabolic pathway is not affected. Therefore, this stack line corn
In Lokosi, expressed proteins from each parental line may have a new effect on plant metabolic pathways.
The performance was considered low.
As a result of actual bioassay, the herbicide glyphosate tolerance and
The tolerance to glufosinate herbicide is similar to that of each parent line, and the expressed protein from each parent line
It is considered unlikely that this stack maize will affect each other in the plant body.
Based on the above, this stack maize has the characteristics of the parental line.
There seems to be no change in traits to be evaluated outside.

(1) Results of biodiversity impact assessment

A. Competitive advantage

Maize, the species to which the host belongs, has not been cultivated in Japan for a long time.
However, no examples of spontaneous growth have been reported so far.
The competitive advantage of NK603 and T25, the parent lines of this stack maize
The various traits involved include morphology and growth characteristics, low temperature tolerance in early growth, wintering ability of adults,

Pollen fertility and size, seed production, shedding ability, dormancy and germination rate were investigated.

As a result, T25 showed no significant difference or difference from the non-recombinant control maize.

One of the two hybrid NK603 varieties tested,

There was a statistically significant difference from the non-recombinant control maize at the grain weight. But one hundred

Traits of superiority in competition other than grain weight are compared with non-recombinant control maize

There was no statistically significant difference, and in the other varieties tested, the control non-recombinant corn

Since there was no statistically significant difference with Rokoshi, only the difference in the weight of 100 grains competed.

It is unlikely that the superiority of the competition will increase.

Modified CP4 EPSPS and PAT proteins expressed in this stack maize

Since the substrate specificity was high, it was thought that each was acting independently. Book stack

Line maize is resistant to the herbicide glyphosate and glufosinate herbicide,

Under natural conditions where rephosate and glufosinate are unlikely to be applied,

We believe that resistance to phosphate and glufosinate enhances competitive advantage

I can't.

Based on the above, this stack maize line is affected by biodiversity due to competitive advantage.

The applicant's conclusion that there is no risk of reverberation was deemed appropriate.

B. Productivity of hazardous substances

For corn, which is the species to which the host belongs, to affect wild animals and plants

There are no reports of producing harmful substances.

Modified CP4 EPSPS protein and PAT protein expressed in this stack maize

Has not been confirmed to have a sequence that is structurally similar to known allergens.

The

In addition, the modified CP4 EPSPS protein and PAT protein have high substrate specificity.

It was thought that it did not produce harmful substances by acting on the host's metabolic system. Actually NK603 and

And harmful substances in T25 (those secreted from the roots that affect other plants and soil microorganisms,

The productivity of the plant body that affects other plants after withering)

As a result of comparing and examining the soil microflora test and the plowing test, both tests and the control group

There was no statistically significant difference between them.

Based on the above, this stack maize has an impact on biodiversity due to the productivity of harmful substances.

The applicant's conclusion that there is no risk of causing

C. Crossability

Since wild plants that can be crossed with corn are not growing in our natural environment,

Wild plants that may be affected are not identified, and biodiversity effects due to crossability

The applicant's conclusion that there is no risk of swaying was judged to be appropriate.

(2) Conclusion based on biodiversity impact assessment report

Based on the above, when this stack line maize is used in accordance with the first class regulations,

Conclusion of biodiversity impact assessment report that there is no risk of impact on biodiversity in Japan

Was judged to be appropriate.

5 Name: Heat-resistant α-amylase production and resistance to Lepidoptera and Coleoptera

And herbicide glufosinate and glyphosate-tolerant maize

(Modified Amy797E , modified Cry1Ab , modified Cry3Aa2, Pat, MEPSPS, Zea Mays Subsp. Mays

(L.) Iltis) (3272 × Bt11 × MIR604 × GA21, OECD UI: SYN-E3272-5 ×

SYN-BT011-1 × SYN-IR604-5 × MON-00021-9) (3272, Bt11, MIR604 and GA21

Each having a transgene combination and separated from the corn

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

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

Abandonment and acts accompanying them

Applicant: Syngenta Seed Co., Ltd.

This stack maize is heat-resistant α-amylase-producing maize (3272), butterfly

Eye pest resistance and herbicide glufosinate resistant maize (Bt11), Coleoptera pest resistance

Cross using maize (MIR604) and herbicide glyphosate resistant maize (GA21)

It was created by the breeding method, and for these parental lines, the Biodiversity Impact Assessment Study Group

In the case of individual use of the same type 1 as this stack maize,

It is determined that there is no risk of sexual effects.

Modified AMY797E α-amylase, modified Cry1Ab protein, modified Cry3Aa2 protein, PAT protein,

mEPSPS protein and PMI protein have different mechanisms of action and act independently

This suggests that the proteins described in Schrijver et al. (2007) need to investigate the interaction.

It is considered not to win. In addition, each of these proteins affects the metabolic pathway of the host.

It is not considered. Therefore, in this stack line maize, it originates from each parent line

Therefore, it is considered unlikely that the expressed protein has a new effect on the metabolic pathway of the host.

Actually, the expression level of thermostable α-amylase in this stack maize

Coleoptera pest resistance, glufosinate herbicide and glyphosate resistance

It was the same level as the president. Therefore, the expressed protein from each parental line is

The possibility of mutual influence in the object was considered to be low.

In addition, in this stack maize line, interaction between the expressed proteins from each parent line was recognized.

As a result, the transgene pair for each parental line of this stack maize

A progeny stack line that has a combination and is separated from this stack line maize

Similarly, in maize, there is no interaction between expressed proteins.

The nature of was thought to remain unchanged.

Based on the above, this stack maize has the characteristics of the parental line.

There seems to be no change in traits to be evaluated outside.

(1) Results of biodiversity impact assessment

A. Competitive advantage

Maize, the species to which the host belongs, has not been cultivated in Japan for a long time.

However, no examples of spontaneous growth have been reported so far.

Competition between 3272, Bt11, MIR604 and GA21, the parent lines of this stack maize

As traits related to superiority in, the characteristics of morphology and growth, low temperature tolerance in the early stages of growth,

Adult wintering ability, pollen fertility and size, seed production, shedding ability, dormancy and germination rate

Was investigated. As a result, 3272, Bt11, MIR604 and GA21 were all non-recombinant control tomatoes.

There was no significant difference or difference between sorghum.

This stack maize has a modified AMY797E α-amylase expressed in 3272

Productivity is conferred. α-Amylase catalyzes the hydrolysis of starch and is involved in germination

Although simple, modified AMY797E α-amylase accumulates locally in the endoplasmic reticulum within grain endosperm

On the other hand, starch as a substrate exists as starch granules in plastids in the grains. Fruit

3272 components were analyzed, and as a result, the starch content of the grain was comparable to that of the non-recombinant control maize.

It was about the same. Although the modified AMY797E α-amylase has heat resistance,

Enzyme activity is very low, 3272 and control non-recombinant corn under temperature conditions of 10-40 ° C

As a result of observing germination and initial growth of rokoshi, no significant difference was observed under any conditions.

Based on these results, the expressed modified AMY797E α-amylase is

It is very unlikely to affect the metabolism and natural germination characteristics. Therefore,

Due to the addition of modified AMY797E α-amylase productivity,

It is unlikely that the competitive advantage of maize corn will increase.

This stack maize is given resistance to Lepidoptera and Coleoptera pests.

Yes. However, corn is the natural damage in Japan due to the insect damage caused by Lepidoptera and Coleoptera insects.

It is not the main factor that makes it difficult to grow in the environment.

Since no habitat of corn root worms has been reported, it is competitive by having this property.

It is unlikely that the superiority of the competition will increase.

This stack maize is resistant to the herbicides glufosinate and glyphosate.

Japan's natural environment, which is granted but difficult to apply glufosinate and glyphosate

Under circumstances, it is unlikely that this property will increase competitive advantage.

In addition, mannose can be used as a carbon source for the stack maize.
Although PMI protein productivity has been conferred, in Japan's natural conditions, other than mannose
Since there is also a carbon source, the competitive advantage is enhanced by having this trait
I can't think of it.

From the above, this stack maize and the parent line of this stack maize
Progeny lines that have a combination of transgenes for each and separated from the corn
Corn stack line maize does not produce biodiversity impacts due to competitive advantage
The applicant's conclusion that there is no risk of being

B. Productivity of hazardous substances

For corn, which is the species to which the host belongs, to affect wild animals and plants
There are no reports of producing harmful substances.

Modified AMY797E α-amylase expressed in this stack maize, modified
Cry1Ab protein, modified Cry3Aa2 protein, PAT protein, mEPSPS protein and PMI protein

For allergens from the results of structural homology searches for amino acid sequences with known allergens
The possibility of having a possibility is considered to be extremely low.

Modified AMY797E α-amylase, modified Cry1Ab protein, modified Cry3Aa2 protein, PAT protein
White matter, mEPSPS protein and PMI protein each affect the metabolic pathway of the host.
It was not thought. Therefore, due to these proteins, the parent lines 3272, Bt11,
Hazardous substances are not expected to be produced in MIR604 and GA21.

In addition, harmful substances in the parent line of this stack maize (secreted from the roots, etc.
Affects other plants and soil microorganisms, and has an effect on other plants after the plant has died
As a test on the productivity of (given), subsequent crop test, plow test and soil microflora test
As a result, no significant difference was found between the non-recombinant control maize in any test.
won. Therefore, no harmful substances are produced in this stack maize line.
I think.

On the other hand, as wild animals and plants that may be affected by the modified Cry1Ab protein,
Coleoptera insects can also be affected by modified Cry3Aa2 protein
For example, Coleoptera insects were identified and examined. Identified Lepidoptera and Coleoptera
The possibility that the insects gather some amount of pollen is more than 10m away from the corn field.
It was concluded that it was very low and almost negligible at 50m or more. Also, naturally
Lepidoptera and Coleoptera insects that inhabit the ecosystem
It is hard to think that they live locally within a radius of 50m, and this stack at the population level
The possibility of being affected by the maize line was judged to be extremely low. This stack system
Lepidoptera and Coleoptera insects that may directly feed on maize
However, it is unlikely that this stack line maize grows locally around the cultivation field.
Therefore, the effects of feeding this stack maize directly at the population level
The possibility of receiving it was judged to be extremely low.

From the above, this stack maize and the parent line of this stack maize

Progeny lines that have a combination of transgenes for each and separated from the corn

Corn stack line maize produces biodiversity effects due to the productivity of harmful substances

We concluded that the applicant's conclusion that there was no fear was reasonable.

C. Crossability

Since wild plants that can be crossed with corn are not growing in our natural environment,

Wild plants that may be affected are not identified, and biodiversity effects due to crossability

The applicant's conclusion that there is no risk of swaying was judged to be appropriate.

(2) Conclusion based on biodiversity impact assessment report

Based on the above, this stack maize and the parent line of this stack maize

Progeny lines that have a combination of transgenes for each and separated from the corn

In Japan, when stack corn is used in accordance with the first class regulations

The conclusion of the biodiversity impact assessment report that there is no risk of impacting biodiversity is valid

It was judged.

Academic experience who listened to the opinions

(Alphabetical order)

Full name	Current position	Specialized field
In Yuuji Yuji Ide	Professor, Graduate School of Agricultural and Life Sciences, The University of Tokyo	Forest genetics and breeding
Ito Motomi Motomi Ito	Professor, Graduate School of Arts and Sciences, The University of Tokyo	Conservation ecology
Osawa Ryo Osawa Good	Associate Professor, Graduate School of Life and Environmental Sciences, University of Tsukuba	Plant breeding
Suddenly Hiroshi Onori	Technical Advisor, Matsumoto Microbiology Laboratory Co., Ltd.	Aquatic ecology
	Fisheries Resource Development Project Leader	Biotechnology
Kondo Noriaki Norio Kondo	Professor, Teikyo University of Science	Plant environmental physiology
Sugar Shinobu Shinobu Sato	Professor, Graduate School of Life and Environmental Sciences, University of Tsukuba	Plant physiology
Still No way Masakazu Shimada	The University of Tokyo Graduate School of Arts and Sciences	Conservation ecology
	Vice President	
Takagi Masamichi Masamichi Kashiwagi	Professor Emeritus, Faculty of Applied Life Sciences, Niigata Pharmaceutical University	Microbial genetics
Takeda Kazuyoshi Kazuyoshi Takeda	Professor Emeritus, Okayama University	Breeding

	National Institute for Agricultural Environment Technology	Plant molecular biology
Tanaka Hiroshi Junji Tanaka	Research coordinator	
	OECD biotechnology regulatory oversight harmony	Plant genetics
Masahiro Nakagawa Yasuhiro Nakagawara	Vice-chairman Working Group	
Something Tomoko Tomoko Nakanishi	Professor, Graduate School of Agricultural and Life Sciences, The University of Tokyo	Plant nutrition
Namba Shigeto Namba	Professor, Graduate School of Agricultural and Life Sciences, The University of Tokyo	Plant pathology Botanical science
Nishio Takeshi Takeshi Nishio	Professor, Graduate School of Agriculture, Tohoku University	Breeding
Kenichi Hayashi Kenichi Hayashi	Advisory Board Member, International Society for Biosafety	Plant physiology

Full name	Current position	Specialized field
Harada Hiroshi Hiroshi Harada	Professor Emeritus, University of Tsukuba	Plant developmental physiology
	National Agriculture and Food Research Organization	Genetic biochemistry
Hino Akihiro Akihiro Hino	Director of Food Function Research Area, National Food Research Institute	
	National Agriculture and Food Research Organization	Molecular biology
Murakami Yurika Yuriko Murakami	Research Manager, Flower Research Laboratory	
Yo Your Yashiro 與語靖洋	National Institute for Agricultural Environment Technology Director of Organic Chemicals Research Area	Weed science