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Results of the study by the crop subcommittee

Name: Lepidoptera resistant cotton (modified cry1Ab, *Gossypium hirsutum* L.) (COT67B, OECD
(UI: SYN-IR67B-1)

Contents of first class use: cultivation, storage, transportation and disposal in isolated fields

Act

Applicant: Syngenta Seed Co., Ltd.

The Agricultural Products Subcommittee is based on the biodiversity impact assessment submitted by the applicant and Regarding biodiversity effects when using this recombinant cotton in accordance with the Type 1 Use Regulations The contents of evaluation by the applicant were examined. The main items confirmed are as follows.

1 Presence of transferred nucleic acid and stability of expression

This recombinant cotton is produced by the Agrobacterium method, and the plasmid pNO
One modified cry1Ab gene (Lepidoptera pest resistance gene) derived from V4641 in the genome
It has been transferred to Pee and has been stably inherited and expressed in progenies.
Confirmed by Southern blot and ELISA analysis used.

The aph4 gene (hygromycin resistance gene) derived from plasmid pNOV1914
Was transferred as a selectable marker at a different position on the genome from the cry1Ab gene.
Individuals who do not have the marker gene were selected during the breeding process.
Confirmed by Southern blot analysis.

2 Competitive advantage

Cotton has a track record of long-term use in Japan.
However, it has not been reported to become self-sustaining.

This recombinant cotton has resistance to Lepidoptera due to the transferred modified cry1Ab gene.
Has been granted. However, food damage caused by Lepidoptera grows in the natural environment in Japan.
This is not the main factor that makes it difficult to do so.
It is thought that it is not a property that enhances position.

In the United States, a trait for competitive advantage was investigated,
There were no items that showed a significant difference between this recombinant cotton and the control.
Based on the above, wild animals and plants that may be affected by the use of Type 1

Not determined and there is no risk of biodiversity impact resulting from competitive advantage
It was judged that the conclusion by the applicant was appropriate.

3. Productivity of harmful substances

For cotton, the productivity of harmful substances affecting wild animals and plants has been reported.
It is not done.

This recombinant cotton produces a modified Cry1Ab protein with insecticidal activity in Lepidoptera insects
But no homology in amino acid sequence with known allergens or toxins

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Has been confirmed.

Since the modified Cry1Ab protein exhibits insecticidal activity against Lepidoptera insects,
There are concerns about the effects of non-target Lepidoptera insects due to the powder. But cotton pollen is a comparison
Non-target kon which does not eat cotton because it is heavy, sticky, and less likely to scatter
It is unlikely that insects will be exposed to the pollen of this recombinant cotton.

Since it is unlikely that the modified Cry1Ab protein has enzymatic activity, it has an effect on the host metabolic system.
There is no danger of producing toxic substances.

In the United States, harmful substances of this recombinant cotton (secreted from the roots and affecting other plants)
That are secreted from the roots and that affect soil microorganisms.

As a survey on the productivity of those that affect other plants after death

Test, soil microflora test and plow test. Non-recombinant in follow-up trials

There was a significant difference in the body weight of the Japanese radish, which is the test plant, between the territories. The
However, in other items, including other test results, no significant difference was found between the controls.

It has not been put.

Based on the above, wild animals and plants that may be affected by the use of Type 1
There is no risk that biodiversity effects will occur due to the productivity of harmful substances.
The conclusions by the applicants were judged to be valid.

4 Crossability

Since wild species that can cross with cotton are not native in our natural environment,
Wild animals and plants that may be affected are not identified, and there are many organisms due to crossability.
The applicant's conclusion that there is no risk of sexual effects was deemed appropriate.

Conclusion of 5 crop subcommittee

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 sexual effects is reasonable
It was judged.

