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**INDUSTRY STANDARD OF THE
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**Guideline for eco-environmental biosafety assessment of
Insect-resistant transgenic plants**

抗虫转基因植物生态环境安全检测导则

(English Translation)

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Foreword

To implement the "People's Republic of China Environmental Protection Law", to "the Cartagena Protocol on Biosafety," Assessment and Insect-resistant transgenic plants to control potential environmental risks, protect the ecological environment and biodiversity, development of this standard.

This standard specifies the insect-resistant transgenic plant ecological safety testing requirements, the provisions on non-target organisms, group Step by drift, ecological adaptability and insect-resistant target organisms to produce transgenic plants resistant to four ecological safety testing environment and content, developed a corresponding detection methods.

Appendix A of this standard is an informative annex.

This standard is the first release.

This standard is developed by the Ministry of Environmental Protection Science, Technology organization.

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The standard explanation by the Ministry of Environmental Protection.

Insect-resistant transgenic plant ecological safety testing guidelines

1 Scope

This standard specifies the insect-resistant transgenic plants on non-target organisms, genetic drift, ecological adaptability, target organisms for insect-resistant transgenic plants resistant to environmental security detection step, contents and methods.

This standard applies to eco-environmental safety of transgenic plants expressing insecticidal protein detected by having new insect resistance trait.

2 Normative references

This standard references the following documents or the terms. For undated references, adapted to their valid version this standard.

GB/T 15193 food safety toxicology evaluation procedures and methods NY1101-2006
transgenic plants and their products Food safety assessment guidelines LY/T 1692-2007
revolution and evaluation of forest plant gene product safety technical regulations
Transgenic plants and their products environmental safety testing - insect-resistant rice
(Ministry of Agriculture Bulletin No. 953 -8-2007) Transgenic plants and their products
environmental safety testing - insect-resistant maize (USDA Bulletin No. 953 -10-2007)
Transgenic plants and their products environmental safety testing - Cotton Flowers (Ministry
of Agriculture Bulletin No. 953 -12-2007)

3.1 Insect-resistant transgenic plants insect-resistant transgenic plant

By genetic engineering techniques exogenous insect-resistant genes into the plant genome and the expression of insecticidal protein transgenic plant varieties (system).

3.2 Parent plant parental plant

Accept and express insect-resistant plant varieties exogenous gene (department).

3.3 Transgenic transgene

Also called foreign gene or gene variant means by genetic engineering methods and inserted into the genome of the parent plant the exogenous genetic material, including general purpose gene, gene vectors, promoter and terminator gene, a marker gene or reporter gene.

Refers to the modification of the gene of the receptor cells express their genetic composition and genetic effects for the purpose of the gene, the purpose of this standard Gene refers to a gene insecticidal protein.

3.4 Transgenic protein transgene protein

Expression of the gene protein produced in insect-resistant transgenic plants.

3.5 Genetic drift gene flow

Exogenous insecticidal protein gene from the insect-resistant transgenic plants through pollen to non-transgenic plants or their wild relatives from However, the transfer behavior.

3.6 Outcrossing rate of outcrossing rate

Insect-resistant transgenic plants and their wild relatives and non-transgenic plants (species) of natural hybridization ratios.

3.7 Target species target organisms

Insect-resistant transgenic plant transgenic proteins directed to target creature. The standard target gene insect resistant plants Organisms harmful insects means that the target pests.

3.8 Non-target organisms non-target organisms

Insect-resistant transgenic plant transit other biological target protein biological gene targeted outside.

3.9 Exposure

It refers to the insect-resistant transgenic plant components in contact with the non-target organism or circumstances exist simultaneously.

3.10 Pest resistant populations resistant pest population

Under normal lethal dose an individual to survive and continue normal offspring pest populations.

3.11 Population net added value of net reproductive rate of population

Also known as Population trend index, refers to the number under certain conditions, a creature contemporary generation Population Populations on its ratio.

3.12 Fitness

Individual organisms survive in the ecological environment and the ability of future generations to pass genotype.

3.13 Survival competitiveness

When plants and other plants grow together in community exhibited for the ecological capacity, including seed germination rate, the Seedling rate, growth potential, leaf number and plant height, seed rate, breeding coefficient and other indicators as well as anti-biotic and abiotic stress and other characteristics.

3.14 Weeds potential weediness potential

Plant continued ability in artificial communities, including shattering, seed dormancy, from seedlings, seeds and other special survival Sex.

3.15 from volunteer seedlings Plant communities through child really artificial breeding naturally grown seedlings.

3.16 Resistance gene frequencies frequency of resistance alleles

The proportion of the resistance gene present in the pest population.

4.1 Basic Principles

4.1.1

The precautionary principle for insect may cause harm to the ecological environment of transgenic plants, even if it produces the current lack of ecological harm Sufficient scientific evidence, should the transgenic plants were strict ecological safety testing environment and take appropriate advance Preventive measures.

4.1.2 Scientific Principles

Ecological safety testing of transgenic insect-resistant plants in the environment must be based on rigorous scientific approach, using the latest science and technology Standards and norms, the collected test data for scientific statistical analysis of test results obtained verifiable and subject Measurement results of scientific explanation.

4.1.3 Gradual evaluation principles

It should be based on "laboratory studies, intermediate testing, environmental release, production test and commercial production of the" five stages, Gradual development of ecological safety testing insect-resistant transgenic plants under appropriate environmental conditions.

4.1.4 Evaluation Principles Case

According to a foreign gene, a receptor plants, genetically modified mode of operation, transgenic plants, environmental release and use different special Points to take the