

Risk Assessment of Corn-RR

Risk assessment details

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| 1. Country Taking Decision: | Indonesia |
| 2. Title: | Transgenic <i>Zea mays</i> RR-1 and RR-2 tolerant to herbicide containing glyphosate (GA 21) |
| 3. Contact details: | <Standard contact address details: name, function (job title/designation), organization, address, phone, fax, email, website> |
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LMO information

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| 4. Name and identity of the living modified organism: | Transgenic <i>Zea mays</i> RR-1 and RR-2 tolerant to herbicide containing glyphosate (GA 21) |
| 5. Unique identification of the living modified organism: | <ul style="list-style-type: none">• Tolerant to herbicide containing glyphosate (GA 21)• The <i>Zea mays</i> mEPSPS gene that codes for 5-enolpyruvyl-3-phosphoshikimate synthase.• The rice r-act promoter |
| 6. Transformation event: | GA 21 |
| 7. Introduced or Modified Traits: | <Controlled vocabulary with thesaurus - radio button options - Abiotic environmental tolerance, Altered growth, development and product quality, Altered photoperiod sensitivity, Altered ripening or flowering, Animal vaccines, Bacterial resistance, Chemical tolerance, Cold or heat tolerance, Coloration, Development of transplant organs, Drought or water tolerance, Fertility restoration, Fungus resistance, Growth rate or yield, Herbicide tolerance, insect resistance, Male sterility, Medical products, Nematode resistance, Nutritional composition (inc. allergenicity), Other abiotic environmental tolerance, Other chemical tolerance, Other growth, development and product quality, Other pest resistance, Pest resistance, Production of pharmaceuticals, Selectable marker genes and reporter genes, Uptake or degradation of environmental pollutants, Virus resistance > and <text entry for other, not on the list> |
| 8. Techniques used for modification: | The DNA transformations were carried out by using a gene gun |
| 9. Description of gene modification: | Gene mEPSPS |
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Characteristics of modification

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| 10. Vector characteristics (Annex III.9(c)): | The DNA transformations were carried out by using a gene gun. The vector can not integrate to other plants. The plasmid used was pDPG 434 containing promoter r-act, OTP, gen mEPSPS, nos 3', lacZ, Col Elori, bla. |
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11. Insert or inserts (Annex III.9(d)): The r-act promoter, OTP, gen mEPSPS, nos 3'.

Recipient organism or parental organisms (Annex III.9(a)):

12. Taxonomic name/status of recipient organism or parental organisms: *Zea mays L.* Varieties RR-1 (C7) and RR-2

13. Common name of recipient organism or parental organisms: *Zea mays*

14. Point of collection or acquisition of recipient or parental organisms: <Text entry >

15. Characteristics of recipient organism or parental organisms related to biosafety: <Text entry >

16. Centre(s) of origin of recipient organism or parental organisms: Mexico

17. Centres of genetic diversity, if known, of recipient organism or parental organisms: Mexico

18. Habitats where the recipient organism or parental organisms may persist or proliferate: Subtropic and tropic

Donor organism or organisms (Annex III.9(b)):

19. Taxonomic name/status of donor organism(s) *Zea mays L*

20. Common name of donor organism(s): *Zea mays*

21. Point of collection or acquisition of donor organism(s): <Text entry - the exact location and geographical coordinates>

22. Characteristics of donor organism(s) related to biosafety: *Zea mays* can grow in a diverse climate. However, the optimum temperature for *Zea mays* to produce the highest is between 21-27°C for 120-180 days.

Intended use and receiving environment

23. Intended use of the LMO (Annex III 9(g)): Agriculture/commercial

24. Receiving environment (Annex III.9(h)): Land of commercial agriculture

Risk assessment summary

25. Summary of risk assessment or environmental review: <Text entry>

26. Detection/Identification method of the LMO (Annex III.9(f)): PCR, Southern blot, immuno assays, serologi assays, fuctional assay using herbicide.

27. Evaluation of the likelihood of adverse effects (Annex III.8(b)):

- Plant abnormalities
- *Weedines* characteristics
- Impacts on useful insect

28. Evaluation of the consequences (Annex III.8(c)):

- Transgenic *Zea mays* RR-1 and RR-2 does not exhibit any growth or phenotypic abnormalities
- Transgenic *Zea mays* RR-1 and RR-2 does not exhibit *wedines* characteristics that has the potential to become weeds and does not have negative impacts to its habitat
- Transgenic *Zea mays* RR-1 and RR-2 does not have negative impacts on useful insects.

29. Overall risk (Annex III.8(d)):

Transgenic *Zea mays* (RR-1 and RR-2) are safe for environment and biodiversity; and exhibit the same characteristics as nontransgenic *Zea mays* . *Zea mays* fertilized by crossing; so there is a possibility that, by crossing, the transgenic plant will fertilize the nontransgenic one. However, Indonesia is not the center of genetic diversity of *Zea mays*. In addition, Teosinte (distant relative of *Zea mays*) is not found in Indonesia, so transgenic *Zea mays* (RR-1 and RR-2) are safe for environment.

30. Recommendation (Annex III.8(e)):

Transgenic *Zea mays* (RR-1 and RR-2) are safe. The use of these transgenic plants is regulated by applicable regulations.

31. Actions to address uncertainty regarding the level of risk (Annex III.8(f)):

Not yet released

Additional information

32. Availability of detailed risk assessment information:	<Text entry - Please indicate whether more details on the risk assessment are available and how they can be accessed>
33. Any other relevant information:	< Text entry - any other information that is relevant to the risk assessment >
34. Attach document:	<Specific types of entry: option to choose a file from the local source and 'upload' a copy to the BCH server>
35. Notes:	<Text entry>

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