

Animal Plant
Health Inspection
Service (APHIS)

Biotechnology
Regulatory
Services (BRS)

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Dr. Carlos Perez
Bioheuris Inc.
1100 Corporate Square Dr.
St. Louis, MO 63132

Dear Dr. Perez:

Thank you for your letter dated November 25, 2022 (22-276-01cr) requesting confirmation that your plant is exempt from regulation pursuant to 7 CFR § 340.1(b)(2). Your letter describes rice (*Oryza sativa*) to be modified for resistance to acetolactate synthase (ALS) inhibitor herbicides.

The Plant Protection Act of 2000 (PPA) provides USDA with broad authority to protect U.S. agriculture, the environment, and the economy by, among other things, regulating the movement of plants and articles to prevent the introduction or dissemination of a plant pest within the United States. As such, USDA, through the Animal and Plant Health Inspection Service, regulates the “Movement of Organisms Modified or Produced through Genetic Engineering,” as described in 7 CFR part 340. These regulations do not apply to plants that contain a modification of a type listed in § 340.1(b) or § 340.1(c).

In your letter you state that the intended modification in your rice is a one base pair substitution leading to one amino acid change within the acetolactate synthase (*als1*) gene resulting from a Cas9-fused cytidine deaminase enzyme targeted to the DNA. Your letter describes how you will insert exogenous DNA into the plant’s genome to generate the genetic modification, and how you intend to eliminate it in the final modified plant. You also describe methods to verify that you will make the intended modification with no unintended modifications, and that no unintended exogenous DNA will remain in the plant.

Based on our review of the representations in your letter, USDA confirms the rice modified for resistance to ALS inhibitor herbicides would meet the exemption described in § 340.1(b)(2) and would be exempt from regulation under 7 CFR part 340. Plants with modifications that are exempt pursuant to § 340.1(b)(2) are achievable by conventional breeding and unlikely to pose an increased plant pest risk relative to their conventionally bred counterparts.

Although your rice would not be regulated under 7 CFR part 340, it may be subject to other USDA regulations or other regulatory authorities. For example, importation of your plant or its seeds, may be subject to Plant Protection and Quarantine (PPQ) permit and/or quarantine requirements. For further information, you may contact the PPQ general number for such inquiries at (877) 770-5990. To inquire about the regulatory status of your plant with the Environmental Protection Agency, please contact Alan Reynolds at reynolds.alan@epa.gov or (703) 605-0515. To inquire about the regulatory status of your

plant with the Food and Drug Administration (FDA), please contact FDA at PlantBiotech@fda.hhs.gov.

USDA recommends implementation of best management practices (BMPs) to limit and delay the evolution of herbicide resistant weed populations in fields planted with herbicide resistant rice. We have enclosed materials on this topic, including stewardship practices you and users of your product can take to delay or mitigate the emergence of herbicide resistant weeds. Please review these materials and provide guidance to users of your product.

Should you become aware at any time of any issues that may affect our confirmation of this exemption, please notify me immediately in writing of the nature of the issue.

Sincerely,

A handwritten signature in black ink, appearing to read 'BJ', with a stylized flourish extending to the right.

Bernadette Juarez
APHIS Deputy Administrator
Biotechnology Regulatory Services
Animal and Plant Health Inspection Service
U.S. Department of Agriculture

December 27, 2022
DATE

Enclosure

Norsworthy et al. (2012) Reducing the Risks of Herbicide Resistance: Best Management Practices and Recommendations. Weed Science 60(sp1):31-62.
DOI: <https://doi.org/10.1614/WS-D-11-00155.1>

EPA (2017) PRN 2017-2: Guidance for Herbicide-Resistance Management, Labeling, Education, Training, and Stewardship
<https://www.epa.gov/pesticide-registration/prn-2017-2-guidance-herbicide-resistance-management-labeling-education>

PRN 2017-2 communicates EPA's approach to address herbicide-resistant weeds by providing guidance to herbicide users and registrants on useful strategies (including labeling, education, training, and stewardship) that, when implemented, will slow the development and spread of herbicide-resistant weeds and prolong the useful life of herbicides. Although the document is titled "Pesticide Registration Notice", we specifically refer you to the guidance on herbicide-resistance best management practices included in Sections 1, 3A, 3B, and 4, including the guidance on mitigating pollen flow to sexually compatible relatives and mitigating the selection of herbicide resistance in weeds.