

Animal Plant  
Health Inspection  
Service (APHIS)

Biotechnology  
Regulatory  
Services (BRS)

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Dror Shalitin, Ph.D., Chief Technical Officer  
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Dear Dr. Shalitin:

Thank you for your letter received on October 28, 2021 (21-264-02cr) requesting confirmation that your plant is exempt from regulation pursuant to 7 CFR § 340.1(c)(2). Your letter describes cotton (*Gossypium hirsutum*) that will be modified for 4-hydroxyphenylpyruvate dioxygenase (HPPD) herbicide resistance.

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 cotton will be the result of using either biolistic or *Agrobacterium*-mediated transformation to introduce the pabHrA001 expression construct, which will constitutively express a *hppd* gene derived from *Trichoderma harzianum* fused with a transit peptide sequence that directs the enzyme to the chloroplast. This expression construct will introduce the following plant-trait-mechanism of action (PTMOA) combination that USDA previously reviewed and determined to not be regulated under 7 CFR part 340: Cotton plants with herbicide resistance producing an insensitive form of HPPD (4-hydroxyphenylpyruvate dioxygenase) with decreased binding affinity for HPPD inhibitor herbicides (petition 17-138-01p). You also describe methods you plan to use to verify that the intended modification is made, and no unintended exogenous DNA remains in the plant.

Based on our review of the representations made in your letter, USDA confirms the cotton with an insensitive form of HPPD (4-hydroxyphenylpyruvate dioxygenase) with decreased binding affinity for HPPD inhibitor herbicides would meet the exemption described in § 340.1(c)(2) and would be exempt from regulation under 7 CFR part 340. Plants with modifications that are exempt pursuant to § 340.1(c)(2) are unlikely to pose an increased plant pest risk compared to previous plants containing this PTMOA combination that USDA reviewed and determined to not be regulated.

Although your cotton 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](mailto: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](mailto: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 cotton. 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,



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

December 28, 2021  
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.