

119TH CONGRESS
1ST SESSION

S. 2697

To authorize the National Science Foundation to conduct research for
biotechnology risk assessment, and for other purposes.

IN THE SENATE OF THE UNITED STATES

SEPTEMBER 3, 2025

Mr. YOUNG (for himself and Mr. PADILLA) introduced the following bill; which
was read twice and referred to the Committee on Health, Education,
Labor, and Pensions

A BILL

To authorize the National Science Foundation to conduct
research for biotechnology risk assessment, and for other
purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “National Biotechnology
5 Safety Act”.

6 **SEC. 2. FINDINGS.**

7 Congress finds the following:

8 (1) Biotechnology is routinely used to modify
9 genetic sequences in plants, animals, and microorga-

1 nisms, resulting in useful products across agri-
 2 culture, medicine, industry, and defense.

3 (2) Specific research would help inform the
 4 Federal Government, State governments, industry,
 5 and other stakeholders on how best to address safety
 6 of biotechnology products.

7 **SEC. 3. BIOTECHNOLOGY RISK ASSESSMENT RESEARCH.**

8 (a) PURPOSES.—The purposes of this section are to
 9 authorize and support research—

10 (1) to address regulatory concerns about poten-
 11 tial environmental, human health, or animal health
 12 risks of organisms produced with biotechnology; and

13 (2) that aids regulators in developing clear reg-
 14 ulatory pathways for products produced with bio-
 15 technology.

16 (b) ESTABLISHMENT.—

17 (1) IN GENERAL.—The Director of the National
 18 Science Foundation (referred to in this section as
 19 the “Director”) shall establish a program within the
 20 Directorate for Technology, Innovation, and Part-
 21 nerships to provide funding for research concerning
 22 the introduction into the environment of organisms
 23 that were produced with biotechnology.

24 (2) MECHANISMS.—The Director may choose
 25 funding mechanisms under this section as appro-

1 prate to meet the scientific need, including research
2 grants, cooperative agreements, and temporary re-
3 search consortia.

4 (c) RECIPIENTS.—Recipients of funds under this sec-
5 tion may include—

6 (1) institutions of higher education, as defined
7 in section 102 of the Higher Education Act of 1965
8 (20 U.S.C. 1002);

9 (2) federally funded research and development
10 centers;

11 (3) nonprofit research institutions;

12 (4) industry and other private sector entities;

13 (5) other entities determined appropriate by the
14 Director to carry out the purposes of this section;
15 and

16 (6) consortia of entities described in paragraphs
17 (1) through (5).

18 (d) AWARD BASIS.—

19 (1) SELECTION CRITERIA.—In selecting recipi-
20 ents for an award under this section, the Director
21 shall consider, at a minimum—

22 (A) the path for developing and, as appro-
23 priate, commercializing the organism or similar
24 organisms produced with biotechnology and re-
25 sulting products in the United States;

1 (B) the current knowledge of similar orga-
2 nisms (as of the date of the award), the limits
3 of such current knowledge, and the novelty and
4 risks of the proposed project;

5 (C) the relevance of the project to the re-
6 search priorities under paragraph (2) and the
7 potential of the project to advance such prior-
8 ities; and

9 (D) the ethical, legal, and social implica-
10 tions of the project.

11 (2) RESEARCH PRIORITIES.—In awarding fund-
12 ing under this section, the Director shall give pri-
13 ority to research designed to—

14 (A) identify unintended effects of bio-
15 technology methods, including unintended ge-
16 netic changes;

17 (B) identify and develop management prac-
18 tices to minimize environmental, human health,
19 or animal health risks associated with orga-
20 nisms produced with biotechnology, in research
21 or field trial conditions, in commercial produc-
22 tion, and in use as a final product;

23 (C) develop methods to monitor the dis-
24 persal and persistence of organisms produced
25 with biotechnology, including gene drives;

1 (D) identify the characteristics, rates, and
2 methods of gene transfer that may occur be-
3 tween organisms produced with biotechnology
4 and related wild and agricultural organisms;

5 (E) compare the impacts of organisms pro-
6 duced with biotechnology to impacts of com-
7 parable organisms that were not produced with
8 biotechnology or to other human activities in
9 the environment;

10 (F) identify potential risks of convergence
11 of biotechnology with artificial intelligence and
12 other emerging technologies; or

13 (G) address other topics that further the
14 purposes of this section.

15 (e) METRICS.—When appropriate, the Director
16 may—

17 (1) set metrics in the terms of an award under
18 this section, including goals and deadlines; and

19 (2) use such metrics to determine whether a
20 project carried out under this section shall be eligi-
21 ble for continued or additional funding.

22 (f) REGULATORY COORDINATION.—The Director
23 shall consult with the Secretary of Agriculture, the Com-
24 missioner of Food and Drugs, the Administrator of the
25 Environmental Protection Agency, and the heads of other

1 Federal agencies with relevant expertise as determined by
 2 the Director, to—

3 (1) determine the applicability of specific areas
 4 of research to the regulation of products produced
 5 with biotechnology;

6 (2) provide ongoing oversight and execution of
 7 projects carried out under this section; and

8 (3) provide regulatory assistance to facilitate
 9 the purposes of this section.

10 (g) FUNDING.—

11 (1) AUTHORIZATION OF APPROPRIATIONS.—

12 There are authorized to be appropriated to the Di-
 13 rectorate for Technology, Innovation, and Partner-
 14 ships to carry out this section \$50,000,000 for each
 15 of fiscal years 2026 through 2030.

16 (2) ADDITIONAL FUNDING.—In addition to
 17 using amounts made available under paragraph (1)
 18 for the program carried out under this section, the
 19 Director may—

20 (A) make this program a priority of the
 21 National Science Foundation; and

22 (B) elect to use other funds that are avail-
 23 able to the Director and not otherwise re-
 24 stricted in their use to carry out the program.

1 **SEC. 4. NATIONAL ACADEMIES BIOTECHNOLOGY 2-PHASE**
2 **STUDY AND REPORTS.**

3 (a) IN GENERAL.—Not later than 90 days after the
4 date of enactment of this Act, the Director of the National
5 Science Foundation (referred to in this section as the “Di-
6 rector”), in consultation with the Secretary of Agriculture,
7 the Commissioner of Food and Drugs, the Administrator
8 of the Environmental Protection Agency, and heads of
9 other Federal agencies with relevant expertise as deter-
10 mined by the Director, shall enter into an agreement with
11 the National Academies of Science, Engineering, and Med-
12 icine (referred to in this section as the “National Acad-
13 emies”)—

14 (1) to conduct a 2-phase study, in accordance
15 with subsections (b) and (c), on the safety and bene-
16 fits of biotechnology; and

17 (2) to submit reports describing the results of
18 the studies and including findings and recommenda-
19 tions, in accordance with subsection (d).

20 (b) PHASE ONE OF STUDY.—Not later than 1 year
21 after the date on which the agreement described in sub-
22 section (a) is entered into, the National Academies shall
23 complete phase one of the study, which shall, at a min-
24 imum—

25 (1) consider the characteristics and risks of bio-
26 technology tools used to modify genetic sequences in

1 comparison to the characteristics and risks of com-
2 parable conventional methods used to modify genetic
3 sequences;

4 (2) make recommendations about risk-propor-
5 tionate frameworks to assess risks of products made
6 with biotechnology tools; and

7 (3) identify research needed to further under-
8 stand the safety of biotechnology tools.

9 (c) PHASE TWO OF STUDY.—Not later than 2 years
10 after the date on which the agreement described in sub-
11 section (a) is entered into, the National Academies shall
12 complete phase two of the study, which shall, at a min-
13 imum—

14 (1) consider the safety and benefits of commer-
15 cialized biotechnology products alongside comparable
16 conventional products and other human activities
17 that may impact human health or the environment;

18 (2) make recommendations about evaluating the
19 safety and potential benefits of future biotechnology
20 products that are under development or not yet
21 widely commercialized;

22 (3) make recommendations about processes,
23 analysis, or tests that could be used to rapidly re-
24 duce or remove biotechnology-specific oversight of
25 products that do not present a greater risk than

1 comparable conventional products or other human
2 activities; and

3 (4) identify research needed to further under-
4 stand safety or benefits of biotechnology products.

5 (d) REPORTS.—Within 90 days of completion of each
6 phase of the study under subsections (b) and (c), the Na-
7 tional Academies shall—

8 (1) submit a report that includes any findings
9 and recommendations of the National Academies
10 made pursuant to the applicable phase of the study
11 to the Director, the heads of the agencies with which
12 the Director consulted under subsection (a), and the
13 Committee on Commerce, Science, and Transpor-
14 tation of the Senate and the Committee on Science,
15 Space, and Technology of the House of Representa-
16 tives; and

17 (2) make each such report submitted under
18 paragraph (1) available on a publicly accessible
19 website.

20 (e) IMPLEMENTATION PLAN.—Not later than 180
21 days after the date on which all reports from the National
22 Academies under subsection (d) have been submitted to
23 the Director, the Director, in consultation with the heads
24 of the agencies named in subsection (a), shall submit to
25 Congress an implementation plan for Federal research, de-

1 velopment, and demonstration activities for the purpose
2 of closing any research gaps related to the safety of bio-
3 technology tools and products.

4 (f) AUTHORIZATION OF APPROPRIATIONS.—There
5 are authorized to be appropriated to carry out this section
6 \$1,500,000 for fiscal year 2026.

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