

INFRASTRUCTURE INVESTMENT AND JOBS ACT



IIJA—Bioproduct Pilot Program

Inspection 13801-0001-22 July 2023

About the Bioproduct Pilot Program

The Bioproduct Pilot Program (BPP), an initiative created by the Infrastructure Investment and Jobs Act (IIJA), is a competitive grant program funded through the U.S. Department of Agriculture's (USDA) National Institute of Food and Agriculture (NIFA).¹ NIFA, which is USDA's primary extramural research, education, and extension funding agency, awards research funding through a combination of competitive grants and funds allocated to states under statutory formulas. IIJA authorizes the Secretary of Agriculture to carry out a pilot program where USDA partners with one or more qualified institutions to study the benefits of using materials derived from covered agricultural commodities in the production of construction products and consumer products. Qualified institutions are bioproduct research facilities that meet the following criteria:

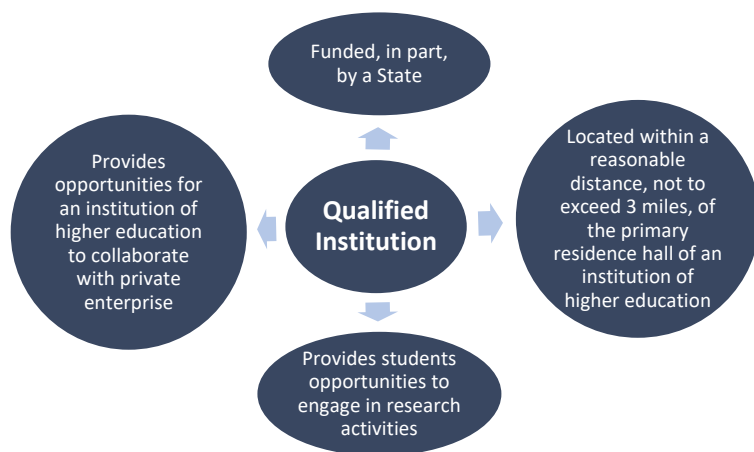


Figure 1. Criteria for qualified institutions to partner with USDA for BPP



KEY DEFINITION: COVERED AGRICULTURAL COMMODITY

A covered agricultural commodity is any agricultural commodity, food, feed, fiber, livestock, oil, or a derivative thereof, that the Secretary of Agriculture determines to have been used in the production of materials that have demonstrated market viability and benefits as of the date of enactment of the Infrastructure Investment and Jobs Act.

The purpose of BPP is to advance development of cost-competitive bioproducts with environmental benefits compared to incumbent products.² Anticipated activities include environmental and waste management implications and product development and scale-up. The benefits to be studied and priorities of BPP include:

¹ The Infrastructure Investment and Jobs Act, Public Law 117-58, signed on November 15, 2021. Title V, Section 70501, established the Bioproduct Pilot Program.

² Bioproducts are produced from renewable matter, usually found in the form of living plants.

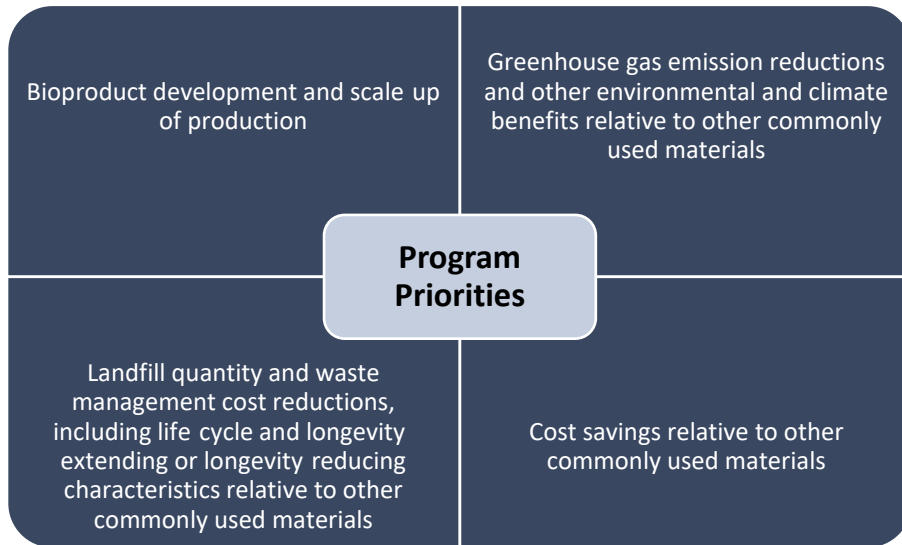


Figure 2. BPP priorities

Funding and Awards

IJA appropriated \$10 million to BPP until expended, \$5 million for each of fiscal years 2022 and 2023. In December 2022, USDA announced a \$9.5 million investment to fund BPP projects to three awardees to support the scale-up of sustainable bioproduct manufacturing in the United States. These three awards, which were awarded in fiscal year 2023, each have a grant duration of 36 months.³

The objectives of the three awarded BPP grants aim to manufacture bioplastic products from food waste, use organic waste (e.g., food waste and swine manure) to pave renewable roads, and scale-up soybean oil-based thermoplastic products for sustainable asphalt pavements.



Figure 4. One BPP grantee is using food waste and swine manure in producing biobinders to mix with commercial binders to pave a section of road. USDA photo by Tom Witham. It does not depict any particular audit or investigation.

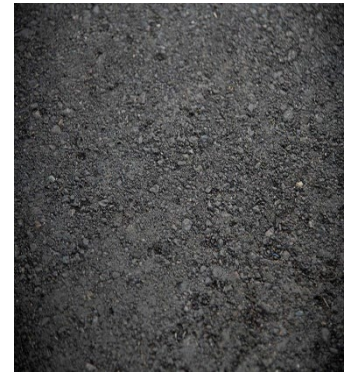


Figure 3. Asphalt that uses a soy based binding agent from the Farm Progress Show. Soy based binding agents are one product being researched by BPP. USDA photo by Lance Cheung. It does not depict any particular audit or investigation.

³ NIFA received 20 applications through the Request for Applications for BPP. There was no commitment for NIFA to fund any particular grant application or to make a specific number of awards.

Of this \$10 million, NIFA allocated BPP funding as follows⁴:

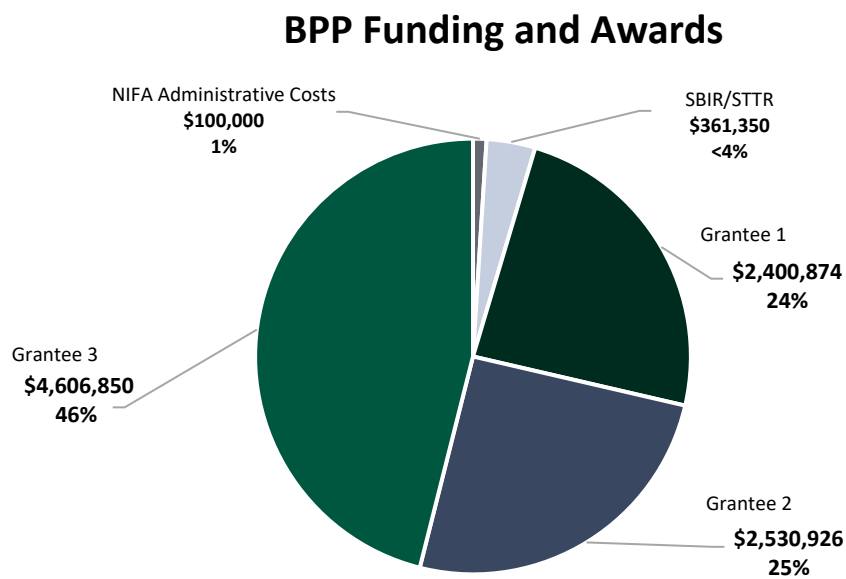


Figure 5. BPP funding and awards⁵

BPP Award Process

NIFA used a competitive process to issue funding for BPP. Competitive grant programs enable NIFA to attract a large pool of applicants to work on agricultural issues of national interest and to select the highest quality proposals submitted by highly qualified eligible individuals, institutions, or organizations. Competitive grant awards are made following a peer-review process.

According to NIFA's policy guide, NIFA evaluates competitive grant applications through a competitive process that is fair, equitable, timely, and conducted in an unbiased manner.⁶ NIFA evaluates each application for a competitive grant in a two-part process. First, NIFA program staff screen each application to ensure it meets the administrative requirements set forth in the Request for Applications (RFA).⁷ Second, a scientific peer-review process is used to technically evaluate applications that have met the administrative requirements using a review panel. The peer review process ensures



DID YOU KNOW?

Although BPP is administered by a team of experts from NIFA's Institute of Bioenergy, Climate and Environment, NIFA relied on stakeholder input from other USDA agency partners, such as Rural Development's BioPreferred Program and Forest Service's Wood Innovations Team and Forest Products Lab. According to NIFA officials, these Federal agencies used their expertise to provide input on the Request for Applications to encourage industry involvement.

⁴ The projects from Grantee 1 and Grantee 3 have had funds disbursed as of June 2023.

⁵ The Small Business Innovation Research (SBIR) program and the Small Business Technology Transfer (STTR) program are programs that NIFA administers for USDA. These programs have funds set aside from the appropriations of other USDA programs (3.2% for SBIR and 0.45% for STTR).

⁶ USDA NIFA, *Federal Assistance Policy Guide*, NIFA-21-002 (Apr. 2021).

⁷ The RFA is a formal statement used to solicit grant or cooperative agreement applications.

that NIFA funds proposals with high scientific merit that address the goals and requirements of the program. NIFA’s evaluation process for BPP proposals included the following:



Figure 6. NIFA’s scientific peer review process for competitive grants, such as BPP grant awards

The evaluation criteria for BPP included the reasons and importance of the project objectives and approach; project assessment (performance monitoring and outcomes); institutional capacity, division of labor and management plan; and budget justification. Generally, under NIFA’s peer review system for competitive grants, proposals are funded according to the panel recommendations until program funds are exhausted.

Recent OIG Review of a NIFA Grant Program

Although USDA’s Office of Inspector General (OIG) did not perform an in-depth review of the BPP grant program, we issued an audit report in June 2023 on another competitive NIFA grant program that shares some similarities with BPP. Specifically, OIG audited NIFA’s Agriculture and Food Research Initiative (AFRI), a competitive grant program with a similar peer review selection process to BPP.⁸ Our objectives for the audit were to determine whether NIFA designed and implemented adequate internal controls over selection of AFRI grant recipients under a system of peer and merit review, and monitoring of AFRI projects’ compliance with grant agreement terms and conditions, and fulfillment of their stated objectives.

The audit found that NIFA designed adequate controls over the peer and merit review system when selecting AFRI grant recipients. However, OIG found that NIFA needs to improve its monitoring of AFRI grants (see Figure 7).

For the AFRI audit, OIG recommended that NIFA establish a process to periodically review grants for timely close out and deobligation of funds; establish a process to document reasons

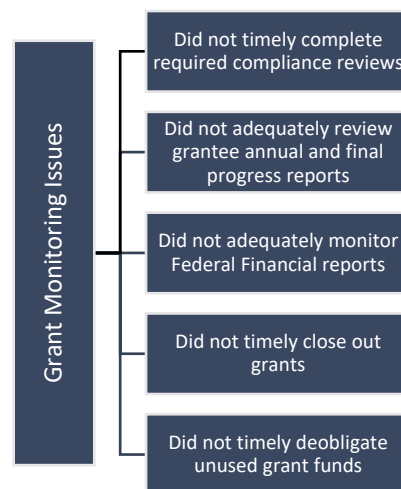


Figure 7. Areas identified by USDA OIG’s audit where NIFA needs to improve its monitoring of AFRI grants

⁸ Audit Report 13601-0002-22, *Agriculture and Food Research Initiative* (June 2023).

for untimely completing a compliance review; and establish a process to document monitoring of grantees' progress reports and Federal Financial reports.

To the extent that BPP awarding and monitoring processes are similar, the results of OIG's AFRI work may assist NIFA officials in administering BPP grants.

Objective, Scope, and Methodology

Our work included reviewing and reporting information about BPP from the Infrastructure Investment and Jobs Act for transparency and disclosure. The scope of our work includes information about NIFA's BPP from November 15, 2021, to March 15, 2023. This report includes information about the program as of July 2023.

To accomplish our objective, we gained an understanding of BPP through review of publicly available information, discussions with NIFA officials, and a review of relevant documentation obtained from NIFA. We provided a draft of this report to NIFA officials for their review and technical comments. We have incorporated their comments into our report, as appropriate.

We conducted our inspection in accordance with the Council of the Inspectors General on Integrity and Efficiency's *Quality Standards for Inspection and Evaluation*.

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