



## Innovation Ecosystem 2024 Year-End Update

# Biobased Products

With the critical support of the Iowa Legislature – and in partnership with **BioConnect Iowa** – Iowa State University of Science and Technology continues to forge new frontiers in innovation supporting the growth of Iowa's biobased

### KEY AREAS OF EMPHASIS

The Biobased Products innovation ecosystem continues to connect industry to university faculty to expand and support commercially relevant research and development at Iowa State.

- Eleven total projects were supported in calendar year 2024 with grants in areas such as essential oils as a seed coating for soybean disease management and novel wastewater treatment management with 3D printed microbials.
- A record number of proposals were received for the FY2025 Biobased Products Innovation grant program, and ten were awarded. Partner companies include Iowa Select Farms, new ISU startup company ImPETus, VIA Biofuels, and Kent Corp.
- Including FY2025, the Biobased Products platform will have funded over 40 different research projects led by 35 primary investigators supporting 12 ISU startup companies and partnering with 18 established Iowa-based companies.

The platform also continues to focus on adding scale-up capability and infrastructure that supports biobased products commercialization:

- The Biobased Products platform has taken the lead in a partnership with BioMADE, a Department of Defense manufacturing institute, for the design and construction of a fermentation scale up facility in Iowa – Project Gemini 2. Iowa is one of six state finalists for a possible BioMADE award.
- Proposed to be located at ISU's BioCentury Research Farm, the facility would include one 10,000- and two 5,000-liter fermenters and associated downstream equipment, representing an investment of \$30M. The platform is working with IEDA and BioMADE on securing funding.
- The project de-risking and proof of scalability outputs the facility will provide will make it a go-to for companies evaluating a wide range of bioprocessing projects. It will also create more value for Iowa feedstocks and more distributed manufacturing jobs across the state.

### KEY ACCOMPLISHMENTS AND ECONOMIC IMPACTS

More than \$3 million in research awards have been received by ISU in Biobased Products areas in 2024, including:

- \$2.25 M from the Department of Energy.

- \$576,000 from [Schmidt Sciences](#).
- \$160,000 from DOE for a new device.

Iowa State-related biobased startup company progress includes (each has received Biobased Products grant funding):

- Upcycling+, which is developing technology to convert waste plastics to fuels and chemicals.
- Rise Energy, which is developing technology for conversion of biomass to fuels and biochar.
- Janas Materials, which has created technology for water-based wood coatings.

### KEY OPPORTUNITIES AND PRIORITIES FOR 2025

- The BP platform has and will continue to support ISU's proposal for a \$160 million NSF Engines program award. The project – RuralSTAMINA – has a significant bioprocessing and biomanufacturing focus.
- Continue to progress Project Gemini 2 to successful execution, while keeping state and ISU stakeholders engaged.
- Continue to advance the Iowa State startup company pipeline by moving grant projects into commercially viable technologies and connecting researchers to existing innovation ecosystem resources.

#### IOWA STATE UNIVERSITY POINTS OF CONTACT

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