

Contracted Work: SMART Broiler Program Evaluation

Request For Proposals

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About FFAR

The Foundation for Food & Agriculture (FFAR)'s mission is to build collaborative partnerships to support audacious science addressing today's food and agriculture challenges. To do so, FFAR has built a research investment model to fill critical knowledge gaps, develop solutions with momentous impact and prepare the scientific workforce to tackle impending challenges head on. FFAR's work requires significant collaboration across the food and agriculture system to foster multidisciplinary expertise, input from stakeholders and support from a range of funding partners. FFAR's convening capabilities and agile approach leverage public funds by building public-private partnerships — resulting in an average of \$1.4 in match to every \$1 of FFAR funding.

About the SMART Broiler Program

This research aims to identify Sensors, Monitoring, Analysis and Reporting Technologies (SMART) solutions that provide objective and comprehensive information about broiler welfare across the supply chain. SMART Broiler granted multiple research projects to individuals or groups aiming to develop technologies that objectively assessed welfare indicators in commercial broiler chicken facilities. The program was executed in two phases. Phase I focused on early technology testing and refinement. In Phase I, the SMART Broiler program invested a total of \$3,131,054 USD across six projects from 2019 to early 2022. Of those awarded funds, FFAR, McDonald's Corporation and USPOULTRY provided \$2,092,439 USD in funding with \$1,038,614 USD in additional partner match funding from 9 co-funders spanning industry and academia. Phase II focused on the validation of welfare assessment tools. In Phase II, a total of \$1,774,131 was invested across 3 projects from 2022 to early 2025. Of those awarded funds, FFAR contributed \$812,066 USD with McDonald's and Queen's University of Belfast providing \$962,066 USD. Two Phase II projects recently received \$671,481 in supplemental funding from FFAR, McDonalds and USPOULTRY to extend the research to late 2025.

In addition to FFAR contributions, to meet computing needs, <u>Amazon Web Services Inc.</u> provided cloud services to Phase I awardees. Additionally, <u>Accenture</u> served as a technical consultant to prepare awardees for scale-up and commercialization.



Program Aims

Phase I: Early technology testing and refinement

- Advance the development of hardware components and software configuration for accurate measurement of Key Welfare Indicators (KWIs), mobility and broiler behavior in commercial operations
- Develop data management and processing tools for KWIs, mobility and broiler behavioral assessment

Phase II: Validation of welfare assessment tools

- 1) Optimize hardware and software configuration for accurate measurement of KWIs, mobility and behavior in commercial broiler operations
- Advance the development of data management and processing tools for KWIs, mobility and behavioral assessment
- 3) Build case for commercial investment in these tools

Scope of Evaluation

FFAR seeks to evaluate the success of the SMART Broiler program. The evaluator, in collaboration with FFAR, will define criteria and standards of success (i.e. metrics); FFAR has established stages of research, development and deployment that the evaluator will use to track innovation and compare projects. It is important for the evaluator to capture project outputs, outcomes and where available, impacts (including how project outputs have influenced broiler production and/or informed animal welfare-related policy).

We envision a summative program evaluation to **assess outcomes and impacts** (of both phases and of the whole program), as defined in the FFAR Program Evaluation FAQs. Through the evaluation, we hope to uncover whether and how project deliverables are being used to date and contributing to both the U.S. and global food and agriculture systems. We foresee the evaluator conducting a cross-project comparative analysis for the nine projects, two of which received supplemental funding, using an agreed-upon set of metrics. Finally, we envision the evaluator creating 1-3 exemplary cases (i.e. detailed case studies) using a mixed methods approach, which includes quantitative analyses and qualitative analyses to calculate cost-effectiveness and counterfactuals. We expect all findings — and recommendations where applicable — to be evidence-based with references to supporting evaluation data (e.g., survey findings).



FFAR Will Provide

- Contact information for grantees and project partners
- Contact information for relevant FFAR staff
- High-level budget information for SMART Broiler projects
- High-level applicant demographics
- Annual and final reports submitted by grantees
- Project proposals for all grants (e.g., completed and still in progress)

Evaluator Data Collection Expectations

- Desk review of all FFAR project related documents
- Survey and/or interviews of project PIs, match partners, collaborators, value chain next- and end-users and other experts in the field of study
- Other data mining as deemed necessary

Evaluation Questions

- To what extent did funded projects advance the research and development of hardware components and software configuration for accurate measurement of welfare, mobility and behavior in commercial broiler operations.
 - Specifically, as related to KWIs like gait score/walking ability, leg health and expression of natural behaviors and activities, including individual or flock movement patterns.
- 2) To what extent did funded projects advance the research and development of data management and processing tools for KWIs?
- 3) To what extent did funded projects build the case for commercial investment in welfare measurement and data processing tools?
- 4) To what extent did project findings lead to improved broiler health, welfare and/or productivity in the poultry sector?

Evaluation Timeline & Products

Expected Products & Deliverables

- 1. Standalone external-facing executive summary of findings (2-5 pages)
 - It should overview the methodological rigor, highlight outputs and outcomes of the program backed by evidence of project success.
- 2. Cross-project comparison master spreadsheet with all compiled data
- 3. Slide deck presentation of preliminary findings



- 4. Outputs, Outcomes and Impacts Final report (30 page maximum) describing:
 - Evaluation background,
 - Methodology (as appendix item),
 - Findings including data visualization, interpretations of findings,
 - i. Final report findings and recommendations should be evidence-based with references to supporting evaluation data (e.g., survey findings, cross-project comparison table).
 - Conclusion.

Estimated Project Timeline

- Anticipated contract execution date: Friday, May 23, 2025
- Define criteria and standards of success for outcomes and impact assessment completed: Friday, June 19, 2025
- Fully compiled cross-project comparison master spreadsheet: Monday, October 20, 2025
- Presentation of preliminary outcomes and impacts findings: Monday, November 3, 2025
- Draft final reports, including exemplars: Friday, January 9, 2026
- Final reports and all deliverables: Friday, February 6, 2026

Estimated Project Budget

• \$80,000 to \$130,000 (USD)

Proposal Guidelines

All proposals are to be submitted by Wednesday, April 30, 2025, 5:00 p.m. PT deadline. Proposals should be submitted as a Portable Document Format (PDF) via email to cgambino@foundationfar.org with the subject line "SMART Broiler Program Evaluation Proposal."

FFAR welcomes individuals or teams with commercial broiler production knowledge, precision agriculture/smart farming and evaluative methods expertise to apply. If beneficial to the success of the evaluation process, FFAR may match one or more individuals into a team. A successful team will include individuals with evaluative methods experience (especially in evaluating research investments) as well as individuals with sufficient



technical depth and breadth in animal science, poultry science, veterinary medicine and/or engineering to evaluate the success of individual projects aimed at testing and validating technological solutions for assessing bird welfare in commercial settings.

Proposal Process Timeline

- Submission deadline: Wednesday, April 30, 2025
- Finalist presentations and panel discussions: Monday, May 12 through Friday, May 16, 2025
- Client reference checks: Monday, May 12 through Friday, May 16, 2025

Proposals Should Contain the Following Sections

- 1. Applicant background/overview (1 page maximum), including an indication of relevant expertise
- 2. Previous experience(s) of research program evaluation work with a similar or related scope (2 pages maximum)
- 3. Description approach and evaluation plan (5 pages maximum)
 - a. Including relevant indicators to assess proposed evaluation questions
- 4. Project budget and budget justification (this evaluation does not require matching funds)
- 5. Evaluation timeline
- 6. Project key personnel including roles and responsibilities
- 7. Team members' CVs
- 8. Links to deliverables from past evaluation projects of a similar scope
- 9. Client references

Finalist Presentation Preparation

FFAR will hold a 60-minute meeting (20-minutes presentation and 40-minute panel interview) with finalists via video conference. The presentation should highlight the applicants' approach, including the criteria and standards they envision being used to measure the success of projects and the SMART Broiler portfolio as a whole. Additionally, the presentation should include a brief explanation of methods, followed by a showcase of how collected data may be visualized.



The panel discussion may be used to clarify the methods used for collection and analysis of data. Additionally, the panel may inquire about past projects and previous client relations to ensure the applicant and FFAR are a good fit.