

## Egg-Tech Prize 2022 Request for Applications (RFA)

### Match is Optional for This Funding Opportunity

#### Key Dates

Full Application Open: July 20, 2022

Full Applications Due: August 31, 2022, by 5:00 PM ET

Award Notification: Fall 2022

Anticipated Project Start Date: Early 2023

### BACKGROUND

The Foundation for Food & Agriculture Research (FFAR) announces the final stage of a prize competition for technologies with the potential to accurately determine the sex of chicken eggs at commercial scale, in a manner that prevents the need for male chick culling and ideally allows male eggs to be used in other supply streams. The prize will reward innovative individuals, groups and/or companies that have made significant progress developing transformative *in ovo* sexing technologies.

### PROGRAM DESCRIPTION

The Egg-Tech Prize is a US \$6.0 million program from the Foundation for Food & Agriculture Research (FFAR) and Open Philanthropy intended to stimulate development of technologies for accurate, high-speed and early-stage *in ovo* sex determination of layer chicks. In 2019, FFAR awarded approximately US \$2.0 million in Phase I Seed Grants to support the investigation and early development of novel, primarily non-invasive approaches to solving the egg-sexing challenge. In the second and final phase of the program, the Egg-Tech Prize will offer US \$4.0 million to the individual(s) or team(s) that has developed a prototype that best meets criteria, established by the expert Egg-Tech Prize Steering Committee, for commercially viable *in ovo* sex determination technologies.

The Egg-Tech Prize has the potential to revolutionize global egg production by preventing the culling of day-old male chicks (cockerels) and improving the efficiency of global food production.

The final decision to award the prize will be made by the Egg-Tech Prize Steering Committee, based upon their evaluation of the technology to provide a scalable, commercially viable solution to male chick culling worldwide. Technologies will be scored for their ability to meet the criteria published within this RFA. FFAR reserves the right to determine final award amounts, including but not limited to making no awards to awarding a portion of the prize funds available.

## **ELIGIBILITY**

FFAR welcomes applications from all domestic and international higher education institutions, non-profit and for-profit organizations, and government-affiliated research agencies.

Any individual(s) with the skills, knowledge, and resources necessary to perform the proposed research as Program Director(s)/Principal Investigator(s) may apply through their home institution or organization.

## **AWARD INFORMATION**

FFAR anticipates making one award of US \$4.0 million under this funding opportunity. Given this is a prize, a typical budget and scientific workplan are not required for submission. However, applicants are expected to describe how they will use the prize funds, if awarded, to further refine, develop and bring the technology to market. Prize funds will be disbursed in annual installments of US \$1.0 million for four (4) years.

**Matching funds are optional for this funding opportunity.** The funded applicant will receive annual disbursements contingent upon meeting reporting requirements (see Post Award Management below). FFAR reserves the right to request additional information that may affect the final award amount.

A budget justification is required but a detailed budget will not be required for this funding opportunity. Applicants are encouraged to contact [FFAR's Grant Team](#) to discuss any questions or concerns.

### **Topics Not Supported Under this Prize**

Proposals that involve gene-editing are not eligible for consideration under this funding opportunity.

## **SUBMISSION REQUIREMENTS**

Applicants must submit the application for funding using FFAR'S Grant Management System. All information provided will be treated as confidential. All applications will be evaluated according to the criteria below. The most promising applications will be invited to provide a live presentation to the Egg-Tech Prize Steering Committee with the opportunity for questions and answers. **Applicants must submit a full application to be invited to present to the Egg-Tech Prize Steering Committee.**

### **Full Application Components**

#### *Required components*

- Project title (*up to 250 characters*)
- Program Director or Principal Investigator (name, affiliation, contact information)
- Key project personnel – name(s), affiliation, expertise, project role

- Location/s of performance
- Project abstract (*up to 250 words*)
- Project Description and Approach (*up to 1500 words total. Please address each of the following questions*)
  - o Describe how the technology functions. Does it require consumables?
  - o Describe the physical aspects of the equipment (e.g. size/dimensions).
  - o At what day of incubation does the technology function?
  - o How does the technology preserve the use of male eggs in other applications?
  - o What is the accuracy of sex determination? In what breeds/colors of hens?
  - o What is the throughput for a single prototype/piece of equipment (e.g. eggs per hour)?
  - o How many units of the technology would be needed to sex eggs at commercial scale?
  - o Describe how the equipment can be incorporated into existing hatchery infrastructure.
  - o To what degree does the approach impact hatching rate? (provide % change from baseline)
  - o What is the lag time for results (i.e. time between testing the eggs and receiving results)?
  - o How are the eggs identified, tracked and/or sorted?
- Please provide an economic analysis that includes, to the extent possible, the following components (*up to 1500 words. Please address each of the following questions*):
  - o Direct costs of the equipment --
    - Capital costs incurred by technology developer, per hatchery.
    - Capital investment for equipment/structure modification by hatchery.
    - Predicted annual maintenance costs.
    - Predicted annual consumables costs.
    - Predicted personnel training and labor requirements (hours).
  - o Indirect costs --
    - Expected utilities requirements of technology.
    - Potential revenue models --
    - Lease, subscription, sales, other.
  - o Other revenue streams for developer.
    - Predicted revenues gained for hatchery in diverting eggs, energy savings, labor, cost-savings from not feeding male chicks (depending on country), etc.
- Data management plan (*up to 250 words*)
- Barriers to adoption of the research outcome(s) (*Note: FFAR strongly encourages applicants to address social and economic factors in the project design, evaluation processes, and outcomes, where applicable.*) (*up to 250 words*)
- Organization Assurances
- Budget (*a detailed budget is not required*)
- Budget narrative: Provide a brief overview of how the funds will be used to further

- refine, develop and bring the technology to market. (*up to 500 words*)
- Budget justification by year (*up to 250 words*)

**Required Attachments:** Failure to provide these attachments will result in the application's disqualification.

- Current and Pending Support Form: complete for everyone listed as P.I. or Key personnel on the project
- References Cited, which will not count toward total word limit.
- [P.I. and Key Personnel Biosketch](#): five-page limit per individual listed as P.I. or key personnel in the project
- Supporting figures, tables, graphics, or equations, which will not count towards total word limit.
- Three-slide summary or description of the project

**Optional Attachments:**

- Additional Key Personnel
- Matching Fund Verification Letter(s) (if applicable)
- Letters of Support

## HOW TO APPLY

Full proposals must be submitted by the deadline date through FFAR's online application Grant Management System. Applications submitted outside of this System will not be considered.

To start a **new** application, please click [here](#). If you are a new user, register for an account by clicking "Create Account" button located under the email address field on the left side of the home page. Once you log in, you may begin working on your application. Please be sure to save your work often by clicking on "Save and Finish Later." To access a saved application, please do so through your [Grant Management Account](#).

Only full proposals submitted by the deadline through FFAR's Grant Management System will be accepted and considered eligible for evaluation. To be fair to all applicants, FFAR will not grant extensions to applicants who missed the deadlines posted in the Key Dates section.

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## ADDITIONAL INFORMATION

### Review Process

Submitted applications undergo an internal review by FFAR staff to assess if the project is relevant to the RFA and demonstrates the potential to meet the evaluation criteria. Those applications deemed to have significant potential for advancing the program objectives will be

evaluated by the Egg-Tech Prize Steering Committee. Based on their review, the Steering Committee may invite selected applicants to provide an overview of their technology and approach via an appropriate videoconferencing platform. ***Applicants must submit an application to be eligible for invitation to present to the Egg-Tech Prize Steering Committee.***

All Egg-Tech Prize Steering Committee members and any external reviewers who may be invited to participate in the review process must agree and adhere to the terms outlined in FFAR's [Conflict of Interest Policy](#) and [Non-Disclosure Agreement](#). FFAR makes reasonable efforts to ensure that applications are not assigned to reviewers with a real or apparent conflict with the applicant, institution, or project personnel. Reviewers with a conflict of interest are recused from evaluating or participating in the related discussions. Each stage of the review is conducted confidentially, and as such, FFAR and the Egg-Tech Prize Steering Committee are responsible for protecting the confidentiality of the contents of the applications.

## Evaluation Criteria

All applications will be screened for relevance, accuracy, completeness, and compliance with the guidelines stated in this RFA. Full applications then will be evaluated according to the following criteria:

### ***Strategic Impact***

#### **Day and potential to utilize male eggs (25 pts)**

At minimum, the technology functions on or before day 8 of incubation. Higher scores for solutions with lower incubation times. Technologies that function pre-incubation are most preferred. Protocols involving short periods of incubation during egg storage (SPIDES) will be considered pre-incubation and given preference. Preference will be given to technologies that enable the use of male eggs in other applications.

#### **Accuracy (20 pts)**

At a minimum, the technology should function with 98% accuracy. Preference will be given to technologies that work with higher accuracies and with all chicken breeds/colors commonly used in commercial production.

### ***Feasibility***

#### **Economic Feasibility (20 pts)**

Score for this criterion will consider economic feasibility based on a cost-benefit analysis and business plan. Higher scores should be given for solutions that could be economically feasible, based on the analysis provided, should they be scaled.

### ***Potential Outcomes***

#### **Throughput and physical size (15 pts)**

The technology must have potential for sexing at least 15,000 eggs per hour. If multiple units will be used in combination to achieve the desired throughput, only one unit needs to have been built to date, but all units needed to meet desired throughput must fit into existing hatchery structures, with reasonable and appropriate modifications. Higher scores should be given for solutions that, based upon the description of their physical size, number and throughput, can be integrated most efficiently into existing hatchery infrastructure.

**Hatchability (15 pts)**

At a minimum, the approach should not reduce hatching rate > 1.5% from baseline.

**Speed of test results (5 pts)**

The technology should take no longer than 30 min to provide test results if eggs are tested during incubation (allowable time for removal, testing and return to incubator)<sup>†</sup>. If eggs are tested prior to incubation (with or without SPIDES), results must be available within 48 hours of testing. Accurate tracking and identification of eggs must be demonstrated.

## Award Administration

**Selection Notice:** Following the full application review process, the principal investigator and the authorized organization representative listed on the project will be officially notified by email of the status of the application. If an application is selected for funding, the steering committee reserves the right to request additional or clarifying information for any reason deemed necessary. Potential grantees are free to accept or reject the Grant Agreement as offered.

**Intent to Fund Notification:** FFAR notifies applicants of their awards by email. The notice does not constitute an award or obligate funding from FFAR until there is a fully executed Grant Agreement. FFAR encourages applicants to review a [sample Grant Agreement](#) before applying to ensure they know the terms under which grants are offered.

**Grant Terms and Conditions**

FFAR expects applicants to have reviewed the [Sample Grant Agreement](#) before applying to ensure that the applicants are aware of the applicable terms under which the grant is offered. Successful applicants are strongly encouraged to sign the Grant Agreement as presented.

**Requirement to Demonstrate Matching Funds:** **Matching funds are optional for this funding opportunity.** If the applicant provides matching funds, the applicant agrees to identify and certify matching funds annually before disbursement of award funds. The match share is intended to supplement, not supplant existing funding for the principal investigator (PI). The applicant will abide by FFAR's [Matching Funds Guidelines](#) to meet FFAR's matching requirements. To constitute a valid match, all matching funds on a FFAR grant must be expended during the grant period.

## Post-award Management

**Annual Reporting Requirements:** The grantee must provide annual scientific and financial update progress reports. The annual reports should include activities performed under the prize, highlighting project accomplishments.

**Final Report Requirements:** Within 90 days of completing the project, the grantee shall provide a final project report. This report should address the project objectives outlined in the original grant application, describe any modifications to the project objectives and scope, describe the final project accomplishments, and include a final project accounting of all grant funds. Publication and data-sharing should be addressed as outlined in the RFA.



*Scientific Integrity:* FFAR strives to advance knowledge and the application of science to address challenges related to sustainable agriculture. FFAR's ability to pursue its objective depends on the integrity of the funded science projects. All FFAR grants must be conducted with the highest standards of scientific integrity.

## **CONTACT INFORMATION**

For questions related to the online submission system, please contact FFAR's Grant Management team at [grants@foundationfar.org](mailto:grants@foundationfar.org).

For other questions related to the Egg-Tech Prize, please email Dr. Tim Kurt at [tkurt@FoundationFAR.org](mailto:tkurt@FoundationFAR.org). We only accept scientific or programmatic and grants inquiries by email.

FFAR strives to respond to inquiries within two business days, but our response time depends on the volume of questions received and the complexity of the questions asked. Please note that we do not monitor mailboxes on evenings, weekends, or federal holidays.