



J-WAFS
Abdul Latif Jameel
Water & Food Systems Lab

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J-WAFS Grant for Transforming Animal Agriculture Systems
Fall 2020 Call for Proposals

One of the most important challenges of our time is the question of how to feed a growing population in a sustainable manner—protecting the environment our food production systems depend on, providing a fair livelihood for those employed in food production, and maintaining the ethical treatment of animals that constitute a significant part of those systems.

The production of food from animals, including meat, milk, and eggs, has largely been industrialized in developed countries, providing a substantial portion of the typical diet in those countries with minimal human labor, but imposing significant environmental and other impacts that are often poorly monitored and regulated, and largely unaccounted for in economic terms. Problems associated with industrial animal food production (IFAP) range from environmental pollution related to the concentration and improper disposal of animal waste and climate change impacts from methane emissions, to misuse of antibiotics, related human health implications, and animal welfare concerns. Developing countries still largely rely on smaller farms, but IFAP is expanding as these countries seek to intensify their food production systems, while meat consumption in these countries rises as per capita income increases. This presents a challenge as well as an opportunity: how to prevent these food production systems from mirroring the negative impacts of IFAP in developed countries.

J-WAFS is offering grants in the range of \$15-25,000. The grants are supported by the J-WAFS Fund for Reducing Negative Impacts of Industrial Animal Agriculture. All current members of the MIT community interested in transforming animal agriculture systems are eligible. Support for teams will also be considered, though at least 50% of the team must be from MIT, and the proposed work must be substantially based on research or related efforts conducted at MIT. Funding requests should be aligned with the scope and duration of proposed activities. Funds for this grant are intended to support a project with a one-year to 18-month timeline. Please note that given the present uncertainty due to the global Covid-19 outbreak and the Institute's evolving response, we will consider delayed start dates, particularly for proposals that involve travel.

The grants are intended to further work being pursued by individuals as part of their MIT research, innovation & entrepreneurship, coursework, or related activities. Proposals should be for implementation projects, including, for example, field work or engagement with policy makers related to an MIT-based research project; development of a prototype of a technology solution; a pilot study or planning grant; or development of communications or educational materials related to MIT research.

Low- and middle-income countries (LMICs) are a focus and priority of the Grants for Transforming Animal Agriculture Systems, and proposals should address animal agriculture in LMICs as at least one

of the project's key focus areas or topics. For proposals that do not have a specific geographic focus, the impact of the research on LMICs should be made explicit in the narrative.

Examples of relevant challenges could include but are not limited to the following:

- Reducing the environmental footprint of animal agriculture
- Addressing the social and economic impacts of animal agriculture
- Improving animal and human health

(Further examples are provided in the appendix.)

Eligibility

- For single proposers, eligible individuals include MIT faculty members and full-time research staff, and currently matriculated MIT graduate and undergraduate students.
- Small teams with at least 50% MIT participation and an eligible individual in the leadership role will be considered for funding.
- The proposed work must be an MIT project: It should be substantially based on research or related efforts conducted at MIT. (If you have questions about this, please contact us before you submit your proposal.)
- Local partners are encouraged but the funding from this grant should support MIT personnel and activities.
- Grants can be used over the course of one-year to 18-months, to support travel, technology pilots, scale-up studies, community outreach and education, etc. Funds may not be used for MIT equipment purchases.

Application Process and Timing

Eligible applicants should submit a proposal, following the attached guidelines, to https://webportalapp.com/webform/animal_ag_submission_form. Proposals and any accompanying materials are due by 5 pm on **Wednesday, October 28, 2020**.

Awards will be announced by the end of the fall semester, and the work supported by the grant may commence during 2021 IAP or the beginning of the spring semester, or during the summer of 2021.

Selection Criteria

Grants will be awarded based on: (1) the importance of the problem, appropriateness of the proposed activity to address problem, and the relevance to LMICs ; (2) evidence of the applicants' commitment to the chosen problem/activity; (3) the likelihood of successful outcomes; and (4) the necessity of receiving this funding in order to achieve these outcomes.

For more information contact Andi Sutton, communications and program manager, at arsutton@mit.edu and (617) 715-4222.

**J-WAFS Grant for
Transforming Animal Agriculture Systems
Proposal Guidelines**

A pdf of your proposal compiling all required sections following the guidelines below should be submitted no later than 5 pm on **Wednesday, October 28, 2020**. To upload your information and the proposal pdf, please go to https://webportalapp.com/webform/animal_ag_submission_form.

Part 1: Grant proposal cover page

Include your name, title/affiliation and contact information; all team members' names, titles, and affiliations; proposal title; project dates

Part 2: Proposal

Section 1: Description of problem being addressed (*1/2 page*). The relevance to LMICs must be addressed.

Section 2: Proposed solution (*max 1 page*)

Describe what is being done to address the problem and how the solution is expected to work, anticipated outcomes, prior research or evidence that it will work, etc.

Section 3: Outline of work plan and timeline (*max 2 pages*)

Describe the proposed activities to be funded by this grant and how they relate to the problem being addressed as well as the solution.

Include a detailed description, the start date and timeline for these activities, any relationship to other ongoing efforts, and the role of any local partners.

If the proposal is being submitted by a team, include a description of individual team member's roles/responsibilities.

Section 4: Funding (*max 1 page*)

a. Requested funding, budget, and justification. Include a breakdown of specific costs and sufficient detail to explain what the funding will cover and why it is needed. The budget should include overhead based on [MIT fund account overhead rates](#). Please contact Jasmine Edo <jedo@mit.edu> if you need a budget template.

b. Other resources. Describe other financial or in-kind resources that have been secured or are being applied for to support this activity. If applicable, include a column in your budget showing line items covered by other funding sources.

Section 5: About the applicant(s)

- a. Resume(s) or CV(s) of each participant (*two pages maximum per person*)

- b. Brief (*1-2 paragraph*) personal statement describing the history of your commitment to the problem/activity and any plans for future work in this area beyond the requested funding.

Section 5: Additional information

Use this section to provide any additional relevant information for the review committee.



J-WAFS Grants for Reducing Negative Impacts of Industrial Animal Agriculture: Examples of Proposal Topics

Please note: These are examples; other topics addressing the general challenge of reducing the negative impacts of industrial animal agriculture are welcome.

Reducing the environmental footprint of animal agriculture:

Sensors for measuring and tracking pollution from industrial animal facilities
Nutrient management including nitrogen from fertilizer and feed production
Climate change impacts (tracking emissions, reducing methane from manure, methane from cows)
Reducing food waste and animal product waste
Reducing the water footprint of animal agriculture
Reducing air quality impacts and nuisance issues related to large-scale animal agriculture
Applying principles of the circular economy to animal agriculture
Modeling and life cycle assessment methods
Animal agriculture and biodiversity loss
Effluent buildup and nutrient pollution from aquaculture

Addressing the social and economic impacts of animal agriculture:

Economic impact on rural communities of large-scale animal agriculture
Human dietary changes and demand for animal protein
Alternatives to animal protein
Economic and supply chain models
Supply chain traceability
Role of extension services to improve sustainability of animal agriculture
Labor issues related to industrial animal agriculture
Animal welfare issues related to industrial animal agriculture
Economic and policy studies addressing animal agriculture
Alternatives to industrial animal agriculture (e.g. open water farming, open grazing)
Policies to keep small and medium scale production economically competitive, esp. in developing countries)
Role of international trade in the animal agriculture industry
Land use and animal agriculture

Improving animal and human health:

Animal nutrition
Reducing use of hormones and antibiotics in industrial animal agriculture (implications for antibiotic resistance, human health impacts)
Food safety (e.g. feed safety, control of diseases passed to humans through meat)
Approaches to disease prevention and overall health of agricultural animals
Spread of disease and parasites in aquaculture; impact on local wild fisheries