

USDA Request for Expressions of Interest
2017 Borlaug Fellowship Program for
Africa: Animal Health and Nutrition

**NORMAN E. BORLAUG INTERNATIONAL AGRICULTURAL SCIENCE
AND TECHNOLOGY FELLOWSHIP PROGRAM
(BORLAUG FELLOWSHIP PROGRAM)**

**FISCAL YEAR 2017 NOTICE OF FUNDING OPPORTUNITY
for
Africa: Animal Health and Nutrition**

Application Deadline: June 16, 2017 @ 11:59 PM EDT

Email: BorlaugProposals@fas.usda.gov

Website: <http://www.fas.usda.gov/programs/borlaug-fellowship-program>

Catalog of Federal Domestic Assistance Number (CFDA) – 10.777

USDA Funding Opportunity Number: BFP-2017-AFRICA-ANIMAL HEALTH AND NUTRITION

This announcement is also being distributed through USDA's EzFedGrants system under the following Notice of Funding Opportunity (NOFO) numbers:

USDA-FAS-10777-0700-10.-17-0009

USDA-FAS-10777-0700-10.-17-0023

USDA-FAS-10777-0700-10.-17-0027

USDA-FAS-10777-0700-10.-17-0030

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**U.S. DEPARTMENT OF AGRICULTURE
FOREIGN AGRICULTURAL SERVICE
OFFICE OF CAPACITY BUILDING AND DEVELOPMENT
NORMAN E. BORLAUG INTERNATIONAL AGRICULTURAL SCIENCE AND TECHNOLOGY FELLOWSHIP
PROGRAM**

ISSUED BY: USDA Foreign Agricultural Service, Office of Capacity Building and Development

CATALOG OF FEDERAL DOMESTIC ASSISTANCE (CDFA) NUMBER: 10.777.

CDFA TITLE: Norman E. Borlaug International Agricultural Science and Technology Fellowship

NOTICE OF FUNDING OPPORTUNITY TITLE: Borlaug Fellowship Program 2017, Africa, Animal Health and Nutrition

NOTICE OF FUNDING OPPORTUNITY NUMBERS: BFP-2017-AFRICA-ANIMAL HEALTH AND NUTRITION

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AUTHORIZING AND APPROPRIATION AUTHORITIES: The legislative authority for the Borlaug Fellowship Program is provided in 7 USC 3319j, Pub. L. 95-113, title XIV, §1473g, as added Pub. L. 110-234, title VII, §7139, May 22, 2008, 122 Stat. 1231, and Pub. L. 110-246, §4(a), Title VII, §7139, June 18, 2008, 122 Stat. 1664, 1992. Authority also comes from the National Agricultural Research, Extension, and Teaching Policy Act of 1977 enacted as Title XIV of the Food and Agriculture Act of 1977, 7 U.S.C. 3319(a), 7 U.S.C. 3318(b).

PROGRAM TYPE: New

AWARD TYPE: Cost Reimbursable Agreement for U.S. Universities

PROGRAM OVERVIEW, OBJECTIVES, AND PRIORITIES

The United States Department of Agriculture's (USDA) Foreign Agricultural Service (FAS) announces the availability of funding through cost reimbursable agreements for the Norman E. Borlaug International Agricultural Science and Technology Fellowship Program (Borlaug Fellowship Program). These Fellows have been competitively selected based on research priorities, academic and professional accomplishments, commitment to Borlaug Fellowship Program goals, and leadership qualities. The Fellow's proposal and research plan appears at the end of this notice. USDA recommends that the program begin in the fall of 2017; however, priority should be given to a time that is appropriate for the Fellow's proposed research topic. The program's duration should be 12 weeks unless otherwise indicated.

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Here is a summary of the applicant and a brief description of his or her research topic:

Fellow #1 (Male); Uganda; In-depth investigation of the epidemiology of Rift Valley Fever outbreak in Kabale district, Uganda.

Fellow #2 (Female); South Africa; Potential use of cryopreservation and reproductive technologies for South African indigenous pigs

Fellow #3 (Female); South Africa; The aim of the study is to evaluate the effects of various enzymes on the efficiency of broilers to utilize high fiber diets to enhance gut health, optimize nutrient utilization efficiency and body weight gains.

Fellow #4 (Female); Uganda; Molecular characterization and phylogeny of brucella isolates from recent animal disease surveillance program in Uganda

[Section VII](#) provides the Fellow's research proposal with background information and research plan.

This notice identifies the Borlaug Fellowship Program deadline, legislative authority, eligibility and proposal requirements, funding restrictions, cost share requirements, allowable and unallowable costs, reporting requirements, program purpose and priorities, focus areas and recommended topics, application and submission information, application review, selection and notification process, agency program contact information, and mailing address.

FEDERAL AWARD INFORMATION

AVAILABLE FUNDING: Up to \$40,000 for each award

PROJECTED NUMBER OF AWARDS: 1

PERIOD OF PERFORMANCE: 2 years

An extension to the period of performance may be permitted in certain circumstances. The awardee must request an extension at least 90 days prior to the end of the period of performance, including a justification to explain why the statement of work cannot be completed during the original period of performance.

PROJECTED PERIOD OF PERFORMANCE START DATES: between July 1, 2017 and January 1, 2018

PROJECTED PERIOD OF PERFORMANCE END DATES: between June 30, 2019 and December 31, 2019

FUNDING INSTRUMENT: Cost Reimbursable Agreement

DEADLINE: Applications must be received by June 16, 2017 by 11:59 p.m. Eastern Daylight Time. Applications received after this deadline will not be considered for funding.

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ELIGIBILITY CRITERIA

ELIGIBLE APPLICANTS: Public and state controlled institutions of higher education.

FAS will accept proposals from U.S. state cooperative institutions or other colleges and universities and minority serving institutions (MSIs). Proposals from smaller academic institutions, MSIs (in particular American Indian, Alaska Native, Pacific Islander, Hispanic, Asian American, and African American institutions) are especially encouraged to apply.

A proposal from a consortium of organizations must be submitted as a single proposal with one U.S. institution serving as the lead and all other organizations as team members, when applicable. An individual mentor must be identified for each Borlaug Fellow. A single mentor may not host two fellows simultaneously. The Principal Investigator (PI) and mentor must hold a position at an eligible U.S. institution.

FAS reviews proposed project costs to make certain those costs are reasonable and allowable per applicable federal regulations. This program is subject to the provisions of 2 CFR Part 200, grant, cooperative, joint venture, and cost-reimbursable agreement recipients/cooperators (including, universities, non-profits, States, Cities/Counties, Tribes, for-profits, and foreign organizations) are subject to Title 2 of the Code of Federal Regulations and other legal requirements, including, but not limited to:

- 1.2 CFR Part 25, Universal Identifier and Central Contractor Registration
- 2.2 CFR Part 170, Reporting Subaward and Executive Compensation Information
- 3.2 CFR Part 175, Award Term for Trafficking in Persons
- 4.2 CFR Part 180 and Part 417, OMB Guidelines to Agencies on Government wide Debarment and Suspension (Nonprocurement)
- 5.2 CFR Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, as adopted by USDA through 2 CFR part 400.

University indirect costs for cost reimbursable agreements are limited to 10% of direct costs in accordance with 7 USC 3319a. A cost share or cost match is not required. Management and Administration (M&A) Costs are not allowable. In addition to the above mentioned, all recipients are subject to the Federal Award's general terms and conditions, project narrative, and budget narrative, as well as the applicable authorization used to issue the Federal Award.

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Section I: FUNDING OPPORTUNITY DESCRIPTION

A. PROGRAM DESCRIPTION

The Norman E. Borlaug International Agricultural Science and Technology Fellowship Program promotes food security and economic growth by increasing scientific knowledge and collaborative research to improve agricultural productivity. This program targets promising, early- to mid-career, English-speaking scientists and policymakers from developing or middle-income countries. Fellows spend 8-12 weeks in the United States and work one-on-one with U.S. scientists in their field. Mentors coordinate the Fellows' training, and they visit the Fellows' countries for 5-10 days within 6-12 months after completion of the training in the U.S. to continue collaborative efforts.

During the program, the Fellows learn new research techniques, gain exposure to the latest scientific developments in various fields of agriculture, access fully-equipped laboratories and libraries, and learn about unique public-private partnerships that help fund agricultural research and science. Equally important, this program provides international scientists and policymakers with opportunities to establish long-term contacts with U.S. scientists and to apply newly gained knowledge from U.S. institutions to their country's research and development programs.

B. PROGRAM RESPONSIBILITIES OF HOST INSTITUTIONS

Assignment of a Principal Investigator (Training Coordinator)

The host institution will designate a contact person as the Principal Investigator (PI) responsible for coordinating all administrative and programmatic arrangements.

Assignment of a Mentor

A key component of the program is matching the Fellow with a mentor. The host institution will select an appropriate mentor for one-on-one work with the Fellow for the duration of the program.

Mentor Roles

- The mentor will establish a professional relationship, providing guidance and training in the Fellow's research and studies.
- The mentor will work with the Fellow before arrival to discuss appropriate work plan, site visits, and other arrangements. A work plan should be agreed upon and finalized no later than 2 weeks after the program start date.
- The mentor will provide draft of work plan through the PI to USDA/FAS for consultation and approval approximately 2 weeks before the commencement of the program.
- The mentor agrees to commit a significant amount of time each week for one-on-one work with the Fellow during the program.
- The mentor will continue communicating with the Fellow beyond the end of the program in the U.S. through the mentor visit.
- Mentor will submit semi-annual progress reports that indicate all program activities conducted (form SF-PPR).
- The mentor may assign other faculty members to assist with Fellow's training and research activities.
- Mentor may not be assigned to multiple Fellows during the same time frame.

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Mentor Follow-up Visit

- The mentor visit is an essential and unique part of the Borlaug Fellowship Program. The reciprocal visit is required, not optional.
- The mentor will work with the Fellow to plan a follow-up visit to the Fellow's home country. The trip should occur within 6 months to 1 year after the program ends.
- The PI should provide USDA/FAS with an agenda for mentor's travel, including goals and objectives.
- The PI **must** consult with USDA/FAS **prior** to finalizing plans or purchasing plane tickets for the reciprocal visit. Mentor's travel information must be provided for emergency contact purposes and country clearance (if required by the FAS Overseas Office).
- The mentor will provide a **trip report** highlighting the trip's activities and results through the PI to USDA/FAS within 30 days after the visit.
- The mentor should plan to meet with the USDA/FAS Attaché or staff from the U.S. Embassy while they are traveling, if feasible. USDA/FAS can assist with coordination prior to the trip.

Visa

- USDA/FAS will provide a DS-2019 for the Fellow to request and obtain a J-1 Visa. USDA/FAS will provide instructions to the Fellow regarding the application process, the amount of lead-time needed, and any paperwork required. The visa start and end date will be coordinated with the host institution who will be responsible for purchasing round trip plane tickets for the fellow to come to the U.S. for his or her program.

Travel and Transportation

- The host institution must comply with the Federal Travel Regulations (41 CFR 300 *et seq.*).
- The host institution will provide round trip, economy class, international airfare from the Fellow's home to the university.
- The host institution is responsible for arranging and purchasing all domestic travel related to the Fellow's training program.
- The host institution will provide housing for the Fellow for the duration of the training program, taking into account gender and cultural norms.
- The host institution will pay lodging fees directly. The host institution will not require the Fellow to pay for his or her lodging expenses, whether through reimbursement or advance payment.
- Lodging will include a private bedroom, private or shared bathroom, access to a laundry room, and access to a kitchen with pots, pans, and utensils.
- Basic necessities, such as sheets, towels, and cleaning supplies (if not already provided), will be provided for Fellow's use. The Fellow should not have to pay for these items.
- Lodging will be within walking distance to the campus/training location or easily accessible by public transportation.
- If public transportation is required to access campus/training location, the host institution will provide the Fellow with a bus pass or proper allowance for transportation expenses.
- When planning lodging options, the host institution should check with the Fellow and account for any special dietary restrictions or preferences.

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Meals and Incidentals (M&IE)

- The host institution will provide each Fellow with meal and living allowances for the duration of stay.
- Daily M&IE allowance shall be calculated based on current [GSA per diem rates](#).
- The host institution can determine the frequency of per diem allotments, but the Fellow **must** receive per diem within the first week of the Fellowship. The PI must inform the Fellow and USDA/FAS immediately if this cannot be accommodated.

Emergency Health Insurance

- The host institution will purchase emergency health insurance for the Fellow for the duration of stay, as required for all J1 Visa holders ([22 CFR 62.14](#)).
- The Fellow will not be required to purchase his or her health insurance and then be reimbursed.
- The host institution will educate the Fellow as to what is covered under health insurance policy, especially highlighting that **pre-existing medical conditions are not covered**.
- The host institution will alert USDA/FAS staff if any health/medical conditions arise during the Fellowship.

Communication

- The host institution will initiate contact with the Fellow as soon as possible.
- The host institution will develop the training program in consultation with USDA/FAS and the Fellow.
- The host institution will keep USDA/FAS informed regarding any logistical or program planning.
- The host institution will notify USDA/FAS immediately upon Fellow's physical arrival and departure from the U.S.
- The host institution will provide USDA/FAS with the Fellow's temporary U.S. address and phone number, and emergency contact numbers for the PI, mentor, or other appropriate institution personnel. This information is **required** so that Fellow can be reached in the event of an emergency.

Fellowship Program

- The host institution will provide educational materials and supplies to each Fellow necessary for their full participation in the fellowship.
- The host institution will pay for all fees related to the Fellow's training program, such as (but not limited to) technology fees, administrative fees, laboratory fees, etc.
- The host institution will arrange relevant field visits to a local farm, processing plant, private industry, or other related industry as applicable to the Fellow's training program.
- The host institution will ensure the Fellow submits an interim and final report (2-3 pages each) to USDA/FAS before the Fellow leaves the United States. USDA/FAS will provide a report template.

Orientation

- The PI/Training Coordinator will communicate directly with the Fellow at least 4-8 weeks **before** his or her arrival in the U.S. to ensure that all pertinent information is provided, including:
 - Name and contact information of PI/Training Coordinator
 - Name and contact information of mentor

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- Institution information, weather information, and clothing needs
- Housing and M&IE allowance
- Program plan and anticipated site visits
- Professional development expectations
- Reminder to bring any necessary prescription medications
- Explain what is and is not covered under emergency health insurance policy (e.g. no pre-existing conditions, no dental, etc.)
- Institution will provide an orientation upon the Fellow's arrival to acquaint them with campus and community resources:
 - Explain and demonstrate local bus/transportation options
 - Explain cultural and legal expectations
 - USDA will provide a welcome and orientation packet for mentors

Progress Reports

- The Principal Investigator or Mentor will submit **semi-annual** progress reports. The Principal Investigator or Mentor will use *Performance Progress Report (SF-PPR)* to submit semi-annual progress reports.
- The Principal Investigator or Mentor will submit a final report to USDA/FAS within 30 days after the Mentor visit. USDA/FAS will provide additional guidance and a template for the final report.
- Reports should include the following:
 - Summary of activities, accomplishments, and any problems encountered or overcome
 - Photographs, when possible
 - Completed program evaluations and action plan
- An invoice cannot be paid if a progress report is past due, and will not be paid until the required report has been received.

Financial Reporting

- Financial reports will follow the Uniform Administrative Requirements for Grants and Agreements, 2 CFR Part 200.
- Invoices will use the *Request for Advance or Reimbursement (SF-270)*.
- Invoices will be submitted electronically to SF-270InvoicesMailbox@fas.usda.gov and copied to the USDA/FAS program manager and USD/FAS program assistant.
- A summary of expenses that aligns expense totals to the agreement's budget line items must be included.
- A detailed breakdown of expenses must be included with SF-270. Payment will not be processed without supporting documentation.
- A final invoice must be submitted within 90 days of the end of the period of performance for the agreement.
- Costs must be reported in accordance with the regulations that govern the agreement, and must follow the applicable Federal cost principles 2 CFR 200. The institution cannot be reimbursed for costs that are contrary to the specific terms of the agreement or are outside its scope.
- A *Federal Financial Report (SF-425)* must be submitted semi-annually and within 90 days of the end of the period of performance for the agreement.

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- An invoice cannot be paid if a financial report is past due, and it will not be paid until the required report has been received.

SECTION II: APPLICATION AND SUBMISSION INFORMATION

A. ADDRESS TO REQUEST APPLICATION PACKAGE

This announcement contains all instructions and links to all forms required to complete the application. All applications must be submitted as PDF or Word documents. No mailed or facsimile submissions will be accepted. Email address is BorlaugProposals@fas.usda.gov.

B. CONTENT AND FORM OF APPLICATION SUBMISSION

Institutions may submit proposals to host more than one Borlaug Fellow. Institutions interested in hosting one or more Fellows should submit a proposal following the guidelines below:

- Complete *SF-424 Application for Federal Assistance* for a single Borlaug Fellow. USDA/FAS cannot accept applications for multiple fellows in a single application.
- Indicate the name of the institution applying to host the Fellows.
- Indicate the country, research interest, and reference number.
- Identify a Primary Investigator.
- Identify a Mentor. A Mentor may not be assigned to multiple Fellows who are in the U.S. at the same time.
- Provide a tentative research plan based on the Fellow's research proposal and action plan, including topics covered, field visits, and other activities.
- Include a narrative description of the proposed fellowship, how it will be administered, and the role of the university faculty and support staff.
- Provide a summary of relevant institutional capabilities for hosting international scientists and policymakers in the proposed field.
- Briefly describe the research expertise and international experience of the mentor in the Fellow's field of interest.
- Provide a one to two page curriculum vitae for the mentor and other collaborating researchers involved in the proposed program.
- Identify the expected skills or knowledge to be acquired by the Fellow at the end of the program
- Provide a program budget using *Standard Form -424A- Budget Information Non Construction Programs*, including a detailed budget worksheet (see page 12).
- Provide a budget narrative. All line items should be described in sufficient detail to enable FAS to determine that the costs are reasonable and allowable for the project in accordance with federal regulations.
- If attendance at the World Food Prize in Des Moines, Iowa during October 2017 is feasible, then the Fellowship may be extended one additional week, not to exceed 13 weeks, to ensure the Fellow receives up to 12 weeks of training.
 - If attending the World Food Prize, the budget should include time and funding for the Fellow and Mentor to attend. An adjustment to the Fellow's M&IE must be made for the time spent in Iowa.
- Complete [*AD-3030, Representations Regarding Felony Conviction and Tax Delinquent Status for Corporate Applicants*](#).

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- Complete [AD-3031, Assurance Regarding Felony Conviction or Tax Delinquent Status for Corporate Applicants](#)
- Complete the Host University Administrative Checklist on university administrative policies
- **If not submitting applications through the ezFedGrants portal at <https://grants.fms.usda.gov>, Submit all application materials as attachments to a single email.**
 - The primary document submitted in response to this REI with all information requested should be titled *Statement of Work*.
 - Include all application information that is not a specific form in a single PDF document.

Successful applicants will be required to submit all relevant national certifications and compliance documents prior to awards being issued.

C. UNIQUE ENTITY IDENTIFIER AND SYSTEM FOR AWARD MANAGEMENT (SAM)

All applicants are required to:

1. Be registered in SAM before submitting its application;
2. Provide a valid DUNS number in its application; and
3. Continue to maintain an active SAM registration with current information at all times during which it has an active Federal award or an application or plan under consideration by a Federal awarding agency.

FAS may not make a Federal award to an applicant until the applicant has complied with all applicable DUNS and SAM requirements and, if an applicant has not fully complied with the requirements by the time FAS is ready to make a Federal award, the Federal awarding agency may determine that the applicant is not qualified to receive a Federal award and use that determination as a basis for making a Federal award to another applicant.

FAS is using ezFedGrants, which is an electronic grants management system. Applicant(s) with electronic access are to submit their applications electronically through: <https://grants.fmmi.usda.gov>. As stated above before you can apply, you must have a DUNS number, be registered in SAM, and have access to the ezFedGrants website.

Applicants are encouraged to register early. The registration process can take approximately four weeks to be completed. Therefore, registration should be done in sufficient time to ensure it does not impact your ability to meet required submission deadlines.

DUNS number. Instructions for obtaining a DUNS number can be found at the following website: <http://www.dnb.com/duns-number.html>. The DUNS number must be included in the data entry field labeled "Organizational DUNS" on the Standard Forms (SF)-424 forms submitted as part of this application.

System for Award Management. In addition to having a DUNS number, applicants applying electronically through ezFedGrants must register with SAM. Step-by-step instructions for registering with SAM can be found here: www.sam.gov. Failure to register with SAM will result in your application being rejected during the submissions process.

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D. ezFedGrants System Access and Electronic Signature

Level 2 eAuthentication. The next step in the registration process is to obtain a Level 2 eAuthentication account that will allow access to the ezFedGrants system. Instructions for getting a Level 2 eAuthentication account can be obtained by emailing GrantorHelpdesk@fas.usda.gov.

Requesting a role in ezFedGrants: After obtaining eAuthentication, users will need a role in the system. Descriptions of the roles available and instructions on how to request a role can be obtained by emailing GrantorHelpdesk@fas.usda.gov.

Electronic Signature. Applications submitted through ezFedGrants constitute a submission as electronically signed applications. When you submit the application through ezFedGrants, the name of your Signatory Official on file will be inserted into the signature line of the application.

If you experience difficulties accessing information or have any questions please email the Helpdesk at GrantorHelpdesk@fas.usda.gov.

FAS may not make a Federal award to an applicant until the applicant has complied with all applicable DUNS and SAM requirements and, if an applicant has not fully complied with the requirements by the time the FAS is ready to make a Federal award, FAS may determine that the applicant is not qualified to receive a Federal award and use that determination as a basis for making a Federal award to another applicant.

E. SUBMISSION DEADLINES AND TIMES

Submit all application materials in a single email. Include all application information that is not a specific form in a single PDF document. The following forms are required: SF-424, SF-424A, AD-3030, and AD-3031. The primary document submitted in response to this NOFO with all information requested should be titled *Statement of Work*.

Funding opportunities will be distributed through ezFedGrants and advertised via the USDA/NIFA listserv. All proposals must be submitted through the ezFedGrants portal at <https://grants.fms.usda.gov> or to the email address below with all required forms. Proposals not submitted by the stated deadline will not be accepted. Borlaug Fellowship Program Proposal Email: BorlaugProposals@fas.usda.gov

F. FUNDING RESTRICTIONS

Allowable Costs:

To help in this review and to expedite the award process, budgets must include a narrative detailing all line items. The categories listed below are examples of some of the more common items found in project budgets. All items should be described in sufficient detail that would enable FAS to determine that the costs are reasonable and allowable for the project per federal regulations.

1. Salaries and Fringe Benefits:

Requested funds may be allocated toward salaries, fringe benefits, or the combination thereof. No more than 20% of the requested funds may be allocated toward salaries, consultant fees, fringe benefits, or the combination thereof. Only individuals that hold positions at eligible U.S. institutions should be listed in this category.

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2. Travel:

For domestic travel, provide the purpose of the travel and information used in calculating the estimated cost, such as the destination, number of travelers, and estimated cost per trip. There are several restrictions associated with traveling on federal funds. In most cases, airfare must be purchased in economy class from a U.S. carrier. Travelers must also adhere to federally mandated domestic per diem guidelines. Additional information may be found in the circulars listed in the “Legislative Authority” section of this announcement.

3. Supplies:

All personal property excluding equipment, intangible property, and debt instruments as defined in this section.

4. Other Direct Costs:

Other Direct Costs are those anticipated charges not included in other budget categories, including materials and supplies, lab fees, publication costs, reasonable consultant fees, computer services, sub-awards (the level of detail required for the sub-award budget is the same as the recipient organization), equipment rental, facility rental, conferences and meetings, speaker fees, honorariums.

5. Indirect Costs:

Indirect Costs may not exceed 10% of direct costs.

6. Tax Withholding:

Borlaug Fellows (as trainees, *not* students) are considered EXEMPT INDIVIDUALS under the IRS Substantial Presence Test for tax purposes. The exemption falls under one or both of the following categories: either the [Foreign Government-Related Individuals](#) standard or the [Closer Connection Exception](#). Tax treaties might also exist between the U.S. and the Fellow’s home country. The only requirement is to complete [IRS Form 8843](#) (Sections 1 and 2). No taxes should be withheld from Borlaug Fellows since they are exempt.

Unallowable Costs:

General purpose equipment (no particular scientific, technical, or programmatic purpose) and scientific equipment exceeding \$5,000 or more; entertainment; capital improvements; thank you gifts, and other expenses not directly related to the project are not allowed.

G. OTHER SUBMISSION REQUIREMENTS

All applications must be submitted electronically as indicated above.

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HOST UNIVERSITY ADMINISTRATIVE CHECKLIST

Please complete the following checklist concerning the university's policies on providing per diem funds to exchange visitors. This information is for USDA internal use only and does not determine your eligibility to serve as a host institution.

Host University Policies	YES	NO
Will the mentor listed in the proposal be present for the majority of the fellowship?		
Will the mentor be able to spend time meeting with fellow individually each week?		
Will the university be able to provide per diem within the first week of the Fellow's arrival?		
Will the university be able to provide fully furnished lodging with kitchen facilities?		
Does the university withhold federal tax on the participants' per diem and housing? * If so, you must list this expense as a separate line item on the budget.		

*Note that Borlaug Fellows (as trainees, *not* students) are considered EXEMPT INDIVIDUALS under the IRS Substantial Presence Test for tax purposes. The exemption falls under one or both of the following categories: either the [Foreign Government-Related Individuals](#) standard or the [Closer Connection Exception](#). The only requirement is to complete [IRS Form 8843](#) (Sections 1 and 2). No taxes should be withheld from Borlaug Fellows since they are exempt.

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Budget Worksheet

Host Institution:

Estimated Dates:

REI#/Country/Fellow#

SF-424 Category	Line Items	Rate	Days	Subtotal
	Fellow's Logistical Expenses			
TRAVEL/Housing	1. Lodging			
TRAVEL	2. Meals and Incidentals			
OTHER	3. Federal Tax			
TRAVEL	4. Medical Insurance			
TRAVEL	6. Local Transportation			
TRAVEL	7. Airfare - International			
TRAVEL	8. Airfare - Domestic (If Applicable)			
			Subtotal	_____
	Fellow's Professional Development			
TRAVEL	1. Field Tours			
SUPPLIES	2. Educational Materials and IT Expenses			
SUPPLIES	3. Shipping Materials			
			Subtotal	_____
	Host Institution Fees			
PERSONNEL	1. Training Coordinator (Salary)			
FRINGE BENEFITS	1.b. Training Coordinator (Fringe Benefits)			
PERSONNEL	2. Mentor Fee			
FRINGE BENEFITS	2.b. Mentor (Fringe Benefits)			
SUPPLIES	3. Laboratory Expenses			
			Subtotal	_____
	World Food Prize Symposium (Oct. 2017; If Applicable)			
TRAVEL	1. Domestic Transportation			
TRAVEL	2. Lodging			
OTHER	3. Conference Fee			
			Subtotal	_____
	Mentor Follow up Activity (5-10 Days)			
TRAVEL	1. Mentor Airfare – International			
TRAVEL	2. Mentor Domestic In-Country Travel (If Applicable)			
TRAVEL	3. Lodging			
TRAVEL	4. Meals & Incidentals			
SUPPLIES	5. Supplies for Trainings/Workshops			
			Subtotal	_____
		Total Program Costs		
INDIRECT		Indirect Costs/Overhead (10%)		
		Total Request		

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Section III: Application Review Information

All proposals are carefully reviewed by USDA/FAS Program Officers and other FAS staff against the criteria listed below, including others who are experts in a particular field, as appropriate.

A. REVIEW CRITERIA

- **Technical Expertise and Experience (40 points):** Mentor must have appropriate technical background to provide the desired, advanced training. If necessary, other appropriate collaborating scientists should be identified to meet any of the objectives which the mentor cannot address. Mentor's experience and knowledge of relevant agricultural conditions within the Fellow's country or a similar location will be considered as appropriate. The trainer's experience with international training and adult-education will also be considered.
- **Overall Program (35 points):** The overall program plan and design should be relevant to the Fellow's objectives background. The program plan should be thorough, and it should help achieve the desired post-program deliverables and the Fellow's research goals and objectives. Relevant agricultural practices within the region of the university will be considered as appropriate. Relevant university resources should be identified. Additional resources/organizations should be identified as appropriate. Site visits and meetings should be meaningful to the content of the program, if included.
- **Budget (25 points):** The proposed budget should be appropriate for the length of the program. The budget should include appropriate cost savings where available. Salary and fringe benefits expenses should not be excessive.

B. REVIEW AND SELECTION PROCESS

Other factors may also be taken into consideration such as regional diversity and MSI status in the review process. After review by appropriate offices, it is expected that all applicants will be notified within 2 months after the closing date for applications.

Section IV: Award Administration Information

A. AWARD NOTICES

Applicants should expect to be contacted by program staff for clarification and additional discussion on any budget related issues before final determination of successful applicants. Any notification by the program office regarding the selection of an institution is not an authorization to begin performance. No pre-award costs can be charged. The notice of award signed by the Deputy Administrator of USDA/FAS/OCBD is the authorizing document. This document will be sent by electronic mail to the university. Both parties must sign this document before the agreement is in force. Unsuccessful applicants will be notified of the status of their application by email.

B. ADMINISTRATIVE AND NATIONAL POLICY REQUIREMENTS

Certifications regarding debarment Suspension, Drug Free Workplace, Felony Conviction and Tax Delinquent Status, and other national administrative assurances and policies are required. The cooperator must adhere to administrative requirements, cost principles, and audit requirements as contained in 2 CFR Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.

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All successful applicants for all cost reimbursable agreements are required to comply with Standard Administrative Terms and Conditions , which are available online at:

https://www.fas.usda.gov/grants/general_terms_and_conditions/default.asp

The applicable Standard Administrative Terms and Conditions will be for the last year specified at that URL, unless the application is to continue an award first awarded in an earlier year. In that event, the terms and conditions that apply will be those in effect for the year in which the award was originally made.

Before accepting the award the ezFedGrants GMO should carefully read the award package for instructions on administering the grant award and the terms and conditions associated with responsibilities under Federal Awards. Recipients must accept all conditions in this NOFO as well as any Special Terms and Conditions in the Notice of Award to receive an award under this program.

C. REPORTING REQUIREMENTS:

Primary Investigators are required to submit mid-term and final Fellow's performance reports on the U.S. portion of the Borlaug Fellowship. A final mentor's visit report including a final evaluation should be submitted no later than 30 days after the completion of the mentor visit.

- Financial reports will use SF-425.
- Progress Reports will use SF-PPR.
- Invoices will use SF-270.

Progress Reports

- The Principal Investigator or Mentor will submit **semi-annual** progress reports. The Principal Investigator or Mentor will use *Performance Progress Report (SF-PPR)*.
- The Principal Investigator or Mentor will submit a final report to USDA/FAS within 30 days after the Mentor visit. USDA/FAS will provide additional guidance and a template for the final report.
- Reports should include the following:
 - Summary of activities, accomplishments, and any problems encountered or overcome
 - Photographs, when possible
 - Completed program evaluations and action plan
- **An invoice/claim cannot be paid if a progress report is past due, and will not be paid until the required report has been received.**

Close Out Reporting Requirements. Within 90 days after the end of the period of performance, or after an amendment has been issued to close out a grant, whichever comes first, recipients must submit a final FFR and final progress report detailing all accomplishments and a qualitative summary of the impact of those accomplishments throughout the period of performance.

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After these reports have been reviewed and approved by *Program Division*, a close-out notice will be completed to close out the grant. The notice will indicate the period of performance as closed, list any remaining funds that will be de-obligated, and address the requirement of maintaining the grant records for three years from the date of the final FFR.

The recipient is responsible for returning any funds that have been drawn down but remain as unliquidated on recipient financial records.

Section V: Agency Contact

Applicants can direct questions or request help before the deadline for submission of the application for these funding opportunities via the contact information below:

- Borlaug Fellowship Proposals General Email: BorlaugProposals@fas.usda.gov
- Borlaug Africa: Karen Uetrecht, (202) 690-3359 or Karen.Uetrecht@fas.usda.gov

Section VI: Other Information

The USDA Borlaug Fellowship Program began in 2004. More than 750 Fellows from 64 countries have been trained to date. Additional program information is available at <http://www.fas.usda.gov/programs/borlaug-fellowship-program>.

Related Requests for Expressions of interest will be distributed by region and topic including: Asia, Eastern Europe, Latin America, North Africa, East/ Sub-Saharan Africa. This will be posted on the NIFA listserv.

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Section VII: Borlaug Fellow Proposal and Research Plan

No.	Country	Proposal Summary
Fellow 1 USDA-FAS-10777-0700-10.-17-0009	Uganda	In depth investigation of the epidemiology of Rift Valley Fever outbreak in Kabale district, Uganda
Fellow 2 USDA-FAS-10777-0700-10.-17-0023	South Africa	Potential use of cryopreservation and reproductive technologies for South African indigenous pigs
Fellow 3 USDA-FAS-10777-0700-10.-17-0027	South Africa	The aim of the study is to evaluate the effects of various enzymes on the efficiency of broilers to utilize high fiber diets to enhance gut health, optimize nutrient utilization efficiency and body weight gains.
Fellow 4 USDA-FAS-10777-0700-10.-17-0030	Uganda	Molecular characterization and phylogeny of Brucella isolates from recent animal disease surveillance program in Uganda

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Fellow #1 (Male); Uganda; In-depth investigation of the epidemiology of Rift Valley Fever outbreak in Kabale district, Uganda.

The goal of my research is to better understand the epidemiology of the rift valley fever outbreak in Kabale district, western Uganda 2016

- To strengthen (human, veterinary and environment) surveillance systems in Kabale district to enable early case identification and referral of cases
- To strengthen (human, animal and environment) laboratory sample collection, referral and analysis for early confirmation of RVF cases
- To develop outbreak standard operation procedures to contain future rvf outbreaks
- To document the rvf fellowship program successes

Weekly Activity Plan:

1 Fellowship and Orientation

2-3 Overview / background of rvf (theory)

3-4 Develop research designs and data collection tools

5-7 Collect data

8-9 Data Analysis

10-11 Fellowship report writing/ dissemination of findings

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Fellow #2 (Female); South Africa; Potential use of cryopreservation and reproductive technologies for South African indigenous pigs

Goal:

To potentially use cryopreservation and reproductive technologies to conserve South African indigenous pigs

Specific objectives:

- To develop novel cryopreservation strategies for South African indigenous pigs
- To determine fertility following artificial insemination with cryopreserved boar semen

South Africa has limited skills in cryobiology specifically in pigs. The Norman E. Borlaug International Agricultural Science and Technology Fellowship Program will offer great opportunities to establish novel cryopreservation strategies for South African indigenous pig. Furthermore, it will assist in conservation of South African indigenous pig genetic materials. These pigs possess unique gene pool with traits of economic importance. Indigenous pigs are adapted to local environment and poor quality feed but their numbers are declining largely due to livestock production policies that prefer the use of fast-growing imported breeds. It has been established that indigenous pigs are adapted to poor quality nutrition. Therefore, it is of utmost importance to cryopreserve their sperm for future use in breeding program. As a result, the Norman E. Borlaug International Agricultural Science and Technology Fellowship Program will contribute towards improved productivity and food security in South Africa.

Week 1:

University and laboratory orientations and staff introductions

Week 2-4:

Semen collection, processing and analysis
Cryopreservation of pig semen

Week 5-7:

Artificial insemination using cryopreserved boar semen
Data collection, analysis and interpretation

Week 8-11:

Check for returns (following artificial insemination)
Data collection, analysis and interpretation

Week 12:

Pregnancy diagnosis

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Fellow #3 (Female); South Africa; The aim of the study is to evaluate the effects of various enzymes on the efficiency of broilers to utilize high fiber diets to enhance gut health, optimize nutrient utilization efficiency and body weight gains.

Goal

The goal of this study is to maximize the inclusion of locally produced sunflower meal in broiler diets with the use of exogenous enzymes to enhance gut health, nutrient digestibility, growth performance and carcass yield.

Specific objectives

The current study will determine the response of broiler chickens to diets formulated with higher than recommended sunflower meal levels with or without multi-enzyme complex supplementation on:

- Growth performance, apparent nutrient digestibility, feed conversion efficiency, digestive organ size and carcass yield;
 - Intestinal development, histo-morphology, gut microbial balance and cecal fermentation;
 - Ileal digestibility of digestible lysine (dLys), total amino acids (TAA) and true metabolisable energy (TME)
 - Lean carcass yield, proximate composition and amino acid profiles;
 - Tibia breaking strength, calcium: phosphorus retention and metabolism
- The cost: benefit analysis of feeding diets formulated with higher than recommended sunflower meal levels with or without multi-enzyme complex supplementation.

I'm a Poultry Scientist by research specialization. I have taught for almost nine years at university; however, my research involvement was limited. I did not do a postdoc after my PhD, instead, I continued with my lecturing responsibilities and went on to supervise postgraduate students, without having polished my skills as a researcher. As such, I sometimes find myself struggling to conceptualize ideas to put together a fundable proposal. I wish to develop new skills and ideas that will help me to establish an independent laboratory. I believe this fellowship will build into my experience more easily, as it provides the opportunity to outline a research program and affords exposure to a team of established mentors that in their respective laboratories apply techniques that are not available in my organization. My research interests are on identifying natural alternatives to antibiotic growth promoters using medicinal plants, use of agro-processing by-products for partial supplementation of maize and soybean meal in poultry diets to reduce feed costs, increasing inclusion levels of other oilseeds and/or their by-products in poultry diets, for instance sunflower oilcake, in poultry diets, evaluating the role of fiber in enhancing gut health, maximizing gains and feed conversion rate in broilers; as well as evaluating the role of phytase and other exogenous enzymes in nutrient digestibility for phosphorus availability and metabolism of energy and protein. The US is leading in research related to most of these aspects. I am hoping that collaboration and working closely with poultry scientists in the US will give me incredible, inspiring experience that will greatly influence my career path as an academic and researcher.

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Weekly Action Plan:

Week 1: Orientation (visit to laboratories and experimental farm) and meeting with scientists at host institutions

Week 2 to 7: Conduct a research trial to evaluate feed intake, nutrient digestibility, growth performance, intestinal morphology, bone strength and carcass yield on broilers fed higher than recommended sunflower oilcake levels with or without multi-enzyme complex supplementation.

The trial will cover the following activities:

Activity 1: Growth trial (35 days or 5 weeks) this will entail the following:

Experimental diets with three different levels of sunflower oilcake will be formulated; and balanced for energy and protein to meet or exceed minimum nutrient recommendations (NRC, 1994) for starter (0 to 21 d), grower (22 to 28 d) and finisher (29 to 35 d). Day-old chicks (they can be of mixed sex) will be used. The positive control starter and grower diets will contain phytase; with the other enzymes (xylanase, β -glucanase, amylase, protease, pectinase and cellulose) added to treatments as an enzyme-complex (with phytase). Chromic oxide will be added at 0.3% as an indigestible marker to all experimental diets for determination of digestibility. All diets from starter to finisher will be pelleted. Birds will be reared in floor pens in an environmentally controlled house; and growth performance parameters will be recorded at placement and on a weekly basis.

Activity 2: Apparent digestibility measurements

At 28 days of age, 2 birds will be randomly selected from each pen, 12 for each treatment replicated 6 times. Birds will be weighed individually to ascertain they are in line with the mean pen body weight; and will then randomly allocated, in pairs, to metal battery cages with a grid floor, in an environmentally controlled house. Temperature will be maintained at 22°C and continuous lighting will be provided. Each cage will serve as an experimental unit, equipped with a feeding trough clipped inside the cage, and two drinking nipples. Birds will be given 3 days of acclimatization; after which, clean stainless steel trays covered with transparent polythene plastic will be placed beneath each cage for collection of excreta. Feed and fresh water will be provided for ad libitum consumption, with feed allocation weighed every morning at 7h00. Excreta will be collected over 48 hours, once every morning from each cage, weighed (as is) and stored at -18°C until analyses. Prior to analyses excreta from each cage will be pooled into one sample, homogenized and dried in a forced-air oven at 80°C for 24 hours. Proximate and Van Soest et al. (1991) analytical procedures will be performed on diets and pooled excreta. Gross energy and the amino acid profiles of diets and excreta will also be analyzed for.

Activity 3: Slaughter and sampling procedures

At 35 days of age, 12 birds will be randomly selected from the flock reared on the floor, 2 per replicate per treatment for slaughter. Birds will be killed by cervical dislocation following electrical stunning at a voltage of 70 volts. About 2 ml blood samples will be collected from the jugular vein into heparinized tubes. Prior to freezing at -18°C, blood samples will be centrifuged at 3000 rpm for 15 minutes and serum obtained for analyses of digestive enzymes, glucose, total cholesterol, high-density lipoprotein

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(HDL), low-density lipoprotein (LDL), total protein, albumin and globulin by enzymatic diagnostic kits. Contents of calcium (Ca), phosphorus (P) and alkaline phosphatase (ALP) activity will also be measured.

Activity 4: Determining digester pH and intestinal histo-morphology

Carcasses will be eviscerated manually, taking care not to rupture the intestinal tracts. A pH meter probe will be used to determine digester pH levels in different intestinal segments. The lengths of small intestinal segments (duodenum, jejunum and ileum) will also be measured and presented as percent of the small intestine length. Three cross-sections measuring 1 to 2 mm thick for each segment will be prepared and enclosed in tissue cassettes. The tissues will be fixed in 10% neutral buffered formalin over 24 h. For each intestinal segment, a 2- μ m section will be placed onto a glass slide and stained with hematoxylin and eosin for histo-morphological measurements. Slides will be viewed on the Motic Stereomicroscope Camera (SMZ-168 series), and morphometric measurements of the villous height (μ m), depth and width (μ m) will be determined.

Activity 5: Determining carcass yield and digestive organ size

For cooling and dripping carcasses will be placed in a chiller (4°C) overnight. The gizzards as well as the visceral organs (liver, heart, spleen, and bursa of Fabricius) will be collected and weighed; and gizzard erosion will be measured. Carcasses will be portioned into drumsticks (legs), wings, thighs, and breast muscle. Portions and visceral organs will be expressed as percentages of live body weight (BW).

Activity 6: Determination of bone breaking strength and ash weight

The left and right tibiae from 6 birds per treatment will be randomly chosen; without being de-fleshed will be individually sealed in plastic bags to minimize moisture loss, and will be stored at -18°C for the analysis of calcium and phosphorus composition and determination of bone strength. When ready for use, tibiae will be defrosted at 4°C overnight; then they will be de-fleshed and cleaned of all tissue, including cartilage caps (periosteum) by hand, and weighed. The length (cm) of each bone will be measured with a ruler. Tibiae breaking strength will be determined using an Instron 4502 material testing machine.

The trial will run for 5 weeks, then another 2 weeks will be used for the other experimental procedures.

Week 8 to 12: Discuss trial responses, finalize laboratory analyses, perform statistical analysis, interpret results and start writing up a manuscript(s) for publication.

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Fellow #4 (Female); Uganda; Molecular characterization and phylogeny of brucella isolates from recent animal disease surveillance program in Uganda

Topic: Molecular characterization and phylogeny of brucella isolates from recent animal disease surveillance program in Uganda (2016).

Goal: The goal is to learn molecular diagnostic techniques for zoonotic diseases so that i can be able to apply the techniques in my routine laboratory work and also share/mentors other colleagues. This will provide molecular epidemiology information on Brucellosis and other zoonoses that is useful in designing, implementation, monitoring and evaluating zoonotic diseases control strategies in Uganda.

1. The goal of my research is to learn and apply molecular diagnostic techniques at my institute 8 of 13 for rapid and efficient detection of zoonotic and other animal diseases that will contribute to the design, implementation, monitoring and evaluation of animal disease control strategies by the Ministry of Agriculture, Animal Industry and Fisheries
2. The specific objectives will be; i- To collect and screen serum samples for brucellosis from farmers with history of abortions in the herd. ii-To carryout molecular characterization and phylogentic study on Brucella isolates from different regions in Uganda.
4. I hope to design a mentorship programme together with my mentor focusing on improving my technical skills and knowledge. This can include having refresher theoretical and hand-on practical sessions on Brucellosis screening and molecular diagnostic techniques. The skills and knowledge will be applied for this research purpose and in my routine laboratory diagnostic work at the institute.

ACTION PLAN

- Few days of the first week for following the lab procedures
- Introduction on the principle of serological and molecular diagnostics for zoonoses.
- Reading materials
- Hand on practical sessions for the zoonoses.
- At the end of the fellowship expect to come back with reagents and diagnostic kits to undertake my research at my institute.

1st week: Orientation; Familiarization with the laboratory including personnel, equipment, procedure and protocols, work flow, reagents, Biosafety issues and ongoing work in the department. Planned outcome is that I will be familiarized with protocols for zoonotic diseases PCR and others.

Planned outcome: Refresher knowledge with focus on brucellosis

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4th to 6th week: Hand on with diagnostic techniques Serological tests, Nucleic acid sample reception and preparation. Preparation of SOPs and Reagents Brucella nucleic acid extraction blood, cell culture and tissues)

Running and interpretation PCR and Real time PCR for zoonoses Brucellosis, Rift valley fever, anthrax, Bovine tuberculosis, Listeriosis, and others Evaluation, result reporting; trouble shooting for both serological and molecular diagnostics.

Planned outcome: Be able to run and interpret the test results

7th to 9th week: Mastering the assays Advanced aspects of PCR: Multiplexing and Genotyping in-house validation of assays and use of quality control Molecular Assay verification and SOP development working with multiple platforms.

Planned outcome; be able to run the test on different platforms and be able to trouble shoot in case of challenges with the test results

9th to 12th week: Sequencing and Bioinformatics Nucleic acid purification for sequencing, and quantification of purified nucleic acid for sequencing Applications of phylogenetics for zoonotic pathogens BLAST and multiple sequence alignment (MSA) programs

Planned outcome; be able to do molecular characterization and phylogeny for Brucellosis or any other zoonotic disease prevalent in Uganda