

PD-AAY-246
37478

ACTION MEMORANDUM FOR THE AGENCY DIRECTOR FOR FOOD AND AGRICULTURE, BUREAU FOR SCIENCE AND TECHNOLOGY

JUL 7 1988

FROM: S&T/AGR, David D. Bathrick

SUBJECT: Extension of the Host Resistance Integrated Tick Control Project (936-4083) (DOC # 408304)

Problem: The current five year grant agreement for the Host Resistance Tick Control project with the International Center for Insect Physiology and Ecology (ICIPE) expires August 31, 1988. ICIPE has requested a one year extension (Attachment #1) to August 31, 1989. Your approval is requested for a one year extension and increased funding authorization for the subject project. The final year of obligation will be extended to FY 1989 and the Project Assistance Completion Date (PACD) extended to September 30, 1989, and the authorized life-of-project funding will be increased to \$1,670,000.

Discussion: The Host Resistance Integrated Tick Control project began in FY 1983. The project combines research on the role of acquired tick-resistance in the management of ticks with the use of immunological methods for controlling this parasite. Its goal is to improve cattle production through the use of naturally acquired resistance to ticks and much reduced use of acaricides (the pesticides which control ticks).

There has always been a need to develop integrated systems of tick control to provide methods that minimize or eliminate excessive dependence on acaricides. ICIPE recognizes that possible alternative approaches are limited. Past experience and present knowledge indicates that biological control using tick pathogens or predators is not likely to offer a solution. Similarly, the prospects of using chemical attractants or insect growth regulators as tools in new tick control technology are minimal. These methods need further investigation before their potential can be assessed properly.

Genetic methods for controlling tick populations are a possibility. Researchers in the United States have successfully produced a "sterile hybrid" cattle fever tick with possible application for the control of either Boophilus microplus or Boophilus annulatus, two common tick species. A variety of other genetic approaches may be possible with other species of ticks. Acquired resistance from cattle to particular tick species can interfere with engorgement and appreciably limit the degree to which livestock are infested by parasites. This knowledge is presently being exploited by ICIPE scientists; it is a field which is attracting interest at an accelerating rate.

The research being conducted by the ICIPE Livestock Tick Research program includes elements relating to livestock management practices and tick ecology, in addition to the application of knowledge of tick resistance in cattle to the problems of controlling ticks affecting livestock. ICIPE is selecting and utilizing cattle with the ability to acquire resistance to ticks. The eventual development of an anti-tick vaccine has future promise.

ICIFE has laid a good research foundation in determining tick resistance in cattle. ICIFE has also demonstrated a capability for cooperating with others in addressing a complex research problem. This project extends the basic research generated by ICIFE to the development of tick management systems. Investigations involve indigenous cattle as well as improved breeds with the objective of improved productivity and to gain information for use by farmers in upgrading their herds with an improved indigenous breed. The returns from this research should be significantly higher than those cited previously due to the current low productivity of the indigenous cattle.

Evaluation: In February 1988, a joint AID-ICIFE evaluation of this project was conducted in Nairobi, Kenya and at the Mbita Point field station. The purpose of the evaluation was to assess progress made in: (1) improving techniques for integrated tick control; (2) evaluating the extent of stock damage to cattle and the extent to which tick resistant cattle reduce the population of ticks in the field; and (3) transferring technology to national and international institutions.

The overall assessment of the project was quite favorable. Its goal to devise cost-effective methods to tick control based upon reduced or zero use of acaricides is appropriate and relevant to all of Africa. The current biochemical techniques employed have identified some potential vaccine antigens which appear very promising, based on preliminary studies. Studies on host resistance, cattle productivity, tick ecology, modelling, and socio-economic conditions were considered to be soundly conducted and relevant to the problems identified in program design.

The team concluded that the project is contributing significant scientific information in the areas of tick ecology and host resistance to tick infestation which can be applied in other African countries where ticks and tick-borne diseases cause significant economic losses. The socio-economic study is providing essential insights into the complex process of incorporating scientific discoveries into current farming practices.

The evaluation team commended the research program and the use of the socio-economic study to ensure that the experimental results are relevant and applicable in practice. The team noted that the expertise developed in this program will have benefits far beyond that of tick control, and will extend to practical problems of pest management in Kenya and other African countries. The team recommended that A.I.D. continue its contribution to ICIFE's program.

Funding: The project will be extended for one year with a budget of \$260,000. S&T/AGR's FY 88 OYB contains \$100,000 which will support activities through January 15, 1989. Funds from the FY 89 OYB will also be required for the period January 16, 1989 to August 31, 1989 to fully fund the one year extension. A substantive Congressional Notification has been submitted.

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Recommendation: That you approve a one year extension of the Host Resistance-Integrated Tick Control project by signing the attached Project Authorization Data sheets (Attachment 2 & 3) to extend: 1) the final year of obligation to FY 1989 and; 2) the project assistance completion date to September 30, 1989 and; 3) to increase the authorized life-of-project funding to \$1,670,000.

Attachments:

1. Letter of request
2. Project Data Sheet
3. Project Data Sheet

Clearances:

S&T/AGR/AP:HHortik (Draft)	Date	6/14/88
S&T/AGR:ERoche <i>ERoche</i>	Date	6/27/88
S&T/PO:DSeldon <i>DSeldon</i>	Date	7/15/88
GC/:STisa <i>STisa</i>	Date	6/28/88

Drafted:S&T/AGR/AP:J.Turk:bw 6/14/88:WD 4925e
Retyped:S&T/AGR/AP:J.Turk:bw 6/27/88

PROJECT DATA SHEET

1. TRANSACTION CODE

A = Add
 C = Change
 D = Delete

Amendment Number

1

DOCUMENT CODE

3

COUNTRY/ENTITY
Worldwide

3. PROJECT NUMBER

936-4083

4. BUREAU/OFFICE

5. PROJECT TITLE (maximum 40 characters)

S&T/AGR

10

Host Resistance-Integr. Tick Control

6. PROJECT ASSISTANCE COMPLETION DATE (PACD)

MM DD YY
09 30 89

7. ESTIMATED DATE OF OBLIGATION

(Under "B." below, enter 1, 2, 3, or 4)

A. Initial FY 83

B. Quarter 4

C. Final FY 89

8. COSTS (\$000 OR EQUIVALENT \$1 =)

A. FUNDING SOURCE	FIRST FY 83			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AD Appropriated Total	250	-	250	1,670	-	1,670
(Grant)	(250)	(-)	(250)	(1,670)	(-)	(1,670)
(Loan)	()	()	()	()	()	()
Other						
U.S.						
Host Country						
Other Donor(s)						
TOTALS	250	-	250	1,670	-	1,670

9. SCHEDULE OF AID FUNDING (\$000)

A. APPRO- PRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) ARDN	111	070		1,410	-	220	-	1,670	-
(2) ARDN	771	960							
(3)									
(4)									
TOTALS				1,410	-	220	-	1,670	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)

070 | 540 | 870 | 910 | 950 | 960

11. SECONDARY PURPOSE CODE

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)

A. Code | R/AG | ENV | PART | INTR | BS
 B. Amount | 1,587 | 33 | 20 | 17 | 13

13. PROJECT PURPOSE (maximum 480 characters)

To develop a method, through research activities, that will protect cattle against East Coast Fever (Theileriosis), which is transmitted by ticks.

14. SCHEDULED EVALUATIONS

Interim MM YY Final MM YY

15. SOURCE/ORIGIN OF GOODS AND SERVICES

000 941 Local Other (Specify)

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a _____ page PP Amendment.)

To increase the authorized life-of-project cost from \$1,450,000 to \$1,670,000; extend the project assistance completion date (PACD) to September 30, 1989; and extend the final year of obligation to FY 1989.

17. APPROVED BY

Signature
 Title William Furtick
 Agency Director for S&T/FA

Date Signed MM DD YY
 10/17/1988

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION:

MM DD YY

PROJECT AUTHORIZATION AMENDMENT #1

ENTITY : Bureau for Science and Technology
PROJECT TITLE : Host Resistance Integrated Tick Control
PROJECT NUMBER: 936-4083

A. Pursuant to Section 103 of the Foreign Assistance Act of 1961, as amended, the centrally funded project "Host Resistance Integrated Tick Control" was authorized on May 12, 1983. That authorization is hereby further amended as follows:

1. The authorized centrally funded life-of-project cost is increased to \$1,670,000;
2. The authorized final year of obligation is extended to FY 1989; and
3. The authorized Project Assistance Completion Date (PACD) is extended to September 30, 1989.

William Furtick

William Furtick
Agency Director for Food and Agriculture
Bureau for Science and Technology

Date: 7-14-88

Clearances:

S&T/AGR/AP:JTURK	<i>JT</i>	Date	<u>6-16-88</u>
S&T/AGR/AP:HHortik		Date	
S&T/AGR:ERoche	<i>ERoche</i>	Date	<u>6/27/88</u>
S&T/AGR:DBathrick	<i>DB</i>	Date	<u>7/5/88</u>
S&T/PO: DShe/dan	<i>DS</i>	Date	<u>7/12/88</u>
GC/CP:STisa	<i>SM</i>	Date	

S&T/AGR:MBIakeney:WANG#4946e:6/15/88