

Source: **C/O E AFRICAN VETERINARY RES ORG** submitted to **CRIS**

EVALUATION OF RIFT VALLEY FEVER (RVF) VETERINARY DIAGNOSTIC REAGENTS

Sponsoring Institution	Agricultural Research Service/USDA	Project Status	TERMINATED
		Funding Source	USDA COOPERATIVE AGREEMENT
Reporting Frequency	Annual	Accession No.	0412498
Grant No.	(N/A)	Project No.	5430-32000-001-03S
Proposal No.	(N/A)	Multistate No.	(N/A)
Program Code	(N/A)	Project Start Date	Sep 1, 2007
Project End Date	Jan 31, 2012	Grant Year	(N/A)

Project Director

WILSON W C

Recipient Organization

C/O E AFRICAN VETERINARY RES ORG

(N/A)

KABETE,null null

Performing Department

(N/A)

Non Technical Summary

(N/A)

Animal Health Component 60%

Research Effort Categories

Basic 20%

Applied 60%

Developmental 20%

Classification

Knowledge Area (KA)	Subject of Investigation (SOI)	Field of Science (FOS)	Percent
311	3610	1090	33%
311	3410	1101	33%
311	3310	1090	34%

Knowledge Area

311 - Animal Diseases;

Subject Of Investigation

3610 - Sheep, live animal; 3310 - Beef cattle, live animal; 3410 - Dairy cattle, live animal;

Field Of Science

1090 - Immunology; 1101 - Virology;

Keywords

rift

valley

fever

rvf

veterinary

diagnostic

Goals / Objectives

The primary objective of this project is to expedite the evaluation and increase the availability of Rift Valley fever (RVF) veterinary diagnostic reagents and to develop a RVF reference veterinary sample archive.

Project Methods

The aim of this project is to create RVF reference sample archives, enhance ongoing veterinary surveillance, evaluate existing and new RVF diagnostic test in Kenya. The collaborative project will also evaluate existing and newly developed diagnostic tests such as an enzyme-linked immunosorbent assay (ELISA) based on a recombinant antigen developed by mutual FAO/IAEA collaborators. K-DVS will archive veterinary diagnostic and surveillance samples collected and assayed using existing diagnostic technology as part of their ongoing projects. The USDA, APHIS, National Wildlife Research Center (NWRC), in collaboration with the US Army Medical Research Unit-Kenya (USAMRU-K) and the Kenya Medical Research Institute (KEMRI) have collected and stored serum and tissue samples from wild rodents in Kenya. The ABADRL scientists will work with K-DVS scientists in Kenyan facilities to gain experience with existing diagnostics, perform the wild rodent sample analysis, and assist in the evaluation of existing and newly developed diagnostic tests. In addition, the CDC, International Emerging Infections Program (IEIP)-Kenya has an interest in wildlife RVF serology and has performed a wildlife sero-survey. The ABADRL, K-DVS and mutually agreed upon collaborating scientists, with the assistance of the USDA, APHIS, Centers for Epidemiology and Animal Health (CEAH) will consolidate the information generated in this project with the existing data to initiate the development a comprehensive epidemiological understanding of RVF in Kenya.

Progress 09/01/07 to 01/31/12

Outputs

Progress Report Objectives (from AD-416): The primary objective of this project is to expedite the evaluation and increase the availability of Rift Valley fever (RVF) veterinary diagnostic reagents and to develop a RVF reference veterinary sample archive. Approach (from AD-416): The aim of this project is to create RVF reference sample archives, enhance ongoing veterinary surveillance, evaluate existing and new RVF diagnostic test in Kenya. The collaborative project will also evaluate existing and newly developed diagnostic tests such as an enzyme-linked immunosorbent assay (ELISA) based on a recombinant antigen developed by mutual FAO/IAEA collaborators. K-DVS will archive veterinary diagnostic and surveillance samples collected and assayed using existing diagnostic technology as part of their ongoing projects. The USDA, APHIS, National Wildlife Research Center (NWRC), in collaboration with the US Army Medical Research Unit-Kenya (USAMRU-K) and the Kenya Medical Research Institute (KEMRI) have collected and stored serum and tissue samples from wild rodents in Kenya. The ABADRL scientists will work with K-DVS scientists in Kenyan facilities to gain experience with existing diagnostics, perform the wild rodent sample analysis, and assist in the evaluation of existing and newly developed diagnostic tests. In addition, the CDC, International Emerging Infections Program (IEIP)-Kenya has an interest in wildlife RVF serology and has performed a wildlife sero-survey. The ABADRL, K-DVS and mutually agreed upon collaborating scientists, with the assistance of the USDA, APHIS, Centers for Epidemiology and Animal Health (CEAH) will consolidate the information generated in this project with the existing data to initiate the development a comprehensive epidemiological understanding of RVF in Kenya. This project was initiated to provide a collection of veterinary diagnostic samples characterized by existing RVF diagnostic tools to be utilized in evaluation of new diagnostic tools. K-DVS Staff were trained in the qRT-PCR and demonstrated competence with the field equipment and are currently running the assay on new submissions. The K-DVS has also improved the laboratory infrastructure to better maintain this valuable collection of characterized veterinary samples.

Impacts

(N/A)

Publications

Progress 10/01/10 to 09/30/11

Outputs

Progress Report Objectives (from AD-416) The primary objective of this project is to expedite the evaluation and increase the availability of Rift Valley fever (RVF) veterinary diagnostic reagents and to develop a RVF reference veterinary sample archive. Approach (from AD-416) The aim of this project is to create RVF reference sample archives, enhance ongoing veterinary surveillance, evaluate existing and new RVF diagnostic test in Kenya. The collaborative project will also evaluate existing and newly developed diagnostic tests such as an enzyme-linked immunosorbent assay (ELISA) based on a recombinant antigen developed by mutual FAO/IAEA collaborators. K-DVS will archive veterinary diagnostic and surveillance samples collected and assayed using existing diagnostic technology as part of their ongoing projects. The USDA, APHIS, National Wildlife Research Center (NWRC), in collaboration with the US Army Medical Research Unit-Kenya (USAMRU-K) and the Kenya Medical Research Institute (KEMRI) have collected and stored serum and tissue samples from wild rodents in Kenya. The ABADRU scientists will work with K-DVS scientists in Kenyan facilities to gain experience with existing diagnostics, perform the wild rodent sample analysis, and assist in the evaluation of existing and newly developed diagnostic tests. In addition, the CDC, International Emerging Infections Program (IEIP)-Kenya has an interest in wildlife RVF serology and has performed a wildlife sero-survey. The ABADRU, K-DVS and mutually agreed upon collaborating scientists, with the assistance of the USDA, APHIS, Centers for Epidemiology and Animal Health (CEAH) will consolidate the information generated in this project with the existing data to initiate the development a comprehensive epidemiological understanding of RVF in Kenya. This project was initiated to provide a collection of veterinary diagnostic samples characterized by existing RVF diagnostic tools to be utilized in evaluation of new diagnostic tools. K-DVS Staff were trained in the qRT-PCR and demonstrated competence with the field equipment and are currently running the assay on new submissions. The K-DVS has also improved the laboratory infrastructure to better maintain this valuable collection of characterized veterinary samples. This research supports NP103 Action Plan Components 1. Biodefense Research, and 3. Prevent and Control Zoonotic Diseases. ADODR is directly involved in performance of the research and also monitors activities to evaluate research progress through site visits, meeting at conferences and through email and phone calls.

Impacts

(N/A)

Publications

Progress 10/01/09 to 09/30/10

Outputs

Progress Report Objectives (from AD-416) The primary objective of this project is to expedite the evaluation and increase the availability of Rift Valley fever (RVF) veterinary diagnostic reagents and to develop a RVF reference veterinary sample archive. Approach (from AD-416) The aim of this project is to create RVF reference sample archives, enhance ongoing veterinary surveillance, evaluate existing and new RVF diagnostic test in Kenya. The collaborative project will also evaluate existing and newly developed diagnostic tests such as an enzyme-linked immunosorbent assay (ELISA) based on a recombinant antigen developed by mutual FAO/IAEA collaborators. K-DVS will archive veterinary diagnostic and surveillance samples collected and assayed using existing diagnostic technology as part of their ongoing projects. The USDA, APHIS, National Wildlife Research Center (NWRC), in collaboration with the US Army Medical Research Unit-Kenya (USAMRU-K) and the Kenya Medical Research Institute (KEMRI) have collected and stored serum and tissue samples from wild rodents in Kenya. The ABADRL scientists will work with K-DVS scientists in Kenyan facilities to gain experience with existing diagnostics, perform the wild rodent sample analysis, and assist in the evaluation of existing and newly developed diagnostic tests. In addition, the CDC, International Emerging Infections Program (IEIP)-Kenya has an interest in wildlife RVF serology and has performed a wildlife sero-survey. The ABADRL, K-DVS and mutually agreed upon collaborating scientists, with the assistance of the USDA, APHIS, Centers for Epidemiology and Animal Health (CEAH) will consolidate the information generated in this project with the existing data to initiate the development a comprehensive epidemiological understanding of RVF in Kenya. This project was initiated to provide a collection of veterinary diagnostic samples characterized by existing RVF diagnostic tools to be utilized in evaluation of new diagnostic tools. K-DVS Staff were trained in the qRT-PCR and demonstrated competence with the field equipment. The K-DVS equipment however, failed to perform the assay correctly and we were unable to trouble shoot the problem.

A collection veterinary samples have been maintained and initial progress toward infrastructure needed to properly store this collection was done. This research supports NP103 Action Plan Components 1. Biodefense Research, and 3. Prevent and Control Zoonotic Diseases. ADODR is directly involved in performance of the research and also monitors activities to evaluate research progress through site visits, meeting at conferences and through email and phone calls.

Impacts

(N/A)

Publications

Progress 10/01/07 to 09/30/08

Outputs

Progress Report Objectives (from AD-416) The primary objective of this project is to expedite the evaluation and increase the availability of Rift Valley fever (RVF) veterinary diagnostic reagents and to develop a RVF reference veterinary sample archive. Approach (from AD-416) The aim of this project is to create RVF reference sample archives, enhance ongoing veterinary surveillance, evaluate existing and new RVF diagnostic test in Kenya. The collaborative project will also evaluate existing and newly developed diagnostic tests such as an enzyme-linked immunosorbent assay (ELISA) based on a recombinant antigen developed by mutual FAO/IAEA collaborators. K-DVS will archive veterinary diagnostic and surveillance samples collected and assayed using existing diagnostic technology as part of their ongoing projects. The USDA, APHIS, National Wildlife Research Center (NWRC), in collaboration with the US Army Medical Research Unit-Kenya (USAMRU-K) and the Kenya Medical Research Institute (KEMRI) have collected and stored serum and tissue samples from wild rodents in Kenya. The ABADRL scientists will work with K-DVS scientists in Kenyan facilities to gain experience with existing diagnostics, perform the wild rodent sample analysis, and assist in the evaluation of existing and newly developed diagnostic tests. In addition, the CDC, International Emerging Infections Program (IEIP)-Kenya has an interest in wildlife RVF serology and has performed a wildlife sero-survey. The ABADRL, K-DVS and mutually agreed upon collaborating scientists, with the assistance of the USDA, APHIS, Centers for Epidemiology and Animal Health (CEAH) will consolidate the information generated in this project with the existing data to initiate the development a comprehensive epidemiological understanding of RVF in Kenya. Significant Activities that Support Special Target Populations This project was initiated to provide a collection of veterinary diagnostic samples characterized by existing Rift Valley Fever Virus (RVFV) diagnostic tools to be utilized in evaluation of new diagnostic tools. There is a mutual need to evaluate existing and new RVFV diagnostic tests and increase the availability of RVFV diagnostic reagents. The ARS Arthropod-Borne Animal Diseases Research Laboratory (ABADRL) is developing new veterinary RVFV diagnostic reagents to increase their availability for use by veterinary diagnostic laboratories including the USDA, Animal Plant Health Inspection Service (APHIS), and Foreign Animal Disease Diagnostic Laboratory (FADDL). The Kenya Department of Veterinary Services, Kabete, Kenya (K-DVS), have ongoing RVFV diagnostic and evaluation programs, and provide the reference sample collections needed from Kenya (an endemic country). This research supports NP103 Action Plan Components 1. Biodefense Research, and 3. Prevent and Control Zoonotic Diseases. ADODR monitoring includes site visits, discussions at scientific conferences, email correspondence, and phone calls.

Impacts

(N/A)

Publications