University of Nebraska - Lincoln
DigitalCommons@University of Nebraska - Lincoln

Proceedings of the Seventeenth Vertebrate Pest Conference 1996

Vertebrate Pest Conference Proceedings collection

1996

The Texas Oral Rabies Vaccination Project And The Experimental Use Of Raboral V-RG Rabies Vaccine In The South Texas Coyote Rabies Epizootic

M. Gayne Fearneyhough
Texas Department of Health

Follow this and additional works at: https://digitalcommons.unl.edu/vpc17

Part of the Animal Sciences Commons, Bioresource and Agricultural Engineering Commons, and the Environmental Engineering Commons

Fearneyhough, M. Gayne, "The Texas Oral Rabies Vaccination Project And The Experimental Use Of Raboral V-RG Rabies Vaccine In The South Texas Coyote Rabies Epizootic" (1996). *Proceedings of the Seventeenth Vertebrate Pest Conference 1996*. 17.
https://digitalcommons.unl.edu/vpc17/17

This Article is brought to you for free and open access by the Vertebrate Pest Conference Proceedings collection at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Proceedings of the Seventeenth Vertebrate Pest Conference 1996 by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

THE TEXAS ORAL RABIES VACCINATION PROJECT AND THE EXPERIMENTAL USE OF RABORAL V-RG RABIES VACCINE IN THE SOUTH TEXAS COYOTE RABIES EPIZOOTIC

M. GAYNE FEARNEYHOUGH, Oral Rabies Vaccination Program Zoonosis Control Division, Texas Department of Health, 1100 West 49th Street, Austin, Texas 78756.

Proc. 17th Vertebr. Pest Conf. (R.M. Timm & A.C. Crabb, Eds.) Published at Univ. of Calif., Davis. 1996.

Beginning in October 1988, Texas experienced the onset of an expanding epizootic of canine rabies in South Texas. That epizootic now involves 21 counties, with 678 laboratory confirmed cases as of February 1996. Approximately 50% of those cases have occurred in coyotes and most of the remainder in domestic dogs. Seventy-six "spill over" cases have been reported in seven other species, both wild and domestic. Since 1991, over 2,000 people in South Texas have received post exposure rabies treatment due to potential exposure to a rabid animal and two human deaths have been attributed to this virus strain. The Texas Department of Health (TDH) is the lead agency in the development of an experimental program designed to explore use of an oral rabies vaccine, Raboral V-RG, produced by Rhone-Merieux, Inc. in Athens, Georgia. The Oral Rabies Vaccination Program (ORVP) is an innovative cooperative project involving the TDH; Texas Animal Damage Control; U.S. Department of Agriculture (USDA); Texas A&M University-College Station; Texas A&M University-Kingsville; Centers for Disease Control and Prevention, Denver Wildlife Research Center; USDA Predator Research Center at Logan, Utah; Texas National Guard, U.S. Army; Canadian Ministry of Natural Resources; and Rhone-Merieux, Inc.

The objective of the first year of the program was to determine the feasibility of using Raboral V-RG oral rabies vaccine, delivered in a bait to coyotes, as a method of controlling the northward expansion of the South Texas rabies epizootic. Field application of the vaccine was with vaccine/bait combinations containing 2 milliliters of Raboral V-RG vaccine at a minimum field dosage of 107.4 virus particles in a plastic container (a sachet) enclosed in a hollow extruded bait. The long term program strategy is to be conducted over the next four to five years, and has the goal of pushing the epizootic southward and eliminating it from Texas.

The program was first conducted in February 1995 and resulted in the deployment of 830,000 doses of oral rabies vaccine over 15,000 acres of South Texas. The 1995 program was successful not only in the logistical accomplishment, but post-drop surveillance programs demonstrated a dramatic reduction in rabies in the targeted area. Evaluation of the program to date has been based on three parameters: 1) epidemiologic evidence of containment of the virus in its present location; 2) identification of marking agents that determine uptake of the bait in coyotes from the baited area; and 3) evidence of change in the immune status in a representative sample of the coyote population in the baited area. The program has shown significant success in all three of these areas. The expansion of the rabies outbreak not only has been halted but, with the exception of an isolated area in Atascosa County, cases of canine rabies have ceased to be reported in the primary 40-mile wide baited zone. Evidence of bait uptake has exceeded expectations with 68% of one- to three-year old animals having eaten an average of 2.6 baits each. Studies indicating the immune status of coyotes from the baited area revealed evidence of immune response in 49% of the coyotes eating baits. Therefore, by all measures of success, the program has met or exceeded expectations. The success of the first year was a prelude to a larger, and hopefully more successful, 1996 program.

In the short time period of 31 days, beginning on January 4, the participants of the 1996 program aerially distributed more than 2.5 million doses of vaccine over 41,679 square miles of Texas. This has been the world's largest single application of an oral rabies vaccine and involved 276 separate flights of three "Twin Otter" aircraft provided through an agreement with the Ontario Ministry of Natural Resources. The 1996 program was flown from four airports and resulted in a total flight distance equaling more than four trips around the world. This accomplishment was due, in large part, to a unique spirit of cooperation from all agencies and individuals participating.

The successful completion of this program will have a significant long term impact on public health programs in the United States. Not only does this program represent the best approach for obvious human health reasons, but it will also save health care dollars, is a nonlethal solution to a wildlife disease problem, and will yield information that may provide answers to future wildlife disease and management questions.