

VEE SUMMARY NO. 5

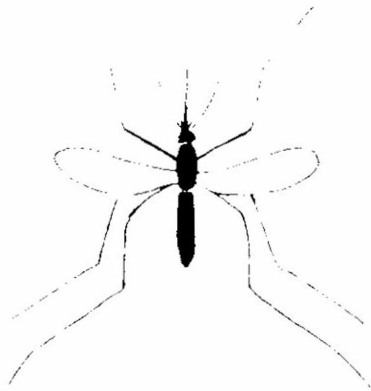
JULY 21-31, 1972

CENTER FOR DISEASE CONTROL

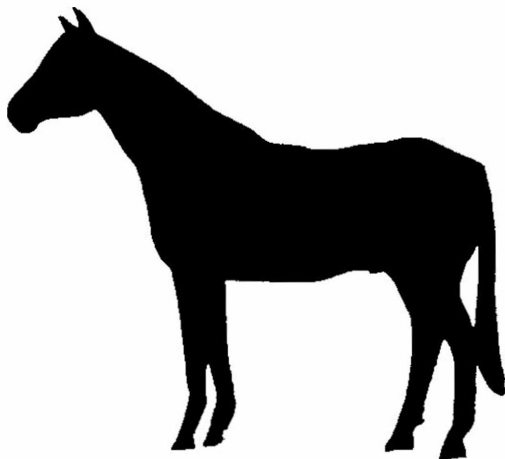
ZOONOSES

SURVEILLANCE

AUGUST 1972



VENEZUELAN EQUINE ENCEPHALITIS



U. S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION

PREFACE

Summarized in this report is information received from State Health Departments, university investigators, virology laboratories and other pertinent sources, domestic and foreign. Much of the information is preliminary. It is intended primarily for the use of those with responsibility for disease control activities. Anyone desiring to quote this report should contact the original investigator for confirmation and interpretation.

Contributions to the surveillance report are most welcome. Please address to:

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Because of the need to provide information as soon as possible on VEE activity, these surveillance reports will be issued at various intervals--daily, weekly, bi-weekly or monthly--as the urgency of the information demands.

We invite your inquiries or information on VEE and related activities: Center for Disease Control, Office of Veterinary Public Health Services (404) 633-3311, Ext. 3691. Evening or weekend phone numbers:

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SUMMARY

No equine cases of Venezuelan equine encephalitis (VEE) were reported in the last 10 days of July in Mexico. Surveys have been completed to determine the vaccination history and antibody status of equines in three geographically strategic areas in the United States. Two studies of the epidemiologic factors associated with the Florida strain of VEE are being conducted by the University of Miami and the Florida State Health Department. Surveillance activities to monitor possible VEE activity in the United States are continuing by a number of cooperating federal, state, and local agencies.

I. INTERNATIONAL NOTES

VEE Mexico - 1972

Through July 31, Mexico has reported 2,366 equine deaths attributed to VEE activity in eight states. A total of 339,015 equines have been vaccinated against VEE in 12 states (Figure 1, Table 1). The State of Morelos reported the greatest number of equine VEE deaths, 796, followed by the State of Nayarit with 765. No cases of VEE were reported in the 10-day period prior to July 31.

(Reported by Dr. Hector Campos Lopez, Secretary of Agriculture and Livestock, Mexico City, D.F.)

Figure 1 VEE EQUINE VACCINATIONS, MEXICO, 1972



TABLE 1

VEE Equine Vaccinations and Deaths, Mexico, 1972

<u>STATE</u>	<u>EQUINES VACCINATED</u>	<u>EQUINE DEATHS</u>
Colima	18,120	21
Durango	39,905	249
Guerrero	89,685	462
Hidalgo	8,167	16
Mexico	25,248	45
Morelos	35,382	796
Nayarit	47,257	765
Puebla	16,242	12
Queretaro	2,200	0
San Luis Potosi	5,508	0
Sinaloa	19,941	0
Sonora	31,360	0
TOTAL	339,015	2,366

B. Mosquito Control - Sinaloa, Mexico, 1972

Thousands of fish have been shipped to Mexico to help control the mosquito population and the possible northwest spread of VEE into southern California. The University of California at Riverside provided Mexican officials with three species of California raised fish (Tilapia mossambica, Gambusia affinis, and Gambusia affinis-holbrooki) to stock irrigation ditches, ponds, and lakes in the State of Sinaloa, the mosquito breeding area in Mexico closest to California. Tilapia, originally from Africa, like the Gambusia devour the larval stage of mosquitoes, but in addition the Tilapia feed on midges.

Seven additional species of fish are to be introduced into Mexico during 1972-73 for mosquito control.

(Reported by Dr. E. F. Legner, Entomologist, University of California, Riverside, California)

III. STATE ACTIVITIES

A. VEE Surveillance, California, 1972

Through July 31, California has investigated a total of 24 suspect equine cases of encephalitis in 13 counties; none of the suspect cases were confirmed as VEE by virus isolation, complement fixation, or neutralization test.

Over 36,000 mosquitoes in about 1,400 pools have been tested in suckling mice for the presence of arboviruses. Through July 13, from Imperial, San Diego, and San Francisco counties there was a total of 11 isolations of Turlock virus, 14 isolations of St. Louis encephalitis (SLE) virus, 19 isolations of western equine encephalomyelitis (WEE) virus, and 2 isolations of unidentified arboviruses from mosquitoes collected in these counties.

(Reported by Dr. Richard W. Emmons, Public Health Physician, California Department of Health, Berkeley, California)

B. No VEE cases have been reported in Arizona, New Mexico, and Texas but the intensive investigation of sick horses is continuing in these states.

(Reported by Dr. Philip M. Hotchkiss, State Public Health Veterinarian, Arizona Department of Health, Phoenix, Arizona; Dr. Nancy C. McCaig, State Epidemiologist, New Mexico Health and Social Services Department, Santa Fe, New Mexico; and Dr. M. S. Dickerson, Medical Consultant, and Dr. A. B. Rich, State Public Health Veterinarian, Texas State Department of Health, Austin, Texas)

C. Encephalitis Surveillance - North Carolina, 1972

Six clinically diagnosed equine cases of encephalitis were reported in six counties in North Carolina in June. Two of the cases were confirmed to be eastern equine encephalomyelitis (EEE) by virus isolation.

The reporting of clinical cases of encephalitis by veterinarians in private practice together with laboratory identification of the etiological agent responsible is an integral part of the comprehensive equine encephalitis surveillance activity in North Carolina.

(Reported by E. T. B. Ryan, Diagnostic Laboratory, North Carolina Department of Agriculture, Raleigh, North Carolina)

IV. FEDERAL ACTIVITIES

A. Investigation of Equine Antibody Level and Vaccination History

In late July, CDC initiated field surveys in Santa Cruz and Yuma counties, Arizona, and Dona Ana County, New Mexico, to assess the present immunization status of equines against VEE. Teams of veterinarians from the Center for Disease Control, the U.S. Department of Agriculture, and the U.S. Army (Fort Bliss, El Paso, Texas) participated in the survey together with health officials in the various counties. A door-to-door canvassing of equine owners was undertaken along randomly selected roads; the owners of over 1,000 equines were interviewed, and the vaccination history of their animals was obtained. In addition, one-third of the equines were bled and VEE antibody determinations are being made on the sera.

Information was also obtained on the rabies vaccination status of dogs in the same three county area (Figure 2).

(Reported by the Office of Veterinary Public Health Services, Center for Disease Control, Atlanta, Georgia)

Figure 2 VEE EQUINE VACCINATIONS, 1972



B. Through July 31, the U.S. Department of Agriculture (USDA) has investigated approximately 250 suspect equine encephalitis cases throughout the United States; none of these suspect cases were diagnosed as VEE. Over 6,000 serum samples have been collected from various animal species; no evidence of current VEE activity has been detected by virus isolation attempts or by antibody studies.

The investigation of all suspect equine cases of encephalitis and the periodic collection of sera from various animal species is an important part of the VEE surveillance program conducted by the USDA.

(Reported by Dr. E. C. Sharman, Deputy Chief, Emergency Program, USDA, Hyattsville, Maryland)

V. SPECIAL STUDIES

A. Florida Strain of VEE Survey

The U.S. Department of Agriculture and the University of Miami signed a cooperative agreement on June 26, 1972, to survey domestic animals in Dade, Collier, and Monroe counties, Florida, for the presence of the Florida strain of VEE virus (endemic VEE) or any other strain of VEE virus.

Serum antibody and virus isolation studies will be conducted on serum samples from horses, cattle, goats, pigs, and dogs. The Florida strain of VEE virus is not known to cause encephalitis in horses, but does cause human illness.

(Source: Foreign Animal Disease Report, July 1972, published by the U.S. Department of Agriculture)

B. Sentinel Systems for Monitoring Florida Strain VEE

Following the first reported human case of VEE due to the Florida strain of the virus in southern Florida in 1968, various species of animals were selected to be used as sentinel systems in the monitoring of the virus. Military sentry dogs on duty in south Florida have been considered to be good sentinels for the disease. The dogs are located around the area where the first case in humans occurred. The Base Veterinarian, Homestead Air Force Base, submits aliquots of sera obtained during the physical examination of military sentry dogs to the Florida State Division of Health Laboratory, in Jacksonville, Florida, for hemagglutination inhibition (HI) tests for VEE. In

In selecting sentinel systems for arbovirus activities, advantages and disadvantages in the different species were considered. Some of the advantageous characteristics of sentry dogs stationed in the area are as follows:

1. The history of each animal is well known.
2. Animals are carefully supervised and their daily whereabouts are known.
3. Housing and patrol activities permit frequent contact with the mosquito vectors.
4. They are usually assigned to one specific area for extended periods of time.
5. The animals appear to convert from negative to positive for VEE antibodies

with noteworthy and persistent titers as determined by HI tests.

(Reported by Dr. James B. Nichols, Administrator, Veterinary Public Health Section, Florida State Division of Health, Jacksonville, Florida)

VI. GENERAL

VEE Information Materials

VEE information materials have been made available by the U.S. Department of Agriculture. The materials include posters, a leaflet entitled "VEE of Horses--A Disease on the Move," and filmed announcements urging vaccination which have been distributed to radio stations. Special mailing of radio and television announcements in Spanish have been made to stations in the southwest United States and along the Mexico border.

VEE information kits which include all issues of the Foreign Animal Disease Report, the narrative for a set of 20 color slides on VEE, and a chronology are available upon request along with the USDA film entitled "VEE--A National Emergency" by contacting Office of Information, U.S. Department of Agriculture, Washington, D.C. 20250. (Source: Foreign Animal Diseases Report, July 1972, published by the U.S. Department of Agriculture)

**STATE EPIDEMIOLOGISTS AND
STATE PUBLIC HEALTH VETERINARIANS**

Key to all disease surveillance activities are the State Epidemiologists, who are responsible for collecting, interpreting, and transmitting data and epidemiologic information from their individual States. Their contributions to this report are gratefully acknowledged. In addition, valuable contributions to zoonoses surveillance reports are made by State Public Health Veterinarians.

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