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Russians Learn While Asleep

(WE KNEW IT ALL THE TIME)

News items appearing in newspapers and magazines throughout the nation report that: "In the Kiev State University, a woman student mastered a complete course in English in 28 nights."

"A philologist at the Ukrainian Academy of Science says that sleep-learning is less tiring to the brain than normal learning."

This "new" Russian discovery has been in use for over 2,000 years. In the United States sleep learning has been actively used since 1922 when Chief Radioman J. N. Phinney of the U.S. Navy successfully taught Continental Code during sleep. Since then, the use of sleep as a time for learning every kind of material, has become a reliable and accepted addition to our learning ing every kind of material, has become a reliable and accepted addition to our learning programs. The technique of sleep learning is being used by professionals, students and instructors, sales and corporate executives, housewives and mothers . . . along with many personalities in the public eye such as: Jan Sterling, José Ferrer, Red Buttons, Efrem Zimbalist, Jr., Sam Wanamaker . . . and many others—who use the time of sleep to absorb information effortlessly and painlessly for instant recall when awake.

To acquaint the readers of this magazine with the simple techniques that allow constructive use of your sleeping hours, the Self-Development Research Foundation, a leading researcher in the field of learning while asleep, has published a compilation of Research Studies. These easy to understand reports tell you how to absorb any material while you sleep. Learn languages; learn to relax and control tensions; control your weight; sharpen your memory; develop your sales ability—all while you sleep, and without losing your rest. To acquaint the readers of this magazine

This 26 page report is yours free. No obligation and no one will call. Simply enclose a dime to cover cost of postage and close a dime to cover cost of postage and handling. Send your name and address to: Self-Development Research Foundation, Dept. R-16, 207 East 37th Street, New York, New York 10016. Please include your ZIP CODE.

EPIDEMIOLOGY

Politics and Disease

The effort to eradicate foot and mouth disease in South America involves more politics than science.

by John Ludwigson

The tourist who hops nimbly from his jet, happily contemplating two weeks of lolling beneath the warm Latin American sun, would find it hard to believe that he could be responsible for the financial ruin of the countries he visits.

Yet, that is entirely possible. All it would take would be a few microscopic organisms hiding in his trouser cuff-the dreaded foot and mouth disease that can flash through a livestock population in a few days, utterly destroying their value to anyone.

Reliable estimates of the damage done yearly to the countries south of Panama place it at upwards of \$400 million. And, those concerned point out, introduction of a new strain of the virus or an outbreak of the old types among unprotected livestock would wipe out no less than a quarter of a country's herds.

Despite stringent control measures and vigorous research programs, the specter of foot and mouth disease hangs over affected and unaffected countries alike. The reason is the incredible toughness of the tiny, spherical virus that causes the disease known as aftosa fever in Latin America.

At least 40 different strains of the virus are known and there may well be more that have not been identified. These have been classified into seven major types, the last of which was identified in 1957 by the British.

Animals that have recovered from infection by one of the major types are still susceptible to the others, although they are immune to the type that caused the original infection. Immunity lasts for two to four years, gradually declining with time.

Foot and mouth disease is not, primarily, a killer. It does most of its damage by weakening livestock. Sore gums make it difficult for the animals to eat; sore, blistered feet-to the point where afflicted livestock hobble about on their knees-immobilize them.

Vaccines are available, and are in use in many areas of Latin America. Europe and Asia, but they protect against only some of the seven major types of virus. A single injection can be counted on to immunize an animal for four to six months, then must be repeated-a process beyond the financial capabilities of many South American livestock owners.

According to the U.S. Department of Agriculture, the viruses can live for weeks in a speck of dirt-perhaps embedded in a tourist's shoe—then spread through an entire herd of cattle, pigs or sheep in 24 hours. Once it is discovered, the only effective answer is immediate quarantine of the area and slaughter of every cloven-hoofed animal within it.

Thus, a certain nervousness on the part of agricultural officials is understandable. And apparently excessive measures to prevent the spread of the disease come to seem barely adequate to deal with such a formidable enemy.

Some of the most nervous agricultural officials in Latin America are to be found in Panama, the southernmost disease-free nation in this hemisphere. They have not only the usual difficulties of inspecting everything that comes into the country, but must also be certain that not even a single stray steer wanders across the border from Colombia where aftosa is rampant.

The fears of all Panamanian-and Central American—livestock owners were voiced recently in Mexico City by Rafael E. Zubieta, president of the Panama National Cattlemen's Associa-

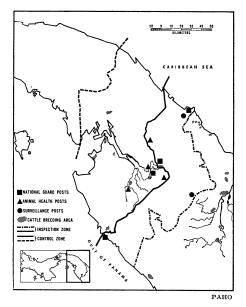


Animal foot: the tissues are eroded.

Any infection of their herds would result in immediate loss of all livestock and meat sales in the United States, he points out. "While I do not want to be an alarmist, a closing of the U.S. market would mean ruin and collapse of the livestock industry."

Panamanian cattlemen now have 1.2 million head of livestock on their ranches, worth around \$300 million, Zubieta calculated. Loss of this investment would, obviously, be catastrophic both to the cattlemen and to Panama. Conditions in the other countries of Central America are comparable.

Yet cattlemen don't have to live in fear; aftosa fever could be wiped out. Six outbreaks between 1900 and 1929 in the United States were contained and the disease has not been seen there since. In 1947, a joint Mexican-U.S. program cleaned out all trace of the disease in Mexico. A mild outbreak in Canada in 1952 was quickly controlled in the same way—all the affected cattle were slaughtered and buried in deep trenches.



Control zones are not enough.

South America would long since have adopted the same approach but for the cost. Fighting the six U.S. outbreaks cost the taxpayers nearly \$500 million. The U.S. share of the cost of eradicating the disease from Mexico was \$135 million. Very few of the presently affected nations can afford that kind of expense.

One notable exception is Argentina, which ships huge quantities of beef to Europe, especially England, and sends some processed meat to the U.S. According to a report prepared for the Pan American Health Organization, Argentina is vaccinating 90 percent of its cattle three times a year—more than the minimum control necessary. A recent outbreak of aftosa in Tierra del Fuego was immediately contained, the Argentines told a PAHO delegation.

They, and other nations engaged in the anti-aftosa struggle, receive scientific advice and assistance from the Pan American Foot-and-Mouth Disease Center operated by PAHO in Brazil. The Center carries on research on the disease and its transmission, trains

technicians and analyzes blood samples from suspected livestock.

One of the principal objects of a recent tour of South and Central America by the PAHO delegation was to drum up financial backing for the Center's continued operation. At every stop they were happy to find support towards the Center's estimated annual budget of \$1,202,836, two-thirds of which—\$793,872—is paid by the U.S.

The delegates, Vice President Edgardo Seoane of Peru and Dr. Carlos Palacios, director of the Center, also made vigorous efforts to encourage the South American nations to work together in the fight against foot and mouth disease. "Foot and mouth disease is fundamentally a problem of the whole region, and not of the country in which it occurs," they note in their report.

A good illustration of that has been the relations between Colombia and Central America, notably Panama. An initial agreement between Colombia, the International Regional Animal Health Agency and the Center called for a livestock-free area in Colombia's Chocó region along the Panama border. The agreement was denounced by Colombia when it could not get disease-free cattle at a special price from the Central American nations.

Alarmed Panamanians, fearful of infection from Colombian cattle, quickly set up a double barrier zone along the border. Surveillance posts were set up at the border, backed by a wide inspection zone in which no livestock raising of any kind is permitted.

That zone is backed by a string of animal health posts and National Guard stations and a second zone, the control zone, in which no expansion of the livestock industry is permitted. Those livestock operations already in existence there were permitted to remain, but under strict government regulation.

Colombian cooperation was restored by the Seoane-Palacios mission. The envoys explained the immense dangers from aftosa to Colombian President Dr. Carlos Lleras Restrepo who responded with a generous statement of support.

In view of the enormity of possible losses if the disease were to spread, Dr. Lleras Restrepo said, "Colombia would not hesitate to sacrifice its own interests" and would keep all livestock out of the Chocó area.

There the matter rests for the moment. Panama is going ahead with its buffer zone—a considerable sacrifice of good grazing land—and the meetings of ministers, scientists and heads of state are scheduled to continue.

And everyone is keeping his fingers crossed, hoping that the outbreak of aftosa will happen somewhere else.

