

Ticks on the Wing

The Tropical Bont Tick (TBT) may not have made its way into U.S. cattle herds, but experts say the threat it poses to the mainland if it is not eradicated from Caribbean islands is very real. The TBT is associated with acute cases of dermatophilosis and heartwater and can cause devastation and often death among ruminants and wildlife.

“Although significant progress has been made to control and eradicate TBT in the Caribbean during the past decade, the outlook in the near future is bleak,” says Rupert Pegram, program manager, Caribbean Amblyomma Program (CAP), United Nations Food and Agriculture Organization (FAO). The FAO provides the lead technical role for eradication activities.

“We have an urgent need to obtain more funding before the end of 2005, or we will lose the gains we have made in eradicating TBT and risk the chances of seeing further spread as we did in the 1980s,” Pegram says.

CAP was created in 1994 to help eradicate the TBT from eight islands: Anguilla, Antigua, Barbados, Dominica, Montserrat, Saint Kitts, Nevis and Saint Lucia. Saint Maarten was added in 1999 and Saint Vincent in 2000. Since that time, six of the 10 islands have been certified as provisionally free from TBT. A seventh, Saint Kitts, was certified and then became reinfested. Saint Croix, which falls within U.S. Department of Agriculture (USDA) jurisdiction, was cleared and then reinfested in 2000. Saint Croix is the closest TBT-infested island to the United States.

“Despite success, a lack of adequate funding has limited progress, and we have had to scale back future plans. Although national governments continue to provide financial and material resources to the program, USDA has been the primary external source of funding,” Richard Pacer, Caribbean area veterinary attaché/program manager, USDA Animal and Plant Health Inspection Service (APHIS), told U.S. cattlemen at the 2005 Cattle Industry Annual Convention, San Antonio, Texas.

“Congress has not approved an increase in the annual TBT line item for two years, even though it has been requested by APHIS. A lack of sufficient funds has not allowed for adequate follow-up and surveillance efforts,” Pacer notes.

Tracking down TBT

The TBT was first introduced in the Caribbean about 1750 when infested cattle were imported from Senegal to Guadeloupe. It was confined to three islands for almost



Researchers say cattle egrets could carry the Tropical Bont Tick and all its problems to the United States.

by Barb Baylor Anderson

200 years. During the past 25 years, however, the tick has spread. Since the 1970s the TBT has expanded its territory to 16 islands at a rate of about one new island per year, although programs to control and eradicate the tick during the past two decades have reduced the number of islands currently infested. Infestation is complicated by the fact that the tick's suspected carrier, a bird known as the cattle egret, has expanded its territory.

“Without eradication, it is only a matter of time before the tick reaches its full potential. The cattle egret has been known to fly as far north as southern Florida,” Pegram says. “Similar losses in livestock productivity and wildlife could be expected if TBT were to spread beyond the Caribbean to neighboring countries. Eradication is essential to eliminate the risk of spread to the U.S. mainland.”

If CAP ends from lack of funding this year, Pegram predicts the TBT will spread to 19 or 20 Caribbean islands and farther north via the Bahamas into Florida, the Dominican Republic, Haiti, Cuba, Central America and into other southern states like Texas.

“The potential distribution of TBT left unchecked would include the Gulf Coast and Southeastern states of the U.S., northern South America, Central America and much of Mexico,” Pacer confirms. “The risk of introduction of the tick and associated diseases into the U.S. — especially Puerto Rico — increases greatly if it spreads to Hispaniola and Cuba, because those islands are close to Florida. In addition, the widespread presence of the native Gulf Coast tick, *Amblyomma maculatum*, in the U.S. would further complicate control efforts

CONTINUED ON PAGE 89



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Ticks on the Wing CONTINUED FROM PAGE 87

because it is also capable of transmitting heartwater disease.”

The TBT can feed on almost anything and does not distinguish between species or breeds. Pacer says it could spread through wild animal populations, establish a foothold on the U.S. mainland and cause “insurmountable difficulties” in eradication.

Treatment troubles

If TBT enters the United States, Pacer says USDA and affected states would most likely have to enter into long-term, costly control programs rather than hope to eradicate it. Treatment of related diseases would require

injections of expensive, long-acting tetracyclines.

“Although several universities have studies under way, there is no practical vaccine or cure for heartwater or dermatophilosis,” he says. Control in the Caribbean has included a simple but persistent treatment. Farmers pour Bayticol® antiparasitic treatment directly onto the skin and repeat the process every two weeks for at least two years. Continued surveillance and treatment are needed until no ticks are seen for at least 15 months.

However, Bayticol is not approved for use in the United States. “Clearly, eradication of the vector in the Caribbean is the best

prevention,” Pacer says. “The CAP would be far more cost-effective than dealing with a new and aggressive tick species and a foreign animal disease like heartwater in the U.S. or its territories.”

A 1993 cost-benefit analysis of the effects of the Tropical Bont Tick and associated diseases in the United States estimated losses at more than \$1 billion. But, Pacer warns, the analysis did not fully assess the effects of dermatophilosis, the potential spread to and among wildlife, possible internal state quarantines, and international trade embargoes, which would likely lead to additional economic losses.

