

increased more often when producers elected to make a change. In some cases these decisions may not be the best approach to short term risk management especially with respect to animal health. Again, the veterinarian should be well suited to help the producers make informed decisions about what will be the most cost effective strategies to contain costs while having minimal impacts on revenues and acceptable levels of risk.

### Summary

Cow-calf producers have made strides at improving production and production efficiency. Some producers are unlikely to make substantial gains in production efficiency without the advent of new technologies. However, for the bulk of producers, there is a wealth of technology already available that might be able to help them improve their bottom line.

The veterinarian is a key resource for helping producers achieve the highest efficiency possible for their operation. Because of their familiarity with the individual operation and broad based knowledge of biology, medicine, and the production system, the veterinarian is in a position to help the producer choose which of the

available technologies they should incorporate to help them meet their goals.

### Acknowledgment

*The help of the many state and federal veterinarians and animal health technicians along with the participation of the producers is gratefully acknowledged. In addition, many at the Centers for Epidemiology and Animal Health contributed to the compilation and summarization of the data.*

Copies of the reports from the Beef '97 study are available on the world wide web at:

<http://www.aphis.usda.gov/vs/ceah/cahm/nproj.htm>

Hard copies of the reports are available from:

Centers for Epidemiology and Animal Health  
USDA:APHIS:VS, attn. NAHMS  
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## Abstract

### An outbreak of contagious bovine pleuropneumonia in Ngamiland district of north-western Botswana

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*Veterinary Record* (1998) **143**, 46-48

An outbreak of contagious bovine pleuropneumonia (CBPP) was detected in Botswana in 1995 after more than half a century of freedom from the disease. Lung tissues, pleural fluids, nasal swabs and serum samples were examined in laboratories in Botswana, South Africa and Namibia and the findings were confirmed in Italy. The disease was confirmed as CBPP from the gross

and histopathological changes in the lungs of affected animals and by the culture of the agent of CBPP, *Mycoplasma mycoides* subspecies *mycoides*, small colony variant (MmmSC). These findings were supported by the demonstration of specific complement-fixing antibodies and the production of polymerase chain reaction products of MmmSC.