Impact of Introducing a Single Persistently Infected (PI) Animal Into a Group of PI Negative Cattle

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Bovine viral diarrhea (BVD) is a highly contagious and economically significant disease that affects cattle worldwide. The disease, caused by the BVD virus (BVDV), can lead to a range of severe health issues, including reproductive failure, growth retardation, and increased susceptibility to secondary infections. One of the most concerning forms of BVD infection is the persistently infected (PI) state, which occurs when a calf is infected with the virus in utero, specifically during the first trimester of pregnancy. These PI animals are lifelong carriers of the virus, posing a significant risk of transmission to other cattle, even if they succumb to the disease. In regions like Oklahoma, where cattle production is an integral part of the agricultural economy, managing BVDV is crucial to maintaining herd health and preventing widespread outbreaks. When PI-positive cattle are identified, the ethical response is not to sell the cattle to an unsuspecting buyer. The alternatives are quarantine, then either euthanize the animal to prevent further spread of the disease, or raise it in a quarantined environment, hoping that the animal survives long enough to be slaughtered. This research project seeks to explore the viability of alternative management strategies for PI-positive cattle, specifically evaluating the potential for quarantining and butchering such animals. By conducting controlled studies and analyzing the outcomes of this approach, this project aims to contribute to a broader understanding of BVDV management and provide evidence to guide decision-making in cattle production worldwide. Ultimately, the findings will help ranchers make more informed choices that balance animal welfare, disease control, and economic sustainability.

Awards Won: