

Venereal Diseases of Cattle: Natural History, Diagnosis, and the Role of Vaccines in their Control

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Although the widespread use of artificial insemination has made it possible to breed cattle with minimal risk of transmitting specific venereal pathogens, sexually transmitted diseases (STDs) are still common wherever natural service is practiced. The latter includes an estimated 80% to 95% of the commercial beef cattle in North America, and as many as 40% of all dairy females in the United States (personal communication, J. Mitchell, National Association of Animal Breeders, 2005). Regional differences exist in natural service of dairy cows, but the Raleigh Dairy Records Processing Center's 2001 report is typical: In more than 10,000 Dairy Herd Improvement Association (DHIA)-supervised herds, 24% of lactating cows were bred by bulls, and in nonsupervised herds, 36% of lactating cows were naturally served (cited by Cassell et al [1]). In many parts of the country, all nulliparous heifers are bred by bulls, a custom that brings the national total percentage of females bred by natural service to about 40%.

The best-known bovine STDs are insidious, in that the etiologic agents do not cause overt disease in the male or female, but rather cause occult pregnancy loss, usually early in gestation. In commercial cow-calf operations, the result is that a significant portion of a season's calf crop is lost without anyone ever noticing something amiss; in dairy cattle, the first indication that venereal disease is operating in the herd may be that the calving-to-conception intervals are increasing, or that the interval from

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