

The Practicality of Ultrasound in Bovine Reproductive Management

The merits of ultrasound as a part of the routine bovine reproductive examination has been touted for years. Equine veterinary practitioners have successfully used the instrumentation to enhance the accuracy of pregnancy diagnosis and reproductive system disorders. However, there has been some reluctance by bovine practitioners to invest money into the equipment and time into development of this new clinical skill.

Dr Mike Holland (CSU, PhD and DVM) discussed bovine reproductive ultrasound in the July 1996 issue of Colorado Dairy News. His experience was gained while conducting research at CSU's Animal Reproduction and Biotechnology Laboratory. Dr Holland explained that a well-trained ultrasonographer can detect pregnancy with 95% accuracy by day 25 and 98-100% accuracy by day 28 of gestation with no adverse effects on the developing embryo. In contrast, an experienced palpator can detect and stage pregnancies with greater than 85% accuracy at 30 to 32 days of gestation. However, manual pregnancy examinations performed prior to 40-42 days of gestation have been shown to increase the incidence of embryonic mortality and fetal abnormalities. Now in private veterinary practice in Idaho, Mike uses ultrasound routinely.

A veterinarian must charge more for an ultrasound examination than a manual rectal palpation examination to cover the cost and upkeep of the instrumentation. However, the dairy producer can offset that charge by a decrease in "days open". A presentation at the 1998 AABP meeting by Dr John Fetrow of the University of Minnesota and Dr Luc DesCoteaux of the University of Montreal illustrated that point. If the cost of lost milk for each day a cow is open past 100 days is \$4, a veterinarian working with 15 well-managed 100-cow herds can pay back the purchase cost (\$15,000) and annual upkeep (\$1600) of an ultrasound machine in 3 years by charging a client fee of \$5-8 per ultrasound exam.

Learning the clinical skill of ultrasonography has also become accessible. Short courses are offered to graduate veterinarians throughout the country. Locally, a reproductive ultrasound course concentrating on food animals (cows, sheep, goats and llamas) will be held December 11, 1999 at CSU Veterinary Teaching Hospital in Fort Collins. The course will consist of a morning of didactic lectures and an afternoon wet lab in which the participants can practice with various machines in live animals and on tissue specimens.