Ovsynch versus Ultrasynch: A Clinical Trial of Breeding Efficiency Utilizing Corpus Luteum Function

J.A.A. McArt, *DVM;* **L. Caixeta,** *DVM;* **V. Machado,** *DVM;* **C.L. Guard,** *DVM, PhD;* **R.C. Bicalho,** *DVM, PhD*
Ambulatory and Production Medicine Clinic, Cornell University, Ithaca, NY 14853

Introduction

The steady decrease in reproductive efficiency of dairy cattle and increase in use of synchronization protocols have generated interest in development of a synchronization program that improves pregnancy rate while decreasing the number of hormone treatments. The purpose of this study was to determine if the reproductive efficacy of a synchronization program, ultrasynch, based on functionality of the corpus luteum (CL), was greater than a standard ovsynch protocol.

Materials and Methods

A randomized clinical trial was conducted on a commercial dairy during scheduled weekly pregnancy examinations. All cows were first randomized to two groups. Those determined non-pregnant on rectal ultrasonography at 28-34 days after insemination were assigned to ovsynch (1) or ultrasynch (2) synchronization and breeding protocols. Follow-up conception data were analyzed by Cox's proportional hazards model. The time variable used in the model was days from enrollment until conception or censorship; the independent variable was synchronization method.

Results

A total of 753 cows were used in the analysis, 380 in the ovsynch and 373 in the ultrasynch protocol. There was no significant difference in pregnancy rate between the two synchronization methods; the hazard ratio for the variable treatment was 1.01 (95% confidence interval = 0.80 to 1.26).

Significance

These results indicated no difference in reproductive efficiency; however, the decrease in number of hormone treatments per pregnancy using ultrasynch is not trivial, both in terms of cattle welfare and dairy finances. Further studies are necessary to determine if redefinition of a functional CL and manipulation of the ultrasynch protocol can achieve higher pregnancy rates.