

Evaluation of a Modified Heatsynch Estrus Synchronization Program on a California Commercial Dairy

A.P. Bos, DVM²; A.P. Belschner, DVM, MS³; N. Michael, DVM¹

¹ABS Global DeForest, Wisconsin

²Almond Valley Veterinary Clinic, Escalon, California

³Pharmacia Animal Health, Kalamazoo, Michigan

Introduction

This study compares the number of pregnant animals by 120 days after calving using three different breeding systems. The breeding programs include an aggressive, timed artificial insemination (AI) program that incorporates treatment with gonadotropin-releasing hormone (GnRH), estradiol cypionate (ECP), prostaglandin F-2 alpha (PGF2a) and a 20-day post-breeding progesterone test; a prostaglandin-based heat detection program; and a bull-bred string.

Materials and Methods

Approximately 600 Holstein cows (200 per group) were enrolled, and only cows that calved after the start of the trial were eligible for the study. Cows and heifers were divided into three groups: treatment group, prostaglandin-only group and a bull-bred group. The treatment group received a dose of PGF2a at 18±3 days after calving, and a second dose of PGF2a 14 days after the first dose. Fourteen days after the second dose of PGF2a, animals were given an injection of GnRH. Seven days after the GnRH, animals were injected with PGF2a, followed by a low dose of ECP one day later.

Treatment group animals were bred based on heat signs with a timed AI at 48 hours after the ECP if not observed in heat. These animals had a voluntary wait-

ing period of 55±3 days in milk. Twenty days after first breeding in the treatment group, animals were subjected to a milk progesterone test (Ridgeway Science, Hayward CA). Any animal with a low milk progesterone level was bred the following day and observed for positive heat signs. Animals with high milk progesterone received no additional treatments and were examined for pregnancy no less than 38 days after breeding. Any animal with high progesterone 20 days after service and found open on the pregnancy exam was immediately returned to the initial program.

For the treatment group, all high-milk-progesterone cows received a GnRH injection 7 days before the pregnancy check. The two other breeding programs that will be used as control groups are: 1) a traditional prostaglandin program that begins at 50 days in milk (DIM) and utilizes weekly PGF2a injections for animals past 65 DIM and no recorded heat; and 2) a bull breeding program that begins after a 30 DIM post-partum veterinary examination.

Results and Conclusions

The results of our objectives are anticipated to be presented at the September 2002 conference. Preliminary data suggest a statistical improvement in pregnancy rates in the treatment group.