Research Summaries

Dr. Duane Miksch, *presiding*

Use of Prostaglandin in Herd Health Programs

Robert J. Harris, *D.V.M.*
Turlock, California 95380

Objectives

1. To reduce the number of days to the next heat by five or more.
2. To maintain a conception rate close to the normal first-service rate of 46% (without use of prostaglandin). We hoped to be within 2-3% of the normal conception rate.

Materials and Methods

Lutalyse was used as the sole source of prostaglandin. The dose per cow was between 5cc-7cc (25-30 mg). This study was conducted on a 1300-cow commercial milking herd of Holsteins. More than 95% of the cows are grades. The herd has a milk production level of about 16,750 lbs. and butterfat production level of 650 lbs. It is a DHIA-tested herd.

Artificial insemination is used, and bulls are used for clean-up in hard-to-settle cows, low producers, some cows with uterine adhesions, etc. The number of cystic cows in this herd is average for the area.

Heat detection is done by chalking tail heads and checking in lock stalls once daily in the morning. Cows showing signs of heat are bred, and bred the following day if the chalk is again rubbed of.

There are three personnel who do all the breeding. All have had formal breeding-school training. The insemination kit can be moved to each string by electric car and the semen is thawed at the location where the cows are to be bred.

The herd has regular herd checks by a veterinarian once a month. The veterinary check is basically used for pregnancy checks of cows bred more than 30 days and for checking all fresh cows more than 25 days fresh. All problem cows from previous herd checks or problems that herdsmen have seen or suspect are checked. This includes cystic cows and cows which may have been near-abortion on a previous check, as well as miscellaneous problems.

In general, the following criteria was used for choosing candidates for this field study: If a cow was fresh 55 days and ready to breed (determined by palpation), and if we thought we could reduce the days to her next heat by five or more, she was considered an economical candidate for the study. If the cow was 75 or more days fresh, we were not quite as strict on our palpation criteria, and tended to take more liberty and use prostaglandin because the cow was becoming a late breeder. An additional 30 days to the subsequent herd check was an economic loss to the owner if the cow was not at least bred.

Results and Discussion

Over a two-year period, we were able to maintain records on 450 cows which were given prostaglandin. SEE CHART.

Our first objective was to reduce the number of days to the next heat by five or more. We did breed slightly over 63% of the cows by the 5th day and 72% by the 8th day.

The conception was better than we had hoped for. We would have been satisfied with 3% below the normal first-service conception rate for this herd. Instead, we were 3%

Field Prostaglandin Study

Days PGF_2 To Breeding	Number of Cows	% of Cows	Conception Rate
1	4	0.9	50%
2	9	2.0	67%
3	117	26.0	46%
4	112	24.9	51%
5	56	12.4	52%
6	22	4.9	41%
7	11	2.4	45%
8	10	2.2	40%
9	6	1.3	17%
10	5	1.1	40%
11	5	1.1	60%
12	3	0.7	100%
13	2	0.4	50%
14	5	1.1	20%
15	1	0.2	100%
16+	82	18.2	55%
Conception Rate - 1st Breeding		450	49.2%
Conception Rate 1-15 Days After PGF		368	48.2%
Conception Rate For Entire Herd			46.0%

The five most costly words in a cattleman's vocabulary:

"LET'S JUST WAIT AND SEE..."

You know isolation pens and routine injections are no guarantees against an outbreak of shipping fever. That's why, at the first sign of respiratory distress, even the best-managed feedlots face a critical decision. Should the infection be *aggressively* treated now? Or, can your client gamble that antibiotic therapy may do the job later?

Some gamble! If he 'wins,' he still loses. Because even if the animal survives the wait-and-see period, postponing treatment often means a substantial delay in returning to feed. And that translates into real economic loss.

Protect your client's investment with fast-acting

Polyflex®!

(ampicillin trihydrate)

- RAPID PEAK SERUM LEVELS.
- BACTERICIDAL ACTIVITY.
- BROAD SPECTRUM.*
- HIGH EFFICACY.

THEY CAN'T AFFORD TO WAIT!!

Warning. Do not treat for more than 7 days. Milk from treated cows must not be used for food during treatment, or for 48 hours (4 milkings) after the last treatment. Treated animals must not be slaughtered for food during treatment or for 144 hours (6 days) after the last treatment.

For complete product information, consult Official Package Circular.

*Including *Aerobacter, Klebsiella, Staphylococcus, Streptococcus* spp. and *E. Coli.*

BRISTOL® Bvp

ADVANCES IN VETERINARY MEDICINE... FROM THE WORLD OF BRISTOL-MYERS RESEARCH

above the normal rate. We had a 49% conception rate on first-service following use of prostaglandin as compared to 46% herd average on first-service.

When we consider that a percentage of the cows receiving prostaglandin were previously cystic cows, cows behind in breeding perhaps due to poor heat signs, and cows that were previously bred and then found open on palpation, we were very pleased with the results.

Summary

The use of prostaglandin in this now 1600-cow herd has been proven to be cost-effective, and gave very satisfactory results in this field study. Selection of recipients for prostaglandin injection is determined by rectal palpation by the veterinarian during herd checks, and is now a routine part of the herd health and reproduction program.

Trouble-Shooting Reproductive Problems Through Integrated Reproductive Management

L. J. Hutchinson[1]
M. L. O'Connor
R. S. Adams *and*
R. S. Baldwin[1]

Summary

This progress report describes the Pennsylvania-Vermont reproductive management project. This integrated project utilized a task force of professional and service personnel and applied technology to evaluate herd status, diagnose deficiencies and problem areas and recommend corrective action in an attempt to improve reproductive performance. Sixteen herds in each state cooperated in this project. Herds were intensively evaluated for reproductive, health and nutritional status. Analysis of herd reproductive status, disease testing, blood and metabolic profiling, forage analysis, computer ration evaluation and feed programming, semen evaluation, and AI technique evaluation were the major tools used to identify problem areas. Reproductive goals were established for each herd and formal reports of herd status and recommendations were sent to each dairyman and the respective county agent, AI technician and veterinarian. Numerous reproductive management, health and nutritional deficiencies have been noted. Progress is determined by comparing herd reproductive status at the beginning of the project with similar data obtained at nine and eighteen months. The eighteen-month summary indicated improvement in several areas: a reduction in days to first service, increase in the percentage of cows first bred by 90 days, a reduction in the estimated calving interval, a decrease in services/conception and a decrease in percent reproductive culls. This project revealed a number of potential problem areas to be checked and tests to be performed when trouble-shooting reproductive problem herds in the future. This report summarizes the findings of the Pennsylvania portion of this study.

Introduction

The problem of poor herd reproductive performance is often complex involving management, nutritional and health factors. Although poor heat detection is widely accepted as the primary problem in herds with low reproductive performance, other important factors need to be considered more thoroughly under farm conditions. New developments in blood profiling, disease testing, ration evaluation, feed programming and evaluation of artificial insemination technique make it possible to more effectively assist dairymen in improving reproductive management. Furthermore, with the expertise in various disciplines related to dairy production available from both research and extension, it was felt that an integrated effort would be more effective in problem solving.

The objective of this project is to develop and implement a coordinated approach at the farm level to improve reproductive efficiency by 1) evaluating and monitoring herd reproductive and health status and feeding management, 2) recommending effective management practices, and 3) employing new technology and practices. This project was conducted jointly with the University of Vermont and funded by USDA through a new national program entitled "Integrated Reproductive Management."

Procedures

Sixteen problem herds (calving intervals in excess of 13.3 months) in each state were selected to participate in this project for eighteen months. Each herd is DHIA tested,

[1] *Associate Professor of Veterinary Science, Assistant Professor of Dairy Science Extension, Professor of Dairy Science Extension and Field Technician, respectively.*

Supported by a USDA Extension Grant.