Cow/Calf Session III

Moderator: **Kurt Wohlgemuth**

Cow/Calf Production Records: Justification, Gathering, and Interpretation

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The use of records in a production medicine program can vary from the simple to the complex. Regardless of the degree of sophistication in the system, records should accurately document events occurring in the herd. Historians and politicians frequently use the phrase. "How do we know where we are going, if we don't know where we have been?" Records leave a written documentation for others to follow.

The development of production medicine programs depend to a large degree on informaton transfer between the producer, veterinarian, and various resource people involved in production agriculture. This exchange of ideas and concepts should result in cost efficient beef production for the enterprise. Each person plays a significant role. The producer establishes goals for the operation and provides day-to-day observations and documentation. The veterinarian provides documentation, technical and decision-making skills. Resource personnel provide the latest economic and technical information. The use of production records allows all parties involved to evaluate the operation's performance from a production and economic perspective while taking advantage of available technology.

Information Gathering

The record keeping system should be customized to the operation and to the expectations of the producer and veterinarian. The best record system is only as good as the willingness of the participants to utilize it. Basic information (Table 1) can be obtained through the efforts of the producer and veterinarian on an on-going basis for each production year. This production information can be analyzed and compared to previous herd production parameters or goals and serve as the basis for subsequent management evaluation and decision-making.

Table 1: Cow/Calf Production Information

TOTAL HERD

- Breeding Herd Inventory (total, breed and age distribution)
- Non-Producing Inventory (heifers, bulls)
- Year Management Dates (breeding, calving, weaning)
- Resource Inventory (feed and hay storage, bunk space, pasture allocation, water sources)
- Nutritional Information (feed inventory, quality, commodity prices)
- Management Procedures (growth promotants, parasite control, feed additives, vaccines)

ANNUAL PRODUCTION COSTS

CALF AND DEVELOPING HEIFER

- Calves Weaned
- Weaning Weights
- Age at Weaning
- Health (number, diagnosis, mortalities, chronics)
- Prebreeding Weight
- Prebreeding Reproductive Tract Score
- Prebreeding Pelvic Measurements
- Growth and Conformation Characteristics

BREEDING HERD

- Body Condition Scores (mid-gestation, precalving, prebreeding)
- Pregnancy Status
- Noncalving Cows
- Calving Sequence (actual, projected)
- Culls (number, reason, disposition)
- Adult Health (number, diagnosis, mortalities, date)
- Calving Difficulty (score, calf birth weight, complications)
- Perinatal Calf Mortalities (number, diagnosis, dam ID)

While data could be gathered daily on the beef herd, the majority of data is collected seasonally either by the rancher or veterinarian. Seasonal information collected by the veterinarian is gathered most often "chuteside". Chuteside information such as identification number, breed, body condition score, age, reproductive status, weight, pelvic measurements, and production comments can be recorded on a cow or heifer in a matter of seconds at the pregnancy and prebreeding examinations. This informaton subsequently can be analyzed to evaluate production performance and to make management decisions. Production information collected by the producer at calving, breeding and weaning completes the management year records.

Seasonal information gathered on pasture conditions and from analysis of harvested forages can be integrated with chuteside information to complement the herd nutritional program.

Program Analysis

Analysis of the collected data and the subsequent interpretation of the results are critical steps in a successful production medicine program. Numerous options are available to the producer or veterinarian as to the availabiltiy of data analysis programs. Analysis programs are currently offered by breed associations, livestock organizations, commercial firms, universities, and veterinary firms.

Guidelines to consider in adopting any available technology should be that the reports are understandable, accurate, cost efficient and adaptable to the ranching operation. If the data is not analyzed by the veterinarian then the processing center should be accessible and generate reports in a short turn-around time.

Veterinarians initiating production medicine programs must critically assess the volume of information to be processed on-site by his firm. Low volume efforts may not be able to adapt more complex software due to the time required to learn the program and to maintain trained staff for data entry and retrieval. These firms can adapt available spreadsheet software or utilize a central data processing organization. Large volume firms can maximize the advantages of on-site data storage and retrieval through the maintenance of well-trained support staff and the ability to develop customized software for a ranch.

Reports to the producer of the program analysis should contain basic production information concerning overall producivity. In commercial cow/calf operations, producers seldom request or utilize individual cow performance data, therefore most reports should concentrate on herd performance data. Too often reports contain excessive or redundant information, or are printed in a format that is difficult to interpret. Reports of this nature seem to increase the frustration levels in all parties and too often hasten the demise of a production-oriented program. Herd performance can be easily ascertained from the analysis of information obtained seasonally by the producer or veterinarian. Parameters outlined in Table 2 are useful in the evaluation of reproductive and production performance. These production parameters are repeatable and can be easily compared annually or to establish production goals for the herd.

Table 2: Analysis of Herd Production Informaton-Production Parameters

Breed Performance (reproductive, production)
Age Performance (reproductive, production)
Body Condition Scores (breed, age, pasture, reproductive)
% Calf Crop
Weaning Rates and Weights
Culling %
% Pregnant 1st 20 Days
45 Day Pregnancy Rate (heifers), 60 Day Rate (cows), Total
% Nonpregnant (breed, age, pasture, bull)
Median Calving Date
Dystocia Rates
Morbidity and Mortality Summary
Program Cost and Return
Year Comparisons

Program Evaluation

Once a report of the herd data analysis has been obtained the producer and veterinarian need to critically evaluate the information and interpret the significance of each finding. If production goals have been established for the herd, are they being met? If they are, are the goals realistic or are they set too low? If production goals are not met, are they too high or what measures can be taken to improve herd productivity?

Common production evaluators are listed in Table 3. Under each category of evaluator a goal level, monitor level, and action level is indicated. The figures listed have been compiled from Kansas, Iowa, and North Dakota production surveys and KSU Commodity Program data. Monitor levels are used as sentinel values and can be taken as a portend of potential production inefficiency. Action levels fall below compiled industry figures and generally signify serious production and management problems. For each production parameter evaluated, the veterinarian should be able to provide technical information about factors impacting the parameter. This technical information should provide the answer to why a particular estimator is meeting or exceeding expected productivity levels.

Decision-making

The decision-making or consultative portion of the program takes place following a thorough evaluation of available herd informaton. Management decisions are

Table 3: Cow/Calf Production Evaluators[1]

	GOAL	MONITOR	ACTION
REPRODUCTION:			
Calf Crop %	>90	85-90	<85
60 Day Preg Rates (%)g	>95	90-95	<90
1st 20 Day Preg Rates (%)	>65	55-60	<50
Median Calving Date	<17	18-25	>25
HERD:			
Average Cow Age	5-6	4-5, 6-7	<4, >7
Body Condition Score (1=Thin, 9=Fat)			
Mid-Gest.	4.5-6	4-4.5	<4
Calving	5-6	4.5-5	<4.5
Dystocia			
Adult (%)	<5	6-7	>8
Heifer (%)	<15	20-25	>25
Gestational Losses (%)	<2	2-3	>3
Perinatal Mortality (%)	<5	5-9	>10
Cow Death Loss (%)	<2	3-4	>5
Culling Rate (%)	15-20	10-14, 20-25	<10, >25
CALF:			
ADG (lbs.)			
Adult	>2.25	2-2.25	<2
Heifer	>2	1.75 - 2	<1.75
Age at Weaning (days)	>200	190-200	<190
Projected Weaning Weights (%)	≥100	90-95	<90

[1]Information in the Table Compiled from the 1989 Summary of the North Dakota Beef Cow Herd Analysis Program, 1989 Iowa CHAPS Herd Summary, Kansas Cow Herd Surveys of 1984 and 1985, and Summary Data from KSU Commodity Program Herds, 1986 through 1990.

often event driven and time influenced. In herds meeting or exceeding production goals, comparisons are often made on a year-to-year basis. In this type of herd, the veterinarian generally provides new technical information on management practices which can be incorporated into the ranching operation to maintain optimal production at the most cost effective level. In herds failing to meet production goals, the veterinarian should have the problem solving abilities necessary to ascertain the cause of a production deficit.

Additionally, he should have the background or resource contacts necessary to provide technical information or management practices which can correct or minimize the impact of an individual management deficit. Following any decision to alter management practices, subsequent performance should be evaluated to determine the impact of the decision on herd performance and profitability.

Summary

Establishing production medicine programs in cow-/calf operations can provide a competitive advantage to your clients and to your practice. It takes implementing and maintaining a record system, which allows the selection and monitoring of repeatable production parameters. Additionally, it takes an accurate determination of the cost of production, the evaluation of return/losses from implemented management changes and an aggressive approach to marketing the program to producers. Production medicine programs do take time to develop and are best maintained through documentation, communication and the transfer of information between the producer, veterinarian and available resource people.