

Using Records to Make Management and Nutritional Decisions

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The dairy industry throughout the world is going through a major transition. Adoption of modern dairy technologies has allowed the dairy manager to operate with a lower investment per cow, improve labor efficiency and improve the quality of life of the dairy farm owners and workers. This tremendous development, adoption and management of new production enhancing technologies, over the past few decades, has led to rapid increases in herd size and milk production levels. This trend to fewer, but larger and higher producing dairy herds, has created a strong need for the producer to find and work with competent advisors to aid in making sound management decisions. To support the decision-making process of these modern dairies, systems must be in place to monitor the operation and identify when problems exist. These systems must help the manager and supporting advisors identify when actions are needed and what corrective actions should be taken.

1.0 What is the managers role?

The role of the dairy manager is to plan strategically and to direct resources in a way that leads to a profitable and sustainable dairy enterprise. Management is the process of decision-making and has three major functions: planning, implementation and control. Existing dairyman must constantly monitor their operation in insure their facilities (production system), procedures (management system) and record keeping (monitoring system) support both the short term and long term goals of the business. The dairy producer must provide facilities, which support cow comfort and labor efficiency at a competitive price. Procedures for managing the operation must support a profitable production level while maintaining animal health and preserving the environment. Record keeping systems which monitor the operations productivity and profitability must be accurate, timely and cost effective.

2.0 How can the dairy producer and feed advisor work together to make intelligent decisions.

Every dairy manager must constantly monitor the industry to determine if changes are needed to the current operation. As herds get larger, the size, cost and complexity of changes often increase dramatically. Because of this, it is increasingly important to include competent advisors when making these decisions. The management team, made up of key employees of the dairy and outside advisors, should approach this process by asking the following questions: where are we now, where do we want to go, which strategy is the best to achieve this, how to implement this strategy and how to monitor the process to insure we're on track?

3.0 Where are we now?

To determine what strategy is best for an individual dairy, a sound understanding of the operations current status is very important. A review of the following areas can provide this information:

Production performance. DHI records, computerized herd production records and milk shipment receipts should be reviewed to determine information relating to the quality and quantity of milk produced. Milk shipment receipts indicate the level and variability of milk production and somatic level of the herd, but the number of cows milked each day must be retrieved from other sources if the production per cow (tank average) is desired. Knowing the average days-in-milk of the herd and individual groups of animals is valuable for identifying herd management problems relating to nutrition, breeding, etc. Somatic cell count levels provides insight into the herds overall udder health. A review of the herds calving patterns and culling rate can help explain herd production level changes. A high culling rate can be an indicator of poor herd health or aggressive culling to achieve a high milk output per milking animal. Reviewing the level and variability of milk production, somatic cell count, days-in-milk and culling rate will help identify the herd's status and management consistency.

Current financial performance. Every farm seems to have a different method of keeping their financial records. It is very important to get a feeling for the profitability, liquidity, and solvency of the operation. Indicators of profitability such as net farm income, return on assets, and return on investment can be found or calculated from values on the farms income statement. These profitability measures indicate the level of returns to the owners for their investments. These values should be reviewed knowing the relative price of milk, feed and other relevant variables at the time and the question should be asked "how good was this operations profitability considering the time period being evaluated?" Liquidity measures based on the operations current expected income and expense indicates the operations short-term financial situation. A large amount of accounts payable should be a warning flag that the operation is currently experiencing some cash flow problems. Solvency measures, such as debt per cow, total net worth and percent equity, can be found on the balance sheet and indicate the long-term financial strength of the operation. Knowing these values, a quick calculation will reveal the borrowing power of the operation because lenders normally want a dairy operation to have a maximum debt per cow of \$3000-3500 and a minimum equity position of 35-50% after any major change.

Growth of assets and equity over time. A quick review of the operations balance sheets for the past few years will indicate the growth and financial strength of the business over time. A consistent increase in total assets is a good indicator of the business's growth and a consistent increase in the operations net worth is an indicator of the operations profitability over time. Operations, which can demonstrate these traits, often are viewed positively by lenders, investors and suppliers.

History of animal health problems. Review of the dairy's veterinarian bills and health records can give insight into the animal comfort and animal management status of the operation. Knowing the average percent of the herd having ketosis, displaced abomasums, etc. can help identify the possible causes. If sever health related problems are suspected, a review of current vaccination and treatment protocols should be considered.

Amount and quality of records. As operations increase in size or production intensity, the need for good records increases. The advent of low cost personal computers and software programs makes this task easier than in the past. Both financial and production record keeping systems are needed. Manual records can provide the information needed to the producer and his support staff, but analysis of records is much more difficult than if a computer is used.

Efficiency of the operation. The efficiency of the operation is often based on measures of labor efficiency and profitability. Milk per worker, where worker numbers are calculated using full-time-equivalents (FTE) of 50-55 hours per week, is often used. Current dairy operators are encouraged to achieve a million pounds of milk per FTE per year and some of the more efficient modern dairies surpass this measure by a large amount. Cost per hundred pounds of milk sold is another common measure and reflects the operations efficiency of production. Net returns per cow standardizes the profitability of the operation on a per cow basis and should be looked at in combination with total net returns to insure there are sufficient dollars to cover family living expenses, etc.

Efficiency of different components of existing system. A dairy operation can be evaluated by the activities performed. What is the relative efficiency of the milking, feeding, animal handling, cropping, etc. activities? The biggest labor component of a dairy is milking. Determine the number of people involved with this process and how long it normally takes. From these values the number of cows per worker hour should be calculated and compared to industry norms. Tie-stall barns have been shown to average 30-35 cows per milker hour, whereas large automated parlors can achieve 100 or more

Analysis of enterprises. Dairy farms differ significantly in their level of specialization, from having only the single enterprise (milk cows), to several enterprises (milk cows, heifers, crops, steers, etc.). In order to make a judgment as to the best strategy for an existing operation, the relative profitability of each enterprise should be known. Although separation of costs by enterprise is often difficult, it is worth trying to estimate these values in a effort to get a basis for determining the best utilization of existing assets

Feed quality, inventory and handling practices. High quality forage is a key ingredient for a high producing profitable dairy. Taking time to visually inspect the dairy's feedstuffs, feed storage facilities and handling practices is very important. After inspecting these items, ration balancing reports and feedstuff analysis reports should be reviewed to determine if the feedstuffs are of sufficient quality and that rations for different animal management groups are reasonable for meeting their nutrient needs.

Identification of operating weaknesses. All of the above mentioned observations should be consolidated and a list of the weakest elements in the overall operation generated.

4.0 Where do we want to go?

The planning process should always start with an evaluation of the dairy industry. The planner should attempt to match the goals of the dairy operation with the perceived current and future structure and needs of the dairy industry. The idea should be to “skate to where the puke will be, not where it is now.”

Planning by its nature should start with the goals of its owners, their families and employees. Participants in the planning process should consider both personal and business goals for both the long term and short term. Each person involved should take time to define a comprehensive list of his or her personal goals and the goals for the business. This should be done independently of other people. The planning process should consider each member’s desires and the business goals developed should support, compliment, and not violate the personal goals of the individuals involved. The resulting goals should follow the “S.M.A.R.T. ” format, i.e. they should be Specific, Measurable, Attainable, Relevant and Time related. The resulting goals should be documented and made available to everyone involved with the operation.

5.0 Which strategy is the best to achieve this?

After conducting a through evaluation of the operation and defining what the goals are, it’s time to look at the different routes or strategies that can be pursued to accomplish them. This is the point where the nutritionist and other consultants can help the producer prepare for making the decision. The consultant can help: 1) identify and locate information needed for making a decision; 2) evaluate and interpret information and proposed impacts; and 3) add a different perspective when making decisions.

A critical part of this process will be the identification of the perceived advantages and risks associated with each choice. During this process, decision-makers must consider 1) legal, environmental and government risks; 2) physical output risks; 3) input price risks; 4) output price risks; and 5) human resource risks to determine the potential effects of each on the operation.

6.0 How to implement this strategy?

6.1 Developing an action plan to follow

Once the decision is made, on what strategy will be pursued, efforts need to be focused on the development of an action plan and writing a business plan which defines what, when and why things will be done. This business plan should identify important milestones, dates and the people responsible for them. It must explain the proposed changes to their facilities, procedures and record keeping systems that will support the selected strategy. Since monitoring of the plan is so important to the business’s success, time should be spent explaining what has been done to avoid possible pitfalls and an explanation of your contingency plans would also be important items to include.

6.2 Developing herd management protocols to follow

Each task or procedure that is routinely performed on the dairy should be documented. It should include step-by-step instructions for the employee to follow. These protocols form the basis for training new employees. If used correctly, they can standardize how things are done on a dairy and ultimately lead to overall increases in operating efficiency. Nutritionist should help create protocols for feed loading, mixing, delivery and weigh-back procedures, which support the nutrition program being recommended.

7.0 How to monitor the process to insure we're on track?

7.1 Using records to track progress

For a dairy to be successful, it needs both a well-thought-through action plan and a method to monitor its implementation to insure things are progressing as anticipated. To accomplish this, it is extremely important to select and use quality record keeping systems. The following are some types of information that can be collected, stored and analyzed by currently available systems:

Herd inventories – current inventories of milking, dry and heifers by location

Herd production – actual milk shipped per day

Herd milk level – bulk tank averages by pen, parity level, etc.

Herd components – somatic cell count, butterfat %, protein %, etc.

Herd culling history – history of level and reason for culling

Cow milk production – current and historical milk and component levels

Cow pedometer readings – current and historical activity measurements

Cow milk composition – current temperature, conductivity and component information

Cow health – current status, treatment history and effects relating to previous treatments

Cow reproduction - current status, breeding and treatment history and effects relating to previous events

Animal movement information – cows sold, died, turned dry, moved, etc.

Feed inventory – purchases and sales, usage updates, weigh-backs, plus the ability to rectify periodically and to calculate feed inventory shrink values

Feeding programs – rations and mixing recommendations by pen

Feed mixing program feedback – loading and unloading information (such as E-Z Feed)

Labor use and compensation level – details on hours worked, hours per activity performed

Financial status – loan balances, accounts receivable, accounts payable and projected income and expense streams

Financial details – all purchases, sales, payments made and payments received

Marketing information – current and future projected values of milk, calves, cull cows, replacements, feeds, etc.

Equipment monitoring – bulk tank temperature, pulsation function and vacuum stability data

Environmental information – water consumption level by pen, barn temperature information, etc.

Manure historical information – time frames, animal units involved and amounts hauled

Currently most progressive dairymen would chose computer based systems because they allow for easy summarization and analysis of the data retained by them. Normally financial and production records are maintained by different computer programs, but the information from these sources should be consolidated so the dairy's management team can identify problems and to monitor the production efficiency of the dairy. Many new systems are being developed to monitor animal production, status and behavior; equipment usage and it's status; and/or employee effectiveness. Computer systems combining this information have the potential to greatly increase the manager's ability to monitor the performance of both equipment and employees.

7.2 Using the Management Team approach to track progress

One technique that has been used effectively by large dairies is to develop both an internal management team and a board-of-directors level team. The internal management team normally meets frequently (every morning, once per week, etc.) to discuss the current herd activities and to make decisions. This approach has been very effective in enhancing communication between employees on some dairies. The board-of-directors level team is normally composed of internal management people and outside support people. This group includes all the key people involved with the dairy (lender, nutritionist, veterinarian, consultants, etc.). It often meets frequently during the building and start-up phases of an expansion and monthly afterward. Their objective is to monitor all phases of the operation, share observations and help guide the operation and development of the business.

8.0 Conclusion

The manager of a dairy business, like the manager of a large manufacturing company, must constantly monitor the status of their operation and make decisions which optimize its operating efficiency and profitability. Both must coordinate all the different types of information relating to their businesses to identify areas needing corrective actions. Both need to understand the production aspects of their business and the expected economic impact of any proposed change.

Dairy herd managers need to consider the financial impact of any strategic change to their operation. Prioritizing decisions based on the expected returns for implementing different changes should have the goal of optimizing the use of the business's resources. Selecting the right facility modifications or additions, development of animal management protocols to manage the animals and selection of record keeping systems to monitor the operation are critical to the long term viability of the operation.

When making a buying decision, the business manager must remember that spending money on new technology may or may not result in a lower cost of production. Dairies need to evaluate the costs and benefits of each new technology and adopt those that will provide a greater return than other competing opportunities, as well as, a positive cash flow over time.