Keeping Quality Records and Evaluating Cow Herd Performance

Sandy Johnson, K-State Beef Extension Specialist (sandyj@ksu.edu) and Robin Reid (robinreid@ksu.edu)
Kansas State University Department of Agricultural Economics – March 2017

Everyone uses a different process to make decisions. How do you make decisions on whether your cow herd is going in the right direction? Some look very closely at individual performance information to make culling and breeding decisions. This can be an important step in moving a herd in a desired direction. At some point however, performance of the entire herd should be evaluated. This is most critical for herd traits such as pregnancy rate and reproductive loss which largely reflect overall herd nutrition and management. For example, what has happened to percent calf crop over time in a herd with fewer and fewer crossbred cows? Would you know if calf death loss was slowly trending up or down over time?

Table 1. 2016 production summary for an example KFMA herd

1 – Breeding—2015		
Cows exposed	220	hd
2 – Preg Check—2015		
Diagnosed Pregnant	210	hd
3 – Calving—2016		
Total calves born live	202	hd
4 – Calves weaned—2016	197	hd
5—Average weaning weight	545	lbs
Calculations -		
6- Pregnancy Percentage		
(line 2/line 1) x 100	95.5	%
7- Calving Percentage		
(line 3 / line 1) x 100	91.8	%
8- Percent calf crop		
(line 4/line 1) x 100	89.5	%
9—Pounds weaned/cow exposed		
(line 5 x line 8)/100	488	lb

A Standardized Performance Analysis (SPA) of your operation can help you take a detailed look at your herd's production information and allow comparisons with others. The data collection begins with looking at the cows exposed, cows bred, and cows calving. Weaning time and the collection of weaning weight is the last piece of data needed to complete SPA production measures. Individual calf weights are nice but group weights can be used for this type of analysis as well. Data in Table 1 is an example of a KFMA herd and the primary information and calculations needed. Percent calf crop or weaning percentage is a function of the number of cows exposed for breeding so for a spring 2016 calf crop, this

would be cows exposed in 2015. Weaning weight per cow exposed adjusts weaning weight for all the reproductive and management losses that occur from breeding one season to weaning the next.

A good way use this information is to track your own herd data over time and compare to a benchmark data set. KFMA enterprise data can be used to benchmark the financial information of your cow herd and some production information, but not all SPA production measures. If you are a KFMA member and would like to have the SPA comparisons, you can let your KFMA economist know or contact Kevin Herbel at (kherbel@ksu.edu) or 785-532-8706.

The 2010-2014 CHAPS™ database average (Table 2) shows a percent calf crop of 90, whereas the Southwest database (2006-2010 summary; NM, OK, TX) has a value of 82 percent. Weaning weight per cow exposed for the example KFMA herd is 488 pounds compared to the benchmark values of 495 and 434 pounds for CHAPS and Southwest, respectively. The example KFMA herd is performing better compared to benchmarks in both databases for calf death loss and similar to the Southwest for pregnancy loss. Early born calves will weigh more than later born calves at weaning. Calving distribution information can be used to understand how quickly cows are able to conceive in the breeding season. Because weaning age is not provided, comparison of data that include weaning weight with the database is of less value. Nevertheless, keeping track of weaning age to benchmark across years in your own operation is very valuable.

Table 2. SPA performance measures from 2010-2014 CHAPS™ (88,000 cows) and SW Cow-Calf SPA 2006-2010 (36,377) databases and example herd.

Item	CHAPS	SW	KFMA example
Pregnancy percentage	93.1	89.4	95.5
Pregnancy loss	0.7	4.0	3.8
Calving percentage	92.5	89.4	91.8
Calf death loss, %	3.4	3.3	2.5
Calf crop percentage	89.8	82.1	89.5
Calving Distribution			
% calves born d 1 - 21	61.1		48
% calves born d 1 – 42	86.4		75
% calves born d 1 – 63	96.0		98
% calves born d 63+	4.0		2
Weaning Data			
Avg. weaning weight	558	525	545
Lbs. weaned/exposed female	495	434	488

CHAPS™ http://www.chaps2000.com/benchmarks.htm
SW Cow-calf SPA summary http://agrisk.tamu.edu/files/2012/07/SW-Key-Measures-Summary-_Last-5-Years_.pdf

Data shown here can be used in a number of ways. If the example KFMA herd wanted to improve calf crop percentage, emphasis could be placed on understanding why cows failed to conceive and/or causes for calf death loss. Information on pregnancy rate, pregnancy loss and calf death loss pin point the timing of losses so that producers know where to consider changes. It may be worthwhile to analyze this data by age group-2-year olds, 3-year-olds, and mature cows. The data enables you to estimate whether a management change to improve pregnancy rate would increase pounds weaned per cow exposed sufficiently to cover the cost of the change.

The example shown in Table 1 is simplified as many herds would need to adjust the cows exposed number based on females that move in or out of the herd. A simple spreadsheet to help you do this, "SPA Reproduction and Production Data", can be found under Reproduction & Genetics at www.KSUBeef.org. These adjustments have been standardized in SPA; a uniform way to account for inventory changes such as cows that died after turnout, planned culls or cows purchased pregnant or exposed but sold pregnant. Your KFMA economist or local county extension agent can help you with these calculations as well. In the NW area, some SPA production data has been contributed towards a KFMA database, but more data is needed to be useful for benchmarking.

Measuring and monitoring reproductive loses over time is key to finding and correcting problems early. The goal is not to maximize reproductive response, but to find the optimal level of reproduction associated with cost effective use of feed and other input resources. Data such as the SPA measures can be combined with existing KFMA reports to inform management decisions. This allows production management changes can be evaluated against long term profitability. For example, weaning weight per cow exposed can be compared to feed costs or total costs per cow over time. If weaning weight per cow exposed is increasing, but not enough to offset additional costs, this may not be an economical management decision.

In summary, there is great value in keeping good-quality records and evaluating herd performance. Quality records do not have to be complicated, just accurate and consistent. Whether you choose a computerized system or simply keeping a book of inventory changes, key dates, and performance measures, this analysis can be completed easily. The important thing is to decide on a recordkeeping system and develop a habit of sticking to it.

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K-State Agricultural Economics | 342 Waters Hall, Manhattan, KS 66506-4011 | (785) 532-1504 | fax: (785) 532-6925