John Andersen is an extension veterinarian at the University of Wisconsin, Madison, and an Angus breeder. His herd, which he classifies as a typical small herd (25 to 30 cows), was established as a family project in 1970. From the onset, A.I. was used exclusively, AHIR data was collected and bulls were tested in central test stations.

Andersen evaluates his herd's breeding and performance records regularly, using the information to make management decisions and improvements. The summary he presents may sound familiar. Or it may differ dramatically from the script in your herd. It doesn't really matter. Situations will differ. The fact that every breeder needs to use available information effectively does not.

Andersen's herd is fairly typical. And so are his records—for anyone using A.I. and keeping basic performance records. The important point here is that he makes an effort to analyze the information he has at hand, then follows the advice it yields. After all, it's more important to keep ***and use*** *a few basic records (such as breeding dates, calving dates and weaning weights) than to simply amass extensive facts and figures. As Andersen aptly sums it up: "Any breeder who takes time to evaluate his herd's progress and practices using existing records will find useful and sometimes surprising information."*

Use Your Records...

Evaluating Herd Progress and Practices

by John R. Andersen, DVM, Madison, Wis.

How can we improve our herd? Has our herd improved? Are we making the right decisions? These are important questions for any Angus breeder. The answers to some of these may be available in an evaluation of a herd's breeding and performance records. I will try to illustrate how this might be done using some examples from our herd.

Evaluating management

First-service conception rates (Table 1) have been especially helpful to us in determining problem areas and where the most expensive semen might best be used. Information from dairy cattle suggests that conception is highest in heifers and gradually goes down with age. The data from our herd indicates that conception rates in yearling heifers and first-calf heifers need improvement. We appear to be able to solve the problem in first-calf heifers by increasing energy in the ration following calving. However, at this time we have not been able to increase conception rates in our heifers.

Any breeder who takes time to evaluate his herd's progress and practices using existing records will find useful and sometimes surprising information.

Breeding heifers to calve early in the calving season was a practice that we evaluated with our data. Heifers having their first calf between 1977 and 1982 were divided into those calving before

Table 1. First-service conception rate (1979-1984).

Age Group	Total	Number Pregnant	Percent Pregnant
Heifers	58	39	67.2
1st calf	45	29	64.4
2nd calf	37	27	73.0
3rd calf	30	24	80.0
4th and greater	38	26	68.4
TOTALS	208	145	69.7

Table 2. Average date of calving of heifers calving early vs. late in the calving season.

	Number	1st calf	2nd calf	3rd calf
Early calvers	19	March 12	April 11	April 7
Late calvers	20	May 7	April 20	April 3

Table 3. Effect on calf weaning weight index of heifers calving early vs. late in the calving season.

	Number	1st calf weaning weight ratio	2nd calf weaning weight ratio
Early calvers	19	99.5	103.4
Late calvers	20	99.9	98.2

Table 6. Average sale price of bulls consigned to central bull tests.

Year Born	Sire	Number	Average Price
1982	young	6	$1,183
	proven	4	1,425
1983	young	5	1,350
	proven	4	1,263
TOTALS	young	11	1,259
	proven	8	$1,345

Table 4. Average birth wt., 205-day wt., and 365-day wt. indexes of calves sired by young sires and proven sires.

Year Born	Sire	Birth Number	Birth Ave. Index	205-day Number	205-day Ave. Index	365-day Number	365-day Ave. Index
1982	young	12	98.7	12	98.5	11	98.7
	proven	15	102.5	15	102.3	9	104.2
1983	young	15	98.7	15	100.2	15	99.0
	proven	10	102.2	10	100.6	10	101.2
1984	young	18	101.1	18	100.6		
	proven	7	98.7	7	98.4		
TOTALS	**young**	**45**	**99.7**	**45**	**99.9**	**26**	**98.9**
	proven	**32**	**101.6**	**32**	**100.9**	**19**	**102.6**

Table 5. Average adjusted hip height (AHIR) of heifers and bulls sired by young sires and proven sires.

Year Born	Sire	Heifers Number	Heifers 205 days	Heifers Number	Heifers 365 days	Bulls Number	Bulls 205 days	Bulls Number	Bulls 365 days
1982	young	4	43.2	not taken		8	43.5	6	48.5
	proven	8	43.1			7	44.2	4	48.6
1983	young	7	43.0	7	46.5	8	44.8	7	49.8
	proven	5	42.7	5	47.2	5	44.6	5	49.5
1984	young	9	44.3			9	44.8		
	proven	2	43.6			5	44.6		

Table 7. Average pedigree index*, maternal breeding value (MBV) and 205- and 365-day progeny ratios for cows in different age groups.

Year Born	Number	Average Pedigree Index* Birth	Weaning	Yearling	Ave. MBV	Number	Progeny Weight Ratios 205-day	Number	365-day
1978 & older	4	1.8	13.8	20.7	102.0	25	103.2	20	104.9
1979	5	1.8	17.3	24.7	100.0	20	99.9	14	99.7
1980	4	1.9	18.5	27.5	100.8	10	102.0	7	102.4
1981	6	2.3	21.1	33.5	100.0	11	99.8	6	99.0
1982	4	2.8	20.3	33.7	102.8	4	103.5		
1983	7	2.7	24.7	39.7	100.9				
AVERAGE		**2.3**	**19.9**	**31.0**	**100.9**	**70**	**101.6**	**47**	**102.2**

Pedigree indexes calculated from the 1984 Angus Sire Evaluation Report using ½ sire's EPD + ¼ maternal grandsire's EPD + ⅛ maternal great-grandsire's EPD.

April 1 (early calvers) and those after April 1 (late calvers). Within our herd, the effect of early calving appears to be lost by the time of the third calf (Table 2). However, the early calvers had a significantly higher average weaning weight on their second calf (Table 3). From these findings, we concluded that it was not necessary to have all of our heifers calve before the cows or to select only from the older heifers.

Sire selection evaluation

Performance pedigrees and the Angus Sire Evaluation Report are super aids to sire selection. However, we need to evaluate the results of sire selection decisions. Since 1981, we have participated in Select Sires Inc.'s young sire program and also usually test one young sire for American Breeders Service (ABS) each year. These young sires are compared to selected proven sires in the A.I. studs, which in most cases are in the top two percent of the Angus Sire Evaluation Report for yearling weight. Table 4 compares performance of calves by young sires and proven sires; Table 5 compares their adjusted hip height.

Growth rates on the average have shown some advantage for the calves from proven sires. Adjusted hip height has been essentially the same for offspring of both young and proven sires with perhaps a slight tendency for more frame in calves sired by young sires.

Table 6 summarizes the average sale price of bulls consigned to central tests and selling. Very limited information available at this time suggests that with similar growth performance, sons of young sires sold for about the same as sons of proven sires. Those sons of proven sires in the 1982 group selling for more were sired by a bull recognized by many commercial cattlemen as being superior for transmitting maternal ability.

We will continue to monitor the effects of the young sire program on our herd as additional data becomes available.

Cow herd improvement

Each fall when the Angus Sire Evaluation Report becomes available, we calculate pedigree indexes (P.I.) for birth, weaning and yearling weight for each cow in the herd. The P.I. can be calculated in various ways, but we use the following: ½ sire's EPD + ¼ maternal grandsire's EPD + ⅛ maternal great grandsire's EPD.

By grouping the cows according to age as in Table 7, we can see how our herd is changing. Table 7 also includes maternal breeding value averages and progeny averages for each age group. In addition to helping us to determine if our herd is improving, this information is very useful in selection of replacements and in making culling decisions.

Conclusion

These examples have helped us understand our herd and realize our goals. They have stimulated us to look for additional ways to analyze our herd. Any breeder who takes time to evaluate his herd's progress and practices using existing records will find useful and sometimes surprising information. AJ