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Demonstrating Advancements in Biotechnology to Ranchers in Southern Utah: Genetic Testing

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Genetics testing has recently become widely available to ranchers. Producers face the challenge of whether more attention should be focused on the DNA test results or traditional EPDs. While EPDs can be more accurate, they also take longer than DNA testing to get results (Gonda, 2012; Feuz and Feuz, 2012). Two methods of genetic testing were introduced to ranchers in southern Utah, each requiring a hair sample from the tail switch of the sample animal (Figures 1 & 2).

A parentage test identifies which bull sired which calf. By identifying the sire of each calf the rancher can identify which bulls are most productive and also offspring of bulls with improved performance or desired traits. Utah State University conducted the test which cost $10 per head (2013).

Genetic profiling identifies which animals have the best economically important genetic traits such as feed efficiency, marbling, and tenderness (Johnston, et al.,2010). By identifying the marbling, tenderness, and feed efficiency of each individual, producers can select the most productive animal. Genetic profiling tests were sent to the Zoetis lab and the price was $20.50 per head (2013).

The goal of DNA testing is to identify which animals in a herd are the most productive or least productive and be able to make some culling decisions based on the results of the tests (Table 1 & 2). DNA is not 100% accurate and therefore shouldn't be used as a silver bullet/cure all.

Table 1. Genetic Profiling.

Ranch	# of cows	Range Feed Effeciency	Range Marbling	Range Tenderness	Range Palatability	Palatability		
						%Superior	%Acceptable	%Marginal
Number 1	19	-1.71-.31	-.48-.21	-.47-1.28	-104-299	0%	47%	53%
Number 2	30	-1.77-1.02	-.21-.39	-.77-.8	-24-402	3%	73%	24%
Number 3	40	-1.87-.76	-.61-.32	-.52-.59	-64-356	2.5%	62.5%	35%
Number 4	18	-1.87-.73	-.44-.04	-.47-.38	29-286	0%	78%	22%

Table 2. Parentage.

Ranch	**# of calves**	Calves sired by bull #1	Calves sired by bull #2	Calves sired by bull #3	Calves sired by neighbors bull
Number 1	**94**	60	13	3	18
Number 2	**40**	16	13	8	3

Figure 1. Pulling a hair sample.

Figure 2. Hair collection squares.

No endorsement of products mentioned is intended nor is criticism implied of products not mentioned.

References

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