

# Scientific Method Is Just the Facts, Opinion Is for the Entertainers

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If one was to develop a list of missed opportunities from one's previous education, a topic that should be on everyone's list is the understanding of scientific method. The reason I say should is that most people would not even realize the topic was taught.

As a complement to many of the modern curriculums, the topic needs to be repeated during elementary science. If my own children are any example, several homework exercises have turned up requiring a further understanding of scientific method. There are several reference books for "scientific methods" but I choose Steel and Torrie's discussion from 1960. They note three basic and essential features in applying scientific methods:

- review what is known (education)
- formulate a simple question (logical hypothesis)
- objectively (statistically) evaluate the potential answers.

These three points are essential components of how to conduct a successful beef business—or any other business venture.

The review of facts, theories or philosophies currently available and the appropriate understanding of those facts would aid many in avoiding a wrong turn. The moral of the lesson is read, read and read. If you're in the beef business, you can really get harangued. Opinion followed by opinion followed by opinion does not create a fact. Time in the saddle does not create a fact. Age does not create a fact. Boards do not create facts. Majority votes do not create facts. Facts are collectively produced by scientific methods.

After education, producers need to formulate a question or hypothesis based on facts. Those of us in the beef business excel in questioning the "where-with-alls" of the business. Questions should always be part of any operation—the ultimate "what if" questions being the best. What if I reduced feed delivered by 5 percent? Would I significantly reduce gain and breed-backs? What if I used a Hereford bull instead of an Angus bull?

Would I reduce gain and breed-backs? What if I didn't creep feed the calves this summer? Would I reduce gain and net return per calf? What if I synchronized the cows this spring? Would I increase the percentage of cows calving the first 21 days? What if I reduced the EPD value for birth weight on the bulls I buy? Would I decrease calving difficulty?

Producers all have their own questions with very tangible roots embedded in well-known facts. We can usually read and locate a generic answer; however, the real answer comes in objectively evaluating a response for our own location or area—the heart of the scientific method. This may be where the beef business falls off just a little.

Many companies research and research to come up with the real answer to their questions and ultimately give birth to a new fact. In the beef business, operations need to objectively evaluate data to answer the questions they ask themselves. The answer to the breed question is in trying a new breed, objectively collecting data and determining the answer. The answer to getting a handle on feed costs is to monitor, make changes that can be documented and record the results.

Ask the questions and use facts, not opinions, for evaluations. As a scientist, education, logical hypothesis development and objective evaluation through statistics is a never-ending cycle. If the process was embedded into the day-to-day minds of beef producers, we would produce more facts and fewer opinions and form a very solid base for the future.

The next time someone asks a question, please answer with a fact, and leave the opinion for those paid to entertain.

May you find all your ear tags.

Your comments are always welcome at [www.BeefTalk.com](http://www.BeefTalk.com). For more information, contact the North Dakota Beef Cattle Improvement Association, 1133 State Avenue, Dickinson, ND 58601 or go to [www.CHAPS2000.com](http://www.CHAPS2000.com) on the Internet. In correspondence about this column, refer to BT0080.

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