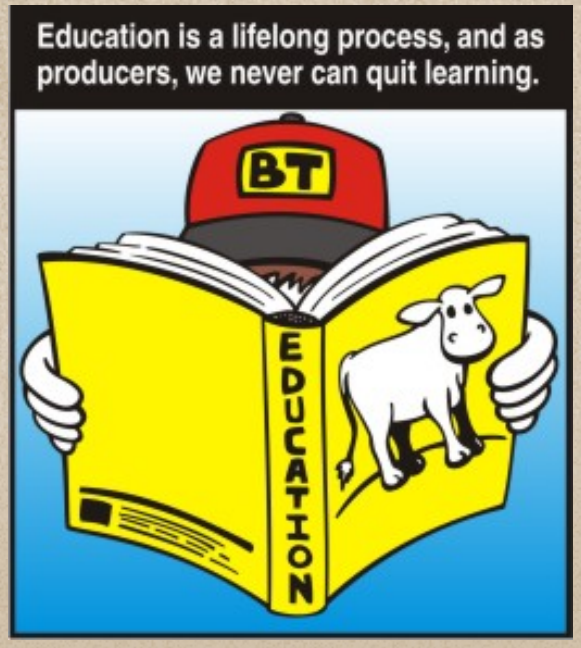
# BeefTalk 525: Shrews, Cows and GMO Salmon




***Teaching genetics is exciting because it is a changing and growing field of study.***

Education is a lifelong process, and those involved in the beef business know all too well that keeping up with change is essential. The beef business is changing and so are beef cattle. The change is real but not that hard to understand.

What makes change real is selection, and those involved in the beef business have practiced various aspects of selection since the late 1800s. The cattle that are present today, as diverse as they are, are products of producers selecting breeding stock and raising the offspring. This producer-made selection is tempered with natural selection and forms the base breeding herds across this country and the world.

There are wild populations of cattle as well, but local producers have selected cattle that do best in their environment, as well as provide the desired products with minimal economic inputs. Thus, the base herd is formed and maintained through appropriate sire selection and heifer replacement.

To supplement our lifelong education, many producers set aside time for formal education through the schools and universities. Fall is prime class time at universities across the country. At North Dakota State University and Dickinson State University, the pace is starting to pick up. Fall trips and other extended visits are common to expand classroom activity and bring home a practical application of the knowledge learned.

For me, teaching genetics is exciting because it is a changing and growing field of study. The goal simply is to give students attending class a stronger knowledge base to better understand the world as they integrate into their chosen professions. In our genetics class, most, if not all, of the students are interested in beef cattle.

Our recent discussion was on chromosome division. Understanding how chromosomes work allows for the development

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of some rational thoughts on deoxyribonucleic acid (DNA). Seldom does a day go by without some aspect of DNA being in the news.

Last week, we contemplated two news releases. The first was on raising cattle in harsh conditions. The conclusion was that cattle raised in harsh conditions performed better in harsh conditions. In contrast, those cattle that were raised in nice conditions, at lease in human terms, did not do as well when transferred to harsh conditions. Successive generations of cattle raised in harsh conditions performed better as time went on, which demonstrates simple natural selection.

The other article involved the other end of the spectrum. It discussed the designed life of a show steer. In this story, it was a cloned champion steer at the Iowa State Fair.

A day of two extremes, but our class discussion returned to the textbook to learn about chromosome replication and division. The “Angus Sire Summary” was handed out to make sure the class remained connected to the beef business just as two reports popped up on CNN.

The classroom has the capacity to utilize many forms of electronic media, so I placed on one video screen a live broadcast of the Food and Drug Administration’s efforts at regulating the introduction of genetically modified salmon.

On another video screen, I brought up the story about the discovery of the trumpet elephant shrew in Kenya. The elephant shrew may be a new species pending DNA evaluation. The shrew was reported to be somewhat ancient. Of course, the genetically modified salmon were reported as a very recent addition to the long list of uniquely different living entities with modified DNA.

Thoughts that I never considered that I would have could not be suppressed. My thoughts wandered from cattle surviving in the desert to cloned grand champion steers and then to genetically modified fish. We still are discovering forms of life we never knew existed, which confirms the fact that education is a lifelong process. As producers, we can never quit learning.

Interestingly, the comment section was expanding exponentially for the discussion on genetically modified salmon, but no one commented on the shrew.

I think from the students’ point of view, they still are wondering what the “Angus Sire Summary” has to do with understanding meiosis and mitosis in cell division.

If you are not sure, ask Mendel.

May you find all your ear tags.

Your comments are always welcome at http://www.BeefTalk.com. For more information, contact the NDBCIA Office, 1041 State Ave., Dickinson, ND 58601, or go to http://www.CHAPS2000.com on the Internet.