



Alumni Spotlight

Todd Marsh, DVM

Class of 2004
Owner/Operator
Marsh Land and Livestock, Inc.
Reserve, Montana

Veterinarian and rancher shares experiences in the animal health industry and beyond

Todd Marsh DVM is a 5th generation rancher in Reserve, Montana. Each year his ranch/feedlot, Marsh Land and Livestock Inc., stocks 800-1,000 cow-calf pairs, backgrounds 1000-1,500 calves and custom develops and artificially inseminates 750-1,000 replacement heifers in the spring. Dr. Marsh is also a co-owner and consulting veterinarian for a 10,000 head custom back grounding/finishing feed yard in South Dakota where the ranch finishes their steers.

With a background in agriculture, he earned a B.S. in Zoology from Montana State University ('86), his DVM from Colorado State University ('91), studied Beef Production Medicine at the Meat Animal Research Center (MARC) at the University of Nebraska ('96-98), and completed his Master of Agribusiness (MAB) degree at Kansas State University ('04).

"Growing up on a ranch, I always wanted to be a large animal veterinarian. I wanted a challenging profession that would allow me to work outdoors," he said.

After graduating from CSU in Veterinary Medicine, Dr. Marsh owned and operated a large animal veterinary practice in Platte, South Dakota until 2003 when he returned to Montana to manage the family ranch. Even after he left private practice, he continued to treat the animals on his ranch until last year.

"Last year we contracted with a local veterinarian who is new to the area. It has been a good way for her to grow her practice, and I don't have to take night calls anymore," Marsh said.

As a veterinarian and rancher, some of

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the current issues he sees for the animal health industry are anti-microbial use coupled with increased government regulation and antibiotic residue monitoring within the animal feeding industry.

"With the development of Guidance 209, Guidance 213 and the Veterinary Feed Directive (VFD) regulations, antibiotics in animal feed will need to be supervised by veterinarians, and the FDA will oversee antibiotics in feed usage," Marsh said. "This is in direct response by the industry concerning the future development of antibiotic resistance." (see side-bar for more information on Guidance 209, Guidance 213 and the VFD)

"As livestock producers, we need to understand the importance of the prudent use of antibiotics at all levels of our food chain. I think the VFD is going to implement more changes in the poultry and swine industry than beef, but it is not an insurmountable challenge. The VFD will definitely be a hot topic for the next five to six years," Marsh said.

Though he has extensive experience and education in the animal health field, Dr. Marsh realized he needed to know more about the business side of the livestock industry, which is why he decided to pursue a Master of Agribusiness.

"I was introduced to the MAB program by my brother, Tom, and felt I needed to improve my business skills. As a full time practicing veterinarian I did not have the time to commit to being on campus full time," Marsh said. "I would recommend the MAB program to anyone in the field, because as a practicing or consulting food animal



Todd Marsh roping calves for branding on his ranch.

veterinarian, we are required to make animal health and management recommendations to a very capital-intensive industry. It is essential that a veterinarian understands how their decisions and recommendations to their clients affect the financial and long-term economic outcome of their clients business."

His thesis, *The Effect of Intermittent Vaccination of the Beef Cow Herd on Herd Production*, combined his animal health and business knowledge. The objective of Marsh's thesis was to evaluate the effect of varying the interval of vaccinations on beef cow reproductive productivity, calf productivity at weaning and herd profitability. Annual vaccination of the beef cow herd is a common management tool for most beef herd operations. However, no studies had established what the minimal vaccination frequency is needed to attain an acceptable herd production output with minimal financial inputs.

"Traditionally, in the region where I practiced large animal veterinary medicine, cow herds were vaccinated annually with modified live vaccines that theoretically provide immune protection for the lifetime of an animal following a single vaccination. My thesis was based on a research study that was developed through South Dakota State University and a large cow herd in my practice area. This research model indicated that the treatment group vaccinated annually with a modified live viral vaccine had a statistically decreased pregnancy rate compared to the non-vaccinated control group," he said. "The study results supported our hypothesis that production output and profitability of the cow herd was not decreased by vaccinating the cow herd at intervals greater than one year."

Another significant change the MAB program influenced was implementing

retained ownership of the calves born on the family ranch. Previous to returning to the ranch, all of the calves were sold at weaning, not taking advantage of the increased opportunities for profit offered by retained ownership.

"The MAB program gave me the skills to complete a cost benefit analysis of retained ownership of our calf crop," Marsh said. "Currently, we are structured to retain or sell calves, yearlings or finished cattle at any production stage depending on markets and feed costs."

While continuing to ranch, Marsh has had the opportunity to branch into an oil-related business since completing his MAB. First, investing



Oil Tank Production at Pro Tank Products

in an oil pipeline construction business that eventually developed into an oil field tank manufacturing plant. His company Pro Tank Products Inc., has built more than 3,000 oil production tanks since 2009 that provide storage capacity at oil well sites. Due to the increased demand for storage vessels in the Bakken Oil Fields, Pro Tank Products has just completed a \$10 million expansion project in their home town to supply their customers' needs.

"The oil business is growing rapidly in this area. The tools I received in the MAB program allowed me to diversify into other industries. It's the same business principles I learned

at K-State's MAB, just applied to an energy commodity," he said.

The combination of his love for ranching and animals along with his education have given Marsh a rich and diverse background that reach beyond agriculture.

You can read Marsh's full thesis publication at <http://krex.k-state.edu/dspace/handle/2097/658>.



Guidance 209

- Limit the use of medically important antimicrobial drugs to those uses considered necessary for assuring animal health
- Use includes veterinary involvement/consultation

Guidance 213

- Provides guidance for industry on the implementation of judicious use
- Process for updating labels to remove growth/production uses
- New therapeutic uses may be pursued
 - o Have a defined dosing duration
 - o Effective therapeutic dose level
 - o Be targeted as much as possible to the at-risk population
 - o Include veterinary oversight

Veterinary Feed Directive (VFD)

- VFD order is an order by a veterinarian that allows the feeding of approved VFD drugs to animals
- Medically necessary antimicrobial drugs will be converted from OTC to VFD drugs
- VFD regulations are being revised to improve the efficiency of the VFD process

**Regulations will go into effect in 2015*