

## **Randy Tosh - Smartvet**

This is Kansas Profile. I'm Ron Wilson, director of the Huck Boyd National Institute for Rural Development at Kansas State University.

“Oh, shoot. There must be a better way to do this.” That type of quest for a better way to do things has motivated many entrepreneurs. Today we'll learn about an innovative company which is finding a better way to deliver pest control for livestock producers and more. How could this task be accomplished? Oh. Shoot. It's today's Kansas Profile.

Randy Tosh is Vice President of Business Development for SmartVet, an innovative drug delivery and biopharmaceutical company with a focus on large animal health. Randy knows about animal health firsthand, having grown up on a farm near Valley Falls in northeast Kansas. The Tosh family farm was located between the rural communities of Nortonville, population 613, and Effingham, population 588 people. Now, that's rural.

After graduating from K-State, Randy worked in international marketing for the Kansas Board of Agriculture, Kansas Department of Commerce, and Australian Trade Commission. In this role, he learned about an ag biotech company called SmartVet which ultimately brought him on board in 2011.

SmartVet has four directors. One of those, Grant Weyer, was working in a national park in South Africa. One of his jobs was to help provide medical care for the lions who roamed this park. Of course, treating a free-roaming lion is no easy matter. To do so safely, Grant and coworkers went up in a small aircraft which could fly low and enable them to shoot the lions with anesthetic so they could land and do necessary treatments.

“There must be a better way to do this,” Grant thought. He devised a way to encapsulate the treatment itself so that it could be projected directly onto the animal. It worked so well that Grant decided to commercialize the idea for animal health applications in livestock and bring it to the U.S. That led to the creation of the company known as SmartVet which is now a commercial tenant at the K-State – Olathe campus.

SmartVet pioneered the use of a product called the VetGun Delivery System which uses CO<sub>2</sub> to project encapsulated pest control treatments onto cattle, for example. The VetGun shoots VetCaps which contain insecticide inside a soft gel encapsulation. It's like using paintball technology to deliver medicine.

“Cattle producers know that hornflies create stress and lost productivity,” Randy Tosh said. “Pour-ons and ear tags can lose effectiveness later in the grazing season. The VetGun offers a convenient way to provide control of hornflies and lice.”

Producers can shoot the VetGun at their animals from a fourwheeler, pickup truck, or horseback. “Ag producers like the fact that this is cost-effective, time-saving, and labor-reducing,” Randy said.

“Some in the industry said the EPA would never approve this,” he said. “But we did our homework and worked with the agency in a proactive way.” Based on their research, the agency approved the product in only five months. “We’ve had help from K-State’s Advanced Manufacturing Institute and the College of Veterinary Medicine,” Randy said. The VetGun system is distributed in the U.S. through AgriLabs.

“The response has exceeded our expectations,” Randy said. Thirty states have already approved the product for use. The Kansas Bioscience Authority is so excited that it has invested a \$700,000 matching loan in SmartVet to build an encapsulation facility in Johnson County.

SmartVet is exploring other public health applications as well. One is an encapsulated vaccine known as the Ballistic Bait system to control rabies in wildlife. Ballistic Baits are coated with scents and flavorings to attract the target animals and deliver oral rabies vaccine.

Another application is Transdermal Vaccines, where vaccinations could be accomplished through the skin via remote delivery systems such as the VetGun. In response to Foot and Mouth Disease, for example, this would enable a much-needed rapid response vaccination.

For more information, go to [www.smartvet.com](http://www.smartvet.com).

“Oh shoot, there must be a better way to do this.” Such thinking has led to lots of creative enterprises through the years. We commend Randy Tosh, Grant Weyer, and all the people of SmartVet for making a difference with their innovative way of delivering these products. What can be done to deliver health treatments quickly and conveniently? Oh. Shoot.

For the Huck Boyd National Institute for Rural Development, this is Ron Wilson with Kansas Profile.