

From farm to table, seedstock selection is the first step

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When people walk into the meat section in any market, many have an expectation of finding fresh, affordable, lean red meat. Cattle producers go through many steps to bring the final product from farm-to-table.



*A purebred Hereford bull from the CSU herd in a pen at the 39th annual bull sale waiting to be sold.
Photo credit: Dixie Crowe.*

The starting point is in selection of purebred animals by the [seedstock producers](#). Advances in understanding heritability of specific traits through genetic selection have allowed producers to select for desirable traits such as ease of calving and growth rates after a calf is weaned from its mother.

Colorado State University has its own purebred Angus and Hereford herds that students on the [Seedstock Merchandising Team](#) directly select yearling bulls and heifers from each year to sell at their annual production sale held the fourth Saturday in March. Dr. Shane Bedwell, animal science instructor and livestock judging coach at CSU, recently took his livestock practicum class to CSU's agricultural resource development education campus. This used to be known as the CSU farm, which has moved from being [on-campus where Morgan Library](#) now sits in the early Colorado Agricultural College days, to a near-campus location, and finally in the 1990s north of town.

The ARDEC campus houses soil and crop sciences as well as cattle, sheep and swine herds. One thing the campus allows researchers and students to study is feeding efficiency, the conversion of pounds of food into pounds of muscle in cattle through residual feed intake studies.



Students from the Livestock Practicum class watch cattle using the Grow Safe system which measures each animal's feed consumption. Photo credit: Dixie Crowe.

Low RFI numbers tells producers that an animal has high efficiency, eating less than expected, but still gaining weight. Bulls and heifers with low RFI's have more value at auction because they may pass these genetic components on to their offspring although it is also important to understand there are 25 gene markers that explain feed efficiency.

“A one-percent reduction in feed intake would account for more than \$100 million in annual savings in production costs in Colorado alone,” said Dr. Bedwell.

ARDEC uses [Grow Safe technology](#) to measure actual feed intake for each animal instead of calculating an average consumption for a pen of animals based on the pounds of feed put out in the feeding bunk. The RFI bunks are filled with a certain number of pounds of feed. Each animal is fitted with a radio frequency identification tag. The system tracks when the animal feeds, how much it eats at each feeding, how long it eats at the bunk, and the data is transmitted automatically to a computer spreadsheet in real time.



Each animal in the Grow Safe system has an individual radio frequency identification attached to an ear tag. Every time the animal puts his head into the bunk and eats, data is transmitted to a computer spreadsheet. This allows producers to know how efficient this animal is at converting feed into muscle. Photo credit: Dixie Crowe.

At the university level, this helps researchers develop rations to optimize nutrition and it supplies data for RFI on specific animals, which in turn helps with selection for breeding higher value seedstock sold to commercial producers, and ultimately the quality of the product that the consumer buys in the store, although that encompasses many more steps than can be covered here.



Cattle that feed from a traditional bunk have estimated feed intake numbers based on pounds of feed divided by number of animals in the pen. This doesn't tell producers if the cattle are truly efficient or if they are more aggressive at the bunk. Photo credit: Dixie Crowe.

The equipment is expensive and the process is more labor intensive than traditional feeding since the feed bunks must be filled two-to-three times a day. Only seven to eight universities have this system. CSU is unique in that it allows producers to test their cattle at their facility. This not only adds value to the cattle for the seedstock producer, but also adds important information to purebred cattle associations' databases. It also adds value to student education in animal sciences.

Dixie can be reached at blogs@collegian.com or on Twitter [@livestocklounge](https://twitter.com/livestocklounge)

Save the date:

April 10 – 12, [CSU Rodeo's 65th annual Skyline Stampede](#). B.W. Pickett arena on the foothills campus at 725 Overland Trail Drive. Adults \$8, students \$5 with ID. Free parking.

Bring cash for concession stand food and drink, which is a fundraiser for the CSU Stockgrower's club.

April 25, CSU's 10th annual [Legends of Ranching Performance Horse Sale](#). B.W. Pickett arena on the foothills campus at 725 Overland Trail Drive. Free to spectate and free parking.