

# Model reveals 1,200-pound cow most efficient

A 1,200-pound crossbred cow that gives 20 pounds of milk per day seems to be the most efficient, said Extension Educator Randy Saner.

Saner cited a model built with a fixed forage base, three months feeding hay and spring-calving cows that tested most efficient cow size. The model tested calf weaning weights and steer carcass weights, as well as total dollars brought in if all the calves were sold.

"We find that, as the cow gets bigger, the producer actually must reduce the number of cows he runs on a particular forage base," Saner said. "So the question was, 'does the increased size make up for the

loss of numbers?'"

Although the 1,200-pound cow tends to be the cow that provides the most dollars per calf, the 1,000-pound cow is more efficient, Saner said. The problem, though, is that the smaller cow produces a calf so small that it often gets docked for carcass size when finished.

Like large cows, high milk production can actually reduce profits because of increased forage consumption, Saner said. A 30-pound level appeared to be the most profitable on a three-cent market slide according to the model. On a ten-cent slide, when the bigger calves bring less, the 1,200-pound cow that gave less milk (ten pounds)

brought more profit, so that efficiency depends somewhat on the slide as calf weight changes.

The challenge is that the larger cow literally eats up profits made by the larger calf, Saner said. So the idea is to keep a more moderate-sized cow and buy a bull that will put more pounds on the calves.

If you keep heifers from that bull, though, you get back to larger cows over time. Producers who buy all their replacement heifers don't have that problem because they can select for size and still use a heavier weaning weight bull.

Each ranch is unique, Saner said, so the model may not apply perfectly to each operation. It

does, however, provide a starting point for looking at cow size and profitability.

Saner also praised hybrid vigor for increasing profits in cattle herds.

"By crossing two unlike breeds, we get a little kick," Saner said.

So if the average calf would weigh 500 pounds, the hybrid calf (heterosis) weighs 510 pounds because of crossing unlike breeds—that would be like putting an Angus and Hereford or Angus and Charolais together."

"We figure the producer will make an extra \$100 per cow annually as a result of the hybrid vigor introduced in this

way, Saner said. "In studies we've done, the cross-bred cows had better conception rates and produced calves with greater weaning weights and less sickness."

So when times get tight and input costs rise while calf prices stay the same, producers have to look at ways to make the cows more efficient.

Producers who don't choose to use cross-bred cows, but breed to another breed of bull can still gain about \$50 per head on the bottom line, Saner said.

The extra profit from a smaller, more efficient cow, or from hybrid vigor might mean the difference between profit and loss in some years, he said.