

# Growth-Promoting Implants And Our Food Supply

DR. PAUL BECK

HOPE, ARK.

**G**rowth-promoting implants are used to increase the growth rate and feed efficiency of growing and finishing cattle by about 3% to 5%. Implants function by supplying very small amounts of compounds that act like naturally occurring hormones, thereby increasing muscle growth and reducing fat deposition. Because fat requires more energy to deposit than muscle, gains and feed efficiency are increased.

Research at the University of Arkansas Livestock & Forestry Research Station and the Southwest Research & Extension Center indicates the relationship between growth rate and implant response. When cattle are on a high plane of nutrition and gaining well, one expects the implanted calf to have all the necessary nutrients to get all the benefits from the implants, but with limited nutrients added performance from implants may be limited. Use of this technology is an important way to decrease breakevens and increase profitability of the cattle enterprise.

When calves grazing wheat pasture at the LFRS near Batesville were implanted with a product that supplies a combination of testosterone- and estrogen-like compounds (Component TE-G; VetLife), gains were increased by 0.37 lb/day (from 2.36 to 2.73 lb/day for non-implanted and implanted steers, respectively) or by nearly 40 pounds over the 100-day grazing period. At the same time, steers and heifers at the SWREC near Hope were implanted with estrogen-like compounds (Synovex-S and Synovex-H, from Fort Dodge Animal Health; for steers and heifers, respectively). Over two years, gains of cattle on a high plane of nutrition were increased by 0.35 lb/day (from 2.15 lb/day for non-implanted cattle to 2.5 lb/day for implanted cattle), while gains of cattle on a low plane of nu-

trition were increased by 0.40 lb/day (from 0.89 lb/day for non-implanted cattle to 1.29 lb/day for implanted cattle). Performance was increased by 15% to over 40% by implanting; this is a benefit to the producer that will have definite impact on the bottom line. Value of gain (the value of each additional pound of gain adjusted for price slide) over the last five years has averaged over \$95/cwt. So, if gains are increased by 40 pounds over a 100-day grazing period, profits will be increased by about \$37 per calf!

In the past couple of years, I have been approached by people uninvolved with agriculture and even some ranchers who believe use implants is affecting the sexual development of our youth, increasing cancer risks and other assorted and sundry maladies. There are also many health care professionals and educators spreading this belief with no scientific data to corroborate.

Here are some facts to consider. Estrogen content of beef from a non-implanted steer is 6 nanograms/lb; from an implanted steer, 14 nanograms/lb; from an open mature cow (where most of our hamburger comes from), 31 nanograms/lb. Compare these numbers with the estrogen content of some common vegetables: potatoes, 225 nanograms/lb; peas, 340 nano grams/lb; and cabbage, 10,880 nanograms/lb. The estrogen content of beef is closer to zero than it is to the values we see from vegetables, and it is very unlikely that there is any impact of the estrogen content of our diet on our health or development of young people. Implants provide tremendous benefits to the profitability of the beef industry with absolutely no risk to the safety of our food supply and are essential to our duties in feeding the world's expanding.  $\Delta$

DR. PAUL BECK: Associate Professor, University of Arkansas