

TECHNOLOGY FOR THE COW-CALF PRODUCER REVISITED

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Introduction

Cow-calf producers are frequently looking for ways to produce their calf crop more efficiently. While many new products and technologies are constantly being evaluated and released, it often seems proven technologies of the past are underutilized by today's producers. Possibly, misinformation and lack of information cause these efficiency improvements to be overlooked. One of these proven technologies is the use of growth implants. Approximately 90% of the cattle in the finishing sector receive growth implants (USDA, 2013). However, less than 30% of nursing calves receive growth implants (Rogers et al. 2015).

Growth Implants for Nursing Calves

Administering growth implants to suckling calves has been shown to increase gains by 4-6% by weaning which could translate into 15-30 lb extra weight to sell. No adverse effects have been shown on reproduction when heifer calves were implanted once between 2 months of age and weaning (Selk, 1997). However, bulls should not be implanted. Growth implants for nursing calves typically cost around \$1.50/implant. Depending on the value of the calf, this can result in an addition \$25-\$40, which is a decent return on the investment.

Misinformation may be one of the most common reasons cow/calf producers choose not to administer growth implants to nursing calves. Many producers have concerns that implanted calves bring less at the sale barn than non-implanted calves. While heavier calves do generally bring less per pound, the overall price of the calf is usually higher when there is more weight to sell. Many factors impact the bidding price at the sale barn. These include size of the lot, fleshiness of the calves, whether they are mixed lots containing both steers and heifers, geographic region, needs of the bidders, and other factors that could change on any given day. A study was conducted by Rogers et al. (2015) evaluating whether implanting actually impacted the price of weaned calves at the auction barn. This study used multiple regression analysis to account for the many variables which can impact calf price at the sale barn so implanted and non-implanted prices could be statistically compared. The researchers evaluated 27,746 lots of calves and determined that there were no differences between the sale price of implanted and non-implanted calves (Table 1). Producers who are not administering growth implants prior to weaning need to consider selling those calves to a non-hormone treated specialty program for a premium to offset the loss of pounds available to sell from forgoing the implant.

Table 1. Effect of implant status on the sale price of beef calves marketed through a livestock video auction service from 2010 to 2013. (Adapted from Rogers et al. 2015)

Implant Status	No. of Lots	Least Squares		
		Means \pmSEM of sale price/cwt	Regression Coefficient	P-value
2010				
Implanted	2,123	114.99 \pm 0.22	0.08	0.53
Not implanted	5,355	114.91 \pm 0.20	0.00	
2011				
Implanted	2,126	141.45 \pm 0.40	0.16	0.39
Not implanted	4,882	141.28 \pm 0.37	0.00	
2012				
Implanted	1,940	163.07 \pm 0.35	0.11	0.64
Not implanted	4,429	162.96 \pm 0.30	0.00	
2013				
Implanted	1,997	162.05 \pm 0.50	-0.13	0.12
Not implanted	4,894	162.45 \pm 0.48	0.00	

Proper Implant Strategies

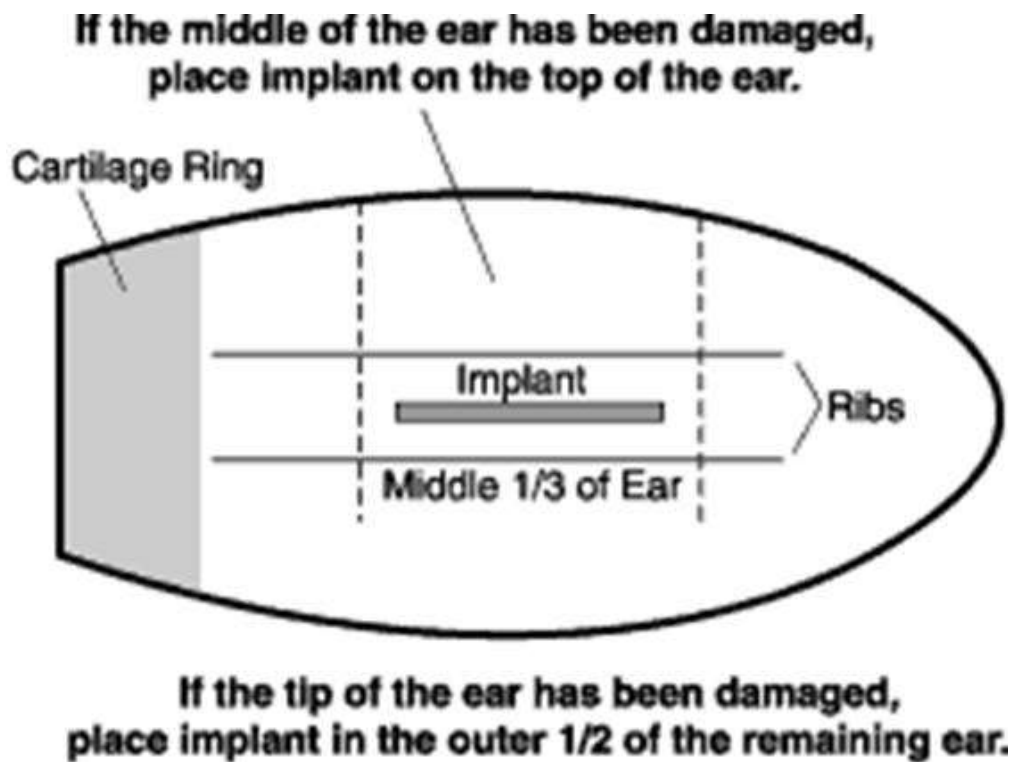
Producers also have concerns that if they implant the nursing calf, it will not respond to an implant given by the backgrounder who buys the weaned calf, thereby making the calf less attractive to the backgrounder or stocker operator. Given properly, a nursing calf should receive the weakest dose of an implant making it more responsive to the approved implant for the next segment of the industry. The only approved implants for nursing calves are Ralgro and Synovex C. There are several options available for growing cattle after weaning including Revalor G for grass cattle and Synovex H or S for calves not intended for reproduction. A low plane of nutrition is not an ideal diet for implanted cattle. Therefore, backgrounding cattle that are being fed just above maintenance should not be implanted. Once cattle are moved to a higher plane of nutrition, such as spring grass, an implant would be more effective. Growth promoting implants have been shown to increase pasture cattle gains by 10-30% (Duckett and Andrae, 2001; Capper and Hayes, 2012).

More options are available for finishing cattle including initial and terminal implants. The system cattle are in, the payout of the implant, and the overall goals of the operation need to be considered when selecting an implant program. However, traditionally, administering growth implants to finishing cattle results in 15-25% more gain with 8-12% more efficiency (Elam and Preston, 2004).

Proper Implant Delivery and Handling

Producers should always read and follow label directions when administering growth implants. In addition to administering the correct dosage for the animal in each production segment, implants should be administered in the middle 1/3 of the ear (Figure 1). A sharp clean needle should be inserted just under the skin between the veins in the ear and the needle should be wiped with disinfectant after each use. Abscessed implants can result in lost performance (Spire et al. 1999). Care should also be taken not to crush the implants and getting each pellet placed in the ear for best results.

Figure 1. Diagram of proper growth implant administration



Impact of Growth Implants on Hormone Content of Beef

Probably one of the biggest misconceptions about growth implants is that they have a large impact on the hormone content of the meat. While consumers may choose to select meat labeled as not receiving additional hormones, producers need to be paid a premium for the lost gain. It is also insightful if producers understand how little growth implants impact the end product so they can educate consumers. All meat contains some hormone because animals naturally produce it. To put this in perspective, a 3 oz. serving of meat from a non-hormone treated animal contains about 1.3 nanograms of estrogen while that same serving of meat from a hormone treated animal contains about 1.85 nanograms of estrogen. This is only about 0.5 nanogram difference. Conversely, a daily birth control pill will contain anywhere from 20,000-50,000 nanograms of

estrogen depending on the type. Additionally, a non-pregnant woman produces 480,000 nanograms of estrogen per day. Therefore, any additional hormone from implanted beef is minute in comparison.

Conclusion

Growth implants are an underutilized technology in the cow/calf sector and to an extent, stocker operations. Growth implants improve gain and efficiency and typically result in \$20-40 return on roughly \$1.50 spent. Utilizing this technology improves efficiency without having a detrimental effect on consumer health or the environment.

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