



Great Plains Livestock Consulting, Inc.

500 S. 4th St.
P.O. Box 377
Eagle, NE 68347

The Great Plains News Feed

Staff

Ki Fanning, Ph.D., PAS

Ruminant Nutritionist
Cell: (402) 890-5505
Ki.Fanning@GPLC-Inc.com

Jeremy Martin, Ph.D.

Ruminant Nutritionist
Cell: (402) 890-5507
Jeremy.Martin@GPLC-Inc.com

Dan Larson, Ph.D.

Ruminant Nutritionist
Cell: (402) 560-4052
Dan.Larson@GPLC-Inc.com

Zeb Prawl, M.S.

Ruminant Nutritionist
Cell: (620) 243-3846
Zeb.Prawl@GPLC-Inc.com

Luke Miller, M.S.

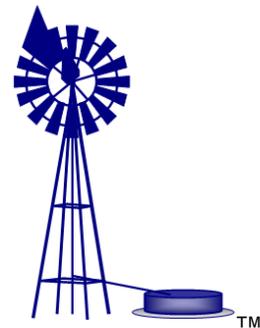
Ruminant Nutritionist
Cell: (660) 299-0798
Luke.Miller@GPLC-Inc.com

Brent Nelms

Feedlot Tracking
Brent.Nelms@GPLC-Inc.com

Bill Chapman, M.S., PAS

Dairy Nutritionist
Cell: (402) 416-3277
bill@cmpdairy.com



**Great Plains Livestock
Consulting, Inc.**

"Turning Science into Money"

Phone: (402) 781-9378

Fax: (402) 781-9379

www.GPLC-Inc.com

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The Latest Across the Plains



Save Money \$\$\$ Test your Feeds

Tests are relatively inexpensive, usually costing less than \$18, for the information derived. Contact our office to set up an appointment to have us pull feed samples if we have not done so yet.

What's New in the Industry

Pfizer is now named Zoetis.

Zoetis has started producing some Synovex[®] implants again. Implant supply is still tight, but some Synovex[®] is on the market.

The price of Zactran[®] has dropped drastically.

We want to hear from you....

Do you have a question you would like one of the nutritionists to address in depth in our newsletter? Just submit your question through our website www.gplc-inc.com and we will get to work on it.

Calendar of Events

- **May 10-11** Last Cowboy Standing - Professional Bull Riders, Mandalay Bay Center, Las Vegas, NV
- **June 2-4** NEASDA Conference, Congress Hall, Cape May, NJ
- **June 3-4** Feed Buyer Mission to World Pork Expo, Madison, WI
- **June 5-7** World Pork Expo, Iowa State Fair Grounds, Des Moines, IA
- **June 9-13** SASDA Conference, The Roosevelt Hotel, New Orleans, LA
- **June 19-20** Farm Progress Hay Expo, Regancrest Holsteins, Waukon, IA
- **June 19-21** Canada's Farm Progress Show, Regina, Saskatchewan, Canada
- **June 20-24** MASDA Conference, Medora, ND
- **June 26-27** IDEAg Interconnectivity Conference, Prairie Meadows Conference Center, Altoona, IA



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Timely Reminders



Beef

- ✓ Scrape pens.
- ✓ Feed a mag mineral.
- ✓ Semen check bulls for upcoming breeding season.
- ✓ Cows should be given pre-breeding vaccinations.
- ✓ Worm Cows.
- ✓ Create a fly control plan to minimize pinkeye and maximize production.

Unused Feed

"Just because something is common sense does not make it common practice." - Stephen Covey

The Impact of Removing Growth Enhancing Technologies from the U.S. Beef Industry



By Luke Miller, M.S., Beef Nutritionist

The livestock industry will face a number of substantial challenges in the years ahead. Public concern about the environmental impact of livestock production has been a leading issue in the agriculture industry. At the same time, there has been an increase in demand for food to be produced that will fit a "Natural" or "Organic" marketplace. However, the Food and Agriculture Organization (FAO) is predicting a 70% increase in demand for meat, milk, and eggs, with the global population expected to increase from 7 billion people to nearly 9.5 billion people by the year 2050. The livestock industry will have to produce more food with fewer inputs, while at the same time keeping consumer demand and food safety a priority.

Industry leaders and university researchers have collaborated to develop a number of growth-enhancing

technologies (**GET**). These technologies have allowed us to increase usage efficiency of available resources, while improving profitability. Consumers have expressed concern regarding both the environmental impact of food production and the use of GET in the livestock industry. However, as an industry, we have not done a good job of describing the positive relationship between the two. Researchers from Washington State University and Iowa State University (Capper, J.L. and Hayes, D.J.) recently collaborated to measure the environmental and economic impact of withdrawing GET from U.S. beef production. This article simply summarizes their findings in an effort to help producers and consumers alike better understand the large-scale impact of GET.

Growth-enhancing technologies are used to increase efficiency of production. The common GET utilized in beef production are ionophores, melengestrol acetate (MGA), growth implants, and beta-adrenergic agonists. Bovatec® and Rumensin® fall under the classification of ionophores and are used as feed additives to improve feed efficiency and increase gain, while reducing methane production. The synthetic progestin MGA is used as a feed additive to suppress estrus in growing and finishing heifers, which results in improved feed efficiency and gain. A number of estrogenic and androgenic implants are available on the market, all of which have shown to increase performance and improve feed efficiency, while having no negative impact on the final product.. Optaflexx® and Zilmax® are classified as beta-adrenergic agonists, which are fed at the end of the feeding period to increase carcass leanness, dressing percentage, and average daily gain in finishing cattle.

The Model

Capper and Hayes developed a model which analyzed the differences in input between two production systems. The first system is conventional (CON), and assumed GET use at current industry adoption rates, while the other system did not utilize GET (NOT). This model incorporated all significant resource inputs and waste outputs based on animal nutrition and metabolism, and included all three phases of beef production: cow/calf, stocker/backgrounder, and feedlot. Adoption rates of GET used for the cattle in the CON group were as follows: ionophores – stocker 19%, finisher 90%; MGA 90%; implants – calf-fed 85.7%, stocker 6.8%, yearling-fed 89.2%; beta-adrenergic agonists 38%. Large amounts of data are available demonstrating the effects of GET on animal performance. On average, ionophores are expected to improve feed efficiency by at least 3 to 5%. MGA has shown to increase feed intake of finishing



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heifers 3.5%, compared to nonsupplemented animals. Implants typically allow cattle to gain at a rate of nearly 10% faster than non-implanted cattle on similar amounts of feed. The average effects of Optaflexx® and Zilmax® have shown to increase growth rate by 18.4% during the supplementation period, and improve dressing percentage by 0.5 to 1.5%, respectively.

Results

Differences in production were determined between the CON group and the NOT group for each phase of production. During the stocker phase, cattle in the CON group were expected to take **10 less days** to reach the same ending weight (541 lbs – 807 lbs), and had a **0.6% improvement in feed conversion**. Based on the model, yearling-fed beef cattle in the CON group **gained over 0.8 lbs/hd/day more, had an 18% improvement in feed efficiency, and harvested at 100 lbs heavier live weight** than their NOT counterparts. Calf-fed beef cattle were predicted to finish nearly **150 lbs heavier, and harvested at 5 days younger** if placed in the CON group. Likewise, calf-fed dairy calves were expected to gain an extra **185 lbs** in the same 277 day feeding period, with a **10% improvement in feed efficiency**.

When analyzing the differences in the amount of beef produced between the two groups, it will take about 10% more animals to produce the same amount of beef if GET were withdrawn from the industry. Keep in mind this would also require an increase in the breeding herd and replacement heifers. The U.S. produced about 26 billion pounds of beef in 2010. If GET were removed from the production system entirely, it would take an **extra 7.1 million acres** to maintain the same level of production. Likewise, water demands and fertilizer utilization usage would increase substantially.

Carbon emissions have received increasing scrutiny over the last century. Although much of this increase is due to a rising population and more industrialization, cattle and other livestock have definitely taken their share of the blame. However, USEPA estimated in 2010 that only 2.1% of total U.S. greenhouse gas emissions come from beef production. According to the model, removing GET from U.S. beef production would increase carbon emissions by 9.8% and fossil fuel utilization by 7.6%. This model clearly demonstrates that increasing productivity has a positive effect on the environment. The calf-fed system in this study showed that cattle which had the fewest days on feed and the most efficient gains also utilized the fewest resources and had the least amount of waste output

when compared to yearling-fed cattle or grass-fed finishing systems. To produce the same 1 billion pounds of beef, NOT cattle would excrete nearly 4 million additional tons of manure, containing almost 19,000 tons of nitrogen and 2,000 tons of phosphorus.

Economics

According to this model, withdrawing GET from the U.S. beef industry at the level they are currently used would increase total production costs by 9.1%, from \$1.43/lb beef to \$1.56/lb beef. After adjusting for GET cost of \$0.013/lb beef, the total economic impact of removing GET from the system will increase cost by 8.2%. Although currently there are niche markets for cattle that qualify for a natural or organic program, researchers did not account for the added premiums available. They are merely demonstrating the large scale impact GET can have on production and resource utilization.

Sustainability is a popular buzzword, particularly in production agriculture. In years to come, we will be expected to provide affordable food to a rapidly growing population, using as few resources as possible and minimizing impacts on the environment. Contrary to popular belief, there are no negative health phenomena from beef consumed which was produced with the aid of growth-enhancing technologies. Furthermore, increasing input costs, small profit margins, and high food prices have led many producers to utilize these technologies to a greater extent than at any other time. This trend will continue as we attempt to offer an affordable, safe product to a growing consumer base.

Bottom Line

The use of GET has improved efficiencies, decreased production's carbon footprint, and increased the pounds of food produced. When interacting with someone not in production agriculture, be sure to keep in mind they do not care nearly as much about science or efficiencies as we do. Our consumers do care about a safe food supply, feeding more hungry children, and reducing our carbon footprint. Please don't hesitate to contact one of our nutritionists in your area to better understand how some of these technologies may best be incorporated in your operation.

Literature Sited

Capper, J.L. and Hayes, D.J. 2012. The environmental and economic impact of removing growth-enhancing technologies from U.S. beef production. *Journal of Animal Science*. 90:3527-3537.