

## Part 1 Of Series Focuses On Growth Promotants

## Implants Promote Growth, Feed Efficiency

Editor's Note: This is part 1 of a series on growth promotants.

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UNIVERSITY PARK (Centre Co.) — Growth promotants have been used for many years to improve growth rate and feed efficiency of cattle. Implanted in the ears of cattle, the effects of these promotants are important for both the producer and the consumer.

Done correctly, this procedure returns more net profit per unit of investment than any other management practice and helps keep beef prices reasonable for the consumer.

Although consumers and animal activists are concerned about the use of growth promotants, current information indicates that these products are safe for both the animal's well-being and meat wholesomeness.

More information is available on growth promotants than ever before. Two of the most frequent conclusions from this research indicates that (1) using implants saves feed and other production costs, keeping cost of beef more competitive in the retail counter and (2) growth promotants are safe for both the animal and the consumer.

#### Government Approval Process

The use of implanted growth promotants in cattle was approved by the Food and Drug Administration (FDA) in the late 1960s, after many years of stringent testing. This slow and comprehensive process should assure consumers that there is no reason to be concerned about safety of using growth promotants.

Among the factors that must be ascertained before the FDA clears a product for use are:

- Absence of residues in edible tissues
- Absence of acute toxic effects
- Absence of chronic physiological effects
- Absence of mutagenic or carcinogenic potential

• Enhancement of animal performance or health.

#### Safety Of Using Implants

Most growth-promoting implants available have subtle estrogenic (female-like) or androgenic (male-like) effects. But the amounts of hormones a person ingests from implanted cattle are insignificant in contrast to the amounts the human body itself produces or that are contained by other foods.

The estrogen content of beef (including that from implanted and nonimplanted steers) and other foods is given in Table 1.1. Based



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Table 1.1 Estrogen concentration in beef and other foods

Food	Nanograms per gram	Nanograms per 3 oz serving
Beef, nonimplanted steer	0.015	1.3
Beef, implanted steer	0.022	1.9
Beef, heifer	0.013	1.1
Milk	0.13	11.0
Soybean oil	2,000	170,000
Wheat germ	4,000	340,000

A nanogram is one billionth of a gram.

on this evidence, it is clear that implanting cattle increases the estrogen content of beef only slightly. Moreover, beef has less estrogenic activity than many other common foods. The stringent testing of implants has shown that no withdrawal period is required — another indication that the use of implants is safe.

Data in Table 1.2 illustrate that the amount of estrogen taken in by eating beef from implanted or nonimplanted steers is inconsequential in contrast to the amount produced naturally by the human body.

Several years ago, studies of Ralgro™: active ingredient is zeranol, a synthetic estrogen-like non-steroid) determined that meat would have to contain over 18 grams of zeranol per pound of body weight of the meat-consuming subject to be critically toxic. Consequently, a half-pound

rat would have to consume 634,920 beef carcasses containing one part per billion of zeranol to reach the critical level of toxicity. The results of another study indicated a human would have to consume 35 tons of meat per day to reach the level of zeranol intake that would cause toxicity.

Studies such as these provide important information on the safety of technology applications such as implantable growth promotants. Today's sophisticated consumer wants assurance that the food they place on their family's table is safe, wholesome, and of high quality.

Editor's Note: Part 2 of this article, to be published next week, discusses what implants are available; common implanting mistakes and corrective measures; growth, feed efficiency, and carcass changes; and implant strategies for different situations.

Table 1.2 Daily human estrogen production (nanograms)

Age, class	Amount/day
Female, before puberty	54,000
Male, before puberty	41,000
Female, nonpregnant	480,000
Female, pregnant	20,000,000
Male, adult	136,000

A nanogram is one billionth of a gram.

#### MAILBOX MARKET FOR SALE

29 Charlaist Angus Cross Steers 875 Av. Wt. IH Scoup & Snow Plow, 350 Bu. Gravity Wagon 10 Ton Running Gear New, 717-694-3417, Snyder Co.

72 Bu. American Batch Dryer. Exc. Cond., Kept under roof, \$2000. Before 8 AM 717-345-8434, Schuylkill Co.

Ten H.P. 220, 440 Volt, Three Phase Crocker-Wheeler Electric Motor, LeBaron County (717) 949-3129 or (717) 336-5886.

Registered Morgan Filly, Four Months Old, Champion Bloodline, Very Good, Conformation, Exceptionally Friendly \$950. (610) 286-5373 Lanc.

New Holland 1003 Bail wagon \$5000, 482 Cub lawn Tractor, 40 Inch \$900, Both Excellent Condition Schuylkill Co., 717-739-4708 after 5 PM

Ear Corn Organic Grown Int. 234 Mounted Picker, York Co., 717-244-8748

8 Beef Bulls 60¢, 12 Holstein Steers 60¢, 10 Beef Steer 64¢, about 650 Lb., Schuylkill Co., 717-739-4713.

Carriage In Good Cond. for Sale \$2000, Christ B. Hershberger, 714 Georgetown Rd., Rorks, PA 717-572-9524.

Wakefield Seed Wheat, Cleaned, last Year Certified Seed, \$6/Bu., York County, 717-225-1271 after 4.30 PM.

I H. Dresser 125C Loader Rollgard Canopy Sweeps G.P. bucket, Nice Very Good Cond., Must See \$12,000, Lanc. Co. (717) 354-8606.

1975 C65 Ford 184 Ft. Flatbed 33,000 GVW Air Brakes 366 Motor 5&2, Trans, Licensed & Inspected, \$2500, York Co., 717-244-37060

Ford TLB 555 w/Cab \$10,500 Int 1969 Dump Truck 10 Ton \$1500, Lowery Spinet Organ Model-S \$150, Northumberland, 717-425-2039.

1992 Ford LN800 Fire Tanker Truck 2500G Stainless Elliptical Tank 450GPM Martindale Fire co, 527 Grist Mill Road, martindale, PA 17549, or Lee 717-445-6220.

Model T Engine Block w/Head & manifold Large Quantity Assorted Lumber. Cement Blocks. Building Materials Pneumatic Tapper, Electric Heater w/Fan, Stainless Drum 55 Gal., Del. Co. 610-544-2424, Best 7 to 9AM.

1986 Jeep Laicedo package Air Handtop Roll Bar Will Take Trade \$5995 OBO, Lanc Co. 717-397-1186 After 5PM, Rear Seat.

LP Gas Heater 70,000 BTU Perfection with Blower Excellent Cond., Orig. Cost \$900 Now \$450 Berks Co., 610-683-3748.

W/C bedding chopper, double pulley 11Hp Honda Engine, Also Used Metal Roofing and a few old hand cut beams, Lanc. Co., 610-286-6059.

Riteway Coal and Wood Stove, Good Condition, \$350 or Best Offer.

1070 Case Tractor NI Manure Spreader 9 Ft. John Deere Harrow McNo. 9 Silage Cutter, KBA John Deere, Disc Jonas RD2, Box 320D, Myerstown, PA 17067, Leb. Co.

Two 2400 BU Round Corn Cribs \$500 each, Heavy Duty Racine Power Hack Saw \$200, 717-436-8790, Juniata Co.

Carriage Running Gear, Roller Bearing Wheels, Good Condition, \$650. Call 717-374-5630, 7PM-9PM, Snyder Co.

20 Acre Farm, North of Tampa, Morton Building, 4/2 House, Fenced Xfenced, Citrus Trees, Grandfather Oaks, Great Cattle, or Horse Farm, 904-793-3414

'87 Trailer 6 Ton Bed Over Excellent Condition \$3,000 - 8' Backhoe Attachment New Holland Skid Loader 12"-16"-24" Buckets, Excellent Condition, \$3800. After 6:00 Chester Col., 610-942-3883.

Farm Hand Wagon Self-Loading Rear Discharge, \$1,000. NJ Farmall Tractor \$500, Cumb., Co. 717-776-3766.

2 Year Old Registered Simmental Bull Horned Good Breeder Blair Co. 814-224-4493.

1-3/4 HP Economy Gas Engine, 1-1/2 HP F&M Engine, Both, D77 Carts, Complete Runs Well, Wash. County, MD 301-739-5305.

Seed Triticale From certified Seed, Chevy 250 Engine with 350 Automatic Transmission, Will Sell Together or Separate, Lancaster Co., (717) 653-9408

Farmall Club w/4' Sickle Bar Mower, Snow Plow Tire Chains, All Shape \$2495, Lanc Co., 717-285-4770

New Idea 323 Corn Picker With 4-Cylinder Wisc Engine and Hydraulic, Good Condition, \$2000, Amos Stoltzfus, William Run Road, Christian, PA 17509.

Captain Vitavax 20-20 Seed Grain Treatment 30 Lbs. Make Offer Also Wolf Grain Cleaner, Lanc Co., 717-656-6863, 5 to 6 PM.

High Moisture Corn, 323 Picker Parts, Rubber Wheels, Aquilla R. Stoltzfus, 454 Bartville Rd., Kirkwood, PA, Lanc Co.

Chevy Truck Wheel 88-94 New 16" \$15, Also Sport Steering wheel \$40, York Co., 717-764-4604.

Seed Wheat, Barley From Certified. Clover, Timothy, Alfalfa Seed. 579 GT 500 BU Dryer. F700 Ford 12' Dump, 717-444-3968, Perry Co.

## Advisory Committee For Grazing Center Forms

UNIVERSITY PARK (Centre Co.) — The advisory committee for the newly formed Penn State Grazing Research and Education Center recently met for the first time at University Park. The 12-member committee includes dairy and livestock producers and industry representatives from many segments of agriculture.

The center, a collaborative effort between the College of Agricultural Sciences and the USDA Pasture Research Laboratory on the University Park Campus, brings together 18 agricultural scientists and several extension educators dedicated to improving the sustainability and profitability of animal agriculture through better use of grassland.

The advisory committee will help provide direction for the new center. "We're very pleased with the enthusiasm and dedication of the advisory committee," said

Steve Fales, professor of agronomy and co-director of the center.

Faculty members of the center and scientists from the USDA laboratory gave brief accounts of their past and current efforts in grazing research and education. Advisory committee members commented on the presentations and ended the session with their prioritized lists of items for consideration by center members.

"The committee provided excellent input for the center's future direction," said Larry Muller, professor of animal science and co-director of the center.

Members of the advisory committee are Phil Anderson, Knox; Lewis Gardner, Galeton; Axel Linde, Oxford; Larry Lohr, Hooversville; Kevin Mitchell, Mahafey; Duane Pysher, Harrisburg; John Rodgers, Belleville; Robert Russo, Friedens; Steve Thornton,

Wellsboro; Garry Van deWeert, Athens; Dave Wolfgang, Pennsylvania Furnace; and Dunwoody Zook, Glenmore.

The committee will meet periodically to provide input for the center.

For more information about Penn State's Grazing Research and Education Center, contact Steven Fales, 248 Agricultural Sciences and Industries Building, University Park, PA 16802, or Lawrence Muller, 316 Henning Building, University Park, PA 16802.

### Correction

In last week's issue, the winner of the Reading Fair reserve grand champion market steer was incorrectly identified. The winner was Kelly Holcombe, 9, daughter of Jim and Karen Holcombe, Mohrsville.