

Prologue:

The Organizing Committee:

Fred Owens, Don Gill,  
Glen Dolezal, Brad Morgan,  
and Gerald Horn



A wide array of growth stimulating implants is available to cattle producers in the U.S. to enhance rate and efficiency of growth of cattle. Producers must balance the effectiveness of growth stimulants to reduce cost of gain against potentially adverse effects of implants on behavior and, of particular concern, on carcass composition. Papers in this conference represent the reasoned opinions of individual experts. Although these opinions may conflict, free and open discussion is essential for progress and advancement. These papers should represent the "state of the art" with regard to growth enhancing implants. The organizing committee sincerely thanks all the experts for their input and reviews concerning modes of implant action, relative effectiveness, animal behavior, safety, statistics, economics, meat science, and consumer acceptance.

The topic for this conference on "Impact of Implants on Performance and Carcass Value of Beef Cattle" initially was proposed by Robert Botts and Bob Brandt to Don Gill and Fred Owens in July 1993 at the Animal Science Meetings in Spokane, Washington. Employment, locations of individuals, and implant types have changed markedly since that time. Planning the final program and invitations to speakers began in March 1996 using a conference format designed by the organizing committee. With the exception of two panel members, each individual that was invited participated in the conference. We were particularly pleased that Art Raun and Rod Preston consented to provide a detailed historical perspective on implants and that Mike Galyean and Jeff Savell agreed to summarize highlights from the conference. Thanks to financial support from implant manufacturers listed below, joint sponsorship from the Plains Nutrition Council, and to extensive input from speakers, the conference was held at the Sheraton

Hotel in Tulsa, OK from November 21-23, 1996. About 320 people attended the conference. Written papers were assembled, albeit gradually, from all the speakers and edited; questions and answers were transcribed, and this proceedings was assembled and published through Oklahoma State University. The organizing committee is particularly indebted to sponsoring companies, all the speakers who took time away from their regular duties to prepare presentations, and to the many feedlot consultants who attended and freely shared their thoughts, opinions, and ideas.

#### **Sponsors of this Conference:**

Hoechst-Roussel Agri-Vet Company, Somerville, NJ.

Contact: Dr. Jerry Rains

Fort Dodge Animal Health, Overland Park, KS.

Contact: Dr. Frank Prouty

Mallinckrodt Veterinary, Mundelein, IL.

Contact: Dr. Richard Sibbel

Vet-Life, Kansas City, MO.

Contact: Dr. Robert Botts

#### **COVER PHOTOS**

Speakers pictured on the front cover from left to right included: Row 1: Art Raun, Robert Botts, Allen Trenkle, Bob Brandt, Glen Selk. Row 2: Susan Duckett, Terry Mader, Tim Stanton, Ken Eng, Bob Wettemann. Row 3: Alfredo DiCostanzo, Jim Oltjen, Brad Morgan, Glen Dolezal, Don Gill. Row 4: Jim Trapp, Gary Smith, Russell Cross, Rod Preston, Mike Galyean. Speakers who did not supply a picture include: Bill Dayton, Danny Simms, Steve Rust, Robbi Pritchard, Abe Turgeon, Jeff Savell, and Gerry Kuhl.

1996 IMPACT OF IMPLANTS ON PERFORMANCE AND  
CARCASS VALUE OF BEEF CATTLE - SYMPOSIUM  
OKLAHOMA STATE UNIVERSITY &  
PLAINS NUTRITION COUNCIL  
Tulsa Sheraton Hotel, Nov. 21 (PM) to Nov. 23 (Noon)

**November 21, 1996**

- 7:00 PM History of use of hormonal modifiers - Art Raun and Rod Preston  
7:45 PM Growth Stimulants: Compounds, Concentrations, Combinations, and Regs - Robert Botts  
**MECHANISMS OF ACTION OF ESTROGENS AND ANDROGENS**  
8:15 PM Hormonal basis - Allen Trenkle  
8:45 PM Cellular basis - Bill Dayton  
9:15 PM Administration site, carriers, and release profile - Bob Brandt

**November 22, 1996**

**EFFECTS ON INTAKE, GROWTH RATE AND EFFICIENCY**

- 8:00 AM Calves and replacement heifers - Glen Selk  
8:30 AM Stocker Cattle - Gary Kuhl  
9:00 AM Feedlot - Susan Duckett and Fred Owens  
9:30 AM Cows - Danny Simms  
10:15 AM Carryover and Lifetime Effects - Terry Mader  
10:45 AM Cost of Reworking Cattle - Tim Stanton

**INTERACTIONS WITH:**

- 11:15 AM Gender, Age, Animal Type - Steve Rust and Robbie Pritchard  
11:45 AM Background and Pen Size - Abe Turgeon  
1:30 PM New considerations: Limit feeding, seasonality, cattle origin - Ken Eng

**IMPACT OF GROWTH STIMULANTS ON:**

- 2:00 PM Animal Behavior (bullers & feeding patterns) - Bob Wettemann and Fred Lehman  
2:30 PM Nutrient Requirements - Alfredo DiCostanzo  
3:00 PM Statistical problems: Within vs. across pen comparisons; Endpoint choices - James Oltjen

**EFFECTS ON CARCASS MEASUREMENTS**

- 3:45 PM Carcass grade traits and Maturity - Brad Morgan  
4:15 PM Cutout - Glen Dolezal

**November 23, 1996**

- 8:15 AM Economics of beef production with vs without implants - Don Gill and Jim Trapp  
8:45 AM Consumer acceptance - Domestically and internationally - Gary Smith  
9:15 AM USDA/FDA Residue Tracking - Now and in the Future - H. Russell Cross  
9:45 AM Rationale for the Safety of Implants - Rod Preston

**AN EYE TO AND A BIG EAR FOR THE FUTURE**

- 10:45 AM Poll of Consultants and Research Needs in Animal Production - Mike Galyean  
11:15 AM Research Needs in Meat Quality - Jeff Savell