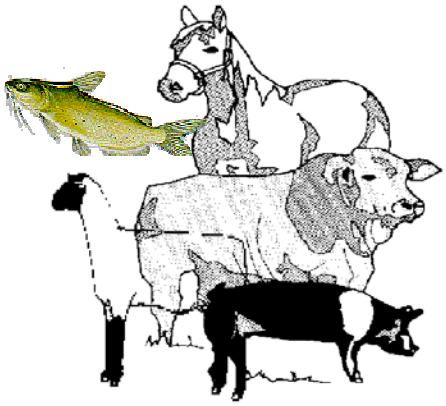
Telephone: (706) 542-2581
Fax: (706) 542-9316

Animal and Dairy Science Department
Rhodes Center for Animal and Dairy Science



Livestock Newsletter

November/December 2003

http://www.ces.uga.edu/Agriculture/asdsvm/beef-home.html

Please give credit to the author if you use an article in a non-Extension publication and please send a copy of the article to the author. Thank you!

Robert L. Stewart
Extension Coordinator
Animal and Dairy Science Department

LIVESTOCK NEWSLETTER

November-December 2003 *AS-1*

Georgia Beef Challenge

Robert L. Stewart
Coordinator, Extension Programs
Animal and Dairy Science Department
The University of Georgia

The Georgia Beef Challenge was organized in 1991 to allow Georgia cattle producers to gain information on the health, performance, and carcass merit of their cattle. Over the years we have evaluated thousands of calves from Georgia cattle operations. During that time, we have learned volumes about the genetics of our cattle, both from an individual herd standpoint and how Georgia cattle compare to the rest of the beef industry. Our partners at Tri County Steer Carcass Futurity in Southwest Iowa continue to do a super job with our cattle.

In 2002 - 2003, 3,551 calves were consigned to the program. Shipments started in May and ended in March. As usual, factors beyond our control influenced the outcome of the Beef Challenge. Weather was relatively good for feeding cattle in Iowa.

Table 1 summarizes the performance, carcass data and profitability for the 2002-2003 Beef Challenge. On average this was a very good year for most phases of the program. A few of the categories were below our targets.

Death loss at 1.436 % is well below industry averages, but exceeds our desired maximum of 1%. Of the 33 pens on feed, two had death losses over 4% and twelve had no loss. The differences were not due to the attention paid by the feeders, rather they reflect differences in preparation of the cattle. We need to continue to pay attention to detail when developing the health history of our calves. Proper vaccination and backgrounding are essential in order to minimize sickness and death.

The overall average daily gain at 3.22 pounds per day was impressive. One pen had an average of 3.98 with the lowest being 2.47. Other than death loss, performance is the single most important factor in determining profitability.

Carcass traits were also good news for this year's consignors. Average fat cover at 0.46

inches is very close to the target of 0.4 inches. Average Yield Grade of 2.98 is acceptable but slightly above the target of 2.5 or less. Ribeye area at 11.9 square inches is excellent. Even the lowest pen at 11.3 square inches is well within industry targets.

Seventy three percent of the Georgia Beef Challenge carcasses had a Quality Grade of Low Choice or better. This percentage choice is a marked improvement over most years.

Defects were found in 14.3% of the animals. Table 2 gives a summary of the problems. Defects included trim, dark cutter, disposition, horns, lungs, rat tails, one condemned, and one bull. This number is one percent lower than last year's Beef Challenge consignments. All defects represent a deduction straight off the profit of those animals. Even though disposition does not show up as an identifiable carcass trait, it does affect performance and lowers quality grade. In order to address these problems, we must select for disposition in our cow herds; use polled bulls or proper de-horning technique; monitor respiratory problems (pneumonia in a calf can result in trim on a lung at harvest); and, use proper castration technique.

There was a wide range of profitability this year (back to Table 1). One of the primary factors which affected profitability in the majority of the pens was the action taken by the Georgia Beef Challenge Risk Management Committee. The committee consisted of Turner Callaway, Jim Collins, Mac Hall, Bobby Lovett, John McKissick, Bobby Miller, Clay Sims, and Robert Stewart. They set a pricing strategy to (1) protect the beginning value of the calves, and (2) to take a $50 per head profit if and when available. Special thanks is due to Jim Collins, Curt Lacy, and John McKissick for their extraordinary work for our program. They organized the breakeven projections, watched the market and ordered the contracts.

Presently, there are 1,143 calves (858 steers and 285 heifers) on the 2003-2004 Georgia Beef Challenge. We repeatedly find that our genetics are as good as anywhere in the United States. We firmly believe that data and predictability will be important marketing factors in the years to come. Participants in the Georgia Beef Challenge will be in position to attract attention whatever might happen to the market.

If you have calves you wish to consign, contact your local county Extension Agent or Patsie Cannon at 229/386-3683. They can furnish you with the entry information and preconditioning protocol to get your calves ready. In addition, feel free to access the website at *www.cpes.peachnet.edu/pc-web* to view Georgia Beef Challenge information and final reports from last year's pens. An additional website that may be of interest is www.tcscf.com which is maintained by the Tri-County Steer Carcass Futurity Cooperative and Iowa State University Extension.

AMERICAN YOUTH HORSE COUNCIL'S 27TH ANNUAL
NATIONAL YOUTH HORSE LEADERS SYMPOSIUM

February 20-22, 2004 Irving TX

Leaders Building Leaders:
Looking ahead to a Bright Future for the Youth Horse Industry.
The American Youth Horse Council's 27th National Youth Horse Leader's Symposium is hosted by the American Paint Horse Association and the American Quarter Horse Association.

This event brings together leaders from all horse oriented youth groups and riding disciplines to share their collective voices and help shape the future equine industry. Adults interested in becoming volunteer youth leaders, veteran adult leaders, college and teen leaders and horse industry professionals from across the country will gather February 20-22, 2004 in Irving TX. Join leaders from breed associations, equine sport organizations, Extension Service, universities and the crucially important "hands-on" youth leaders from such groups as 4-H, U.S. Pony Club, National High School Rodeo, Future Farmers of America Association and many more. This weekend is a must-attend event for those who wish to have access to the latest news and training information in the youth horse industry.

The fun begins Friday with a pre-conference tour of great area horse ranches. Formal symposium activities open with a welcome reception on Friday evening. Then hold on to your hat beginning Saturday morning with live demonstrations at the Cow Town Coliseum, featuring Julie Goodnight with *Making the Most of your Mounted Meetings* and Doug Householder *Horse Training Principles applied to Trailer Loading Techniques*. Grab lunch in historic Cow Town and then meet us back at the Harvey Hotel for an afternoon of presentations and workshops focused on developing leadership skills for the horse industry. The evening banquet and awards program will introduce the National Youth Horse Leader of the Year Award Winner and several newsworthy surprises. Sunday we'll treat you to breakfast and the Teen Leaders will share a special program of their own design with you. Then sit tight in your saddle as an expert panel tackles the question of *What are the core competencies for youth horse leaders and how can we achieve that standard in the industry*? You'll also find over two dozen break-out sessions to choose from specialized to three audiences - the teen (peer) leader, adult volunteer leader and industry professional. Topics include:

Technology Tips for Running the Show
Heading the Herd: 4 Laws of Leadership
Equine Insurance, What Youth Horse Leaders Need to Know
Fitness For the Rider: Improving Athletes Performance on the Horse
A New Approach to Horsemanship Skills
Collecting & Showing Model Horses For Horse Lovers Without Horses
Taking Your Horse to College

*Introducing a Special Extension Service "Mini-Track" on Distance Learning and Technology in Extension Administration

Several industry groups will recognize participation in this conference for continuing education credit. Visit the website for details; **www.ayhc.com**
Trade show Exhibits and Onsite registration begin at 3:00 p.m. on Friday, February 20th. Conference ends Sunday, February 22nd at 3:30 p.m.

*** AMERICAN YOUTH HORSE COUNCIL ***
800-TRY-AYHC ** www.ayhc.com

Registration Information

Complete this form and return to:
The American Youth Horse Council
577 N. Boyero Ave - Pueblo West, Co 81007
Toll free: 800.879.2942 - Direct: 719.547.7677
Fax: 775-256-0382 Email: **ayhc@mindspring.com**

Name _____
Organization _____
Mailing Address _____
City _____State _____ Zip_____
Telephone (_____)_____
Fax (_____)_____
E-mail_____

	Early Bird By 1/20/04	Full Rate After 1/20/04
_____Non AYHC Members	$95	$115.00
_____ 2004 AYHC Members*	$75	$95.00
_____Teen Leader (Ages 14 to 19 only)	$59.	$79.00

2004 AYHC Member rates do not include 2004 dues. Membership fees now run 12 months from date of receipt of payment.

2004 AYHC Membership Dues:
_____ $150 Corporation
_____ $100 Association or Education Institution
_____ $ 40 Local Horse Club
_____ $ 40 Family
_____ $ 25 Adult Leader
_____ $ 15 Student Leader
_____ **Total Amount**

Method of Payment:
_____ Check made payable to AYHC
_____ Visa _____ MasterCard _____Discover
Credit Card Number _____
Expiration Date _____

Authorized Signature _____

Make checks payable to the American Youth Horse Council.
Registrations must be postmarked before January 20, 2004
to receive early bird discount.

SYMPOSIUM LOCATION AND ACCOMMODATIONS
The Harvey Hotel - DFW Airport,
4545 West John Carpenter Freeway, Irving TX 75063
To reserve your room please call (972)929-4500
Please reference the American Youth Horse Council Special conference room rates of $75.00 (1 to 4 people) plus tax.

Dallas/Fort Worth is the nearest major airport. The Harvey Hotel offers airport shuttle service for conference participants. Please call the hotel by Jan. 29, 2004 to schedule your shuttle.

Immune Response and Injection Site Lesions

Johnny Rossi
Extension Animal Scientist

Vaccinating for clostridial diseases is a routine practice for cow calf producers. All vaccines should be given in the neck area to decrease losses from injection site lesions. Lesions can be caused by dirty or dull needles, poor handling restraints, sensitivity of the animal, and the adjuvant used in the vaccine. Clostridial vaccines are generally administered subcutaneously and often leave a visible lesion or lump on the animal. There is concern that these lumps on the animal decreases eye appeal and negatively affects the price of the animal. However, the injection site lesions will decrease in size or disappear over time. University of Arkansas researchers conducted a study that compared the clostridial antibody response of heifers that did and did not develop injection-site lesions.

Eight month old heifers were vaccinated with a 2-ml 7-way clostridial vaccine. Injections were administered in the neck using the tented technique. After 28 days, heifers were visually inspected for lesions and divided into a lesion-group and a non-lesion group. Blood was collected 28, 56, 84, and 112 days following injection to determine titer levels. The titer levels were used to determine antibody response to the vaccine.

Approximately 65% of the heifers developed injection site lesions 28 days following injection. However, at 112 days following injection, only 45% of the heifers had detectable injection site lesions. Others have reported 50% injection site lesions four weeks following vaccination, and a 40% reduction by eight weeks following injection. In that study, calves were also given a booster vaccination of clostridial vaccines. The authors noted an increase in both number and size of injections site lesions following the booster vaccination.

Mean titers for *clostridium chauvoei* were greater for the lesion group on day 28 and 84. There were no differences on day 112. Titers for *clostridium sordellii* were greater in the lesion group through day 56. Serum antibody titers for *clostridium perfringens* type D followed a similar pattern and was greater for the lesion group through day 84. The antibody response of heifers that developed lesions was greater than heifers that did not. The heifers that did not develop lesions should be expected to mount an immune response. However, the heifers that develop lesions will have an enhanced immunity and more prone to overcome a disease challenge.

Titers against clostridial diseases were improved when injection site lesions developed. Heifers that develop an injection site lesion should not be discounted. Presence of injection site lesions is an indication that the animal had a good immune response to the vaccine. If anything, a premium should be paid for these cattle.

Horse Reproduction Short Course Series

February 12-13, 2004
Mare Care and Reproduction

February 19-20, 2004
Stallion Management and Reproduction

Two separate Horse Short Courses will be presented. Each of the two short courses will be presented in a morning lecture-discussion and afternoon laboratory format. Morning lectures and discussions will provide insight and background information and answer questions. The afternoon laboratory sessions will allow participants to gain hands-on experience.

INFORMATION

Lectures will be given at The University of Georgia Animal/Dairy Science Livestock Instructional Arena, located on South Milledge and Simonton Bridge Roads.. Lectures will begin at 8:00 AM each day. ***Registration*** will be from 7:30 AM - 8:00 AM on the first day.

Short Course participants are responsible for making their own motel reservations. Following are some motel listings:

-UGA Continuing Education Center (706-542-6364)
-Holiday Inn (706-549-4433)
-Holiday Inn Express (706-546-8122)
-Courtyard by Marriott (706-369-7000)
-Suburban Lodge (706-208-8812)

ENROLLMENT

Each short course is limited to 25 participants. Registration will be accepted on a first-come basis. You may register for each Short Course individually for $285.00 per course or for both courses at a discounted rate of $450.00. Farms sending two or more persons will receive a 10% discount per registration fee. This fee covers comprehensive lecture and laboratory sessions, breaks, transportation to and from the laboratories and writing materials. Cancellation prior to the postmarked date will receive a full refund. Cancellation thereafter up to the Short Course day will forfeit $50.00 of their registration fee. Checks should be made payable to the Georgia 4-H Foundation.

After you are accepted into the course, a notice of confirmation will be sent with directions to the UGA Livestock Instructional Arena.

February 11 - 12, 2003
Stallion Management & Reproduction

Topics to be covered include:

- Stallion reproductive anatomy & physiology
- Management of the stallion prior to and during breeding season
- Breeding soundness exam
- Collection & evaluation of semen
- Semen extenders & uses
- Semen handling for artificial insemination & shipping
- Freezing semen
- (Will accept a limited number of stallions for semen evaluation)

February 13 - 14, 2003
Mare Care and Reproduction

Topics to be covered include:

- Maiden mare care prior to breeding
- Pregnant mare care pre-foaling
- Foaling
- Post foaling mare care
- Foal care
- Reproductive anatomy & physiology
- Teasing and breeding
- Artificial insemination
- Palpation and ultrasound
- Manipulation of estrous cycle
- Embryo transfer

REGISTRATION/POSTMARK DEADLINE - JANUARY 24, 2003

Cancellation prior to the postmarked date will receive a full refund. Cancellation thereafter up to the Short Course day will forfeit $50.00 of their registration fee. **For questions, call (706) 542-1852**.

Registration Form

SPONSORED BY The University of Georgia, Department of Animal and Dairy Science, College of Agricultural *and* Environmental Sciences Cooperative Extension Service and Large Animal Department, College of Veterinary Medicine

Coweta County 4-H'er Named National Winner for "Ivercare - Because You Care"

Rebecca Miolen of Coweta County has been named the National Winner for the "Ivercare - Because You Care" awards program! Her entry promoted Georgia 4-H Horse Project activities. The winners will be honored on the IverCare.com website in January 2004, in the January 2004 issue of "Horse Illustrated" and in the January 2004 issue of "Young Rider" magazine. Rebecca was the only youth finalist and she thanks Georgia 4-H for supporting her and voting for her. You can read highlights of Rebecca's entry at **http://www.ivercare.com/pr/bryfinalists.htm.** **CONGRATULATIONS REBECCA!**

* *

GEORGIA HORSE FAIR 2004
January 9, 10 and 11, 2004
Georgia National Fairgrounds and AgriCenter
Perry, GA

Don't miss any of the excitement! Weekend passes are available for only$15!! Individual tickets will be $10 per day with children under 10 admitted free of charge. Family passes allow two adults and two children under 16 in for the weekend for only $20!

Remember our free early bird shopping spree on Friday night. Come visit our vendors early for the best selection! The Georgia Professional Farriers Association will be available for consultation if you want to bring your horse! Look for more details closer to the Fair!

Need more information? Check the website for the most up to date information and complete schedule of events. **www.GeorgiaHorseCouncil.com** 770-922-3350, 1-800-922-0145 **Info@GeorgiaHorseCouncil.com**.

HORSE REPRODUCTION SHORT COURSE SERIES REGISTRATION FORM

☐ Mare Care and Reproduction $375.00 ea. = _____

☐ Stallion Management and Reproduction $375.00 ea. = _____

☐ Attend Both Short Courses $550.00 = _____

☐ Farms with Two or More Persons (10% Discount Per Registration Fee) = _____

☐ **TOTAL** = _____

NAME _____

ADDRESS _____

CITY _____ ST _____ ZIP _____

PHONE ( ) _____

BREED INTEREST _____

Return check made payable to **Georgia 4-H Foundation** and registration form to:

Horse Short Courses, c/o Dr. Gary Heusner, Edgar L. Rhodes Center for Animal & Dairy Science - UGA - Athens, GA 30602-2771

Mandatory Country of Origin Labeling of Beef, Lamb, Pork, Fish, Perishable Agricultural Commodities, and Peanuts

Charles A. McPeake
Extension Beef Specialist

The COOL governance is a proposed rule. It is to require retailers to inform consumers of the country of origin of covered commodities beginning September 30, 2004. This information dealing with COOL has been extracted from Federal Register Vol. 68, October 30, 2003.

The intent of this law is to provide consumers with additional information on which to base their purchasing decisions. It is not a food safety or animal health measure. COOL is a retail labeling program and as such does not address food safety or animal health concerns. Food products, both imported and domestic, must meet the food safety standards of FSIS and/or the Food and Drug Administration (FDA), as applicable. In addition, all food products must also meet FDA labeling standards as well as all other applicable FDA regulations and standards.

The law defines the term "covered commodity" as muscle cuts of beef (including veal), lamb, and pork; ground beef, ground lamb, and ground pork; farm-raised fish and shellfish; wild fish and shellfish; perishable agricultural commodities (fresh and frozen fruits and vegetables); and peanuts. The law defines the terms "retailer" and "perishable agricultural commodity" as having the meanings given those terms in PACA (Perishable Agricultural Commodities Act of 1930).

The law specifically outlines the criteria a covered commodity must meet in order to bear a "United States country of origin" declaration. In the case of beef, lamb, and pork, the covered commodity must be derived from an animal that was exclusively born, raised, and slaughtered in the United States.

In summary, the Farm Security and Rural Investment Act of 2002 (Farm Bill) and the 2002 Supplemental Appropriations Act (Appropriations Act) amended the Agricultural Marketing Act of 1946 (Act) to require retailers to notify their customers of the country of origin of covered commodities beginning September 30, 2004. The law also requires the Department of Agriculture (USDA) to issue regulations to implement a mandatory country of origin labeling (COOL) program not later than September 30, 2004. Covered commodities include muscle cuts of beef (including veal), lamb, and pork; ground beef, ground lamb, and ground pork; farm-raised fish and shellfish; wild fish and shellfish; perishable agricultural commodities (fresh and frozen fruits and vegetables); and peanuts. This proposed rule contains definitions, the requirements for consumer notification and product marketing, and the recordkeeping responsibilities of both retailers and suppliers.

DATES: Comments must be submitted on or before December 29, 2003 to be assured of consideration.
ADDRESSES: Send written comments to: Country of Origin Labeling Program, Room 2092-S;

Agricultural Marketing Service (AMS), USDA; STOP 0249; 1400 Independence Avenue, SW.; Washington, DC 20250-0249; or by facsimile to 202/720-3499, or by e-mail to ***cool@usda.gov.*** State that your comments refer to Docket No. LS-03-04. Comments received will be posted to the AMS Web site at: ***http://www.ams.usda.gov/cool/.*** Comments sent to the above location that specifically pertain to the information collection and recordkeeping requirements of this action should also be sent to the Desk Officer for Agriculture, Office of Information and Regulatory Affairs, Office of Management and Budget (OMB), New Executive Office Building, 725 17th Street, NW., Room 725, Washington, DC 20503.

FOR FURTHER INFORMATION CONTACT: Robert Keeney, Deputy Administrator, Fruit and Vegetable Programs, AMS, USDA, by telephone on 202/720-4722, or via e-mail at: ***robert.keeney@usda.gov****;* or William Sessions, Associate Deputy Administrator, Livestock and Seed Program, AMS, USDA, by telephone on 202/720-5705, or via e-mail at: *william.sessions@usda.gov*.

Dates to Remember

February 12-13, 2004	Horse Reproduction Short Course - Mare Care and Reproduction
February 19-20, 2004	Horse Reproduction Short Course - Stallion Management and Reproduction
February 20-22, 2004	National Youth Horse Leaders Symposium, Irving, TX

Ractopamine For Finishing Cattle

Ronnie Silcox
Extension Animal Scientist

The Food and Drug Administration approved Optaflexx earlier this year. Optaflexx is the trademark for Elanco Animal Health's feed additive containing ractopamine hydrochloride. At the time this is being written Optaflexx is not on the market, but should be available in the near future.

Optaflexx is approved for feeding to finishing cattle in the last 28 to 42 days of the finishing period. Optaflexx claims to increase rate of gain, feed efficiency and red meat yield, since ractopamine hydrochloride causes the animal to shift energy use to muscle growth.

Based on Elanco data, the following would be expected from steers fee Optaflexx during the last 28 to 42 days of the finishing period:

improved gain of 10 to 21 pounds
increased carcass weights by 6 to 18 pounds
14 to 21 percent increase in feed efficiency
0.4 percent increase in dressing percentage
0.5 sq. in. increase in rib eye area
no effect on 12^{th} rib fat thickness
no effect on marbling score.

Paylean is approved for use in Swine. Both Optaflexx and Paylean contain ractopamine hydrochloride, however the concentrations are different in the two products. It is illegal to use Paylean in any species other than cattle. Optaflexx is not approved for use in breeding heifers or bulls.

Optaflexx is a new product that will be coming on the market very soon. The same precautions should be used with it as with any other animal health product:

READ THE LABEL !
Mix and handle according to label directions.
Use at the proper rates.
Use only on the species and type of animal indicated.
Observe withdrawal times.

More information on Optaflexx can be found at http://www.optaflexx.com.

Does it Pay to AI?

Timothy W. Wilson
Extension Animal Science - Beef Cattle

Technology such as artificial insemination (AI) has accelerated the ability of beef producers to improve the overall production potential of their operations. Artificial insemination is the easiest means of incorporating superior genetics into an operation without having to purchase and maintain expensive bulls.

Costs associated with AI can seem hazy or unclear but can be reasonable depending on the individual needs of each operation. A University of Kentucky trial performed by Anderson et al. (2003) used 351 crossbred cows divided into two treatments. Cows in treatment 1 (n = 251) were estrous synchronized using the Co-Synch protocol and were bred using fix-timed AI. Ten days after the completion of AI, all cows were exposed to natural service for 50 days. Treatment two (n = 100) cows were bred by natural service for 60 days. Data collected from this trial were compared to determine the cost differences between these two treatments.

All costs associated with AI for this trial were recorded to determine cost per pregnancy (Table 1). This trial determined that estrous synchronized AI cows improved revenues by producing more weaned calves approximately 10 days earlier in the calving season compared to the natural service group (Table 2). Through the use of genetics and age of calf, cows that were AI'ed produced weaning weights that were an average of 72 lbs heavier than natural service calves (Table 2). At the time this research was performed, $80.00 cwt was an understood market value and could be adjusted to the improved prices of $100.00 - 110.00 cwt that might be seen in the market in recent months. This research reports that with increased weaning weights and having 9% more calves weaned in the calf crop approximately $99.62 could be generated from the $80.00 cwt price. Subtract the cost of AI and total returned revenue from this trial was $69.74.

Does it pay to AI? Although this trial demonstrates that improved profits can be achieved through artificial insemination, producers should be careful of costs associated with AI. Variables such as mileage and overnight hotel cost can dramatically change the technician costs. Other variables can also change the cost of AI reversing gained revenue into impossible break-evens.

Advances in recent years with estrous synchronization and AI have allowed for improved success among beef producers. Using these tools to reach predetermined market endpoints will help producers in today's cattle market to become the leaders in the future. If you have any questions regarding the costs associated with estrous synchronization or artificial insemination, please feel free to contact your local county extension agent, veterinarian or contact me at twwilson@uga.edu.

Table 1. Cost of Artificial Insemination

Item	Cost per Cow
GnRH	$4.00
Prostaglandin	$4.00
Technician	$5.00
Semen	$10.00
Labor[1]	$2.88
Total	**$29.88**

[1] 8.6 hours X 3 working days X 4 workers X $7.00 per hour for 251 cows

(Reprinted with permission from Anderson et al., 2003)

Table 2. Results of Short-Term Estrous Synchronization AI Trial

	SYNC	NAT	Diff
Cows	251	100	
Calving Rate	90%	81%	**9%**
% Calving 1st 30 days	85%	62%	**23%**
Mean Julian date of calving	74	84	**10 days**
% Calf Crop Weaned	88%	79%	**9%**
Weaning Age	210	200	**10 days**
Weaning Weight	576.9	504.8	**72.6 lbs**
Lbs. Calf weaned/cow exposed	507.9	398.4	**109.5 lbs**

(Reprinted with permission from Anderson et al., 2003)

Table 3. Increased Revenues from Estrous Synchronization AI

	Revenue		
Weaning Weight	72.6 lbs X $80 cwt	=	$58.08
% Calf Crop	9% more calves X $80 cwt	=	$41.54
Total Revenue	.		$99.62
Return on Investment	$99.62 - 29.88	=	**$69.74**

(Reprinted with permission from Anderson et al., 2003)

Feeder Design Affects Hay Wastage

Johnny Rossi
Extension Animal Scientist

Harvested feed is the largest single expense for a beef cattle operation. Large round bales are the primary winter feed for most operations. Hay is expensive to produce and waste must be kept to a minimum. Feed costs are the second most important variable influencing profitability behind reproduction. Therefore, hay wastage during feeding can greatly affect profitability.

Cows can easily waste 30 to 50% of a hay bale when there is no barrier between the cow and the bale. Ring feeders have long been used to decrease waste when feeding large round bales. Michigan State researchers compared feed wastage of large round bales (4x5) with four different feeder designs. The designs were a ring feeder, cone feeder, trailer, and cradle-type feeder. The cone feeder is a ring feeder that has a cone in the center that the bale is placed in. The bales were weighed before feeding and all hay that was on the outside of the feeder design was weighed once daily and considered to be waste. Twenty cows had access to a feeder at one time.

The percentage of hay wastage was 3.5% for the cone feeder, 6.1% for the ring feeder, 11.4% for the trailer, and 14.6% for the cradle-type feeder. To demonstrate the cost savings of the cone feeder, consider the costs of feeding hay priced at $70 per ton to a 1200 lb lactating cow for 150 days. Increased wintering costs per cow would be $4 for the ring feeder, $12 for the trailer, and $17 for the cradle feeder. A trial conducted at Penn State University showed a more significant advantage for the cone versus ring feeder. Cows wasted 1.9% of the hay in the cone feeder and 8.0% in the ring feeder. The cone feeder appears to be the best option to keep hay wastage to a minimum.

Lower hay wastage for the ring feeder designs may be due to the cows being positioned in a natural grazing position when eating. When eating hay from the cradle and trailer feeders, cows wasted more hay by tossing it over their backs and along the side of the feeder. In addition, the cone and ring feeders force cows to reach for hay more than the cradle and trailer feeders. Forcing cows to reach for hay has been shown to reduce hay wastage by discouraging cows from backing away from the feeder when eating. The amount of hay cows actually ingested each day was not different among the feeder designs. Therefore, feeder design should not affect cattle performance. However, feeder design can have a significant affect on wintering feed costs.

Estimating Body Weights of Horses Using Body Measurements

Dr. Gary Heusner
Extension Equine Specialist

Feeding recommendations, deworming dosages and medication doses are based on body weights of the horse so that the horse is not over/under fed, over/under dosed or over/under medicated. However, most horse owners and managers do not have access to livestock scales or scales specifically designed to weigh horses. Consequently the two most commonly used methods of estimating a horse's weight are done using body measurements. The two methods employed are the use of 1) commercially available weight tapes which uses heart girth circumference alone and 2) weight estimation formulas which use heart girth circumference, body length measurements and a constant to estimate body weight. The formula most commonly used is:

Estimated Weight (lbs) (Kg) =

$$\frac{(\text{Heart Girth}^2 \times \text{Body Length})}{(330 \text{ inches}), (11880 \text{ cm})}$$

Heart girth measurements are taken by running the tape around the circumference of the horse, directly behind the shoulder, crossing over the highest point of the withers that keep the tape perpendicular to the ground. Body length is measured from the point of the shoulder, straight back along the horse's side to the point of the buttock. The point of the buttock is defined as half the distance from the widest point of the stifle to the tail.

Figure 1 below is a schematic of the description.

Researchers at Texas A&M University looked at the usefulness of the above WEIGHT ESTIMATION FORMULA to determine how accurate this formula actually was in estimating weights across different ages of horses. Ninety three horses were used and grouped according to age. The groups consisted of weanling horses (Group A), yearling horses (Group B) and horses two years old and older (Group C). Horses were measured by two different data collectors as described above with one of the two data collectors identifying the points of the shoulder and buttocks on each horse.

The Researchers found the formula using both heart girth circumference and body length was more accurate ($P < .001$) than the commercial weight tape to estimate body weight when all horses were grouped together. Although more accurate, the formula was different ($P < .005$) than the actual scale weight when all horses were grouped together. However, the formula was not different ($P < .05$) than the actual weight for group C (horses two years old and older). Additionally the formula method was more accurate ($P < .001$) than the commercial weight tape in estimating weight for group B (yearling horse). The formula was, however, different ($P < .001$) than the actual weight. The commercial weight tape was more accurate ($P < .001$) than the formula in estimating weight for group A (weanlings), yet still different than the actual weight. However, when a constant (280 inches, 10080 cm) was derived the formula method was more accurate ($P < .001$) at estimating weight than the commercial weight tape for group A, and was statistically similar ($P < .05$) to the actual scale weight.

Therefore the formula given by Hall of:

Estimated weight (lbs) (kgs) =

$$\frac{(\text{Heart Girth}^2 \times \text{Body Length})}{(330 \text{ inches}), (11880 \text{ cm})}$$

works well for estimating the weights of mature horses. Whereas estimating the weights of weanlings the constant should be changed in the formula so the formula becomes:

Estimated weight (lbs) (kgs) =

$$\frac{\text{Heart Girth}^2 \times \text{Body Length}}{(280 \text{ inches}), (10080 \text{ cm})}$$

However, any formulas or heart girth tapes are not 100% accurate. If you have a number of horses and especially if you operate a breeding or boarding facility livestock scales capable of weighing horses should be considered a necessary piece of equipment.

Market New Branch
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Market News
GEORGIA LIVESTOCK

Agricultural Building
Atlanta, Georgia 30334

WEEK ENDING: The Cooperative Extension Service would like to thank Terry Harris for submitting this information.

GEORGIA CATTLE: RECEIPTS: 13,200 LAST WK 13,400 YEAR AGO 14,700

FEEDERS	STEERS	MED & LARGE 1	HEIFERS
	120.00-130.00	300/350 LBS	104.00-117.00
	112.00-125.00	350/400	100.00-112.00
	108.00-120.00	400/450	95.00-107.00
	100.00-112.00	450/500	90.00-100.00
	94.00-104.00	500/550	86.00-96.00
	90.00-100.00	550/600	83.00-93.00
	87.00-97.00	600/650	81.00-91.00
	85.00-95.00	650/700	80.00-89.00

SLAUGHTER COWS % LEAN		
	75-80% 850-1200 LBS	48.00-53.00
	80-85% 850-1200 LBS	49.00-58.00
	80-86% OVER 1200 LBS	49.00-61.00
	85-90% 800-1200 LBS	44.00-54.00

5 Area Daily Wtd Average - Texas/Oklahoma; Kansas; Nebraska; Colorado; and Iowa/So Minnesota Feedlots:
Steers...Select/Choice 65-80% Weighted Average Price Range 99.00-103.50
Heifers..Select/Choice 65-80% Weighted Average Price Range 97.00-99.50
By-Product Drop Value (Steer)...Hide and Offal Value 10.00 /cwt.
Box Beef Cut-Out Value Choice 1-3 550/750 LBS. 166.32
Select 1-3 550/700 LBS. 148.24

Georgia Hogs: GA-FL-AL Direct Area Receipts 2.00 lower Trends 1.50 lower
US 1-2 220/260 LBS. 32.00-34.00 Sows 300/500 LBS. 22-26 500-UP 26-30

FEEDER PIGS	GEORGIA	TENNESSEE		GEORGIA	TENNESSEE
US 1-2 35/40 LBS.			55-60		
40/45			60/65		
45/50			65/70		
50/55			70/80		

IOWA-SOUTHERN MINNESOTA DIRECT HOGS: RECEIPTS _____ TRENDS weak
BARROWS & GILTS 49-51% LEAN 185 LB CARCASSES RANGE 37.50-51.00 WTD AVG. 48.10