BEEF CATTLE COMMENTS

VOLUME 18 NUMBER 1, March, 2008

Prepared by: Mike Baker, Beef Cattle Extension Specialist, Cornell University

Phone: 607-255-5923
Fax: 607-255-9829
E-mail: mjb28@cornell.edu
Web page: www.ansci.cornell.edu/beef/

1. BULLS GROWING AND GAINING ON THE NY BULL TEST

Each year, beef producers analyze their bull calf crop, picking out their best male calves to be competing in the New York Genetic Improvement Bull Test Program. Producers from New York and surrounding states are eligible to consign one or more bulls to this program. After weaning and a preconditioning health program, they are delivered to Erwindale Farms, in Waterloo, early November.

Upon arrival, the bulls are weighed, tagged, health checked and co-mingled with their contemporaries. They are fed as a group with a "start-up" period prior to the official start of the test. The test runs for 112 days, with the bulls being weighed every 28 days.

The 2nd weigh period was on 1-17-09. There are 39 bulls on test: 16 Angus, 2 Hereford, 12 Red Angus, and 9 Simmentals consigned by 18 different producers.

New York Beef Producer's Association Bull Test-56 day report

Breed[1]	AN	AR	HP	SM
N	16	12	2	9
Initial wt, lb	750	748	730	788
Dec. 20 wt. (28 DOF), lb	845	844	800	898
Jan. 17 wt (56 DOF), lb	970	956	876	1003
Period ADG, lb	4.5	4.0	2.7	3.8
Cumulative ADG, lb	3.9	3.7	2.6	3.8
WPDA	2.9	3.1	2.7	3.1

[1]Breed AN=Angus; AR=Red Angus; HP=Polled Hereford; SM= Simmental

Boasting the highest rate of gain so far is an Angus bull by Rito 112 of 2536 Rito 616, consigned by Equity Angus with a total Average Daily Gain (ADG) of 5.50 lb. The second high ADG was also an Angus sired by AAF Complete Design 131D consigned by JJK Angus, with a 4.79 lb. ADG. Highest in each breed were Red Angus at 4.73 lb. ADG sired by Perks Chateau 309R consigned by Shepard Settlement Farm; Simmental at 4.70 lb. ADG, sired by LECC Dice P3 (Perfect Timing) consigned by Ladybug Farm; and JKW Polled Hereford Farm's Dr World Class 517 10H son with a 3.29 lb. ADG.

Another "measurement" of production is their Weight Per Day of Age (WPDA). All bulls averaged an impressive 3.01 lb. WPDA. Highest WPDA was the Ladybug Farm's LECC Dice P3 son with a 3.71 lb. WPDA. Coming in second was a Red Angus consigned by Erwindale Farm and sired by Foster's Wind Ridge 564, with a 3.58 lb. WPDA. High performing Angus was tied with 3.27 lb. attained by Excelsior Farms' SS Objective T510 OT26 son; and a McCracken Vu's Southern Panhandle 3432 son. The high WPDA bull in the Hereford's was JKW Polled Hereford's Dr World Class 517 10H with a 2.91 lb. WPDA.

There will be a sale on April 25, 2009 at the Empire Farm Days facilities offering "The Cream of The Crop". Be sure to watch for more results as they get closer to graduating from this test. For more information, you can contact Jason TenEyck, 315-246-1359 or

James Brown 31-549-8318, Test Managers. And you can view the individual animal's results at the New York Beef Producers' web site: www.nybpa.org

2. NEW YORK FEEDLOT AND CARCASS VALUE DISCOVERY PROGRAM-56 DAY REPORT

Information taken from the 56 day weigh date is included in the table below. Conventional steers continue to out gain the natural steers. This is due to the lower energy diet required in the natural program which disallows the use of Rumensin. Rumensin reduces the incidence of acidosis on high energy diets.

In January, conventional steers which were determined to have at least 100 days until harvest and/or were projected to have a final body weight of less than 1400 lbs were implanted with Revalor XS™ or Revalor IH™, depending on gender. Implants are formulated and labeled to increase rate of gain and improve feed efficiency. Revalor XS™ is a new product this year which is formulated to provide performance enhancement over the entire feeding period. Intervet Schering/Plough Animal Health donates these products every year.

The weight at which the cattle are projected to reach low Choice, known as Adjusted Final Body Weight (AFBW) was determined by visual appraisal by Debbie Ketchen and me. We base this projection on our appraisal of their mature size (frame score), expected growth rate and degree of fatness.

A Temperament Score was also assigned to each animal using the Beef Improvement Federation Guidelines (see below).

Temperament reflects the ease with which animals respond to handling, treatment, and routine management. Animals with disposition problems are a safety risk to handlers, themselves, and other animals in the herd. Disposition affects handling equipment requirements, operation liability exposure, beef quality assurance, and performance. The scoring system provided below is designed to subjectively evaluate differences in disposition when animals are processed through a squeeze chute.

The first cattle will be marketed during the first part of March, with the majority reaching market in April and May.

If you have any questions or would like to view the cattle, contact Mike Baker, 607-255-5923, mjb28@cornell.edu.

New York Feedlot and Carcass Value Discovery Program, 2008/2009 – 56 day report.

	Steers		Heifers	
Item	Conventional	Natural[1]	Conventional	Natural[1]
N	90	42	28	28
Initial wt, lb	680	494	663	671

Dec. 18 wt (28 DOF[2]), lb	778	569	762	750
Jan 15 wt (56 DOF[2]), lb	894	653	864	837
Period ADG, lb	4.1	3	3.7	3.1
Cumulative ADG, lb	3.8	2.8	3.6	3
Temperament score	1.5	1.5	1.5	1.2
AFBW[3], lb	1242	1067	1149	1203

[1]Cattle in the natural program are not fed an ionophore nor treated with growth promoting implants.
[2]Days on feed.
[3]Adusted final body weight; weight expected to grade USDA low Choice

3. EMPIRE HEIFER DEVELOPMENT PROGRAM – 70 DAY REPORT

Heifers from 12 New York farms are participating in the 10th annual Empire Heifer Development Program (EHDP). The goal of the program is to feed and manage these heifers so that the majority is at the optimal weight for breeding on June 1. Research has demonstrated that heifers which are 65% of their mature weight at breeding will have optimal conception rates. The heifers were delivered on December 7 with an average weight of 545 lb. The average frame score was 5, which equates to a mature cow size of 1175 lb. On average, to reach 764 lb (65% of 1175), they must gain 1.1 lb/day through June 1. Based on the results of the 70 day weight most of the heifers are well on their way to reaching their target breeding weight.

While the number of heifers in each group limits any statistically significant conclusion, it is included for interest sake. Simmental cross and Angus heifers have the highest ADG. Comparing the purebred and crossbred heifers, the advantage goes to the purebred heifers (2.4 lb vs 2.2 lb for purebred and crossbred heifers, respectively).

On April 25 at the site of Empire Farm Days in Waterloo, a selection of these heifers will be offered for sale. Following breeding, another group of these heifers will be offered for sale October 25 in the Cornell Replacement Heifer sale.

For more information contact Mike Baker, Beef Extension Specialist, mjb28@cornell.edu, 607-255-5923.

Empire Heifer Development Program – 70 Day Report

Breed[1]	AN	AR	HP	SM	ANX	LMX	SMX	All
n	57	2	5	6	1	3	4	78
Initial wt., lb	529	586	490	630	662	550	659	545
Jan. 17 wt (70 DOF), lb	700	751	627	777	764	653	858	710
Cumulative ADG	2.5	2.4	2.0	2.1	1.5	1.5	2.8	2.4
Age, mo.	7.4	7.1	6.9	7.8	6.8	7.0	8.1	7.4
Frame score	4.8	4.9	5.1	5.9	5.8	5.7	5.9	5.0

[1]Breed AN=Angus; AR=Red Angus; HP=Polled Hereford; SM=Simmental; X=cross

4. TEMPERAMENT SCORING OF BEEF CATTLE.

Evaluation of the temperament of beef cattle

Score	Description

1- Docile.	Mild disposition. Gentle and easily handled. Stands and moves slowly during processing. Undisturbed, settled, somewhat dull. Does not pull on headgate when in chute. Exits chute calmly.
2 - Restless.	Quieter than average, but may be stubborn during processing. May try to back out of chute or pull back on headgate. Some flicking of tail. Exits chute promptly.
3 - Nervous.	Typical temperament is manageable, but nervous and impatient. A moderate amount of struggling, movement and tail flicking. Repeated pushing and pulling on headgate. Exits chute briskly.
4 - Flighty (Wild).	Jumpy and out of control, quivers and struggles violently. May bellow and froth at the mouth. Continuous tail flicking. Defecates and urinates during processing. Frantically runs fence line and may jump when penned individually. Exhibits long flight distance and exits chute wildly.
5 - Aggressive.	May be similar to Score 4, but with added aggressive behavior, fearfulness, extreme agitation, and continuous movement which may include jumping and bellowing while in chute. Exits chute frantically and may exhibit attack behavior when handled alone.
6 - Very Aggressive.	Extremely aggressive temperament. Thrashes about or attacks wildly when confined in small, tight places. Pronounced attack behavior.

Guidelines For Uniform Beef Improvement Programs. Beef Improvement Federation. 2002-Eighth Edition. www.beefimprovement.org

5. PREPARING FOR CALVING ASSISTANCE

Recognizing normal calving is just as important as knowing when calving is abnormal. If delivery is prolonged, the calf may be born dead or in a weakened condition. Since timing is vital to providing proper assistance, frequent observations are a must.

The most common mistake made is intervening too soon. After studying the natural process, one can see how easy it is to damage a cow and/or calf by interfering in labor too soon. Many people wrongly attempt to pull the calf as soon as feet appear outside the vulva. When the feet first appear, the cervix may still not be fully dilated, and the vagina and vulva have not had a chance to relax to their full extent. Forceful traction or excessive pulling at this point, especially with a large calf, may cause a ruptured cervix or produce a lacerated or torn vagina and vulva, risking the danger of prolapse, fatal bleeding and/or infection.

So the question then is “How do I know when to assist delivery?” Because the length of labor can vary, the best general recommendation is to intervene when no demonstrable progress is seen within 30 minutes. This is not to say that the calf should be delivered but rather to examine the cow and calf to determine if a problem is present. If,

after examination, no problem can be identified, then the cow should be allowed to continue labor unassisted for another 30 minutes.

Appropriate examination technique must be used to reduce the possibility of injury to the vagina and uterus and introducing contamination into the uterus. The cow should be properly restrained to prevent injury to the examiner as well as the cow and/or calf. Restrain the cow with head catch or halter. Tie the tail with light twine to the neck of the cow. A clean, well lighted that is area protected from inclement weather is desirable.

Equipment needs are a clean bucket, several gallons of hot water, soap (for cleaning the cow), disinfectant, obstetrical lubricant, paper towels, obstetrical (OB) chains and handles and plastic sleeves. Add hot water and disinfectant the bucket and place the calving chains and handles in the disinfectant solution.

Cleanliness cannot be overemphasized. Introduction of bacteria by equipment or arms of the person assisting with the calving may reduce fertility of the cow by delaying return to estrus and lowering conception. Scrub the perineal area (around the anus and vulva) and the tail with soapy water. Pour disinfectant water from the bucket to rinse the area. Do not dip dirty hands or towels back into the bucket. When the area is clean, dry with paper towels. Use the remainder of the water in the bucket to wash your hands and arms, then refill bucket with fresh water and disinfectant. If possible use plastic sleeves on examination. This may prevent contact with abortion causing organisms which can infect humans. Apply liberal amounts of an obstetrical lubricant to the sleeves.

The Examination Process

A clear mental picture of the steps in examination is needed. The examination should be performed the same way every time to reduce the possibility of overlooking a potential problem. The examination should be made with specific questions or goals in mind. These include:

- Is the vagina unrestricted and the cervix dilated?

  The examiner should insert a hand into the vagina, palm flat against the vaginal wall and slowly slide forward. When fully dilated, the cervix is barely noticeable as a thickened band at the front end of the vagina. If this band or ridge is definitely felt, it is probably the cervix which is not fully dilated.

- Is the water sac broken?

  If the sac is not broken and the calf is not well into the pelvic canal, it should not be broken as this can actually retard progress and cause danger to the calf. If the sac is broken, determine the amount of fluid and natural lubrication present. The less fluid present and the drier the calf feels, the bigger the potential problem.

- Is the calf in the normal presentation and position?

  The normal anterior presentation and position is the back of the calf facing the back of the cow, head first, both front legs extended with the head lying extended between and resting on them (anterior dorsal sacral). This position is determined by noting 3 things: 1) identify the head, 2) the hooves face down, and 3) the first two joints of the legs (the fetlock and

the knee) bend in the same direction.

The normal posterior presentation and position (backward calf) is the back of the calf facing the back of the cow, tail first, both rear legs extended backward (posterior dorsal sacral). This position is determined by noting 3 things: 1) identify the tail, 2) the hooves face up, and 3) the first two joints of the legs (the fetlock and the stifle) bend in the opposite direction.

- Can the calf pass through the pelvic canal?
  This is often the most difficult question to answer, but is one of the most critical. To help answer this question, some simple "test for delivery" can be utilized.

There are 3 tests for delivery that can be utilized for a calf in the normal, head-first presentation. The first test is based on the assumptions that the cow is in Stage II of labor, the calf's head has not entered the pelvis, and the calf's fore limbs are extended.

- First test for delivery
  A separate OB chain is placed on each fore limb. Pull on both OB chains simultaneously with approximately 200 pounds of force (the strength of 1 adult). The fore limbs are pulled through the maternal pelvis and the calf's head should fully engage the pelvis. This is denoted by the poll of the calf's head fully entering the bony pelvis. If the head does not fully engage the pelvis, the first test has failed.

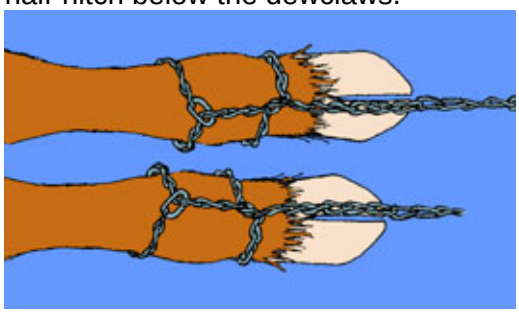
  There is a variation on this test. If the head fails to enter the pelvis, traction can be placed on the head via eye hooks or a head snare. Consideration should be given to the experience and skill of the operator.

- Second test for delivery
  Recognize that in many dystocias encountered, the head and limbs will have entered the pelvis, thus passing the first test for delivery. If this is the case, proceed with the second test.

  With OB chains on each limb, pull on one limb with approximately 200 pounds of force (the strength of 1 adult). Continue to pull until the limb is extended as far as possible. The first joint of the limb (fetlock) should extend at least one hand's width beyond the vulva. If the cow is lying down, the down limb is extended first. If the limb cannot be extended one hand's width beyond the vulva, the second test for delivery has failed.

Placement of OB Chains

Use a double half-hitch – loop the chain above the fetlock and place a half-hitch below the dewclaws.



- Third test for delivery

  Once the first limb is extended, it's position is held and the other limb is pulled with the force of up to 2 people (approximately 400 pounds). The first joint of this limb (fetlock) should extend at least one hand's width beyond the vulva. If this second limb cannot be extended one hand's width beyond the vulva, the third test for delivery has failed.

If any one of the three tests for delivery fails, the delivery may be difficult and veterinary expertise is probably needed. If all three tests for delivery are accomplished successfully, attempts to deliver the calf can continue.

Outcome of the Examination

After completing the examination, the following outcome assessments should be made:

1. I have made the necessary corrections and the calving is progressing
2. I don't know the problem I am facing.
3. I know the problem and the solution, but I am unable to handle it.
4. I know the problem and the solution, but I have been unsuccessful in correcting it within 15 minutes.

At this point, it is easy to determine if veterinary assistance is needed and if it is needed, do not delay as it could place the calf and/or cow in jeopardy.

Source: Dr. Bob Larson, DVM Kansas State University

6. FEEDER'S CORNER

a) Lung Adhesions: The Invisible Cost

When cattle get sick, it hurts performance and quality. But its not always easy to tell those cattle from the healthy ones. Cattle with chronic pneumonia can cost producers nearly $80 per head, without showing signs of illness.

The loss of gain would be the biggest cost, and then loss in quality grade would come in second, said Darrell Busby, Iowa State University (ISU) Extension beef specialist. The third loss would be in treatment cost.

ISU and Certified Angus Beef LLC (CAB) analyzed six years of health data from the university's feed-out program. Of nearly 27,000 head in the Tri-County Steer Carcass Futurity (TCSCF), 4% had lung adhesions.

It's showing us chronic pneumonia with that lung adhering to the rib cage, Busby said. At the packing plant, they have to literally take a knife and cut the lung away from the rib cage.

Since it is not routinely part of carcass data collection, many feeders may have no idea when their cattle have lung adhesions.

We had a load of cattle in the plant and the kill floor supervisor came over and said, I want to show you this lot of cattle that have really bad lungs, Busby said. It was taking them more labor to harvest those cattle and they had increased trim loss, so Busby

decided to start collecting the data to see what difference it made to producers.

As it turns out, the effect is huge. Average daily gain (ADG) decreased from 3.3 pounds (lb.) per day on the healthy cattle to 3.1 lb. per day on the cattle with lung problems.

Quality also suffered. The majority graded 68.8% Choice and above, but that dropped by more than 8 points in cattle with lung adhesions. On cattle eligible for the *Certified Angus Beef* (CAB) brand, average acceptance rate was 20.9%, compared to only 14.9% in those with lung adhesions.

It also increases your discount cattle, your Standards, Corah said. Those are huge discount cattle with $15 to $20 per hundredweight (cwt.) in carcass costs.

More than 73% of cattle with lung adhesions went untreated in the feedyard.

That can relate to two things, he said. Either their sickness was missed during the feedlot phase or health problems occurred prior to the feedlot.

All cattle with lung problems lost performance and quality grade, but the treated cattle fared worse than non-treated. Percent Choice or better was 10 points lower, and CAB acceptance was cut in half among the treated cattle, compared to non-treated with lung adhesions. This much more dramatic impact on those that were treated suggests they were very seriously sick cattle, Corah said. Or the non-treated cattle got sick earlier in their lifetime.

That tells me those cattle had likely been challenged before and probably weren't challenged in the feedlot, Busby said. That's why they gained better and had better quality grades than the treated calves with lung adhesions.

The TCSCF has strict vaccination and preconditioning protocols.

In principle, these should be lower-risk cattle than industry averages, Corah said. Even so, we see the tremendous economic consequences of health problems when they occur.

Busby explains that the programs setup makes it somewhat unique.

These people are retaining ownership, so its in their financial interest to get the cattle properly vaccinated, weaned and preconditioned. Ultimately, they're the ones that pay the bill, he said. If were at 4.1% lung adhesions, my guess is that the industry would be higher than that.

Other research in the project showed cattle treated twice for disease had 14% mortality rate and had a treatment cost of $54.07. That compared to a death loss of nearly zero on non-treated cattle and 5.49% on those treated just once.

Health problems are huge challenges for feedlots because these are costs that go above and beyond the daily operation of feeding cattle, Corah said. In addition to veterinary expenses, sick cattle require extra labor inputs, he explains.

Those treated twice for disease also suffered an 18 percentage-point drop in cattle grading Choice and above. CAB decreased from 21.4% to 14.8%.

Release provided by CAB.

b) Effects of Direct-Fed Microbial Products on Yearling Steer Performance

There are a number of direct-fed microbial products available for use in feedlot diets. In this West Texas A & M Univ. study, 200 crossbred yearling steers (795 lb) were allotted to either one of two different dietary treatments: 1) Diet top-dressed with tap

water only (Control); or 2) Diet top-dressed with Micro-Cell LA for 28 days followed by Micro-Cell PB from day 29 to harvest at day 140 (LA/PB). Micro-Cell LA contains *Lactobacillus acidophilus*, while Micro-Cell PB contains *Propionibacterium freudenreichii.*

There were no differences between treatments in performance traits during the first 28 days. Furthermore, overall performance from day 1 to day 140 was not affected by treatment. Carcasses from Control steers had slightly greater external fat thickness than LA/PB steers (0.51 vs. 0.47 in.). However, there were no differences in other yield grade or quality grade attributes (Brown et al. 2006. Beef Cattle Research in Texas. The Texas A & M. Univ. System).

7. EXPECTED PROGENY DIFFERENCES ARE COMPARABLE TO REALIZED PROGENY DIFFERENCES

University of Kentucky and University of Florida researchers conducted a summary of many previous studies that compared expected progeny differences (EPDs) with actual realized progeny differences for various beef cattle traits. The summary involved data from six breeds: Angus, Brangus, Charolais, Limousin, Polled Hereford, and Simmental. Traits were: birth wt. (BWT), weaning wt. (WWT), yearling wt. (YWT), marbling (MAB), carcass wt. (CWT), fat thickness (FAT), loin eye area (LEA), percent lean yield (% LY), milk (MLK), maternal (MAT), and scrotal circumference (SC). Following is a summary:

- Realized progeny differences agreed well with EPDs for BW and WW, but for YW, realized tended to be greater than EPD, especially when YW was the primary sire selection criterion.
- Relative to sires with low EPDs for MAB, CWT, FAT, LEA, and % LY, sires with high EPDs sired progeny with higher MAB scores and greater CWT, FAT, LEA, and % LY.
- Sires with high EPDs for MLK and MAT sired daughters that produced more milk and weaned heavier calves than sires with low EPDs.
- Sires with high EPDs for SC sired daughters that reached puberty earlier.

The authors noted that the similarity between expected and realized progeny differences should be greater when high EPD accuracy sires are used, but when a small number of low accuracy yearling bulls are used, expected results may not be realized (F.A. Thrift and T.A. Thrift. 2006. Prof. Anim. Sci. 22:413).

8. TO DO MARCH/APRIL

A. Calving season is here or fast approaching. Do you have the following items:
   1. Frozen colostrum
   2. Calf pulling equipment.
   3. Stomach tube, thermometer, dry towels.
   4. Ear tags, navel dip (7% iodine).
   5. Selenium, Vitamin A&D injections.
   6. Castration and dehorning equipment.

7. Therapy for scours and respiratory problems.
8. VETERINARIAN'S PHONE NUMBER.

B. Practice good calving management:
   1. Provide clean dry area for calving. Clean, frozen or snow covered pasture protected from the wind works well.
   2. If calving in a barn, keep area well cleaned and bedded. Barns, while comfortable for the manager, are a great place to harbor disease organisms that increase throughout the calving season.
   3. Make sure calf consumes 1.5-2.0% of its body weight (1-2 quarts) of colostrum within 4-6 hours.
   4. Be prepared to provide fluids to scouring calves that become dehydrated. Consult veterinarian for advice.

C. Plan spring fertilizer needs. Mid to late April is an excellent time to apply nitrogen to grass. Consult Field Crop agent at your local Extension office.

D. Prepare for pasture season. How will you control flies this year: tags, pour-ons, back rubbers? It is not recommended to use insecticides furnished in feed or minerals.

E. Get ready for breeding season;
   - If you use A.I. order semen and check your equipment. Be sure breeding corral is in working order
   - If breeding naturally, make sure you have enough bulls: 10-15 cows per yearling bull; 20-25 cows per 2-year old bull; 30-35 cows per mature bull.
   - Have phosphorous source in form of free-choice mineral mix; phosphorous is important for maximum fertility.
   - Yearling British heifers should weigh a minimum of 700 lbs. and continental heifers a minimum of 750 lbs. before being bred.
   - If lactating cows are thin and not cycling, feed more energy.
   - Consult your veterinarian for a vaccination program that meets your needs. At a minimum consider vaccinating for IBR, BVD, BRSV, PI3 and Leptospirosis.

9. PROFIT OPTIMIZATION AND EVALUATION PROGRAMS

a. Cornell Feedlot and Carcass Value Discovery Program

Purpose: Teach cow/calf producers the value of their calves based on performance in the feedlot and on through the packing plant. Calves are accepted in November and fed till their most optimal profit potential during March-July. For more information contact Mike Baker, Cornell Beef Specialist mjb28@cornell.edu, 607-255-5923.

b. Empire Heifer Development Program

Purpose: A management and marketing program for cow/calf producers to evaluate replacement heifer prospects and offer a marketing opportunity for quality heifers. Calves are accepted in December. Heifers can be bred artificially at the heifer rearing facility, or returned home for breeding. Eligible heifers can be sold as open heifers in April or bred heifers in October. For more information, contact Mike Baker, Cornell Beef Specialist mjb28@cornell.edu, 607-255-5923.

c. NY Beef Producers Central Bull Test and Sale

Purpose: To 1) compare individual performance of potential herd sires, 2) provide an opportunity for seedstock producers to market individual bulls, 3) provide a source of bulls for commercial and seedstock herds and 4) provide an educational opportunity for sellers and buyers alike. Bulls are accepted in November. Eligible bulls are sold in April. For more information contact Bull Test Managers Jason TenEyck at 315-539-8031 or Jim Brown at 315-549-8318.