University of Nebraska - Lincoln
DigitalCommons@University of Nebraska - Lincoln

Extended Visions Newsletter of ARDC | Agricultural Research and Development Center

10-1-2007

Extended Visions, September/October 2007

Follow this and additional works at: http://digitalcommons.unl.edu/ardcextendedvisions

Part of the Agriculture Commons

"Extended Visions, September/October 2007" (2007). *Extended Visions Newsletter of ARDC*. Paper 18.
http://digitalcommons.unl.edu/ardcextendedvisions/18

This Article is brought to you for free and open access by the Agricultural Research and Development Center at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Extended Visions Newsletter of ARDC by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

University of Nebraska Lincoln | EXTENDED VISIONS

September/October 2007
Vol. 11, No. 4

A publication of the
University of Nebraska-Lincoln
Agricultural Research &
Development Center and
UNL Extension in Saunders County

In This Issue...

* ARDC Director's Comments
* ARDC FEATURE UNIT - Beef Feedlot
  - About the People
  - Can a Flavor Enhancing Oil Improve Finishing Performance?
  - Comparison of a Long Yearling System and Calf-fed Performance and Economics
  - Effect of Feeding a Byproduct Combination at Two Levels or Byproduct Alone
  - Effect of Distillers Grains Composition and Level on Steers Consuming High Quality Forage
  - Feedlot Research Important to Beef Industry
  - Performance Profile and Carcass Characteristics of Steers Fed Optaflexx
  - Study Examines BRD Control and Receiving Systems
  - Summary Analysis of Grazing Yearling Response to Distillers Grains
* Barnhill Recognized for Service at ARDC
* Calendar of Events
* Have a Happy, Healthy Halloween
* Medical Students Learn About Farm Safety
* Mead FFA Members Educate Public about Avian Influenza

ARDC Director's Comments

Embracing the Future

by Daniel J Duncan, ARDC Director

Recently, I participated in a meeting to discuss new paradigms in planning the direction for some of our research projects. In essence, our assignment was to determine what would be the important issues 15 years from now and begin planning research programs to meet those needs. During the meeting, the following quote was shared:

"A good past is positively dangerous if it makes us content with the present and unprepared for the future." Charles Eliot

This quote began to stick in my head like one of those commercial jingles. I kept thinking about the ARDC and how the authors meaning really serves as a reminder that we cannot ever rest on past successes. When we think about the ARDC, we can all take great pride in what we have accomplished during the past year. Crops look excellent, we have made improvements to livestock facilities, and research projects have gone very well. If we think about the past several years, we can say the same things…we have done well, very well in most cases…we have had "a good past."

As good as our past has been, I believe we can have a brighter future if we continue to improve facilities, employee training, equipment and management schemes to avoid the dangers complacency could breed for our future. I am not sure what those dangers are, but I know we must meld everyone's talents, ideas and energy in such a manner that we are as prepared to change as humanly possible. Our challenges will be great and we must change to meet those challenges.

Sometimes we have an "internal inspiration" that lights a spark and leads us to a brighter future. Sometimes we are so close to a situation we need assistance to become inspired and see our world in a different light. I believe we are at the point where we need an external spark, a fresh perspective, from experienced outsiders to help us think about how we can change operations at the ARDC to prepare for future research needs.

We will soon be announcing the formation of an outside review team to help us see the ARDC in a different light and help us prepare for the future. We need to embrace this activity and not fear potential changes the review team may suggest. We must not be content with our current successes…we must prepare for the future. ❑

Barnhill Recognized for Service at ARDC

A reception was held for Darryl Barnhill, a long-time employee at the Swine Research Area at the ARDC. Darryl is now working with the U.S. Meat Animal Research Center (USMARC) at Clay Center as Swine Unit and Feedmill manager. He had worked at the Swine Research Area since June 1986 and will be missed! ❑

Mark Schroeder, ARDC Associate Director and Farm Operations Manager (right), presented Darryl with a certificate of appreciation at the reception.

Check out the new look and info at the ARDC website at http://ardc.unl.edu. We've reorganized information on the site in an effort to make it easier for you, the end user, to find what you are looking for. We hope you will check out the site to learn more about us! ❑

Feedlot Research Important to Beef Industry

Feedlot articles by Galen Erickson, Associate Professor, UNL Department of Animal Science

The University of Nebraska research feedlot at the ARDC is utilized to test new feeds, new management, and research emerging issues that are important to Nebraska and the Plains feeding regions. Beef cattle and the feedlot industry in particular, is the largest segment of the agriculture industry in Nebraska. Each year, Nebraska finishes approximately five million head of cattle. There are approximately 4,500 feedlots in Nebraska with approximately 770 larger than 1000 head capacity. The beef industry accounts for $6.5 billion in cattle sales with an estimated total economic impact of $12.1 billion which is the main reason agriculture is the #1 industry in Nebraska.

The beef feedlot conducts research on 2,500 steers throughout the year.

There are many strengths in the beef nutrition and management area at the University of Nebraska. The feedlot and equipment at the ARDC continue to improve, renovate, and expand. However, the most important asset to the research feedlot is the employees at the ARDC. The employees are outstanding, work on numerous projects, and have stringent work hours. Because of animal care, employees are needed daily, including holidays and weekends to care for cattle. Faculty oversight of the facility at the ARDC is by Galen Erickson and Terry Klopfenstein.

Currently there are 118 feedlot pens utilized for research. A 48-pen expansion is currently under construction near the individual feeding barn. Eighteen pens have been completed.

A new cattle handling facility was recently added by renovating the barns near the individual feeding facility. Current pens and infrastructure are also continually renovated. Future plans include finishing the expansion by building the fences, purchasing new feeding equipment as needed, and renovating existing pens at the south feedlot.

It will also be necessary to enhance commodity storage of feeds, particularly wet byproducts. There are more and more options for different feedstuffs in commercial feedlots, which means the University will need to continue to be able to test many different types of feeds and combinations.

The facility renovation was possible mainly through the use of grant dollars, with some financial support from the university foundation and donations. The facility is run using grant dollars from industry and government sponsors that provides operating dollars and helps offset the added expenses of conducting research.

Each year, 2,500 steers are purchased in the fall as weaned calves for research conducted throughout the year.

FEATURE UNIT - BEEF FEEDLOT Cont. on P. 2

It is the policy of the University of Nebraska-Lincoln not to discriminate on the basis of gender, age, disability, race, color, religion, marital status, veteran's status, national ethnic origin or sexual orientation.

IANR

FEATURE UNIT - BEEF FEEDLOT - from P. 1

More cattle will not be purchased, even with the expansion, as the pens are needed for research, not more cattle.

Some of these calves are finished as "calf-feds" from November to May. Other cattle that are lighter and smaller framed are "grown" into yearlings and either finished in the feedlot from May to September or after grass research from September to January. Research is ongoing and with the goal of keeping all the pens full with research trials.

All but approximately 25 head for teaching are utilized for research projects. This may include growing research trials during the winter on cornstalks or pasture research during the summer prior to finishing work.

It is critically important to have replicated pens in a research feedlot. For example, generally pen size is only 8 to 10 steers because that is the number required to gather critical performance measures (i.e., dry matter intake, gains, and feed efficiencies). But, if researchers want to test five different treatments, 5 to 6 pens are needed for each treatment. Therefore, for each study, 25 to 40 pens are required depending on the number of treatments. If 10 steers are required in each pen, 250 to 400 steers are needed per experiment.

Generally, there are 3 or 4 large experiments being conducted simultaneously. 120 steers are also individually fed daily in the individual feeding barn, which adds to the workload.

Questions on feedlot research or extension questions related to feedlots should be directed to Galen Erickson at 402-472-6402 or email at gerickson4@unl.edu. More information can also be obtained by visiting the beef website at http://beef.unl.edu. Research articles are posted in a easy-to-read format in the form of the annual beef report publication. Many tours are hosted at the feedlot facility throughout the year and can be arranged by contacting us. ❑

The mission statement for the feedlot at the ARDC is:

1) Conduct nutrition research for the beef cattle industry which includes measuring animal response to a wide variety of feed ingredients and drugs that promote growth and/or prevent disease.
2) Determine the economic value of feed ingredients and systems of production of beef cattle.
3) Provide a research opportunity for academic scientists to gain information and data that are of value to farm and commercial beef producers.
4) Develop information and methods for use in undergraduate and graduate teaching programs.
5) Serve as a facility for use by M.S. and Ph.D. graduate students to conduct research and gain practical experience in feedlot operations.

Numerous areas of research at the beef feedlot are all applicable to the beef industry in Nebraska. These include:

1) Byproduct utilization which include distillers grains and corn gluten feed
2) Nutrient management, particularly methods to lower N emissions from pens and appropriately handle P in manure
3) Food safety, particularly to decrease shedding of E. coli O157:H7 by cattle prior to entering packing plants
4) Grain utilization, including optimum processing, protein requirements, and best hybrids for use with feedlot cattle
5) Optimal growing and finishing "systems"
6) Growth promoting agents such as implants and beta-agonists

Summary Analysis of Grazing Yearling Response to Distillers Grains

The supply of distillers grains (DG) will triple or quadruple in the next few years as the Nebraska ethanol industry grows. The price of DG at the plant has ranged from $70 to 85 per ton this past year. The price of grazing land (or rental cost) has increased steadily over the past several years. The average price for summer pasture in 2006 is about $27.31 per AUM (680 lb dry matter) or about $80/ton.

A UNL research group estimates that DG can be delivered to yearlings on pasture for about $138/ ton dry matter ($120 as is). Therefore, DG would be about 166% the price of grass. However, DG has about 200% the energy value of grass. Therefore, the group hypothesized that it would be economical to supplement DG to yearlings on grass. Members in this research group include: Terry Klopfenstein, Lyle Lomas, Dale Blasi, Don Adams, Walter Schacht, Sarah Morris, Kristin Gustad, Matthew Greenquist, Rick Funston, Jim MacDonald, and Marc Epp.

Eight grazing experiments were summarized reflecting yearling performance when supplemented with 4.0 or 7.5 lbs. distillers grains. Daily gains were increased 0.53 and 0.89 lb./day. Subsequent feedlot performance was not influenced by distillers grains supplementation on grass. In a six-trial summary, each 1.0 lb. of distillers grains decreased forage intake by 0.5 lb. Economic return for each $1.00 spent on distillers grains yielded returns from $1.41 to $1.94. ❑

Comparison of a Long Yearling System and Calf-fed Performance and Economics

There are two major types of cattle production systems. One is an extensive system where cattle are placed in a backgrounding program after weaning and before finishing. The other is an intensive system where cattle are weaned and fed a high concentrate diet until slaughter.

Heavier calves are suited for intensive finishing systems which results in acceptable carcass weights at a quality grade of Choice. If larger framed animals are placed in an extensive production system, animals may become too heavy and produce overweight discounts.

In contrast, lighter, smaller framed animals can be grown for a period of time in an extensive system and still be slaughtered at acceptable weights. Smaller framed animals can enter intensive production systems. However, this leads to lighter carcasses and decreased profitability because of the amount of weight sold. Therefore, the objectives of a study conducted by William Griffin, Terry Klopfenstein, Galen Erickson, Dillon Feuz, and Jim MacDonald were to compare a calf- and a yearling-finishing system by analyzing performance, carcass characteristics, and profitability.

The calf vs. yearling system comparison used data from the University of Nebraska from 1996-2004. Data used in this project are from a calf-feeding or a yearling grow/finish experiments conducted each year except for 1997, where a different yearling production system was used.

Calf- finishing trials beginning in the fall each year were selected for comparisons Calves were sorted from a large pool of animals received during the fall of each year and sorted by weight. Heavier, larger framed steers from this sort were placed into a calf-feeding system. Lighter, smaller framed steers were purchased each year and placed into a yearling finishing system. The calf system represents 804 head of steers fed in 80 pens and the yearling system represents 302 head of steers fed in 18 pens.

Yearlings had higher daily gains compared to calf-feds. However, calf-feds were more effi-

FEATURE UNIT - BEEF FEEDLOT - Cont. on P. 3

Have a Happy, Healthy Halloween!

by Casey Campbell, RD

Now that Labor Day has passed, pools are closed and school is off to a start, many children's minds are beginning to wander to a place filled with ghosts, goblins and sugary, gooey treats. Be aware, it is only the end of September and, already, one cannot walk down the aisle of any grocery store without passing the spooky costumes and the calorie packed Halloween treats. However, having a healthy Halloween is not a contradiction in terms. It is possible to send your little witches and goblins into the holiday without breaking your dental plan!

Halloween can be a time of stress for most parents. Not only do you have to find a way to purchase, or worse make, the newest, coolest action character custom, but, you also have to worry about the safety and health of your little one. Many parents struggle to find alternatives to sending their children out in the dark to gather gooey treats from strangers. Not only do you have to worry about the safety of your child while they are out, but then, you have to make sure all of their findings are safe. And, now to add to your stress, with all of the news on childhood obesity, you have to figure out ways to keep your child from over indulging without creating a battle zone!

So, as parents, what can we do? One idea is to avoid trick-or-treating all together. As you are reading this, I know your jaw just dropped. You are thinking, this woman has no idea what she is talking about. My child would never forget Halloween. However, that is not what I am suggesting. Instead, how about bringing Halloween to your house by having a party for your children and their friends? By doing this, your child would not be walking out in the dark by traffic, you would not have to inspect their candy for dangerous items, and you would be in change of just how much sugar they are ingesting! For example, you could serve snacks such as popcorn, peanuts, and not-too-sweet cookies. You could also serve healthy foods in fun ways. For instance, let your children snack on fresh grapes pretending they are eating scary, monster eyeballs! Or, have a creepy pizza making station. Give each child an English muffin half, and allow them to make a goblin face using pepperoni, mushrooms, olives and peppers. Then provide grated cheese so their faces can have hair or even a mustache! Simply heat the pizzas in the microwave or oven and an easy treat is ready in no time!

However, due to the large amount of work a party can be, another alternative would be to change up your own Halloween give-a-ways. For instance, at your house opt to give away non edible treats. For instance, plastic rings, whistles, rubber spiders and worms, stickers and balloons. Children love to find these treasures mixed in with their candy treats. Also, if non-food treats don't suit your fancy, consider offering non-sweet alternatives. I know what you are thinking. You are remembering back to the days when some strange women would give you a box of raisins and you would frantically try to swap with your siblings for a fun size Snickers bar! After all, what child is going to be excited to come home with a beat up banana or a wheat-germ cookie! However, healthy treats can be fun too. Some examples include, small packs of sugar-free gum, 100% juice fruit snacks, and packages of instant hot cocoa mix. Plus, but offering these, not only will the neighborhood children be given sugary snacks, but they will also be able to enjoy some low calorie, low fat, nutritious options as well!

Finally, to avoid arguments when the temptation of candy is staring them in the face, set up some rules with the kids first, before they head out the door to trick-or-treat. For instance, have a healthy meal together before you head out for the evening. If trick-or-treaters have a full belly, they will be less likely to gorge themselves on candy. Second, be a sport and allow a little extra candy on Halloween night. Keep in mind, you cannot judge your child's over all nutrition off of one night. Third, store candy in a place where the children cannot get to it such as up high in the cupboard. Remember, out of site, out of mind! Lastly, try stick to a "candy schedule" such as two pieces each day for an after school snack or as a dessert after dinner.

The word Halloween does not have to be synonymous with candy. Yes, during Halloween, treats are part of the fun, but as with everything, moderation is key. Remember this and you and your child are sure to have a happy, healthy Halloween! ❑

Casey Campbell is a Registered Dietitian with the Nutrition Education Program in Dodge, Saunders and Washington Counties. The Nutrition Education Program (NEP) is sponsored by the University of Nebraska, Extension and the Nebraska Department of Health and Human Services. NEP is a program designed to teach nutrition education to those on food stamps or those who qualify. If you think you or your family may qualify for NEP and are interested in free nutrition education, please call Casey at (402) 624-8022.

FEATURE UNIT - Beef Feedlot - from P. 2

cient than yearlings. Yearlings produced more weight than calf-feds leading to an improvement in profitability for yearlings compared to calf-feds. There were no differences in yield grade or percentage grading Choice for yearlings compared to calf-feds, even though calf-feds had higher fat thickness compared to yearlings. ❑

Effect of Feeding a By-product Combination at Two Levels or By-product Alone

Wet corn gluten feed (WCGF) has been shown to have 100-110% the energy content of dry rolled corn that it replaces in feedlot diets (2000 Proceedings American Society of Animal Science) and decreased acidosis challenges. Wet distillers grains with solubles (WDGS) has been shown to have a higher energy content compared to corn ranging from 110-160% *(2006 Nebraska Beef Report, pp. 51- 53).*

The goal of UNL's feedlot byproducts research is to find efficient, effective ways to use by-products from the ethanol industry. Galen Erickson (shown above with samples of grain byproducts) is an Associate Professor in the Animal Science Department and works extensively with a team of researchers on these and other feedlot research and education projects.

However, the energy content of WDGS declines at dietary inclusion levels greater than 40% DM, possibly due to high dietary fat levels. A UNL research group consisting of Crystal Buckner, Galen Erickson, Terry Klopfenstein, Rick Stock, Kyle Vander Pol hypothesized that combining WCGF and WDGS would result in an associative effect and higher dietary inclusion levels may be fed to utilize more by-products. Therefore, the objective of this trial was to determine if feeding a WDGS: WCGF combination would be beneficial compared to each by-product alone and if a high by-product blend inclusion would result in better performance than corn-based diets.

A finishing cattle study was conducted to evaluate feeding a by-product combination at two inclusion levels. It was compared with the by-products fed alone or a corn-based diet without by-products. Treatments consisted of 0% by-products, 30% WCGF (wet corn gluten feed), 15% WCGF with 15% WDGS (wet distillers grains with solubles), 30% WDGS, and 30% WCGF with 30% WDGS (dry matter basis).

Final body weight, average daily gain, and feed:gain ratio were improved for cattle fed by-products, including the 60% Blend. No associative effects resulted from feeding WCGF and WDGS in a blend compared to these by-products fed alone. Feed conversion was similar for feeding a by-product blend at 30 and 60% of dietary dry matter. A by-product blend at 30% did not have any additive effects, while a blend at 60% had comparable feed:gain ratio to a blend at 30% with higher gains than the corn diet. ❑

Study Examines BRD Control and Receiving Systems

As a general trend, the percentage of feedlot cattle fed as "calf-feds" relative to yearlings has increased in recent years. The increased trend of calf feeding can be a health management challenge for many feedlots. Administration of appropriate antibiotics to control Bovine Respiratory Disease (BRD) in cattle that are at high risk of developing the disease may be an important management option for producers.

Often feedlots observe their greatest health challenges 10 to 14 days after receiving. In addition, calves transitioning from a pasture-based ranch system to a feedlot can experience multiple stressors that weaken immune function. Receiving calves with a system like their previous ranch environment should reduce calf receiving stress. Therefore, receiving calves with a pasture-based system has the potential to be a less stressful system than feedlot pen receiving.

Virgil Bremer, Galen Erickson, Terry Klopfenstein, David Smith, Kyle Vander Pol, Matthew Greenquist, Dee Griffin, Gary Sides, and Lonty Bryant conducted two experiments in this study. The objective of Experiment 1 was to determine the effect of Excede® at arrival or at revaccination (16-27 days post arrival) on morbidity, mortality, and gain of calves in both feedlot and pasture receiving systems. The objective of Experiment 2 was to determine the effect of pasture vs. feedlot receiving on morbidity and growth performance of freshly weaned calves.

In Experiment 1, no treatment differences were observed for initial or final body weight, or average daily gain. Initial body weight, treatment, receiving system (pasture or feedlot); and buyer of cattle explained the cumulative incidence of bovine respiratory disease (BRD). The incidence of BRD in this study was 4.7%, 11.0%, and 13.8% for arrival, control, and revaccination treatments respectively. The arrival medication effectively reduced BRD incidence. BRD was less (P= 0.02) for pasture receiving than feedlot receiving, averaging 7.4% and 11.0% respectively.

In Experiment 2, BRD was less for pasture receiving than feedlot receiving with 23% and 53% treated for BRD respectively. ❑

More information on the feedlot studies in this issues and other can be found at: http://beef.unl.edu/reports.shtml

Calendar of Events

October

2	Promoting Positive Peer Relationships	8:45-3
3	4-H Council Meeting	7-9 pm
4	Ag Awareness Festival	10-1:30
5	Ag Awareness Festival	10-1:30
9	Ag Awareness Festival	10-1:30
10	Ag Awareness Festival	10-1:30
10	Unit Managers Meeting	1-3
17	PSAT Wahoo High School	8-Noon

November

7	Administration Team Meeting	9-11
7	Onsite Wastewater Certification Training	8-5
8	Onsite Wastewater Certification Training	8-5
9	Husker Beef Nutrition Conference	8-5
14	Unit Managers Meeting	1-3
16	UNMC Agri Medicine Conference Tour and Biofuels Update	9:30-10:30
19	Saunders County Extension Board Mtg	7-10 pm

About the People

The employees at the feedlot have busy schedules keeping research projects on track and cattle cared for.

Josh Benton has been the Feedlot Manager at the ARDC since January 2007. He works with faculty in Lincoln to setup and design research trials and with the feedlot crew to make sure that after a trial is started, the research is carried out correctly. Benton helps coordinate projects and daily activities, gives tours, and also performs many other assorted tasks at the feedlot.

He has worked with UNL since 2003. While working on his Masters Degree, he was the lab technician in the Ruminant Nutrition Lab and in January 2006 became Lab Manager.

Benton has a Bachelors Degree in Animal Science from the University of Tennessee-Martin and a Masters Degree in Ruminant Nutrition from UNL. He is currently in the second year of his Ph.D. studies in Ruminant Nutrition while he is managing the feedlot.

He lives near Waverly. He and his fiance, Jenny Ingwerson, are planning a December 2007 wedding. Benton enjoys hunting birds, ducks, and geese in his spare time.

Front Row: Josh Benton, Allison Miller, and Ken Rezac.
Back Row: Dan Malousek, Bryan Machovec, Matt Sillivan, and Doug Watson.

Doug Watson has been Assistant Manager at the feedlot since fall 1999. He lives near Ceresco. Watson is responsible for the day-to-day management of the staff at the feedlot. Much of his time is spent planning projects and ordering supplies. Watson ensures that the feedlot is ready to start new research projects, conducts follow-up and keeps current projects moving along.

Ken Rezac, Head Feed Truck Driver, started in the fall 1978. He and his wife, Carolyn, live in Fremont and have two daughters. Rezac is responsible for ensuring that the appropriate feed is delivered to the right pen on time. Rezac is in charge of all of the hay that is fed at the feedlot. This job duty also includes the task of ensuring there is enough hay and that the right hay is ground correctly and dry. Rezac's hobbies include spending time with family and taking care of his house and garden. He was also the recipient of the 2004 ARDC Employee of the Year Award.

Allison Miller is the Individualized Feeding Barn Manager and began working at the ARDC in 1985. Miller holds an Associates Degree from Nebraska College of Technical Agriculture – Curtis which he obtained in 1978. He and his wife, Laurie have 2 daughters and 3 sons. They make their home in Yutan. Miller is in charge of the day-to-day care of a 120 head individualized feeding barn. The cattle are fed every day by hand and they wear a mechanized collar that only lets them into their own individual bunks. In his spare time, Allison enjoys competitive running and spending time with family.

The animal health technicians at the feedlot are responsible for the day-to-day health of the animals at the feedlot. Each day they observe the animals and treat any that may be sick.

Matt Sillivan started working at the feedlot in the fall of 2001. He treats sick cattle, runs the feed truck on weekends, and assists with construction at the new feedlot. He and his wife, LeAnn, and make their home near Morse Bluff. When not at work, Sillivan assists with the family livestock operation.

Dan Malousek also checks for and treats sick cattle. He started at the ARDC in the fall of 2006. He and his wife, Rachele, live near Prague. Malousek enjoys team roping and working with horses in his spare time.

Bryan Machovec joined the feedlot crew this summer and oversees the feedmill at the feedlot and also operates the feed truck. He has an associates degree in Diesel Technology from Southeast Community College at Milford. He lives on a farm near Wahoo and enjoys hunting, fishing and farming with his father. ❑

Can a Flavor Enhancing Compound Improve Finishing Performance?

The response from increased production and improved feed to gain ratio of many common feed additives results in a return on investment that is favorable for cattle producers. As new feed additives are introduced it becomes critical that biological responses and determinations are made in situations that closely simulate industry settings.

CRINA RUMINANTS AF is a flavor enhancer derived from essential oil compounds with various claims such as, appetite stimulant, digestion stimulant, and antioxidant. A research group consisting of Nathan Meyer, Galen Erickson, Terry Klopfenstein, Matthew Greenquist, Peter Williams, and Riccardo Losa conducted a study to determine the effects of Rumensin®, Tylan®, and CRINA on performance measurements and carcass characteristics of finishing beef steers.

Three-hundred seventy six crossbred yearling steers were fed one of four treatments: (1) Control (CON), (2) CRINA RUMINANTS AF (CRINA), (3) CRINA RUMINANTS AF plus Tylan® (CRINA + T), and (4) Rumensin® plus Tylan® (RUM + T). The objective was to determine the potential of an essential oil additive to improve steer growth performance and carcass characteristics. There were no differences in Final body weight or average daily gain between treatments.

Steers fed RUM + T had lower dry matter intake than other treatments and feed:gain ratio was improved for the CRINA + T and RUM + T fed steers compared with CON steers. Treatments containing Tylan® had significantly fewer liver abscesses as compared to the other treatments. The addition of CRINA RUMINANTS AF plus Tylan® or Rumensin® plus Tylan® improved feed:gain ratio and decreased liver abscesses compared to no additives. ❑

Effect of Distillers Grains Composition and Level on Steers Consuming High-Quality Forage

Supplementing forage with dried distillers grains (DDG) decreases forage dry matter intake and increases average daily gain *(Morris et al., 2005 Nebraska Beef Report, pp. 18-20; Morris et al., 2006 Nebraska Beef Report, pp.30-32).* This allows producers to increase the carrying capacity of pastures, and expand current production without increasing the amount of land devoted to grazing. Although the forage replacement value of DDG has been researched, the importance of supplemental DDG composition has not. Of concern is the variability of DDG produced both between and within ethanol plants and its impact on animal production measures.

Feedlot studies include a various byproducts feeding studies.

The goal of the current study conducted by Mark Corrigan, Galen Erickson, Terry Klopfenstein, Kyle Vander Pol, Matthew Greenquist, Matthew Luebbe, Kip Karges, and Matt Gibsonwas is to examine the effects of DDG composition at increasing levels of DDG supplementation in steers fed high quality forage.

An experiment was conducted to determine the effects of dried distillers grains (DDG) supplementation level and composition on growing steer performance and forage intake. Factors included DDG supplementation level (0.25, 0.50, 0.75 or 1.00% of body weight), and DDG solubles level (0, 5.4, 14.5, 19.1, or 22.1% DM). Final body weight improved, and forage intake decreased with increasing levels of DDG. An interaction between DDG supplementation level and solubles level was observed on average daily gain and feed:gain ratio and was likely related to supplemental fat levels. Supplementation of forages with DDG improves performance while decreasing forage intake when fat levels are not too great.. ❑

Performance Profile and Carcass Characteristics of Steers Fed Optaflexx

Optaflexx (ractopamine hydrochloride) is a growth promoting feed additive approved for use with feedlot cattle the last 28 to 42 days immediately prior to slaughter. The expected increase in final body weight of feeding 200 mg/steer daily of Optaflexx from Elanco's post approval studies is 14.8 to 17.6 pounds. Market shifts and environmental factors, such as weather, make optimal slaughter dates challenging to predict prior to the start of feeding Optaflexx.

The ability to predict performance changes during the late part of finishing period is important to justify making feeding and management changes to improve performance and carcass characteristics. Currently, there are limited data to evaluate the effects of feeding Optaflexx over time, or to evaluate the effects of Optaflexx when cattle are fed past their projected slaughter date. The objectives of a study conducted by Matthew Greenquist, Kyle Vander Pol, Galen. Erickson, Terry Klopfenstein, William Platter, and Michael Van Koevering were to evaluate 0 and 200 mg/steer daily of Optaflexx fed to steers for the last 28 or 42 days immediately prior to slaughter, and to evaluate how feeding Optaflexx can affect feedlot performance past projected finishing dates.

An experiment evaluated the live body weight response of steers being fed Optaflexx for various durations. The design consisted of two Optaflexx levels (0 vs. 200 mg per steer daily) and two Optaflexx feeding durations (28 or 42 days immediately prior to slaughter). However, Optaflexx was started on the same day (day 151 of the feeding period).

Feeding 200 mg/steer daily of Optaflexx significantly ($P<0.01$) improved final body weight, average daily gain, and feed:gain ratio compared to controls. Feeding 200 mg /steer daily of Optaflexx provided 16.4 and 18.8 lbs. of added body weight above controls for the 28 and 42 feeding duration, respectively, but most (approximately 87%) of this weight gain was within the first 28 days of the time that Optaflexx was fed. ❑

M.E.A.D

Making Education in Agriculture Different

Mead FFA Members Educate Public about Avian Influenza

by Jenny Kocian, Agricultural Sciences Instructor, Mead Public High School

During the Saunders County Fair the Mead FFA lent a hand educating about Avian Influenza by setting up a booth in the animal pavilion. The USDA (United States Department of Agriculture) along with the National FFA Association offered FFA chapters across the US the opportunity to request and distribute materials at local county and state fairs. Several members of the Mead FFA Chapter jumped at this opportunity of agriculture public awareness and volunteered to help man a booth distributing flyers, brochures, calendars, posters, and drinking cups that highlighted information that any poultry producer should be aware of within their operation.

Mead FFA members educate the public about Avian Influenza at the Saunders County Fair.

Avian Influenza better known to the public as "the bird flu" is an on-going bio-security threat to the poultry industry. This particular poultry disease is not fresh to the media, but society is asked to continually look out for potential problems.

This activity was a great way for students to become advocates for agriculture and learn about current agriculture issues. Several of the students will also be able to add this to their agriculture education proficiency that strives to inform others about any agricultural topic by means of public displays, bulletin boards, news articles, and elementary instruction just to name a few. These activities enable the students to apply for state and national FFA awards in this particular category. ❑

Medical Students Learn About Farm Safety

A group of residents from University of Nebraska Medical Center's family medicine program visited the ARDC this summer to learn about ag safety issues. Most of the residents did not have an agricultural background, but anticipated practicing in rural communities as part of UNMC's Rural Health Education Network (RHEN) program. The visit enabled them to learn about various types of injuries that could happen in an ag setting. Dave Morgan, UNL Extension Safety Engineer, is shown *(left)* discussing auger and grain bin injuries. And Mark Schroeder, ARDC Associate Director and Farm Operations Manager, is pictured *(bottom photo)* discussing farm equipment with a second group from UNMC. This group included undergrad students from schools across Nebraska (pre-medicine, pre-physician assistant, and pre-nursing students). They earn college credit through a week-long agro-medicine program that introduces them to issues in providing health care in rural communities. The groups also visited the feedlot, dairy, and cow/calf research areas at the ARDC. ❑

This issue of *Extended Visions* was produced and edited by Deloris Pittman, Marketing & Promotions Manager. Extended Visions is published bimonthly by the University of Nebraska-Lincoln ARDC & University of Nebraska-Lincoln Extension in Saunders County, 1071 County Road G, Room A, Ithaca, Nebraska, 68033-2234. For more information, call 402-624-8000 or 1-800-529-8030. Check out our web site at http://ardc.unl.edu. E-mail dpittman1@unl.edu. Copyrighted 2004, ARDC.
Daniel J. Duncan, Director, University of Nebraska-Lincoln ARDC * Keith Glewen, University of Nebraska-Lincoln Extension Educator Unit Leader
Beef Feedlot research introductory article and research article content provided by Galen Erickson, Associate Professor, UNL Department of Animal Science.