



Outreach now the focus of U.S. Roundtable for Sustainable Beef; Lyons-Blythe describes group's efforts at Flint Hills Beef Fest

By Donna Sullivan, Editor

Far more than a buzzword, the term sustainability has been making ripples through the livestock industry for the past several years, and continues to shape protocol and practices at every level. However, defining it can be an elusive undertaking – ask fifteen different people what it means, and you're likely to receive fifteen different answers. But for Debbie Lyons-Blythe, co-chair of the outreach working group for the U.S. Roundtable for Sustainable Beef (USRSB), it's fairly simple. Take care of the land, take care of the animals, take care of the people and make money. "Because if we don't make money, I am not a viable business, I am not going to be sustainable and I don't have money to put into conservation practices," she said. "And frankly, every time I talk about that with either consumers or producers, or on my blog, they get that." Lyons-Blythe spoke at the producers luncheon at the Flint Hills Beef Fest in Emporia in late August.

The USRSB began forming in 2015, but the conversation about sustainability had already been going on for sometime. "I've been a part of some conference calls prior to 2015 with some retailers who were pushing sustainability as a word," she said. "I actually started giving them feedback about what

producers thought about the word sustainability and they kicked me off the conference calls. So I realized right then that this is really a charged conversation, and the word can kind of intimidate people."

The USRSB is made up of people from all sectors of the cattle industry – retail and service, packers and processors, producers and producer organizations, allied industries and civil society. "We all know that a lot of the conversation that is happening began with civil society," Lyons-Blythe pointed out. "They are the ones that are actually encouraging some of these conversations. But at this stage in the game, we can't ignore the conversation. It's happening around us and if we want to be part of defining what sustainability is, people like me had to get involved."

Their mission statement reads, "To advance, support and communicate continuous improvement in the sustainability of U.S. beef production by educating and engaging the beef value-chain through a collaborative multi-stakeholder effort." Once formed, they spent about two years agreeing on a definition of sustainability that worked at every level of the supply chain. Their definition of sustainable beef is, "A socially responsible, environmentally sound, and economically viable product that prioritizes planet, people, animals, and prog-



White City cattle rancher Debbie Lyons-Blythe co-chairs the outreach committee for the U.S. Roundtable for Sustainable Beef. She spoke at the producers luncheon at the Flint Hills Beef Fest in Emporia.

Photo by Ken Sullivan

ress."

With sustainable beef now sufficiently defined, USRSB developed their framework, a document outlining all the things they agree on that can be measured and discussed. It can be viewed on their website at <http://www.beefsustainability.us>.

They have now moved into an outreach phase. "In 2019 our big push is getting the word out, coming and speaking to groups like this, talking to retailers and making connections with consumers," she told producers gathered at Beef Fest.

Along with equipping producers with tools to discuss beef sustainability,

that pressure," she said.

Then there's Meatless Monday. "We've all heard that if you go meatless one day a week, it is going to totally change greenhouse gas emissions," said Lyons-Blythe. "I'm telling you if we went meatless one day a week in America, it would be a tiny drop in the bucket and that's been proven by research. But consumers don't care about the research, they don't want the numbers, they just want to think they are making a difference. So we have to arm them with better information."

As for the numbers and data, they are impressive, and are a remarkable story for producers to tell. Beef production in the United States is at the same level as it was in 1977, when there was the highest number of cows in America. "We're producing the same amount of beef, but we have 33% fewer animals," she said. "That's efficiency, that's sustainability." Along with fewer animals, comes fewer emissions, she continued. "Fewer, larger animals giving us more beef, a higher quality, less trimmings... that's efficiency. That's sustainability and we need to arm them with that information." According to the Environmental Protection Agency, American beef specifically only contributes 2.0% of greenhouse gases in America, compared to transportation at 25.3% and electricity at 29.7%.

Lyons-Blythe spoke of a self-evaluation tool that USRSB is using as an outreach to farmers and ranchers, to help them gauge their sustainability based on six key indicators. They are water resources, land resources, air and greenhouse gas emissions, efficiency in yield, animal health and well-being and employee safety and well-being. While the answers that come from the self-evaluation tool will not be identified to the producer, the data that is gathered will be used to communicate with retailers. "I'm hoping this will debunk a lot of the myths about what's happening," she said.

While the world focuses on the burning in the Amazon, an important eco-system is completely overlooked – the prairie. "The prairie can sequester carbon at a rate similar to the rain forest," she pointed out. "So we know that keeping our land in grass is key."

"The bottom line is, cattle do have a super-power," she concluded. "That is they eat grass. They are up-cyclers and they produce amazing levels of protein that is good for me. I can't eat grass and I can't eat distillers' grains. I cannot eat those things that cattle can eat. They produce beef with it and we're able to communicate that to the retailers to arm them with information so they can go forward."

Kansas Department of Agriculture participates in ag trade mission to Argentina

In late July, the Kansas Department of Agriculture participated in a trade mission to Argentina, where the team attended the La Exposición Rural 2019, the most prominent livestock show in the country. In addition, the Kansas delegation had the opportunity to visit six of the top ranches in central Argentina, two genetic centers, and the Liniers Market, which is the largest cattle market in the world. The group also attended a U.S. Livestock Genetics Export, Inc. (USLGE) reception hosted by U.S. Ambassador Edward C. Prado.

Representing Kansas on the trade mission were: Dr. Michael Dikeman, Dike-



A team of Kansans went on a trade mission to Argentina in July and visited several ranches including Cabaña Casamú. Pictured are, from left: Ignacio Cabo, Shirley Acedo, Shad Marston, Brent Overmiller and Dr. Michael Dikeman.

man Simmentals, Manhattan; Shad Marston, Wal-Mar Charolais, Canton; Brent Overmiller, Overmiller Gelbvieh and Red Angus, Smith Center; and Shirley Acedo, KDA agribusiness development co-

ordinator.

"The KDA sponsored trip to Argentina to promote Kansas cattle genetics was very educational and interesting," said Dikeman. "It was an opportunity to emphasize the efficiency

of U.S. beef production, carcass grading, and meat marketing."

Overmiller agreed. "The trade mission was a great experience as we had the opportunity to meet with the top ranches and bull studs in Argentina and promote our beef cattle genetics." In the past five years, Kansas has exported roughly \$1.6 million in agricultural goods to Argentina with milling products being the top export category.

The trade mission was organized by KDA and the USLGE. KDA strives to encourage and enhance economic growth of the agriculture industry and the Kansas economy by exploring and expanding both domestic and international

marketing opportunities. The Kansas Ag Growth Project identified beef as a key component for state growth.

KDA is offering two upcoming opportunities to Kansas farmers, ranchers and agribusinesses to participate in State Trade Expansion Program (STEP) grant trade missions planned for 2020: VICTAM Asia/Petfood Forum Asia, Bangkok, Thailand, March 24-26; and NAMPO Harvest Day, Bothaville, South Africa, May 12-15. Interested persons should contact Suzanne Ryan-Numrich at suzanne.numrich@ks.gov or 785-564-6704.



The team also attended a USLGE reception held at the U.S. Ambassador's residence in Bosch Palace. Pictured, from left are: Enrique Crotto, Shirley Acedo, Brent Overmiller and Dr. Michael Dikeman.

Remembering and celebrating the Pony Express



The Friends of Hollenberg hosted the 34th annual Pony Express Festival on August 25 near Bremen. Above a rider re-enacts the mochila exchange. A mochila was the bag used to transport the mail. Also featured was a Civil War camp, a blacksmith, a spinning wheel, a ropemaker and much more. Visitors could enjoy a covered wagon ride, as well as sit in a stagecoach provided by The Pony Express Barn in Marysville.

Photo by Donna Sullivan

Insight

KANSAS FARM BUREAU
The Voice of Agriculture

The Farm Bureau Family

By Greg Doering,
Kansas Farm Bureau

For John and Berna Mae Stegman, the recent loss of their son Bernard in an accident has brought heartache and grief. It's also underscored the fact that family extends beyond kinship.

John was surprised by the number of cards, calls and visitors his family received from his connections made in Kansas Farm Bureau in the

wake of Bernard's death. The volume of condolences was almost overwhelming.

"I just want to thank all the people who took the time to send a card, give me a call or whatever," John said.

Bernard didn't just reside in Spearville, he helped cultivate a community there with his wife, Debra, and their three sons. Farming was all he ever wanted to do — so much so that he opted to stay

close to home for college so he could work on the farm in the afternoons. He graduated from St. Mary of the Plains in Dodge City.

"His life was farming," John said. "He started when he was a little guy saying, 'I'm going to be your partner. I'm going to be your partner.' We had probably 48 good years together — working together. It's tough to lose someone like that. I know I'm not the only one that's happened to."

Under that partnership, the farming operation flourished from "a small acreage to a considerable size now," in addition to growing a herd of registered Angus. Bernard also found the time to serve

the Spearville community through his church, the local school board and professional groups.

Bernard also is the reason John was able to serve on Kansas Farm Bureau's board of directors, representing 11 counties in southwest Kansas.

"I spent 20 years on that Farm Bureau board, and it was because Bernie was at home and he took care of everything when I wasn't there," John said. "He was just my best friend and my buddy. He knew everything about the farm."

John's tenure on the Farm Bureau board ended in 2010, but the connections are still strong.

"The amount of people you meet in 20 years is just unbelievable," John said. "We get these cards from all over the state. We had some of the past directors come out (for the funeral). I didn't get to see everybody because the church was full, the parish center was full."

There are smaller injustices in Bernard's death, like the new barn he'd recently completed, the culmination of years of work to make the farm as productive as possible.

"He just about had everything the way he wanted it, but he doesn't get to enjoy it," John said.

Instead, John said he's

going to embark on a new partnership with his three grandsons who all desire to be back on the farm.

"We'll have to see if we can make this thing work so that everybody's got some income — can make a decent living."

With the numerous relationships John has built through Kansas Farm Bureau, there's plenty of family standing by ready to help.

"Insight" is a weekly column published by Kansas Farm Bureau, the state's largest farm organization whose mission is to strengthen agriculture and the lives of Kansans through advocacy, education and service.

Fall updates issued for Farm and Agricultural Policy Research Institute report

Excessive spring rain, trade disputes and African swine fever have disrupted agricultural markets in 2019. Despite reduced 2019 United States corn and soybean production prospects, prices for many commodities are under downward pressure because of the many factors that have weakened demand.

Economists with the Food and Agricultural Policy Research Institute (FAPRI) and the MU Agricultural Markets and Policy (AMAP) team release the annual U.S. Baseline Outlook report each spring, and provide an update to that report each fall.

This year's update was prepared the week of Aug. 19.

Policies in place at that time, including China's 25 percent retaliatory tariff on U.S. soybeans and other farm products, are assumed to remain in place. The update uses 2019 acreage, yield and production estimates included in United States Department of Agriculture's (USDA) August 2019 Crop Production report. The economy is assumed to evolve as forecast by IHS Markit in July 2019, with slower economic growth in 2019 and 2020, but no recession, said FAPRI Director Pat Westhoff.

"Markets will continue to evolve as we get more information about the size of the 2019 crop, the state of trade disputes and the general econ-

omy," Westhoff said.

African swine fever (ASF) has reduced inventories in China, which implies less demand in China for soybean meal and corn as livestock feed. The result is an increase in China's imports of pork, but a reduction in China's imports of soybeans to make soybean meal.

"The estimates of ASF impacts are based on information available in mid-August, recognizing that there remains great uncertainty about the likely market impacts," Westhoff said.

U.S. soybean exports are also expected to be affected by China's tariffs. In spite of a 19 percent year-over-year

reduction in U.S. soybean production, the \$8.43 per bushel U.S. soybean price projected for the 2019-20 marketing year is slightly below the estimated 2018-19 price. As with soybeans, projected U.S. corn prices do not increase in 2019-20, even though estimated production is down by half a billion bushels from the previous year. Weak export sales and stagnant ethanol use are contributing factors, Westhoff said.

"Assuming a return to more normal weather conditions in 2020, projected corn and soybean production should rebound," he said. "As a result, projected 2020-21 marketing year average prices for corn

fall to \$3.39 per bushel and soybean prices fall to \$7.94 per bushel."

Wheat prices will average about \$5 per bushel over the next five years, given large global supplies, as well as demand-side competition with corn. Cotton prices fall in 2019-20 in response to a 24 percent increase in U.S. production. U.S. beef production increases in 2019 and 2020, putting downward pressure on cattle prices, before the cycle turns in later years.

Westhoff said the U.S. Baseline Outlook gives policymakers, farmers, agribusinesses and the public an overview of the state of the U.S. farm economy. The market projec-

tions it contains can be useful to farmers making production choices, to policymakers trying to decide how to respond to agriculture issues, to lenders who must decide whether to make loans and to agribusinesses making investment decisions.

"The information is meant to serve a variety of purposes," Westhoff said. "It's a broad-brush, big-picture look at agriculture. Our goal is to give a general assessment of what the next several seasons may hold, viewed from where we sit today."

The U.S. Baseline Outlook update is available on FAPRI's website.

Ag Partners Cooperative, Inc. appoints Rod Schroeder as interim president and CEO

Ag Partners Cooperative, Inc. has announced the appointment of Rod Schroeder as interim president and chief executive officer (CEO). In this role, Schroeder will be a key member of the executive leadership team and will

oversee the day-to-day operations of the cooperative's core business segments until a permanent CEO is hired at the cooperative. Based at Ag Partners headquarters in Seneca, Schroeder will report directly to the Ag Partners

Board of Directors.

With more than 25 years of agriculture management experience, Schroeder brings with him an extensive background in corporate strategy and expertise in the cooperative business model. Schro-

eder retired in 2013 after leading the Crop Protection division of Winfield Solutions, LLC, a Land O' Lakes Company, since its formation in 2007. Prior to his time at Winfield Solutions, he held positions of increas-

ing responsibility, including CEO, at Aurora Cooperative in Aurora, Nebraska. During his eighteen-year tenure, the cooperative grew from three to 24 locations and Schroeder was instrumental in the formation of Nebraska Ener-

gy, an ethanol producer and Preferred Popcorn, a popcorn processing and marketing company selling globally.

"Ag Partners Cooperative, Inc. could not be more excited to have Rod join our team as interim CEO," said Jason Taylor, chairman of the Ag Partners Board of Directors. "Rod has extensive knowledge of our industry, and a proven track record at succeeding in business. He will serve as our interim CEO for four to seven months to give the Ag Partners Board of Directors the proper time to thoroughly interview candidates for our next CEO."

Commenting on his appointment, Schroeder said, "I am honored to have the opportunity to serve at this great cooperative and I look forward to working closely with the dedicated Ag Partners growers and employees. Throughout my tenure as interim CEO, I plan to continue to lay the groundwork to lead Ag Partners into a successful future."

Schroeder began his tenure as the Ag Partners interim president and CEO on Monday, September 9.



I am on what seems like the fourth month of a never-ending hay season. Don't get me wrong, I very much appreciate that this year's hay crop has been one of the best. I finished last winter with exactly one hay bale so a little extra cushion this year will be much appreciated and help me sleep better at night.

My only hope is that the extra hay is not a sign of the winter to come. It has crossed my mind that an abundant growth of grass and subsequent hay might be God's way of preparing me for the worst. I hope not — last winter was bad enough and I am not looking forward to another one like it any time soon.

It does seem like this is the time of the year when everyone and their dog has an idea about what winter will be like. I saw that one of the Old Farmer's Almanacs (it seems like there must be multiple Old Farmer's Almanacs) has predicted a wetter, icier and colder than usual winter for us. They never say what they base their predictions on, and it seems like they are more wrong than right, but we still have the urge to buy one just to see what their prediction is.

Then there are those who turn to the animal world for their winter weather predictions. I have already heard that this winter is probably going to be bad from one friend because her goats already had a thick winter's coat. Is that a sign? I am not sure about the weather, but it is a sign that her goats are probably hot on these muggy days. I have looked at the hair coats of my dogs, cat and cattle and all I can conclude is that they probably are a poor predictor of future weather.

Insects are another popular prediction tool, especially woolly caterpillars. I have not found one yet this year nor have I talked to anyone else who has located one. What does that mean? Does it mean they have migrated to the south? Does it mean global warming has cooked them and their woolly coats to death? Who knows? But I bet someone has an opinion.

Others base their prediction of what the winter will be like based on plants. How many acorns are on the oak tree, how fast are the crops maturing and other dubious ideas about what might

give us insight on the coming season. Current weather is also used to forecast future events like fog and precipitation. The scary thing is how often that is right.

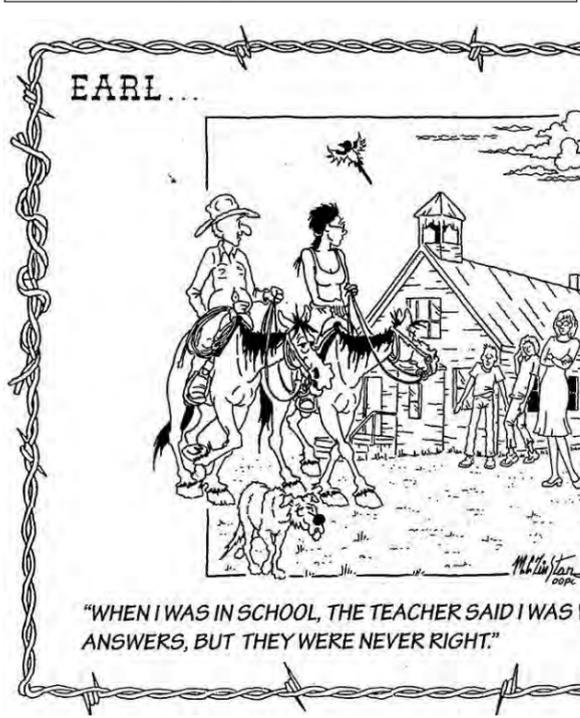
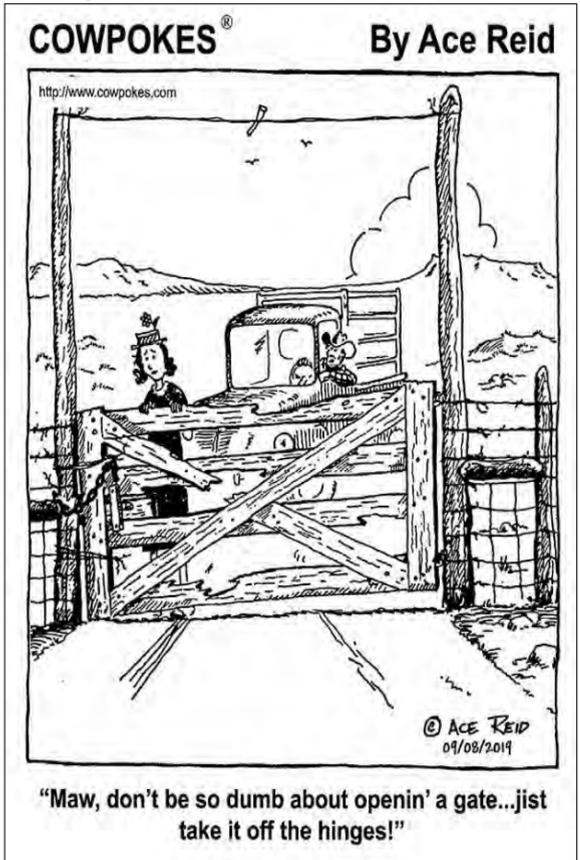
Then we have the scientists who analyze things like water temperatures in the ocean and upper level winds. I am sure all these prediction methods are based in sound science, but they don't seem to be any more accurate that the length of whiskers on a worm or hair on a goat. At best any of these predictions are right about fifty percent of the time. This all coming from a weather person who can't even tell me if it is going to rain on Thursday.

So, I decided to come up with my own prediction of the upcoming winter based on the pain in my left knee and the growth of my whiskers in my mustache. You can write these down and check them next spring and I bet I am just as accurate as any insect, goat or trained scientist.

We will have periods of bitter cold temperatures. How long will those periods be? It is too early to tell, ask me in April. We will have snowfall ranging from one inch to three feet. It may be all at once or over the period of four months, but we will have snow this winter. This will also accompany some ice. How much ice? It is still too early to tell, but we will know by Easter.

Temperatures will fall in a range of below to above normal. I am confident of this prediction being right. We won't be average because that is the middle between the extremes. Precipitation will also range from above average to below. Again, I am one hundred percent confident in this prediction and you can take it to the bank we will either be dry or wet and often both in the same month.

There you have it: my forecast for the winter and I am quite sure I will be just as right as the classic prognosticators. One thing I am sure of is that eventually winter will be here and we'd better batten down the hatches, caulk the windows and make sure we have plenty of hay. In the end there is only one who knows what this winter is going to be like, and God has not spoken to me yet. Unless He is trying to tell me something with this hay crop and I am listening like usual.



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Kansas Soybean Commission elects officers

The Kansas Soybean Commission elected its 2019-2020 officers during an Aug. 26 meeting in Topeka. Bob Haselwood of Shawnee County will serve as chairman, returning to the position he held from 2009 to 2012. Ron Ohlde of Washington County will be vice chairman. Gary Robbins of Pottawatomie County was elected secretary, and Raylen Phelon, Osage County, treasurer.

The other commissioners are Kurt Maurath of Logan County, who just completed three years as chairman; Kent Romine, Barton County; Dennis Gruenbacher, Sedgwick County; Mike Bellar, Elk County; and Lance Rezac, Pottawatomie County.

Researchers receive USDA grant to study effects of aging on beef

Americans who love their beef are always searching for the most tender, tastiest and juiciest cut of meat they can find. And beef producers are constantly striving to give consumers what they want.

One of the most time-honored and effective ways of doing so is aging beef to bring out as much flavor and tenderness as possible. But aging the beef can be tricky, and research has shown that over-aging beef can bring about compositional changes that affects beef flavor, and not in a good way.

Recently, a new technology has been developed that can help avoid over-aging. Rapid Evaporative Ionization Mass Spectrometry (REIMS) utilizes metabolomics – the large-scale study of small molecules, called metabolites, within cells, biofluids, tissues or organisms – to identify compositional differences in beef. The goal is to predict beef sensory performance to determine the exact peak of beef aging.

But because it is a novel technology, its effectiveness hasn't been definitively determined. A group of researchers in the Texas Tech University College of Agricultural Sciences & Natural Resources (CASNR), in collaboration with researchers at Colorado

State University and the United States Department of Agriculture (USDA)-Agricultural Research Service (ARS), is taking on that task.

Backed by a \$294,000 grant from the United States Department of Agriculture's National Institute of Food and Agriculture (NIFA) Cooperative State Research Education and Extension Service, Dale Woerner, an associate professor and the Cargill Endowed Professor in Meat Science in the Department of Animal & Food Sciences (AFS), is leading this research project.

Their goal is to develop REIMS as a real-time method for classifying the quality of beef products by evaluating REIMS' ability to predict beef sensory and tenderness, identify changes in beef flavor and tenderness as it ages and characterize the effect of extended aging on palatability.

"We are very excited to collaborate on this effort aimed at discovering the potential of a very unique technology to differentiate the quality of beef products," Woerner said. "This technology, among others, is the future of differentiating quality and safety attributes of agricultural products intended for food."

Collaborating with Woerner

on the project are assistant professor Jerrad Legako, Mark Miller, a professor and San Antonio Livestock Show and Rodeo Chair in Meat Science, and professor Chance Brooks, all part of AFS and the International Center for Food Industry Excellence (ICFIE) at Texas Tech. The study also is supported by the National Cattlemen's Beef Association.

REIMS using time-of-flight mass spectrometry to provide in-situ, molecularly resolved information in real time by ionizing biological samples without having to prepare the sample for examination. Utilizing both domestic and exported beef samples with a wide variety of aging days, researchers will use REIMS to repeatedly measure beef flavor, tenderness and juiciness.

They then will develop prediction models, including multiple machine-learning processes, in an attempt to understand the ability of REIMS to measure and predict these changes depending on the time the beef has aged. If successful, this would allow these characteristics, so important to beef consumers, to be predicted in real time and produce optimum cuts of meat in regards to tenderness, flavor and juiciness.

NCGA: EPA must account for waivers

The National Corn Growers Association recently submitted comments to the Environmental Protection Agency (EPA) on the proposed 2020 renewable volume obligations (RVOs) under the Renewable Fuel Standard (RFS).

While NCGA appreciates EPA's 150-billion-gallon proposal for conventional biofuel, these proposed volumes are meaningless by failing to account for issued refinery waivers, which EPA significantly expanded during this administration.

"NCGA has no confidence in the volumes EPA proposes for 2020. These refinery waivers have significantly outpaced annual increases in RFS volume requirements, taking RFS volume requirements

backward," NCGA president Lynn Chrisp wrote in the organization's comments to EPA.

President Trump's actions on ethanol have cost 2,700 rural jobs and impacted demand for more than 300 million bushels of corn as a result of ethanol plant closures and slowing production. Since 2018, the 85 RFS exemptions granted to big oil refineries have totaled 4.04 billion ethanol-equivalent gallons of renewable fuel. Accounting for future waived gallons in the 2020 volume standards is an immediate step the Administration can take to address the anxiety being felt across farm country and put meaning back in the RFS.

"EPA must use the 2020

RVO rule to keep the RFS whole. Doing so will deliver the full clean air, cost savings, energy security and rural economic benefits consumers and farmers receive from the RFS," Chrisp wrote.

NCGA also urged EPA to restore the 500 million gallons the D.C. Circuit Court determined EPA improperly waived.

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GRASS & GRAIN Our Daily Bread

***** By G&G Area Cooks *****

Helen Aurand, Belleville, Is This Week's Grass & Grain Contest Winner
 Winner Helen Aurand, Belleville: "I have made this for many years. Always have ingredients on hand to make for funeral luncheons."

ORANGE-RICE SALAD
 1 cup minute rice
 10 1/2-ounce package miniature marshmallows
 3-ounce package orange gelatin
 1/2 cup pecans, chopped
 8 1/2-ounce can crushed pineapple, drained
 (2) 4-ounce packages Dream Whip

Cook rice as directed on package. As it is cooling, add half the package of marshmallows and stir until blended. Then prepare gelatin as directed on box. Let congeal until almost set. In a large mixing bowl combine the rice-marshmallow mixture with the gelatin and add the rest of the marshmallows, pecans and pineapple. Prepare Dream Whip and fold in. Place mixture in a glass 9-by-13-by-2-inch pan. Serves 15.

Mary Hedberg, Clifton: ZUCCHINI BROWNIES
 1/2 cup margarine
 2 eggs
 3/4 teaspoon salt
 1 1/2 teaspoons baking soda
 1 1/4 cups sugar
 1/2 cup cocoa
 2 teaspoons vanilla
 1/2 cup chopped nuts
 2 cups zucchini, grated
 2 cups flour

Mix margarine, eggs, salt and baking soda together. Add sugar, cocoa, vanilla and nuts then add zucchini with flour. Grease an 11-by-15-inch pan. Bake in a 350-degree oven for 10

 to 15 minutes.
 Frosting:
 12-oz. package chocolate chips
 1/2 cup chopped nuts, optional
 Immediately sprinkle the chocolate chips onto warm brownies. When melted spread around. Add chopped nuts on top if desired.

Bernadetta McCollum, Clay Center: CRANBERRY NUT BREAD
 2 cups sifted flour
 1 cup sugar
 1 1/2 teaspoons baking powder
 1/2 teaspoon soda

1 teaspoon salt
 1/4 cup shortening
 3/4 cup orange juice
 1 tablespoon grated orange rind
 1 egg, well-beaten
 1/2 cup chopped nuts
 1 cup fresh cranberries, coarsely chopped

Sift together flour, sugar, baking powder, soda and salt. Cut in shortening until mixture resembles coarse cornmeal. Combine orange juice and grated rind with egg. Pour all at once into dry ingredients, mixing just enough to dampen. Carefully fold in chopped nuts and cranberries. Spoon into a greased 9-by-5-by-3-inch loaf pan. Spread corners and sides slightly higher than center. Bake at 350 degrees for about 1 hour. Cool and frost if desired.

Kimberly Edwards, Stillwater, Oklahoma: RANCH DIP
 8 ounces cream cheese
 1 cup sour cream
 1-ounce package Ranch salad dressing seasoning mix
 8 ounces Cheddar cheese, shredded
 1/2 cup chopped cooked bacon

Mix cream cheese, sour cream and dressing mix. Stir in the cheese then stir in bacon. Top with extra cheese and sliced green onions.

Lydia Miller, Westphalia: STUFFED SHELLS WITH BACON & WALNUTS
 1 cup chopped walnuts, toasted
 2 eggs
 15-ounce carton ricotta cheese
 1/2 cup shredded provolone
 1 1/2 cups shredded mozzarella cheese, divided
 1/2 cup shredded Parmesan cheese, divided
 6 slices bacon, cooked, drained & crumbled
 2 tablespoons fresh parsley, snipped
 1/2 teaspoon salt
 1/4 teaspoon pepper
 1/8 teaspoon ground nutmeg
 Dash cayenne pepper
 26-ounce jar chunky garden vegetable pasta sauce
 1/4 cup dry white wine
 Half of a 12-ounce box jumbo pasta shells, cooked & drained

Toast walnuts in a small heavy skillet over medium-low heat. Set aside to cool. Preheat oven to 350 degrees. In a large mixing bowl stir together eggs, ricotta, provolone, 1 cup mozzarella, 1/4 cup Parmesan, bacon, parsley, salt, pepper, nutmeg, cayenne and walnuts. Combine jar of sauce and white wine. Spread 1 cup of the sauce in the bottom of a 3-quart glass baking dish. Fill a large plastic food-storage bag with cheese mixture. Snip off one corner and squeeze about 1 tablespoon filling into each shell, placing filled shells on top of sauce. After all shells are stuffed, pour remaining sauce evenly over stuffed shells and sprinkle with remaining cheese. Cover tightly with foil and bake for 30 minutes. Uncover and continue to bake for 15 additional minutes, until shells are heated through and sauce is bubbling.

Millie Conger, Tecumseh: HONEY APRICOT PORK CHOPS
 4 boneless pork chops
 Salt & pepper to taste
 1 tablespoon olive oil
 2 tablespoons honey
 4 fresh apricots, peeled & cut into wedges

Sprinkle patted dry chops with salt and pepper both sides. Heat olive oil; brown chops 5 minutes per side. Stir in honey and apricots. Simmer until chops are tender, about 8 minutes or until meat thermometer inserted reaches temperature for pork. Serve with apricots and juices.

Rose Edwards, Stillwater, Oklahoma: STRAWBERRY DIP
 4 ounces cream cheese
 (2) 6-ounce containers strawberry yogurt
 1/4 cup powdered sugar
 3/4 teaspoon vanilla
 1/4 cup chopped strawberries

Mix all but strawberries together. Top with strawberries. Serve with graham crackers, cookies, vanilla wafers, etc.

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The winner each week is selected from the recipes printed. Send us your favorite recipe. It may be a main dish, leftover, salad, side dish, dessert, or what-have-you.

1. Check your recipe carefully to make certain all ingredients are accurate and instructions are clear. 2. Be sure your name, address and phone number are on the entry. Please include a street address with your recipe entries. A post office box number is not sufficient for prize delivery. Allow 3-4 weeks for delivery.
3. Send it to: Woman's Page Editor, Grass & Grain, Box 1009, Manhattan, KS 66505. OR e-mail at: auctions@agpress.com

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Day #1 of 2-DAY AUCTION

SATURDAY, SEPTEMBER 14, 2019 — 9:00 AM

Due to death we will sell the following items at public auction at the farm located from ABILENE, KANSAS 3 miles east on I-70 to exit 277, then go south 3 miles on Jeep Rd. and 3/4 mile east to 1286 2100 Avenue, ENTERPRISE, KANSAS.

COMBINE, TRACTORS, PICKUPS, TRAILERS & GATOR (sell last)
 FARM MACHINERY (after Livestock Equipment, approx. 1 PM)
 LIVESTOCK EQUIPMENT & MISC. (sell after rack items)
 THE FOLLOWING ITEMS WILL SELL AT 10 AM: JD STX 38 tractor mower, Dixon ZTR riding mower, nice; large FISHER anvil, several hardys. THESE ITEMS SELL FIRST AT 9 AM: Large amount of shop related items. 4 or 5 racks loads and items on the ground.

Day #2 of 2-DAY AUCTION

SATURDAY, SEPTEMBER 21, 2019 — 9:00 AM

HOUSEHOLD GOODS & ANTIQUES
 PONY WAGON, GUNS, AMMO & FARM TOYS (sell at 10 am)
 PRIMITIVES, ANTIQUES & COLLECTIBLES

See last week's Grass & Grain For Listings of both days & Go to kretzauctions.com or kansasauctions.net for pictures & more!
 CLERK: Shirley Riek, 1745 21st Rd., Clay Center, Ks. 67432
 LUNCH: Detroit Ramblers 4-H Club.
 We plan to run 2 rings on parts of both days! 30 days for removal. Loader tractor available.

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 Call Greg Kretz: (785) 630-0701
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Alzheimer's - Know The 10 Signs

By Deanna Turner, Extension Agent: Family & Consumer Sciences, Aging Programs, River Valley District

Be informed about the symptoms of Alzheimer's disease and other types of dementia. Plan to attend the upcoming program, "Alzheimer's - Know the 10 Signs Early Detection Matters." It will be presented on Tuesday, September 24 in Concordia from 5:30-7:00 p.m. at the Concordia Senior Citizens Center, 109 West 7th Street.

Hayley Young, Outreach Specialist from the Alzheimer's Association in Topeka, will present this free program. Alzheimer's disease is not a normal part of aging. Hayley will share the 10 warning signs and symptoms to be aware. Early detection of Alzheimer's disease gives you a chance to begin drug therapy and plan for the future. Hayley will answer your questions. She provides support to individuals with the disease, as well as family members, friends and caregivers.

Please pre-register for the meeting by calling the Concordia Extension Office at 785-243-8185. Light refreshments will be provided. The program is sponsored by K-State Research & Extension River Valley District. For more information contact Deanna Turner at 785-632-5335 or e-mail dtuner@ksu.edu. Sign up today!

Mushrooms Are Ready For Their Closeup

(NAPS) — In the ensemble cast of the produce aisle, finding a stand-out player can sometimes be difficult. After all, each has its own unique characteristics, whether it be taste, nutrition, or health benefits. However, when it comes to mushrooms — which are grown in the dark in nondescript growing houses across the country — it might seem they're averse to attention.

Yet mushrooms are increasingly taking a starring role on consumers' plates. Often called the superfood in the produce section, mushrooms take a supporting role in a recipe or shine as the lead of a dish. These formidable fungi are a source of powerful nutrients, low in calories and sodium, and they're fat, cholesterol- and gluten-free.

Mushrooms As Health Helpers

When it comes to the subject of health, researchers are increasingly turning their spotlight on mushrooms.

Mushrooms are so talented, researchers are looking to them in the fight against cancer. A powder made from white button mushrooms was found to reduce the levels of prostate specific antigen, or PSA, in prostate cancer patients whose PSA levels had been rising. Studies are also underway to determine if properties within mushrooms might offer a dietary, non-drug intervention to help prevent

recurrence of hormone-dependent breast cancers.

Ongoing research at Penn State University shows mushrooms have the highest known single source of the antioxidants ergothioneine and glutathione compared to other non-mushroom food. Both those antioxidants are associated with anti-aging, and when they're present together, they work extra hard to protect the body from the physiological stress that causes visible signs of aging and they may also help prevent Parkinson's and Alzheimer's. Plus, studies show it takes only a few mushrooms to increase ergothioneine and glutathione levels — about five button mushrooms a day.

Additionally, researchers at the National University of Singapore found similar results and discovered that less than one cup of cooked mushrooms twice a week could reduce the odds of mild cognitive decline.

With so many varieties, tastes, and textures, it's easy to incorporate mushrooms into a diet. The next time you're in the produce section of your grocery store, pick up your favorite variety of mushrooms. In soup, on a pizza, stuffed, sautéed or sliced, chances are these mighty mushrooms will get a round of applause from family and friends.

Learn More
 For further information, from the experts at the American Mushroom Institute, visit www.americanmushroom.org

ESTATE AUCTION

SATURDAY, SEPTEMBER 21, 2019 • 10:00 AM
 AUCTION LOCATION: 1781 Meadowlark Rd — CLAY CENTER, KS
 DIRECTIONS: West edge of Clay Center on 24 Highway, turn South on Meadowlark Road. LUNCH STAND!

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 See September 3 Grass & Grain for listings & visit websites below for photos!
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LAND AUCTION

SATURDAY, OCTOBER 12, 2019 — 2:00 PM
 Cougar's Den — MORROWVILLE, KANSAS

241.1 AC.± WASHINGTON COUNTY, KS LAND
TRACT 1: 159.19 Acres ±. 108.42 FSA DCP Acres, balance being pasture, ponds and wildlife habitat.
TRACT 2: 80.5 Acres±. Approx. 60.31 FSA DCP Acres, balance being pasture, pond and wildlife habitat.
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LAND AUCTION

320 acres +/-
 Cloud County, Kansas

Tuesday, September 24th, 2019 at 7:00 pm
 Auction held: Knights of Columbus
 300 Main St, Aurora, KS

LEGAL DESCRIPTION: North Half of Section 33, Township 7 South, Range 2 West, Cloud County, KS.

LOCATION: From Aurora, travel 3 miles south on 210th Rd to Gold Rd. The parcel is on the southwest corner.

DESCRIPTION: 320 acres +/-, per FSA records, of which 90 acres +/- of terraced dryland cultivation and 224 acres +/- of grass with trees, 3 ponds, waterways and wildlife habitat. There are barns, sheds and an operating windmill with new pipe.

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Are you looking for ways to be better prepared for when your kids come home from school asking for a snack before the evening meal? Snacks can actually help children get the nutrients needed to grow, do well in school, and maintain a healthy weight. So, why not plan ahead and be prepared with single-serving snacks for younger children to help them get just enough to satisfy their hunger. You can let older kids make their own snacks by keeping healthy foods in the kitchen.

Store hard-cooked (boiled) eggs in the refrigerator for kids to enjoy any time.

6. Keep an eye on the size Snacks shouldn't replace a meal, so look for ways to help your kids understand how much is enough. Store snack-size bags in the cupboard and use them to control serving sizes.

7. Fruits are quick and easy Fresh, frozen, dried, or canned fruits can be easy "grab-and-go" options that need little preparation. Offer whole fruit and limit the amount of 100 percent juice served.

8. Consider convenience A single-serving container of low-fat or fat-free yogurt or individually wrapped string cheese can be just enough for an after-school snack.

9. Swap out the sugar Keep healthier foods handy so kids avoid cookies, pastries, or candies between meals. Add seltzer water to a 1/2 cup of 100 percent fruit juice instead of offering soda.

10. Prepare homemade goodies For homemade sweets, add dried fruits like apricots or raisins and reduce the amount of sugar in the recipe. Adjust recipes that include fats like butter or shortening by using unsweetened applesauce or prune puree for half the amount of fat.

- Here are some tips from the 10 Tips Nutrition Education Series at www.ChooseMyPlate.gov to help you and your kids select a satisfying snack for after school or any time!
1. Save time by slicing veggies Store sliced vegetables in the refrigerator and serve with dips like hummus or low-calorie dressing. Top half a whole-wheat English muffin with spaghetti sauce, chopped vegetables, and low-fat shredded mozzarella and melt in the microwave.
 2. Mix it up For older school-age kids, mix dried fruit, unsalted nuts, and popcorn in a snack-size bag for a quick trail mix. Blend plain fat-free or low-fat yogurt with 100 percent fruit juice and frozen peaches for a tasty smoothie.
 3. Grab a glass of milk A cup of low-fat or fat-free milk or milk alternative (soy milk) is an easy way to drink a healthy snack.
 4. Go for great whole grains Offer whole-wheat breads, popcorn, and whole-oat cereals that are high in fiber and low in added sugars, saturated fat, and sodium. Limit refined-grain products such as snack bars, cakes, and sweetened cereals.
 5. Nibble on lean protein Choose lean protein foods such as low-sodium deli meats or unsalted nuts. Wrap sliced, low-sodium deli turkey around an apple wedge.

Find more information about these topics and others, by contacting the Wildcat Extension District offices at: Crawford County, 620-724-8233; Labette County, 620-784-5337; Montgomery County, 620-331-2690; Wilson County, 620-378-2167; Pittsburg Office, Expanded Food and Nutrition Education (EFNEP), 620-232-1930. Wildcat District Extension is on the Web at <http://www.wildcatdistrict.ksu.edu>. Or, like our Facebook page at www.facebook.com/wildcat.extension.district.

For more information, contact Barbara Ames, Family and Consumers Sciences Agent, bames@ksu.edu, (620) 331-2690.



By Ashleigh Krispense
JOHN WAYNE
CASSEROLE

This is a simple recipe that I found on Pinterest (Dear Crissy) when trying to find inspiration for something to make with hamburger. While I love hamburgers themselves, we need a little more variety in life! I tweaked the recipe a little to make it even more simple. I also found that it is handy to make it as directed here, but instead of just cooking one big casserole, I cut it down into two smaller 8-by-8 pans and freeze one of them. It can be so nice to just set in the fridge to thaw some morning when you know it'll be a busy day!

2 pounds ground beef, browned
1/2 cup taco seasoning
1 cup water
1 onion, diced
1 bell pepper, red or green, also diced
2 1/4 cups Bisquick mix
2/3 cup water
1/2 cup mayonnaise
1/2 cup sour cream
1 can Original Ro-tel
2 cups shredded sharp Cheddar cheese (or a blend)

Preheat the oven to 350 degrees. Spray a 9-by-13-inch casserole dish or two smaller 8-inch dishes.



After ground beef has browned, stir in the water, taco seasoning, onion, and pepper. Let simmer for a few minutes or until onion and pepper are almost tender.

In a small bowl, mix together the Bisquick and water. Once it becomes a soft dough, press it into the casserole dish. Set aside.



In another small bowl, combine the mayo, sour cream, Ro-tel, and 1 cup of the cheese.



Spread the beef mixture onto the dough, then evenly layer over it the

cheese mixture. Sprinkle the remaining cup of cheese on top.



Cover with foil and freeze or leave uncovered and bake for 25-30 minutes or until cheese and edges are turning golden.

Enjoy!
Ashleigh is a freelance writer and blogger for her website, *Prairie Gal Cookin'* (www.prairiegalcookin.com).

She shares everything from step-by-step recipes to local history, stories, and photography from out on the farm in Kansas.

Follow PGC online or like it on Facebook for more recipes and ramblings!

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Wildcat District youth participate in Kansas 4-H Livestock Sweepstakes Contest

The Kansas 4-H Livestock Sweepstakes Contest was held in Manhattan on August 24-25, 2019. Youth practice year-round to compete in four contests (Livestock Judging, Meats Judging, Livestock Skillathon and Quiz Bowl). The results from these four contests are tabulated to decide Sweepstakes results. These contests help youth to develop vital life skills such as teamwork, communication, critical thinking and public speaking. Twenty-eight youth from the Wildcat Extension District participated. Their results are listed below:

Champion Quiz Bowl Team
 Quiz Bowl Team: Dexter Small, Brenden Anderson, Cord Dodson and Keaton Herrmann will represent the State of Kansas and K-State Research and Extension, Wildcat District at the National Quiz Bowl Contest in Louisville, Ky. in November.

Champion Intermediate Meats Judging Team

2nd Team Placings, High Team in Questions, High Team in Retail ID
 Shelby Smith – 4th Placings, 3rd Questions, 8th Overall
 Addie Smith – 3rd Retail ID, 6th Overall
 Mason Springer – 4th Questions, 5th Retail ID, 3rd Overall
 Reserve Champion Senior Meats Judging Team
 5th Team in Placings, 1st Team in Retail ID,
 Emma Pool – 5th Retail ID, 6th Overall
 Cord Dodson – 3rd Retail ID, 4th Overall
 Reserve Champion Skillathon Team
 2nd High Team in Exam, 4th High Team in Exam, 2nd Team in Practicum, 2nd Team Overall
 Emma Pool – 4th Exam, 9th Overall
 Dexter Small – 3rd Exam, 2nd Practicum, 2nd Overall
 Keaton Herrmann – 3rd Practicum, 3rd Overall
 Cord Dodson – 7th Overall



Pictured are, back row from left: Mason Springer, Cord Dodson, Brenden Anderson, Keaton Herrmann, Luke Falkenstien, Bryce Overman, Dexter Small, Trace Falkenstien, Tucker Leck, Hannah Graybill. Front Row: Trey Newby, Cashton Wheeler, Cecillia Newby, Katie Zwahlen, Ani Rexwinkle, Cooper Springer, Maggie Chandler, Lauren Culver, Cadence Wheeler, Trinity Kuehn.

Reserve Champion Livestock Judging team
 3rd high team sheep, 2nd team in swine, 2nd team in Cattle, 2nd team in reasons
 Hannah Graybill – 6th in Sheep
 Dexter Small – 9th sheep, 9th cattle, 10th Overall

Brenden Anderson – 10th sheep, 6th swine, 2nd Reasons, 8th Overall
 Cord Dodson – 7th Swine, 2nd Cattle, 10th Reasons, 5th Overall
 Luke Falkenstien – 7th Cattle, 9th Reasons, 12th Overall

to make a team for the National Contest in Louisville, Ky.
 The Livestock Judging Team will also represent Kansas at the National Western Stock Show in Denver, Co. in January.
 Reserve Champion Sweepstakes Team
 Cord Dodson – 4th Overall
 Keaton Herrmann – 6th Overall
 Other Participants from the Wildcat District included: Cadence Wheeler, Trace Flakenstien, Katie Zwahlen, Trey Newby, Trinity Kuehn, Cooper Springer, Cecillia Newby, Maggie Chandler, Ani Rexwinkle, Bryce Overman, Lauren Culver, Makenna Kuehn, Maggie McVey, Jerin Cobb, Maddix Small, Cashton Wheeler, Julieona Erbe.
 For more information, please contact Cara Comstock, 4-H Youth Development – Leadership Development Agent, K-State Research and Extension – Altamont at cjcomstock@ksu.edu or 620-724-7042.

Syngenta introduces a 'legend in the making' with latest AgriPro® brand winter wheat variety for Plains market

The harsh conditions of the western High Plains are no match for the latest winter wheat variety from Syngenta. AgriPro® brand SY Legend CL2, a hard red winter wheat, was bred to deliver consistent yields in tough environments.

The region can experience wide winter temperature swings and drought conditions. SY Legend CL2 has shown to be effective in helping growers manage both of these challenges, offering a high level of drought tolerance

and winter-hardiness. The medium-maturity variety also offers excellent leaf disease tolerance, especially important as the western High Plains serves as the disease pathway from Texas to the Northern Plains. Extended green leaf duration allows SY Legend CL2 to maximize grain fill and deliver excellent test weight.

“SY Legend CL2 is the latest example of the strong-performing varieties growers have come to expect from AgriPro brand wheat,” said Greg McCormack, Syngenta key account manager for the Plains region. “Disease, drought and winter weather are common concerns for wheat growers across the High Plains. SY Legend CL2 is showing strength in each of these areas and is even demonstrating better disease tolerance than Brawl CL Plus. We are excited to continue delivering varieties that address the needs of our growers year after year.”

Backed by more than 50 years of wheat breeding expertise, AgriPro wheat varieties are consistent top performers. AgriPro wheat varieties deliver reliable performance, offering best-in-class disease packages, leading agronomics and outstanding yields. For more information about these and other AgriPro brand wheat varieties or to find a local AgriPro associate, visit www.agriprowheat.com. Join the conversation online – connect with Syngenta at Syngenta-us.com/social.

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U.S. beef exports to Korea up 15%

There is good news on the trade front as U.S. beef exports to South Korea set a new monthly value record in June, at more than \$178 million, according to the U.S. Meat Export Federation (USMEF). Export volume was 2% higher than a year ago, at 25,118 metric tons. For the first half of 2019, export volume was 12% higher, and value to Korea was 15% ahead of last year's record pace.

According to USMEF, Korea surpassed Mexico as the second largest destination for U.S. beef exports. This year, it's closing the gap on leading market Japan.

Jihae Yang, USMEF Korea director, said the Korea-U.S. Free Trade Agreement (KORUS) accelerated market demand and beef consumption in Korea. In fact, since the implementation of KORUS, Korea's per capita consumption of beef has increased by 5.5 lbs.

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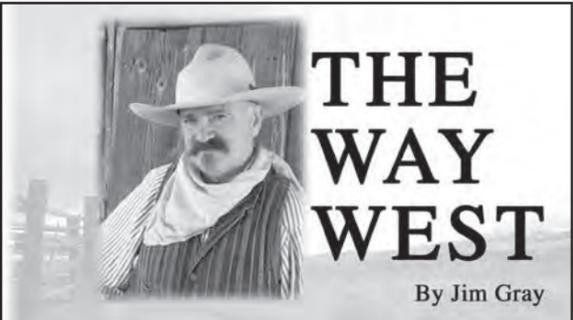
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THE WAY WEST

By Jim Gray

Unexpected Eventuality

In September of 1854 Charles B. Boynton and T. B. Mason crossed Missouri's western border into the newly organized Kansas Territory. Their experiences were published one year later in the book, *A Journey Through Kansas*.

Following a brief visit to Fort Leavenworth the adventurers set out across the prairie. Great care had been taken in procuring supplies to meet any eventuality. If only we could see today the prairie as they saw it. Having supposed the prairie to be not unlike Indiana and Illinois they were staggered to find an utterly indescribable landscape. "The soul melts in the presence of the wonderful beauty of the workmanship of God." Mr. Boynton labored at the thought, at the very idea, that the reader could understand the vision that lay before him. "The Kansas prairies cannot be described - mere words cannot reproduce in another's mind the impression which the scene has made, but if a man sees them... he feels the poverty of language - he finds no fitting words."

"The first hour's ride over the prairies of Kansas spread before us such a picture, varying every moment and beautiful in every change, as we had no previous conception of, and drew from us continued expressions of a delight that would not be suppressed." Bounding over the prairie in a two-horse carriage time passed quickly as they envisioned their mid-day stop at a "settlement" said to be nestled in a grove of timber

along a clear and bright "living stream."

Just as predicted, with the mid-day sun overhead they found themselves descending from the high rolling prairie toward a dark green line of trees. The ambling stream was nearly hidden beneath spreading branches. Beyond the stream, a field of corn "injured by drought," feebly offered the promise of a humble harvest. A barn made of logs and the requisite log cabin stood just beyond the field. A blacksmith shop completed the complement of buildings that were the "settlement" in its entirety.

The log cabin, being the only manor on the road for many miles, served up "enter-

tainment... for man and beast" as an Inn and "hotel." The travelers had bagged several quail upon their arrival at the stream. A chicken "born and brought up" at the settlement joined the quail in the roasting pan for dinner.

The house was governed by a slave woman. "She was cheerful, apparently, and with the sole charge of the household, even the hotel bills and funds." Inexplicably, Boynton explained that her husband was a free man, but their "bright, intelligent-looking children (were) a little group that neither father nor mother owned - that might at any moment be sold and driven off with the pigs and calves."

Under the cool overhang of the log hotel's veranda their hostess spread a white cloth on the earth, "where as yet no dirty floor covered up the natural beauties of the rich soil." About the guests dogs looked on in hopes of appropriating a morsel of meat. Strawberries and plums freshly picked from nature's bounty, were served with milk worthy of that delivered by a Cincinnati milkman. The chickens agreed and vigilantly watched, "not always in

vain, for a chance to dip their bills in the pan."

Having staved off starvation in a pleasant frontier manner the travelers paid twenty-five cents a piece for their fare and another twenty-five cents for feeding and stabling each horse. The road beckoned.

A rainy afternoon offered little hindrance to the travelers as they had prepared for the eventuality. "Covered with rubber overcoats we could snap our fingers at the showers, and kept on our course without annoyance."

Just at sundown the travelers recognized the figure of a horseman silhouetted in the distance against the back-

ground of the forlorn sky. A rifle could be seen resting across the front of his saddle. As they drew nearer the countenance of an Indian from one of the local tribes became apparent. He had planted himself squarely in the middle of the road and with a "glittering eye fixed steadily on us" the men feared the stranger was "bent on mischief."

It was still raining and growing dark as they slowly approached, their revolver, rifle, and double-barrel shotgun close at hand. When they pulled alongside of the horseman, he called to them in unintelligible words. Repeating his demand, "Chebok, chebok," But the travelers were igno-

rant of his request. Finally, he summoned all his knowledge of English and added, "give some, "with signals that revealed his desire for tobacco. Alas, none of the travelers chewed or smoked! Imagine his surprise, for as far as he knew everyone on the frontier carried tobacco. The necessity of an ample supply of tobacco was one eventuality that Boynton and Mason had not prepared for on The Way West.

"The Cowboy," Jim Gray is author of the book *Desperate Seed: Ellsworth Kansas on the Violent Frontier*, Ellsworth, KS. Contact Kansas Cowboy, 220 21st RD Geneseo, Ks. Phone 785-531-2058 or kansascowboy@kans.com



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Even as I write, my friend Melissa Rau is sculpting the face of Captain Theophilus Turner, post surgeon at Fort Wallace. Along with his friend, William "Medicine Bill" Comstock, the good doctor discovered a plesiosaur in the wilds of Logan County in 1867. The nearly 42-foot-long beast was dug up over the course of a couple of years

and shipped to the Academy of Natural Sciences in Philadelphia where it remains to this day, in the academy's vault. A casting hangs in the entryway of that prestigious institution and another hangs in the Fort Wallace Museum.

Captain Turner, the subject of our docudrama, *Thof's Dragon*, became ill and passed away in the Fort Wallace hos-

pital in July, 1869. He was buried in the post cemetery and later removed to his family plot in Hope, New Jersey.

The post surgeons were men of medicine and men of science. The new addition to the Fort Wallace exhibits will have Capt. Turner seated at his desk by the hospital exhibit, looking up at his dragon, making sketches. It will bring those exhibits full circle, connecting the critical role of the post surgeon on those frontier posts, and forever preserve Captain Turner's role in history.

I don't often mention fundraising in this column, but I am today. I feel as if I have come to know the good captain who was humble and curious. A Civil War veteran, he and the ill-fated Lt. Fred Beecher became close friends

and it was Turner who sent the young officer's belongings back to his family after the Battle on the Arikaree. He also went back with the burial detail to remove the remains of the men killed in that battle only to find his friend's empty grave. Whether hostiles or animals, Lt. Beecher's bones were scattered on the prairies. How devastating for the young doctor!

The Guardians of Fort Wallace have already commissioned the lifelike sculpture of the Cheyenne warrior Roman Nose, who, like Beecher, died at sundown on September 17, 1868 on the Arikaree. The exhibit takes your breath away. Melissa created the formidable figure and Ken Weidner created the accoutrements and made the legendary war bonnet. Now, we are asking Me-

lissa to work her magic again.

We have on loan the figure of Wild Bill Hickok (who really needs to be at Fort Harker, so if anyone wants to open their purse and donate him to that august institution, we would happily help Bill on his way). She has done figures of Amelia Earhart, Arthur Capper, Mother Teresa, and Christ bearing the cross. The realism is stunning and her attention to detail in clothing and accessories shows the concern of a real historian. On many occasions have I seen folks attempting to engage one of these figures in conversation.

If you would like to support our lifelike sculpture of Dr. Turner, checks may be addressed to the Guardians of Fort Wallace Museum, 2655 U.S. Hwy. 40, Wallace, Ks. 67761 (tax deductible). Then,

come visit him.

On October 18, 19, and 20, the Fort Wallace Museum will be hosting the Smoky Hill Trail Association's annual conference and the speaker for our banquet will be the esteemed Mike Everhart. He will speak on Captain Turner's life and contributions to science. (Visit smokyhilltrail.com for other details and to register.)

Join us in celebrating the life of this amazing young man, who died in service to his country and who left a profound legacy.

Deb Goodrich is the host of the Around Kansas TV Show and the Garvey Historian in Residence at Fort Wallace Museum. She is the chair of the 200th anniversary of the Santa Fe Trail in 2021. Contact her at author.debgoodrich@gmail.com.

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Sorghum, the third most abundant cereal crop in the United States, is emerging as a star player in the biofuels industry. With its water use efficiency, resistance to heat and low cost of seed, it has the capacity to outpace corn, especially in the West and High Plains where irrigation supply limits agricultural productivity more than land availability.

Right now, however, maximizing the crop's potential is challenging. The function of much of its genome — its complete set of DNA — remains a mystery. Without pinpointing the function of more of sorghum's roughly 30,000 genes, researchers can't fully optimize sorghum for biofuel production.

That's the problem a group of University of Nebraska-Lincoln researchers, led by plant geneticist James Schnable, has set out to address. The team recently earned a \$2.7 million, three-year grant from the U.S. Department of Energy to develop a rapid, efficient method for

characterizing the functions of genes in sorghum.

The Nebraska scientists are leading a team of institutions from across the Corn Belt — including Iowa State University, Michigan State University, Purdue University and the University of Illinois at Urbana-Champaign — in this effort.

Their approach, an innovative merger of machine learning and plant genetics, will pave the way for sorghum strains designed to thrive in specific environments. The method could also extend to other crops such as corn and soybeans, the vast majority of whose genes are unstudied.

"If we understand the details about how plants perceive and react to their environments, we can develop varieties specialized to certain parts of the U.S.," said Schnable, associate professor of agronomy and horticulture. "Right now, for many genes, we have no idea what they do."

To begin to fill these gaps, Schnable's team is using a method known as reverse genetics. It's essentially a rewind of the traditional approach, called forward genetics, where the starting point is a plant with an unusual appearance, or phenotype. Researchers find the odd-looking plant, then try to determine which genes are responsible.

With reverse genetics, the process moves the other di-

rection. Scientists start with a known gene, alter that specific gene, then analyze the characteristics of the resulting plant, shedding light on the gene's function. Though the approach has been used for more than a decade, in most cases, altering the gene has no effect. Identifying the right genes to study is like digging for a needle in a haystack.

To overcome this, Schnable's team is devising a systematic method for selecting which genes it makes sense to investigate. It centers on machine learning — the process of teaching computers to make decisions by exposing them to mountains of previously collected data. For this project, the researchers will feed the machine extensive information about sorghum and corn genes that already have been studied in depth.

From this data, the computer will learn to recognize patterns indicating a certain type of gene likely plays an outside role in determining sorghum's characteristics. Once refined, the algorithm will spare researchers the cumbersome process of randomly picking a gene, mutating it and coming up empty-handed.

"People in the lab have found that when a gene does yield something weird in the plant, these genes look really different from others in the genome," Schnable said. "We're going to use this information

to train computers to identify other genes likely to have big effects on plants when they're mutated."

After the system identifies promising genes, Schnable's team will edit them and measure the resulting sorghum for traits such as stress response, nutrient and water-use efficiency, and biomass — the amount of organic material available to produce renewable energy.

To this point, much research has focused on identifying crop varieties that perform well across large parts of the country, from eastern Nebraska to central Illinois, for example. But with a deeper understanding of how sorghum's genes function, the focus can shift to developing breeds that flourish in smaller geographical pockets with fewer inputs. This strategy could boost overall sorghum production for fuel, food and animal feed.

The project is among the first to marry artificial intelligence and plant science, a combination that started gaining momentum over the past 18 months, Schnable said. He expects the method to open new doors in plant genetics.

"There is so much potential when you start communicating between two different academic silos that haven't been talking to each other before," he said.

The interdisciplinary approach is reflected in the team's composition. The Nebraska group also includes Yufeng Ge, associate professor of biological systems engineering, and Brandi Sigmon, assistant professor of practice in plant pathology. Researchers from other universities include statisticians, engineers and geographers.

The project is funded by DOE's Genomics-enabled Plant Biology for Determination of Gene Function program.

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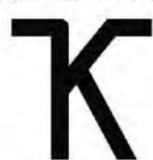
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Former National Geographic editor, photographer to speak at K-State

Dennis Dimick, the former executive environmental editor for *National Geographic*, where he worked for 35 years, is the sixth speaker in Kansas State University's Henry C. Gardiner Global Food Systems lecture, which will take place on Oct. 14.

Dimick will present "Living in the Human Age," a fast-moving slideshow which explains the challenges of living in the modern human era. The public talk begins at 7 p.m. in K-State's McCain Auditorium. Admission is free.

While at *National Geographic*, Dimick led the 2011 creation of a year-long magazine series on world population, which is expected to reach 9.6 billion by 2050; and in 2014, he conceived and led a multi-year series titled "The Future of Food," on global food security.

He also worked on more than 90 other *National Geographic* projects that addressed climate change, public lands, freshwater scarcity, coal and natural gas as energy supplies, and the effects on water supply from drought and snowpack loss in the United States. He was involved twice in magazine stories on the High Plains Aquifer, a major source of groundwater in western Kansas and parts of seven other states.

Dimick and *National Geographic* photographer Jim Richardson will also speak to students and other campus groups about how they have helped bring attention to these issues through their work, and how students can be the next generation of storytellers.

In this interview, Dimick and Richardson give a preview of what they will be talking about on Oct. 14.

Kansas State University: What do you mean when you refer to "The Human Age?"

Dennis Dimick: About 20 years ago two scientists, Paul Crutzen a Nobel-Prize winning Dutch chemist, and Eugene Stoermer of the University of Michigan, coined the word and idea "Anthropocene," which means "The Human Age." They said that we have entered a new era of geologic history where humans have become the dominant species on Earth, and the impacts of our expanding activities can now be observed in the geology of the planet.

This talk focuses on the idea that, since about 1950, we have seen what is called the "Great Acceleration," a tripling of human population, a dramatic rise in energy use primarily from coal, oil, and natural gas for electricity, industrialization and urbanization – and vast land-use change for agriculture and urbanization. We have cut forests and plowed up grasslands to grow more food for this rising population, and to give us places to work and live.

Modern society depends on fossil fuels to work, and agriculture itself is deeply reliant on fossil fuels to grow crops, as oil is needed for tillage, harvest, transportation and chemicals. And natural gas is used to produce nitrogen crop fertilizer.

K-State: So, are we talking about climate change?

Dimick: In a way yes, but my goal here is to create a larger framework for us to consider and discuss our modern situation. One result is that we are witnessing changes in climate as a result of these expanding activities. Essentially climate change is one symptom or result of the Anthropocene, or Human Age.

The same holds for other symptoms like deforestation, declining aquifers, species extinctions, air pollution from engines and industry, and accumulating hypoxic, or "dead zones" in coastal waters from nutrient runoff from urban and agricultural landscapes. These are all results of expanding population, energy use, and land use changes.

Jim Richardson: The advantage of re-phrasing this in terms of the Human Age is

that it gets at the multitude of ways that humans have expanded their use of the planet. Fuel and energy is certainly one of them. But things like the use of concrete and the rest of the ways that we transform the planet come into it, too.

Climate change is just one of the implications related to how we're using the planet's resources, but even if we weren't facing climate change, we would still have a multitude of other challenges we would have to face. And that's one of the advantages here is that this sort of decouples climate change from being the only implication. That means that politically you can broaden the base because even if you're not convinced by climate change, you could be convinced by the need to feed a growing population in an increasingly unstable environment.

K-State: In the urgency to produce more food, what effect is that having on our environment?

Dimick: We have converted natural plains and grasslands into vast fields of industrial-scale monoculture crop production. Nearly 70 percent of world freshwater is used for irrigation, (so) we are depleting aquifers. We have cut forests all over the world to grow crops to feed people, to grow crops to feed animals that we eat, or even grow crops that we turn into fuel.

While there are great benefits to humanity in the crops and food produced, the loss of biologically diverse forest and plains landscapes also comes at a price, such as loss of carbon storage in soil, and species extinctions.

These impacts add up. One effect is that we are altering atmospheric chemistry, as fossil fuel burning and land-use change produce the heat-trapping gases carbon dioxide and methane, and global temperatures are rising. The warmest five years since modern weather records began have been the past five years.

We also extract nitrogen from the atmosphere using natural gas in a process called Haber-Bosch to produce synthetic nitrogen fertilizer that has become the primary plant food for grain production. This easily available nitrogen plant food has created a dramatic rise in food supplies, but we also disrupt the planet's nitrogen cycle as surplus nutrient runoff from landscapes pollutes groundwater and coastal waters.

We are deeply intertwined with coal, oil and gas, as these essential energy sources make possible the civilizations and economies in which we live. But what we now witness are changes in the behavior of several of Earth's major cycles, such as carbon, nitrogen and water.

K-State: So, then, that is why framing this within "The Human Age" brings greater context to the concept of climate change, right?

Dimick: Climate change results from disruption of Earth's carbon cycle, as we put more carbon into the atmosphere by burning fossil fuels and land-use changes than can be taken out by natural carbon sinks like soil, forests and the oceans. Using the Anthropocene, or Human Age, framework as a way to contemplate these changes offers a broader context and helps us understand why Earth's climate is changing, not just that it is.

Essentially these changes – as seen in more frequent and extreme rainfall events and droughts, snowpack loss, and increased ice-sheet melt that drives the rise of sea levels – these effects can be seen as results or outcomes of expanding human economic activity. Rising levels of carbon dioxide and methane in the atmosphere are just a measure or result of the vast scale and range of human activities across the planet.

Scientists can measure carbon dioxide embedded in ice, rivers flow differently because of dams and land-use changes such as urbanization and highways, and residues from nuclear explosions can be measured in tree trunks and in rocks. The Anthropocene, or Human Age, is seen as a new age where we are changing the geology of the Earth, and these signs are embedded in Earth's geology that indicate we were here.

K-State: Is it simply an idea of reducing the use of fuels and the things that are causing damage, or are there other things we can do in this Human Age?

Dimick: Carbon fuels and the industrial processes that come with them play a big role: the digging and drilling, burning and disposing of residues. The main issue is that we just put exhausts from burning carbon fuels into the sky without limit. We also must not forget that we have benefited greatly from these fuels. Canadian scientist Valclav Smil estimates that half the people on Earth are alive because of crop yield increases resulting from synthetic nitrogen fertilizer.

In terms of what we can do, de-carbonizing energy is a top priority. We need to find energy sources that power the economy and provide services that do not emit carbon – and the heat-trapping air pollution burning carbon produces – as soon as possible. What this looks like can be electrical energy from windmills and solar panels that power our homes and cars; it also can mean farm fields where a diverse mix of cropping systems soaks up more carbon as possible from the atmosphere and stores it in the soil.

We must be realistic that some activities like flying, ships, and heavy equipment operation may need oil for fuel for a long time. Oil is a very powerful fuel, its energy is dense and portable, and

finding comparable substitutes is not easy. The goal is to cut carbon emission, yet global carbon emissions keep going up each year.

The rub is that it took centuries to create a carbon energy-based economy and it's going to take a long time to get out of it. There are those who don't want to see this change because fossil fuels are very profitable, and there is a lot of money to be made from producing and selling them.

And yet, the impacts we see – whether it's devastating fires in Paradise, California, or "bomb cyclone" storms and floods in eastern Nebraska that destroy dams and levees, flood farms, and make landscapes uninhabitable – these are the kinds of extreme events resulting from rising temperatures that are tied, as scientists study and report over and over, to rising levels of carbon in the atmosphere. The longer we wait to decarbonize our energy supplies the greater risk we place on the future stability of our society and economy.

In the meantime, we also need to create resilience in our food production systems as a way to build margins against extreme weather events, floods and drought. This could mean increased diversification of crops, planting crops that are more tolerant of heat and drought as the climate warms, and even increasing pasture lands and grazing in a mix of farming approaches as ways to reduce soil erosion, nutrient runoff, and improve carbon storage in soil.

K-State: So, explain how you've been involved in communicating this message over the years.

Dimick: Beyond magazine projects, I've presented slideshow lectures on these issues for 15 years in public forums, at conferences and universities. Last year, I spoke to the Institute of Food Technologists; to the Wisconsin Science Festival in Madison; in 2016, to the annual meeting of the Soil Science Society of America; and in 2017, the USDA National Institute of Food and Agriculture honored my work in communicating agricultural issues with the Seaman A. Knapp lecture, named after the founder of the Cooperative Extension Service.

K-State: Do you consider raising these issues to the profile of National Geographic as a positive step?

Dimick: We published a multi-story issue in September 2004 called "Global Warning: Bulletins from a Warming World." We knew we likely would lose readers and we lost about 75 subscribers, but we had many other subscribers sending us money in support of the work.

One government scientist thanked us for raising these issues, saying, "Now it's OK to talk about climate change in the United States." Our goal was to create an atmosphere of receptivity to ideas, to de-

scribe what's happening and why, what's at stake, and explain choices we have, that maybe this work could open the door to more fruitful discussions in later years.

K-State: So, it sounds like it took a bit of courage to put issues out there that people were hesitant to talk about?

Richardson: Yes, that's true. Dennis was pushing for National Geographic to do a story on the carbon cycle long before anybody knew what it was. Even within National Geographic, there were people scratching their head asking, "What is this carbon cycle story?" Now, of course, it's everyday language.

The advantage of this balance of knowledge is that Dennis understands that agriculture is part of the carbon cycle. He understands that intimately in terms of soil, and can make forceful arguments, as he did in National Geographic.

Dimick: The carbon cycle story became the centerpiece. Other stories about global environmental change are linked to the idea that the carbon cycle makes life on Earth possible, and that we are in the process of changing and disrupting it. Effects unfold across the planet through changes in climate, changes in the hydrological or rain and snow cycle, changes in glaciers and ice caps, and changes in landscapes from expansion of human activities like industrialization, urbanization and food production. A key challenge in years ahead is growing enough food for nine or ten billion people without further damaging Earth's systems that support all of us.

This all comes back to the role of carbon in the environment. All living things, people, plants, and animals are about

50% carbon. The carbon fuels we dig up and burn are just fossilized remains of plants and animals that lived about 400 million years ago. The carbon cycle is one of Earth's primary "biogeochemical" cycles," just like the water cycle, the nitrogen cycle, and the oxygen cycle. Once you understand that the carbon cycle is a basic equation that allows for life on Earth, then you understand how tinkering with it can create risks for the stability and future of the modern world we all inhabit.

K-State: Is your lecture message one of awareness, hope, or maybe doom?

Dimick: Primarily the idea is to bring a message of context and awareness, to help us understand where we fit into the world now and help us contemplate the trajectory we are on, not just where we are at this moment. Then it's up to each one of us as individuals, communities, institutions, and society to make choices on how we want to live, what goals we want to achieve, what trajectory society takes.

For individuals it's not just how we want to live, it's what we want to pursue in our life's work, what difference each of us wants to make. It's never too late. Maybe we should have started decarbonizing the economy 20 years ago, but then the next best day is today. By discussing these looming challenges within the Anthropocene, or Human Age, idea, it's my hope we can begin to think, discuss, and act in fresh ways to address a future that is changing and coming at us faster than we think.

Learn more about the Henry C. Gardiner Global Food Systems lecture series at <https://www.k-state.edu/research/global-food/lecture/lecture-series.html>

REAL ESTATE AUCTION

661.5 ACRES OF WOODSON CO. GRASSLAND

will be offered at Public Auction on

TUESDAY, SEPTEMBER 17, 2019 — 7:00 PM

Sale Location is Central Park Pavilion at 101 S. Forest St. — CHANUTE, KANSAS

Property will be offered in 3 smaller tracts then as a unit. Property is located NW of Buffalo, KS

Directions: From 75 Hwy. at Buffalo, KS, West on CR 2350, 5 miles to Kingman Road, then North on Kingman 1 1/4 miles to County Rd. 10, West on 10th Road 1 mile to Jay Road, then 1 mile North to SW of Tract 3 (Sec. 29) or West 4 miles to Lynx/Longhorn then North 3 1/2 miles to 45th Road, then West 1 1/4 miles to Juniper Road, South 1/2 mile, West to Julep Rd. South to 35th Rd, West 1/2 mile to Jay Rd., South 1/2 mile to Tract 1 & North end of Tract 2 (follow the main road) follow road East then North to 85th Rd. then go West 1/8 mile.

TRACT 1: SW1/4 Sec 20, T26S, R15E, 160 Acres.
TRACT 2: NW1/4 & W1/2 NE1/4 Sec 29, T26S, R15E, 240 Acres.
TRACT 3: SW1/4, W1/2 SE1/4, SE1/4 SE 1/4 Sec 28 & W1/2 SW1/4 Sec 28, T26S, R15E less the South 718.79ft. thereof. Includes an easement for ingress & egress across West 60' of SW 1/4 of Sec 28, 261.5 Acres.
TRACT 4: Combinations of Tract 1, 2 & 3 – 661.5 Acres.

Mineral Rights are Not Included. Possession will be given at closing, subject to the current tenants rights. Buyer will get Prorated share of cash rent from closing to Jan. 1, 2020

TERMS: \$10,000 down on Tracts 1, 2 & 3; \$25,000 down on Tract 4 the day of sale along with signing of Purchase agreement, balance of funds due within 30 days. Property sells subject to Sellers Reserve, oil & gas lease, pasture lease and all rights of way, easements and restrictions of record. Property does not sell subject to financing or rights of rescission. Property sells in "as is" physical condition with a guaranteed good title. Taxes will be prorated to closing.

We welcome broker participation, please call the office for details.

OWNER: MICRO-LITE, LLC

Sellers Agent: Larry Marshall Auction & Realty
413 N. 6th, Fredonia, KS 66736

For details or info call or email: 620-378-4356 or 620-485-6136
For Maps & Pictures go to Website: www.lmarshallauctionandrealty.com, email: marshallauction@twinmounds.com
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- Roger Miller, Booker, TX

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kansasagreport.net

Cover Crop Corner: A cash crop farmer's advice for planting a successful cover crop

By Risa Demasi, Co-Founder
Grassland Oregon

It's been a tough year for many producers throughout the Midwest with record acreage going into prevent plant. Dave Chance of Chance Farms in Lebanon, Ind., was no exception this spring, drilling 600 acres of his 2,200 acre corn and soybean farm with cover crops. Unable to get any corn in the ground, Dave managed to plant 1,450 acres of soybeans.

During a cover crop tour in the Corn Belt, I had the opportunity to pick Dave's brain about his approach to making the most of his prevent plant acres. A 14-year veteran to cover cropping, Dave has many words of wisdom from lessons learned for his fellow producers venturing into cover crops for the first time:

Adopt the right mindset

Rather than looking at your prevent plant acres as a one and done for a check, look at it as "a golden opportunity" to try something you wouldn't have otherwise done. If you want your cover crop to be a success, then adopt a positive mindset and focus on the benefits they bring to the table. For example, focus on how the uplift in soil health from cover crops will positively impact the long-term production of the farm, or how legumes in the field now are potentially going to reduce nitrogen input costs next spring. Dave is adamant that this simple shift in thinking will be the difference between failure and success for people venturing into cover crops extensively for the first time this year.

Look for improvements that will offer long-term benefits

In a typical year, Chance Farms follows a corn and soybean rotation, with 10 percent of the acreage going into wheat, which is followed by an overwinter cover crop mixture. Dave calls this the "rehab" year, with each part of the farm going through it every seven years. This rotation was developed by accident in 2005. In an effort to get tile-ditching work completed during the summer, one of the 178-acre fields was split in half and planted with wheat on one side and kept in the corn-soybean rotation on the other side. The plan was to tile-ditch the wheat side and then urea top dress it in the spring. Dave and his dad got to talking about how his great-grandpa used to add clover in his urea top dressing to keep weeds down and add nitrogen back in the soil. As an experiment, he decided to broadcast Canadian giant mammoth clover into the wheat. While doing tile work in the field after the clover had been established, the changes in the trial plot's ecosystem became very apparent. The soil had a rich, healthy smell, and clover root structures were reaching 10-12 inches deep, covered in nodules. Examining the healthy stand of wheat and clover, Dave found the butterfly and bee population to be greater in the field. However, the real light bulb moment came when the wheat and clover trial plot was transitioned back into corn and yielded a 35-bushel advantage over the half of the field left in the

corn-soybean rotation.

For the next three years, Dave experimented with different species of cover crops to find what was most suitable for their farm, and aggressively integrated it into the system in 2010. The cover crop "rehab" year serves many purposes to the long-term success of the cash crop system. Improvements to soil health and structure have contributed to yield increases in the following corn and soybean crops. And while it varies on the cover crop mix and weather conditions, some years have resulted in the reduction of synthetic nitrogen inputs.

Take advantage of the biodiversity

While most prevent plant acres will have already been established, Dave is an advocate for utilizing cover crop mixtures rather than planting a monoculture. This is the best way to benefit multiple areas of the farm system, whether it is adding organic matter back into the soil, fixing nitrogen, suppressing weeds, or improving water sequestration. His foundation ingredients to his cover crop recipes always include a legume, brassica, grass and broad leaf specie to "turn the soil on" and to choke out weeds.

With the farm's five mixtures ranging from three to 16 species each, and more than 20 different species being used throughout the farm, Dave has placed a great deal of emphasis on selecting for variety traits. According to him, variety selection has been the difference between successful years and flops on multiple

occasions. Along with being able to rely on consistency of performance, he can also take advantage of specific traits bred into the varieties. Currently two of his favorite clover varieties to include in mixtures are cold tolerant FIXatioN Balansa Clover and Frosty Berseem Clover from Grassland Oregon. FIXatioN Balansa Clover can contribute up to 200 pounds of nitrogen per acre and yield 5 tons of dry matter in a single growing season. Its deep tap root system also helps with compaction, soil drainage and water infiltration. Frosty Berseem Clover has specifically been bred for fast establishment, late maturity and the ability to survive in temperatures as low as 20 degrees Fahrenheit.

Dave strongly urges fellow producers to experiment with different mixtures for a couple years to see what works best for their unique challenges before using them aggressively. In one of his recent trials that was incorporated extensive-

ly into the farm as prevent plant acreage, a mix of oats, buckwheat and radish was broadcasted and then rolled to incorporate seed into the top 0.5 inches of soil. Then, with a 15-inch row planter, winter peas were drilled at a rate of 27 pounds per acre. The broadcasted species will act as a protective wall this winter for the peas. This spring, Dave plans to go back in and plant corn between the 15 inch rows to fully take advantage of the nitrogen contribution.

Don't let the government dictate your management

Regardless of varying dates tied to prevent plant payments, Dave's past success with cover crops has secured their existence on his budget sheet without any added government support. If you are too late to the game for prevent plant payments but still have land that needs to be planted, it is not too late in the season to establish a cover crop. Thanks to improved plant breeding, there are multiple fast estab-

lishing options available that have time to get going before the first autumn frost.

Practice patience

Dave's final piece of advice is to look at your cover crop venture as a marathon – not a sprint. Simply putting a cover crop in the ground to collect a government check and then turn around and go back to the way you've always farmed won't yield the full benefits of cover crops. It takes years of consistent management to rebuild soil health and capture the full potential of cover crops. However, by experimenting with different species and methods to figure out what is best for your system and taking advantage of the lessons learned from producers like Dave, the long-term rewards from cover crops will be worth it.

If you have any questions about which cover crop options will work best for your geography and unique challenges, give Grassland Oregon a call at 503-566-9900.

Top Colorado ranch broker Robb Nelson joins Hall and Hall

Hall and Hall, the largest full-service land brokerage in America, is proud to announce that ranch broker, Robb Nelson, has been named full Partner and will become an integral part of the firm's efforts Colorado, Wyoming, Kansas, and Nebraska. Nelson's specialty is large working ranches and farms, as well as trophy hunting and fishing properties. He also has extensive experience in the hunting industry and is on the Pro Staffs of Mossy Oak, Hunter's Specialties, Mathews Bows, Field Logic, and Outdoor Edge. For more information on Nelson, visit <https://hallhall.com/team-member/robb-nelson/>.

"We are thrilled to add a Partner with Robb's reputation and experience," said Hall and Hall Managing Director, B Elfland. "He comes from a long tradition of farming and ranching as a 5th generation cattleman from South Dakota and his background as a contract and real estate lawyer is very valuable in negotiations and complex property issues."

In addition to serving on the Federal Lands and State Lands Steering Committees for the Colorado Cattlemen's Association, Nelson is active in various cattle organizations. He also runs a cow/calf cattle operation south of Steamboat Springs, Co. He is knowledgeable on topics such as owning or leasing hunting properties, farm leases, conservation easements, water rights, habitat enhancement, stream bed improvements, hunting laws, the Right to Farm Act, hunting strategies, land management, contracts and other property issues.

"I am truly honored and blessed to be joining the Hall and Hall team as a Partner," said Nelson. "It is undoubtedly the preeminent ranch brokerage in the country."

Nelson and his wife, Wendy, live on a horse property east of Ft. Collins, Co. and are very active in "Hunter's Dream for a Cure," a charity they founded and named after their late son Hunter that raises money for children with neurological diseases and programs for special needs children. The foundation has raised well over \$2,000,000 since its inception, and the research clinic it started at the Kennedy Krieger Institute and Johns Hopkins Hospital in Baltimore was renamed the Hunter Nelson Sturge Weber Center in 2007.

AUCTION

ANTIQUE TRACTORS & VINTAGE MACHINERY
SATURDAY, SEPTEMBER 21, 2019 — 9:30 AM

Auction will be held at the farm located 2 miles South and 1 1/2 miles West of BURR OAK, KS or 4 miles North of Highways 36 & 128 then 1 1/2 miles West at 959 T Road.

FEATURED TRACTORS

JOHN DEERE: 1955 JD 80 pony start, power steering, PTO and Hyd., tin good, tires fair, big engine runs (serial no. 8000671); **1957 JD 820** pony start complete, tires good, PTO, hyd., power steering engine free (serial no. 8202488); **1960 JD 830** electric start, tires good, tin fair to good, foot throttle, power steering, PTO, hyd., starts & runs, (serial no. 8304234); **1957 JD 720** gas tricycle power steering, engine free, 3 pt. complete, not running, (serial no. 7202273); **IHC: Farmall F-30 (serial no. 21619); Wheatland W-30 (serial no. 13685); Industrial I-30; Power Unit P-30 (serial no. PB4161PE);** all of the above have same cubic inch IHC engine., older paint all engines free and would run with tune up; **2-1934 Farmall F-20's that have regular Farmall rear end housings installed on them at factory** with a special set of serial numbers (TA135059 & TA135257) engine & frame numbers match, engine stuck & no tires, only 660 of this tractor made, rare find today; **1935 F-12** on rubber single front cut offs on back engine free completely overhauled last 6 years (serial no. 9023); **P-12 power unit** complete older paint engine free (serial no. PS3077); 1946 Oliver 80 row crop unstyled complete engine stuck 40" rear rubber front radiator curtain, lights & fenders (serial no. 113718C46); 1949 IHC M diesel runs, good tires & paint power steering (serial no. MD206364); **Regular Farmalls** (serial no. T113159 complete 6" flat rear steel w/ lugs); (serial no. T95621 older paint tires poor, runs); (serial T-31446 gas manifold engine stuck complete now tire); (serial no. T-55250 full steel, stuck, complete); (T-59248 rear new rear rubber 28" on round spoke wheels, engine stuck, complete); (T-32805 rear steel, newer F20 engine complete stuck); **F-20:** (FA-105038 cast rear wheels, engine stuck); (FA-75191 add on IHC hyd belly pump, gas manifold); (FA-67680N narrow rear end, no tires engine stuck); 6 or 7 more F-20's from 1935-1939 mostly complete parts or repairs no tires poor rims engines stuck; **F-30:** (FB-22401 28" round spokes engine stuck gas manifold no tires); (FB-26682HA stuck full set F & H round spoke wheels all tires up gas manifold); (FB-20178 engine stuck complete 36" round spoke add on IHC

ripper on steel; **12 Oneways** IHC, JD, MM on rubber & steel 5' to 10' hyd and trip; single & tandem discs IHC & JD (1 12' no 37 on wheels, Krause 21' fold up flex wing w/drag); **Listers:** JD, IHC pull type & mounted, 3-JD 3 row; no 630 w/seed boxes & steel wheels; 2 row 730 pull type w/steel & rubber wheels; IHC pull type 151 of F20 era some are H & M era most w/steel wheels; Lister row cultivators 2 row & 4 row 3 pt; **Tractor Mowers:** JD no 5 semi mount; 7' sickle mowers IHC & JD mounts; IHC semi mount no 25 or 27V 7' sickle mowers; 2 Oliver 22A semi mount sickle mowers; extra parts; **Dump Rakes; Side Delivery Rakes:** high wheel on steel and rims for rubber IHC & JD 1JD 3 wheeled of 1960 era; 5 Dempster universal units 3 w/sweeps 1 w/2 row lister moldboards 1 w/4JD no 7 planter units; **Field cultivators:** 4 JD CC's on rubber & steel wheels; IHC high & low steel wheels cultivator pointed and sweep shovels; MM pointed shovel cultivator; **Grain Drills:** steel wheeled IHC, JD & MM; newer drills IHC 150 hoe drill; 5100 soybean double disc end wheel; 2 IHC corn pickers 1 row & 2 row pull type for repairs; JD no 6 pull type 6' PTO combine rubber tires only made 3 yrs rare wood & canvas is missing metal is there; **Wagons & Running Gears:** 2 & 4 wheeled, 3 IHC wagon gears, JD 942 wagon gear, 4 wheeled running gear made from front Fordson tractor hubs w/16" rims; 3 running gears from early 30's Ford hubs & wheels; homemade single axle dual wheel combine trailer from truck frame; 2 2.3-16, 1 3-12) rope trips; 2 section IHC springtooth; 24" Kent springtooth; tractor ground driven stalk cutter; 2 tumble bug scrapers one is a No28R Killefer sold by John Deere.

rippler on steel; **12 Oneways** IHC, JD, MM on rubber & steel 5' to 10' hyd and trip; single & tandem discs IHC & JD (1 12' no 37 on wheels, Krause 21' fold up flex wing w/drag); **Listers:** JD, IHC pull type & mounted, 3-JD 3 row; no 630 w/seed boxes & steel wheels; 2 row 730 pull type w/steel & rubber wheels; IHC pull type 151 of F20 era some are H & M era most w/steel wheels; Lister row cultivators 2 row & 4 row 3 pt; **Tractor Mowers:** JD no 5 semi mount; 7' sickle mowers IHC & JD mounts; IHC semi mount no 25 or 27V 7' sickle mowers; 2 Oliver 22A semi mount sickle mowers; extra parts; **Dump Rakes; Side Delivery Rakes:** high wheel on steel and rims for rubber IHC & JD 1JD 3 wheeled of 1960 era; 5 Dempster universal units 3 w/sweeps 1 w/2 row lister moldboards 1 w/4JD no 7 planter units; **Field cultivators:** 4 JD CC's on rubber & steel wheels; IHC high & low steel wheels cultivator pointed and sweep shovels; MM pointed shovel cultivator; **Grain Drills:** steel wheeled IHC, JD & MM; newer drills IHC 150 hoe drill; 5100 soybean double disc end wheel; 2 IHC corn pickers 1 row & 2 row pull type for repairs; JD no 6 pull type 6' PTO combine rubber tires only made 3 yrs rare wood & canvas is missing metal is there; **Wagons & Running Gears:** 2 & 4 wheeled, 3 IHC wagon gears, JD 942 wagon gear, 4 wheeled running gear made from front Fordson tractor hubs w/16" rims; 3 running gears from early 30's Ford hubs & wheels; homemade single axle dual wheel combine trailer from truck frame; 2 2.3-16, 1 3-12) rope trips; 2 section IHC springtooth; 24" Kent springtooth; tractor ground driven stalk cutter; 2 tumble bug scrapers one is a No28R Killefer sold by John Deere.

TRUCKS

2 Ford 9000 LN single rear axle tractor trucks 1971 & 1976 both Cummings engine run dual speed transmission, air brakes; 1966 Ford F600 w/330HD V8 14' box w/hoist not running.

COLLECTIBLES

Oil cans 5 gal, 1 gal, qt. very large collection; JD & IHC corn shellers; water tanks; windmill tower; planter boxes; sleds; coaster wagons; buckets; wash tubs; wooden boxes; jars; neck yokes & single trees; screens; tobacco tins; large collection of other collectibles.

50 BIG ROUND BALES ALFALFA & 50 BROME

Lunch by Burr Oak Methodist Church Ladies

NOTE: Oren has been collecting for the past 42 years. He has enjoyed the hunt to see what he could find, especially farm machinery from the 20's to 50's. Come see what he found. Check our web site for pictures at www.thummelauction.com

OREN UNDERWOOD COLLECTION • 785-647-7061 or 785545-5880
Auction Conducted By: THUMMEL REAL ESTATE & AUCTION LLC
785-738-0067

AUCTION

SATURDAY, SEPTEMBER 14, 2019 — 10:00 AM

261 TABOR VALLEY ROAD — MANHATTAN, KANSAS

(177 South of Manhattan to Hwy. 18, East to Zeandale (Tabor Valley Road) North to Auction

1976 Ford F-150 pickup, less than 10K miles on motor, ladder rack & camper shell; 2-N Ford tractor with blade; Motorcycle for parts.

Professional painting & wall papering equipment: portable aluminum folding scaffolding with locking wheels; 3 airless paint sprayers; cap spray; 60" wallpaper pasting table; Sand blaster; power washer; ladders; sanders; brushes & rollers; drop cloths; halogen lights; stretch board; painting supplies.

Lincoln welder & accessories; **Nakajima upholstery machine on stand;** acetylene torches; garden tiller; 100# propane tank; McCall's cabinets; propane heater; variety of

hand & shop tools; **Dunk tank for stripping antiques;** split rail fencing; **Antique sewing machine for leather.**

Broyhill Danish modern bedroom suite with dresser & mirror, chest, 2 night stands & full size bed; Broyhill Danish modern glass front hutch (matches bedroom suite); Duncan Phyfe dropleaf table; Danish modern arm chair; 2-drawer antique library table; Antique hall table; antique rocking chairs; set of 6 ladder back chairs; Oak chests; 2 wooden school desks; double seat wooden rocker with cushions; wood & steel desks; Oak desk chairs; sewing rocker; metal baby bed; small dropleaf table; mirrored dressing table; floor lamps;

Antique folding bed; antique bread display shelf; old wood radio cabinet; old scalloped wire fence; window sashes; old doors; old tin squares; old dining chairs; gas range; Oak potato cabinet; stereo cabinet with 78RPM record player & radio; old cedar chest; chest on legs; Queen size sleigh bed frame; 56"X11" glass table top; metal; metal vinyl & wicker patio table & chairs; variety of window air conditioners; modern style stereo cabinet with record player; 8-track player, radio & wood encased speakers; Cameras; china; McCoy pink Hyacinth vase (good); Canadian Geese collector plates; old manual typewriter; Lots & lots more.

NOTE: Very interesting Auction. Jerry was a professional painter & wallpaper hanger over 50 years.

JAN TAGGART & THE LATE JERRY TAGGART

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AUCTION

SUNDAY, SEPTEMBER 15, 2019 — 10:00 AM

Auction will be held in Kenwood Hall at the Saline Co. Expo 900 Grealey in SALINA, KS

INDIAN & WESTERN COLLECTION

Two Greyhills rug; Yazzie rug; assortment of other rugs; Navajo pottery Maria pottery; assortment of other Indian pottery; black Indian head; Indian figurines; Russell print on canvas "Indian Village"; RE Hunn 1970 Indian picture; Montgomery Indian picture; Dull Knife picture; Naoko West picture; Papoose carrier; Indian bowls; Indian animals; peace pipe; turquoise & brass buckle; turquoise frog; Kachina dolls; bear figure; side saddle; riding boots; painted skull.

FURNITURE, ANTIQUES & COLLECTIBLES

Walnut 10' grandfather clock from Sunflower Hotel in Osborne, Ks.; cherry 3 pc bedroom set w/marble top dresser & commode; fancy oak hall seat; Bear bench & umbrella stand; oak unusual

parlor table w/claw feet; walnut oblong marble top parlor table; walnut dresser w/hanky drawers; walnut marble top commode w/mirror; oak ladies writing desk; 48" square oak table; set 4 oak chairs; oak fern pedestal; mahogany lamp table; oak twist leg fern stand; fancy needle point arm chair; brass bed; pattern back rocker; flip oak child's high chair; wing back chairs; pine 2 door cabinet; pine hutch; horn floor lamp; organ stool w/back; walnut fern stand; walnut gateleg table; child's wicker rocker; cast iron park bench; 2 fancy stain glass hanging lamps; crystal hanging lamp; unusual milk glass hanging lamp; cranberry piano lamp; assortment other lamps; 3 Osborne, Ks.; cherry 3 pc bedroom set w/marble top dresser & commode; fancy oak hall seat; Bear bench & umbrella stand; oak unusual

oval mirror; Glass: Flow blue dishes; Vaseline pitcher & glasses; cut glass bowl, pitchers, compotes; hand painted bowls; fluted console bowl; red sugar; Haynes ware pitcher; hat pin holders; pitcher & bowl; China lady bust; 15 quilts; oak child's dish cupboard; child's dishes; walnut child's bed; rabbit doll buggy; wicker doll buggy; china & porcelain dolls; bear figures; elk cane; Acme Electric double box telephone; Sumter telephone; camel; carousel horse on pole; graniteware; railroad lanterns; large collection movie posters; platform scale; cream cans; oil cans; ox yoke; iron boilers; garden tiller; oak pocket doors; hanging rods w/balls; wooden bowls; egg basket; ammo boxes; other wooden boxes; 4 horse tin merry go round; large assortment of other quality items.

NOTE: This is a very quality 50 year collection. There are many quality Indian pieces. Check our web site at www.thummelauction.com for pictures

Auction Conducted By: THUMMEL REAL ESTATE & AUCTION LLC
785-738-0067

Grass & Grain Area Auctions and Sales

September 9 — 220 acres m/l of Marion County land sold in 5 tracts held at Goessel for Sterk Dairy. Auctioneers: Van Schmidt Auction.

September 9 — 880 acres m/l of Pratt/Kingman/Reno Counties land sold in 6 parcels. Held at the Cunningham KS Community building for the John A. Mertens Revocable Living Trust. Auctioneers: Hamm Auction & Real Estate.

September 12 — Restaurant Auction selling kitchen items, coolers, sinks, ovens, bake sheets, stock pots, plates, platters, utensils, glassware & more; dining room & banquet seating & so much more held at Topeka for McFarland's Restaurant. Auctioneers: Kull Auction & Real Estate Co., Inc.

September 14 — Furniture, collectibles, household, garage items held at Newton for F.D. (Trip) & Glenda Triplitt. Auctioneers: Van Schmidt Auctions.

September 14 — 1976 Ford F-150 pickup, 2N Ford tractor, upholstery machine, professional painting & wall papering equipment, welder, hand & shop tools, dunk tank for stripping antiques, torches, antique sewing machine for leather, furniture at Manhattan for Jan Taggart & the late Jerry Taggart. Auctioneers: Gannon Real Estate & Auctions.

September 14 — Coins including over 400 lots of mint & proof sets, blue & brown dimes, nickels, dimes, Peace Dollar, American Eagles & much more held at Portis. Auctioneers: Wolters Auction.

September 14 — Coins, antiques, collectibles, Western & Cowboy items & more held at Strong City. Auctioneers: Hancock Auction & Real Estate.

September 14 — Hydraulic dump trailer, trailers, canoe, garden tractor, lawn mower, lawn & garden items, wood-working equipment, shop tools & misc., antiques & miscellaneous held near Beatrice, Nebraska for LaVerne Meyer Estate. Auctioneers: Jurgens, Henrichs, Hardin, Sommerhalder.

September 14 — Real Estate (3BR, 1.5 BA house, 1.4 acre lot) & contents held at Kanopolis. Auctioneers: Wilson Realty & Auction Service.

September 14 — Signs & advertising items from an old grocery store, pop bottle collection, Budweiser steins, lots of antiques & collectibles, old books, baseball cards, antique bicycle, old toys, glassware, appliances & household, lawn & garden held at LeRoy for Mrs. Darrell Brownfield. Auctioneers: Kurtz Realty & Auc-

tion Service.

September 14 — Furniture, appliances, collectibles & miscellaneous, equipment, tools & more held at Junction City for Paul & Roberta Evans Estate and Ruby Schmidt Estate. Auctioneers: Brown Real Estate & Auction Service, LLC.

September 14 — Tractor, machinery, boats, 4-wheelers, riding mower, antiques, collectibles, household, tools & other held near Lincoln, KS (North of Denmark, KS) for Leo & Joleene Lessor. Auctioneers: Thummel Real Estate & Auction, LLC.

September 14 — Farm machinery, pickups, livestock equipment & misc. held East of Abilene for Bill Miller Estate. Auctioneers: Kretz Auction Service.

September 14 — Car, tools, collectibles, furniture, miscellaneous, pocket knives & more held at Lawrence for Ken & Lena Rose Wehmeyer Estate. Auctioneers: Elston Auctions.

September 15 — Antique carousel horse, antique furniture, cello, red glass, Red Wing, pictures & prints, huge jewelry collection held at Rossville for Area Estates. Auctioneers: Gannon Real Estate & Auctions.

September 15 — Indian & Western collection, furniture, antiques, collectibles held at Salina. Auctioneers: Thummel Real Estate & Auction, LLC.

September 17 — 661.5 acres of Woodson County Grassland offered in 3 smaller tracts then as a unit held at Chanute for Micro-Lite, LLC. Auctioneers: Larry Marshall Auction & Realty.

September 17 — 5,725 acres m/l of Gray County land held at Garden City. Auctioneers: Peoples Company.

September 18 — Farm equipment, livestock & horse equipment, shop tools & misc., guns, household & collectibles, calves & hay held at Oswego for sale order of Glen & Geneva Yutzky. Auctioneers: Morris Yoder Auctions.

September 19 — 71 acres of Neosho County land consisting farmland, waterways, good fences & water held at Galesburg, KS for Leroy & Cheryl Burk. Auctioneers: Larry Marshall Auction & Realty.

September 19 — Russell County ground sold in 2 tracts: T1: 320 ac.; T2: 160 ac. held at Russell for Orville & Beverly Stroh Trust, James Stroh, trustee. Auctioneers: Stroh's Real Estate & Auction.

September 21 — Antique furniture, collectibles, jukebox, AC B tractor, shop items held at Burrton for Jim (Caro-

lyn) Carrington, Loren Switzer Estate. Auctioneers: Van Schmidt Auctions.

September 21 — 40-acre Mini-Ranch & Farm Dispersal including 2 bedroom ranch home, barns, garage & pond, 2 horses, 3 horse drawn sleighs, 2 horse drawn buggies, horse drawn stage coach, saddles, harness & tack, belt buckles, cars, trucks, lawn mowers, guns, Long tractor w/loader, portable cattle panels, building tin & much more held at Beaumont for Lester Hansen Estate. Auctioneers: Chuck Korte Real Estate & Auction Service, Inc.

September 21 — Collectibles, coins, tools, pottery, Arcade toys, dolls, jewelry, artwork, sports items, postcards, furniture & small housewares held at McPherson. Auctioneers: Oswalt Auction Service.

September 21 — Tractors, trailer, machinery & boats, mowers, tools & miscellaneous held near St. Marys for Glen & Linda Rezac. Auctioneers: Cline Realty & Auction, LLC.

September 21 — Truck, storage container, shop equipment including Snap-On, MAC, Blue Point & others held at Lawrence for John Fike, John's ATV & Cycle Shop. Auctioneers: Elston Auctions.

September 21 — Automobiles, tractors, power equipment, tools & shop, antiques, household & more held at Clay Center for Harold Leroy and Ray May Estate. Auctioneers: 5A Auction Service, Greg Askren, Cody Askren.

September 21 — Featured tractors including 1955 JD 80, 1957 JD 820, 1960 JD 830, 1957 JD 720, IHC Farmall F-30, Wheatland W-30, (2) 1934 Farmall F-20 & many others, machinery (from 1920s to 1960s), trucks, collectibles & much more held Southwest of Burr Oak for Oren Underwood Collection. Auctioneers: Thummel Real Estate & Auction, LLC.

September 21 — Guns, antiques, primitives & collectibles held East of Abilene for Bill Miller Estate. Auctioneers: Kretz Auction Service.

September 21 — Kansas Charolais Field Day with viewing of Vaughn Charolais, Wal-Mar Charolais and J-S Ranch as well as speakers held at McPherson County Fairgrounds in Canton.

September 22 — Gun, truck, appliances, furniture, antiques, collectibles, glassware, yard & tools, misc. & lots more held at St. George. Auctioneers: Crossroads Real Estate & Auction, LLC.

September 24 — Antiques,

collectibles, household, modern furniture, large collection wagons, bicycles & tricycles held near Miltonvale for Lois & George Larson. Auctioneers: Thummel Real Estate & Auction, LLC.

September 24 — 320 acres m/l of Cloud County land held at Aurora. Auctioneers: Gene Francis & Associates Real Estate Brokers & Auctioneers.

September 28 — 300 acres m/l of McPherson County land held near Galva for Hamilton Farms. Auctioneers: Van Schmidt Auctions.

September 28 — Furniture, metal signs, collectibles, shop items & more at Galva for Hamilton Farms. Auctioneers: Van Schmidt Auctions.

September 28 — Farm machinery, antique Model T Ford truck, antique tractors, skid loader, pickup, tractors, trailers, other machinery, UTV, 4-wheeler, guns, shop tools, horses, tack & livestock equipment held Southeast of Westmoreland for Sam & Vinnie Halbert. Auctioneers: Cline Realty & Auction, LLC.

September 28 (day #1) — Case extendo backhoe, JD 520 with loader, Gates concrete forms, pickup, machinery, tools, shop supplies & miscellaneous held near Belvue for Bud Crouch. Auctioneers: Kretz Auction Service.

September 29 — 2 Estates gun auction. Approximately 120 guns held at Salina. Auctioneers: Wilson Realty & Auction Service.

September 30 — 45.5 acres m/l of Riley County farmland held at Zeandale for Bob Rousey Trust. Auctioneers: Crossroads Real Estate & Auction, LLC.

October 3 — 128 acres m/l of Harvey County potential tillable farm ground held East of Newton for Ruben & Luelia Mosiman Revocable Trust. Auctioneers: Sundgren Realty Inc., Land Brokers.

October 4 — 425 acres m/l of Butler County tillable land, Walnut river, mature timber, wildlife & fishing held at El Dorado for Criss Investments, Inc. farm liquidation auction. Auctioneers: Sundgren Realty Inc., Land Brokers.

October 5 & 6 — 2-day toy auctions including Precision farm toys, toy farm collection, Tonkas, custom made wood toys, cast iron toys, misc. metal toys, farm & industrial toys, Nascar, GI Joes, brand toys & much more held at Manhattan for John & Juanita Habluetzel. Auctioneers: Crossroads Real Estate & Auction, LLC.

October 5 — Fall Machinery Consignment Auction held at Holton. Auctioneers: Harris Auction Service.

October 5 — Truck, boat, 3-wheeler, collectibles, pottery, glassware, misc., wooden seed advertising boxes, advertising petroleum, pottery, 100s Depression glassware & more held at Baldwin City for Tom & Diana Boyd. Auctioneers: Elston Auctions, Mark Elston & Jason Flory.

October 5 — Tractors, combines, trucks, trailers, farm equipment, tools & etc. held at Melvern for Howard & Joann Arb. Auctioneers: Rex Arb & Wayne Wischropp.

October 5 — Consignment auction held at Salina. Auctioneers: Wilson Realty & Auction Service.

October 5 (day #2) — Appliances, furniture & misc., household goods, tools & yard items, antique barber chair, guns, ammo, reloader, fishing supplies & meat processing equipment & much more held near Belvue for Bud Crouch. Auctioneers: Kretz Auction Service.

October 5 — Horse drawn items, tractors, farm machinery, household, antiques including pump organ, iron held North of Americus for Lester Edmunds Estate & Betty Edmunds. Auctioneers: Macy Realty & Auction.

October 5 — Coins held at Emporia. Auctioneers: Swift-N-Sure Auctions & Real Estate.

October 11 — 275 acres m/l of Little Blue Township, Washington County farmland held at Waterville for Marjorie Vogler. Auctioneers: Olmsted Auction.

October 12 — Tractors, 2 cranes, pickups, cars, lots of tools, farm equipment, etc. held at Osage City for Osage

County, KS & Janet & "Bud" Steinkle. Auctioneers: Wischropp Auctions.

October 12 — 274 acres m/l of land in Washington County consisting of cropland, waterways, creek, farmstead, barns, machine shed, pasture, cattle working area sold in 4 tracts held at Linn for Dittbrenner Farms. Auctioneers: Midwest Land and Home, Mark Uhlik.

October 12 — 241.1 acres m/l of land in Washington County consisting of cropland, pasture, ponds, wildlife habitat held at Morrowville for Heirs of Charles Stoker. Auctioneers: Midwest Land and Home, Jessica Leis, Mark Uhlik.

October 12 — New Straw Farm & Ranch Consignment auction held at New Strawn. Auctioneers: Kurtz Auction & Realty Service; Richard Newkirk, sales manager.

October 12 — 29th Annual Cow Power Gelbvieh, Balancer & Red Angus Female Sale held at Pomona for Judd Ranch.

October 19 — 160.89 acres m/l of Jackson County farmland to be held at Horton for Six R Farms, LLC. Auctioneers: Midwest Land & Home.

October 19 — Collectible gun auction including 150+ Winchester, Colt & Sharp guns held at Salina. Auctioneers: Thummel Real Estate & Auction, LLC.

October 26 — 220.61 acres m/l of Marshall County land consisting of cropland, pasture, home & buildings held at Marysville for Herb Pledge. Auctioneers: Midwest Land and Home, Jeff Dankenbring, Mark Uhlik.

October 26 — Large commercial and personal property auction held at Clay Center for Bill & Linda Hickman. Auctioneers: Kretz Auction Service.

October 30 — Fink Beef Genetics Angus & Charolais Bull sale held at Randolph.

November 1 — Moser Ranch 28th Bull sale at private treaty offering SimAngus, Simmental and Angus bulls held at the ranch in Wheaton

AUCTION

Antique Tractors & Machinery, Shop Tools, Horses, Harness, Tack & Vehicles

SATURDAY, SEPTEMBER 28, 2019 — 10:00 AM

Auction located from WESTMORELAND, KS — 4.8 miles South on Hwy. 99 to Boxelder Rd., 8 tenths of a mile East to Clear Creek Rd., then 1.4 miles North on the East side OR from Wamego, KS 9.5 miles North of the Hwy. 24 & 99 Junction on Hwy. 99 to Boxelder Rd., 8 tenths East to Clear Creek Rd., then 1.4 miles North to 12255 Clear Creek Road, WESTMORELAND, KS.

(If using GSP — go off Boxelder Road) LUNCH ON GROUNDS!

SALE ORDER: Shop Tools 10 AM • Horses and Tack 12:30 PM • Tractors, Machinery & Vehicles to follow.

VIEWING: Items will only be available for viewing on or after September 24

ANTIQUA TRACTORS, PICKUP, WAGONS & MACHINERY

J.I. Case model L tractor SN: L326408 all steel wheels; J.I. Case model C tractor SN: C3165363 all steel wheels; Ford 9N tractor 3 speed, good tires, 3 pt. runs good; H Farmall tractor NF runs good; Model T Ford, pickup with 56" long bed, complete with windshield, headlights, and top cover — looks good; Bain Wagon Company high wooden wheel box wagon with scoop end gate — very good shape; Very good 1 horse sleigh with shaft and wheels to use for parades; 2 spring wagon seats; Amish utility buggy — very good; Iron wheel box wagon with metal horse pull tongue; Case-Osborne Racine Wisconsin USA 6' cut ground driven grain binder — all complete with trucks (does need new wooden reel) — shedded; Very good John Deere 4 iron wheeled wooden sides and floor manure spreader with seat; IHC 4 wheel all metal horse drawn manure spreader — good; Minneapolis-Moline ground driven 2-wheel manure spreader — very good; Moline 4 iron wheel manure spreader with seat (needs new wood); Fore Cart for horse hitch; 5 shovel 1 horse cultivator; 8' dump rake (needs tongue); New Idea 5' horse mower — complete; IHC No. 9 horse mower (needs bar); 2 bottom 3 pt. Ferguson plow — plus extra bottom; Several iron wheels; Copper Boiler; 2 man cross cut saws; Old dresser with mirror.

SKID LOADER, PICKUP, TRACTORS, TRAILERS & OTHER MACHINERY

Cat Model 247 Skid Loader SN - CAT00247PCMO0605 enclosed cab, with rubber tracks, joy stick control, 67" bucket, 2310 hrs. good shape — approx. 300 hrs. on tracks; Skid loader pallet forks, bale spear; 2001 GMC 2500 HD Duramax dsl. 4 door 4x4 pickup 1 owner, new tires, 5th wheel ball, 243,000 miles, good truck; John Deere 4020 dsl. tractor SN — 213R189892R — Syncra-range — dual hyd. - good; John Deere 3020 dsl. tractor SN — 11T501 — runs good; One-Sixty Allis Chalmers — dsl tractor Cat. 2-3 pt. — runs good; John Deere 148 loader — 7' bucket; Titan Classic smooth side 24'x80" steel stock trailer — 3 compartment, 2 slide gates, wood floor with rubber mats — good; 32' gooseneck all metal flatbed trailer with dual tandems, 10' hyd. dove tail ramp; 21' gooseneck flatbed trailer plus 4' dove tail, tandem axle; 12' bumper hitch trailer with fold down ramp; 4 wheel flatbed wagon with good 2" floor and flotation tires; John Deere 640 — 4 bar hay rake with dolly wheel and rubber mounted teeth — good; Large 2 prong bale mover — loader bucket mount; 7' 3 pt blade; old 3 pt dirt slip; Rhino 3 pt. PTO 68" cut grooming mower — very good; 2 spinner PTO pull type fertilizer spreader — good; Older tandem axle fertilizer spreader (needs repair); 2 wheel trail type boom sprayer with 500 gallons poly tank and hyd. pump — good; Meyer LP — 7.5 skid loader mount hyd. swing blade — new never used; 3 section spike tooth harrow; 3 pt. spring tooth harrow.

UTV, 4 WHEELER & GUNS

Kawasaki Mule — double seated — with front winch - good shape; Suzuki King Guard 4x4 — 750 AXI 4 wheeler, power steering with front and rear rack, front winch, grill guard bumper, 1636 miles — good shape; 2007 Road Runner GT150 Scooter — 1030 miles; 5' — 4 wheeler front mount snow blade; Near new 6' front mount snow blade for Kawasaki Mule; 40"x70" 4 wheel wagon with sides — very good; 2 wheel lawn trailer with dump bed; 12' aluminum flat bottom boat on trailer; Mossberg Model 100ATR bolt action 243 rifle with Mossberg scope; Remington Speedmaster Model 552 pump 22 rifle; JC Higgins Model 25 — 22 semi-automatic rifle.

SHOP TOOLS & MISC.

Commercial Grizzly 10" table saw; Foley Belsaw 12" planer; Sears Craftsman 8" jointer; Milwaukee upright model 120 Drill Press; 12" DeWalt Miter saw on aluminum stand; Lincoln 225 AC-DC Arc welder — very good; Weldanpower 150 Lincoln gas power portable welder on cart; Acetylene torch with smaller bottles on cart; Pow R Kraft electric

log splitter; Stihl FS — 90 straight shaft trimmer; Husqvarna 346XP chain saw; TroyBilt rear tine tiller with Kohler Magnum 8 horse power motor; Metal 12 drawer tool cabinet on rollers; Other tool cabinets; 4'x4' heavy metal work bench with vise; 3'x6' metal work bench with large vise; 3 McCall Pattern cabinets; ¾ drive socket set; 32' Werner aluminum extension ladder; Many good hand tools, sockets, and wrenches of all types; Shop scaffold shelf; Pile of 16' — 2x4s, 2x6s, 2x8s; assorted scrap iron; Pile of very good used 15' galvanized tin; Large selection 1 and 2" rough cut Walnut, Cedar, Maple, Cottonwood lumber various lengths; Total Gym XLS exercise machine w/ attachments, like new; Pro-Form 630S treadmill; INTEX model B 16'x48" above ground swimming pool w/accessories, very good.

HORSES, TACK & LIVESTOCK EQUIPMENT

(1) ½ Percheron ½ Standard-bred Dark Bay Gelding — 9 yrs. old (broke to drive single or team); (1) ¾ Draft — Dark Bay Gelding — 9 yrs. old (1/2 Percheron, ¼ Belgian, 1/4 Quarter Horse — broke for a team); (1) Palomino ½ Belgian ½ Quarter Horse Mare (22 yrs. old — broke to ride and pack); (1) Paint Cross Sorrel Gelding — 3 yrs. old — halter broke only. **Tack and Harness all in very good shape inc.:** set of heavy draft pulling harness, set of mid-size draft harness, other draft horse tack, driving lines, 2 sets of buggy driving harness, multiple collars, 15" Circle Y saddle, 15" Saddle Smith Roping Saddle, another good saddle, Single and Double Trees, 4 horse evener, 2 wooden wagon tongues, halters and lead ropes etc.; 2 good hay saver bale feeders; Assorted metal panels and gates; Wood and tin near new mineral feeder; Stationary squeeze chute with automatic head gate.

AUCTIONEER'S NOTE: If you are looking for very well-kept unique items be sure to attend this auction.

SELLERS: SAM & VINNIE HALBERT

Phone number: 907-388-1689

Terms: Cash or valid check - Not Responsible for Accidents or Theft. Statements made sale day take precedence over printed material.

Auction Conducted By: CLINE REALTY & AUCTION, LLC

John E. Cline, Broker-Auctioneer, Onaga, KS

785-889-4775 or 785-532-8381

Austin Cline, Auctioneer, Frankfort, KS, 785-565-3246

www.mcclivestock.com/clinerealty

AUCTION

SATURDAY, SEPTEMBER 14, 2019 — 9:30 AM

Auction will be held at the farm located from the intersection of K14 & K18 in LINCOLN, KS, 7 miles West to 120th Road, 4 ½ miles North to 1773 N. 120th Road. (1 ½ miles North of DENMARK, KS)

TRACTOR, MACHINERY, BOATS, 4 WHEELERS, RIDING MOWER

Sells at 12:00 Noon

John Deere 4600 diesel tractor, 2,871 hrs w/460 loader, 6' bucket; Rhino 3 pt. post hole digger w/10" & 12" bits; Land Pride 3 pt. tiller; JD 3 pt. MX8 rotary mower; 3 pt. 2 row planter; 3 pt. sickle mower; 3 pt. bale spike; Frontier 3 pt. 7' blade; 3 pt. 1 row lister; 3 pt. 2 bottom plow; 3 pt. spring tooth; JD 10' tandem disk; JD 7' one-way; Oliver 3 bottom plow; IHC fast hitch 3 bottom plow; 3 pt. chisel; wire winder; Femco electric sprayer; 25 gal County Line sprayer; Winkle round horse feeder; pickup tool box; Boats: 16' Starcraft ski boat w/trailer; 115 Mercury motor; Starcraft 15' boat w/trailer Evinrude ski twin engine; paddle boat; Mercury & Minkota trolling motors; rods & reels; water skis; life jackets; Polaris 300 Xplorer 4x4; Honda Four Trax; Hustler mini bike; Troy-Bilt 16" rear tiller; Husqvarna 18" rear tiller; Mantis front tiller; single row seeder; Craftsman trimmer; 2018 John Deere E110 riding mower (113 hours); Craftsman 4500 24 hp riding mower for parts; YT 4000 Craftsman riding mower; several push mowers; 1978 Dodge Winnebago Minni Winnie motor home 42,227 miles.

ANTIQUES & COLLECTIBLES

2 seat Surrey w/tongue & shaft very good condition; set double horse harness; horse drawn cultivator; 1905 Van Brunt horse drawn drill; horse blinder; 2 saddles; DeLaval 168 & 18 cream separators; music cabinet; photographer's chair; 4 stack bookcase; secretary; pine blanket chest; ice cream chairs; metal bed; streamer trunk; hanging kerosene lamp; kerosene cook stove; Singer sewing machine; library book case; thread spool holder; Firestone wood radio; oak wall telephone; quilts; sleds; copper boiler; child's wheel barrow; school desk; wagon; high chair; Hanson Bros. milk can; ice cream freezer; lantern; traps; apple peeler; nut cracker; aluminum pieces; wrenches; 3 bicycles; hand seeders; corn sheller; crocks (Red Wing 5 gal, Western 15 gal. Ruckle's 2 gal jug, Diamond 8 gal, Malars 1 gallon); assortment of other collectibles.

HOUSEHOLD

Mid Century Modern room divider; 4 pc. maple bedroom set; entertainment center; Lazy Boy loveseat & recliner sofa; Golden lift chair like new; Wurlitzer spinet piano; storage cabinet; maple china hutch, buffet & server; end & coffee table; 6 pc. set cane furniture; large office desk; 65" comput-

er desk; office chairs; several chairs; Pro Form treadmill; lamps; shelves; barbecue grill; oval quilt stand; other household pieces.

TOOLS & OTHER

Black Lynx cement mixer; Stihl chain saw; 26 gal Campbell air compressor; Porter Cable 6 gal air compressor; Central Pneumatic 6 gal air compressor; North Star 16 hp generator; Craftsman drill press; Craftsman radial arm saw; Dewalt miter saw; bench vise; Dewalt drill; Craftsman jig saw; Craftsman sawsall; Test Rite tool cabinet; 2 Craftsman tool cabinets; Makita grinder; bench grinder; shop vac; assortment of wrenches; 4 wheeler jack; Weller soldering iron; Dremel tool; other grinders, tools; Toro power shovel; forks; hammers; axes; shovels; 100 gal fuel tank; floor jacks; Ryobi blower vac; battery chargers; handyman jack; aluminum ramps; pump pump; submersible pump; log chains; 4 aluminum ladders 1 is 40'; aluminum walk board; ladder jacks; pressure tank; weed burners; propane bottles; pressure washer; gas cans; assortment lumber; assortment electrical & plumbing supplies; pet carriers; assortment of other items. **10'x12' wood utility shed to be moved.**

LUNCH by Denmark Dames. Note: Check website for pictures www.thummelauction.com

LEO & JOLEENE LESSOR

Auction Conducted By: THUMMEL REAL ESTATE & AUCTION LLC

785-738-0067



ON THE EDGE OF COMMON SENSE

Rich Farming

If wheat gets up to seven bucks
I'll hoard it, yessiree
Till the grain bin's overflowin'
Or it gets back down to three.

They don't like sudden changes
Conservatives, you see,
They like things they can count on
Like hail and CRP.

And if you look to go prosperous
Or friends think that you are
They'll try and sell you somethin'
You've lived without, so far.

Like asphalt on the driveway
Or fancy silverware
Or a double-jointed tractor
'Course, the preacher wants his share

No, there ain't no use me gettin' rich.
Knowin' me, I'd spend it.
And borrow more for land and stock.
There's plenty who would lend it.

I'm better off just gettin' by
And stayin' where I set
'Cause the more that I make farmin'
The more I go in debt.

So, if wheat gets up to seven
I could sell it on the board
But I won't. 'Cause makin' money's
One thing I can't afford.

It's a different kind of logic
That allows a man to boast
When the richest farmer farmin'
Is the one that owes the most.

www.baxterblack.com

Backgrounding calves before sale

By Heather Smith Thomas
Calves receive a premium as weaned, preconditioned calves, so it is important to transition them carefully to minimize health problems.

"Two-stage weaning with nose flaps is the least stressful way to wean," says Ron Gill, professor of animal science and Extension livestock specialist at Texas A&M University. "Next best is fenceline weaning at pasture."

He advises people not to process cattle the day they separate cows and calves. Pre-weaning vaccinations should be given prior to that.

"If you have to wean in a corral, the third-best way is to have the cows through the corral fence from the calves. If you can't do any of these methods, and haul the calves to a better set of corrals and put them on feed, it can work. But if the calves aren't accustomed to eating the new feed, it can be a challenge," Gill warns. "New feed, strange environment and sudden emotional stress (loss of mom) puts them more at risk for respiratory issues."

If you wean in a corral, creep feed ahead of time for the last 30 days — or use a feed that the calves are accustomed to eating before you separate them from their mothers. Even if you have to put some feed out and let the cows eat some of it, this pays off because calves learn to eat it,

he says.

"Another thing that helps is to spend some time with those calves in the corrals or pastures. This not only gets them accustomed to seeing people, but is also distracting. The calves are curious about the person and not just focusing on mom across the fence or worrying about where she is. You become the surrogate for mom," says Gill.

After a minimum of 21 days in a low-stress preconditioning system, calves can be turned back on pasture if there is good grass. Gill says they do better if you can go 45 days before you stress them again by moving them, but it depends on your situation and their stress level.

If you are selling them, moving them to different pasture, or putting groups of weaned calves together, he recommends 45 days. This provides time for both vaccinations: one at weaning and the booster 21 days later. That second shot won't establish immunity until another two weeks, so that's the reason for 45 days, he explains.

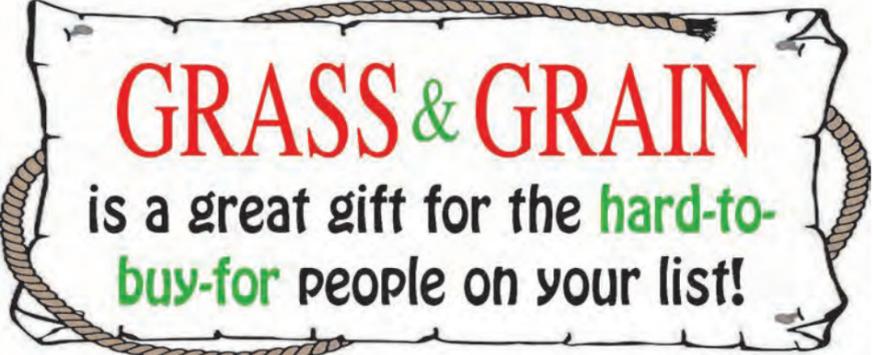
The forage available will determine what kind of supplement calves might need.

"I don't like changing the diet during weaning. If you confine them and put them on feed, this should be a two- to three-week process of gradually switching from forage to concentrates so the rumen has

a chance to adapt. If possible, keep them on grass and just start feeding a supplement if they'll be put on feed later. If you have cheap byproduct feed, you can afford to feed them quite a bit during this preconditioning phase and still make it pay, but many people spend a lot of money on nutrition at this stage that they don't have to," says Gill.

"The main thing we're trying to do at that point is get them through the transition without illness, and then go to better forages, pastures or supplementation after they are no longer in the corral. If they'll have good grass after weaning, why put them on concentrate and then kick them back out to grass? They just need something that's low-starch and high in digestible structural carbohydrates and fat, such as wheat midds or soybean hulls. In some regions it may just be high-quality hay," he says.

Nutritionally, most calves in the preconditioning phase need about 13%-15% protein. If they are not eating enough, whatever they do eat needs to be highly digestible, without a lot of starch. He warns against overwhelming the young rumen with too much starch. They need a high-quality diet for the first two weeks, and then can transition back to grass unless you are putting them on a starch diet. In that case, be very careful to not create acidosis.



Farmers & Ranchers AUCTIONS EVERY MONDAY & THURSDAY

Selling Cattle every Monday Hog Sales on the 2nd & 4th Monday of the month only!

RECEIPTS FOR THE WEEK TOTALED 1,887 CATTLE.

STEERS		HEIFERS	
400-500	\$182.00 - \$187.00	104 blk	Uniontown 1073@115.00
500-600	\$170.00 - \$176.00	4 blk	Randolph 1129@115.00
600-700	\$152.00 - \$158.00	3 red	Randolph 1078@114.00
700-800	\$143.00 - \$148.75	HEIFERS	
800-900	\$134.00 - \$139.75	7 mix	Canton 405@155.00
900-1,000	\$124.00 - \$129.75	22 mix	Lucas 421@149.00
		18 blk	Sylvan Grove 454@146.00
		5 blk	Inman 591@145.50
		5 char	Tescott 525@144.00
		10 mix	Lucas 484@142.00
		3 blk	Inman 523@140.00
		2 blk	Solomon 565@139.00
		9 blk	Abilene 626@138.00
		6 blk	Randolph 738@137.50
		2 blk	Canton 628@137.00
		2 blk	Sterling 555@137.00
		1 blk	Miltonvale 540@137.00
		30 blk	Sylvan Grove 509@136.50
		12 mix	Abilene 725@136.25
		3 blk	Newton 617@135.50
		20 char	Tescott 601@135.50
		5 blk	Tampa 745@135.00
		28 mix	Tescott 678@134.50
		3 blk	Sterling 633@134.00
		4 red	Lincolnvile 643@134.00
		3 blk	Randolph 608@134.00
		7 blk	Ramona 711@132.00
		20 mix	Chapman 723@132.00
		2 blk	Chapman 655@132.00
		3 char	Holyrood 635@131.50
		3 blk	Randolph 637@131.00
		6 blk	Inman 749@131.00
		39 mix	Marion 781@130.75
		2 blk	Canton 700@130.00
		1 blk	Miltonvale 725@129.00
		62 blk	Lenapah, OK 802@129.00
		5 mix	Abilene 817@129.00
		5 blk	Randolph 729@129.00
		2 blk	Newton 775@128.00
		26 blk	McPherson 780@128.00
		3 blk	Miltonvale 752@128.00
		19 blk	Miltonvale 869@123.00
		2 blk	Randolph 860@123.00
		36 blk	McPherson 866@120.00
		30 blk	Chapman 850@119.25
		2 blk	Randolph 840@119.00
		2 mix	Wilsey 880@118.00
		3 red	Wilsey 912@115.00
		5 mix	Tescott 862@115.00
		9 wf	Junction City 936@113.50
		18 blk	Marion 961@107.00
		1 blk	Randolph 935@105.00
		BULLS	
		1 blk	Lindsborg 2250@94.00
		1 blk	Lindsborg 2285@91.00
		1 blk	Lindsborg 1785@90.00
		1 yellow	Bennington 1810@90.00
		1 blk	Miltonvale 1905@87.00
		1 blk	McPherson 1670@85.00
		1 blk	Lindsborg 1780@82.00
		COWS	
		1 blk	Courtland 1385@65.50
		1 blk	Moundridge 1440@64.50
		1 blk	Moundridge 1315@58.50
		1 red	Moundridge 1105@55.50
		1 blk	Lindsborg 1210@47.00
		1 blk	Miltonvale 1085@46.00

Livestock Commission Co., Inc. Salina, KANSAS

SALE BARN PHONE: 785-825-0211

MONDAY — CATTLE • HOG SALE 2nd & 4th MONDAY
Hogs sell at 10:30 a.m. *on the 2nd & 4th Monday of the month.*
Cattle at 12:00 Noon. Selling calves and yearlings first, followed by Packer cows and bulls.

THURSDAY — CATTLE ONLY
Selling starts at 10:00 a.m. Consign your cattle as early as possible so we can get them highly advertised.

AUCTIONEERS: KYLE ELWOOD, BRANDON HAMEL & GARREN WALROD

For a complete list of cattle for all sales check out our website www.fandrive.com

CATTLE USA.com LIVE CATTLE AUCTIONS

FARMERS & RANCHERS HAS SWITCHED BACK to Cattle USA.com for our online auctions.

UPCOMING SALES:

HORSE SALE: Friday, October 11 @ 11:00 AM
F&R Futurity

Friday, October 11 @ 6:00 PM Rope Horse Preview

Saturday, October 12 @ 10 am • Sunday, October 13 @ 10 am

SPECIAL COW SALES: Starting at 11:00 AM
Tuesday, Oct. 22 • Tuesday, Nov. 19
Tuesday, Dec. 17

WEANED/VACC. SALES:
Tuesday, Oct. 15 • Tuesday, Oct. 29
Tuesday, Nov. 5 • Tuesday, Dec. 3

BUFFALO SALE: Saturday, December 7

EARLY CONSIGNMENTS FOR THURSDAY, SEPTEMBER 12

- 75 mostly black steers & heifers, mostly heifers, 700-750 lbs., green, homeraised, weaned, no implants
- 50 black steers & heifers, 600-700 lbs., homeraised, weaned 30 days, fall vaccinated
- 35 black steers & heifers, 600-750 lbs., homeraised, longtime weaned, 2 round shots, open
- 154 black Charolais heifers, 850-900 lbs. spayed, grass
- 20 steers & heifers, 550-650 lbs., weaned, vacc.

IN STOCK TODAY:

- Heavy Duty Round Bale Feeders
- 6'8" x 24' GOOSENECK STOCK TRAILER METAL TOP
- 6'8" x 24' GOOSENECK STOCK TRAILER
- 42' ROUND BALE DUMP TRAILERS
- HEAVY DUTY FEED BUNKS (Silage & Grain)
- HEAVY DUTY 5000# GRAIN TOTE