



New online program features Q&A with ag experts

By Lucas Shivers

The new Ask an Expert program, organized by the Flint Hills Discovery Center, featured an inaugural session on Cattle Ranching 101 with Barb Downey and Joe Carpenter on February 11 and played on Facebook Live.

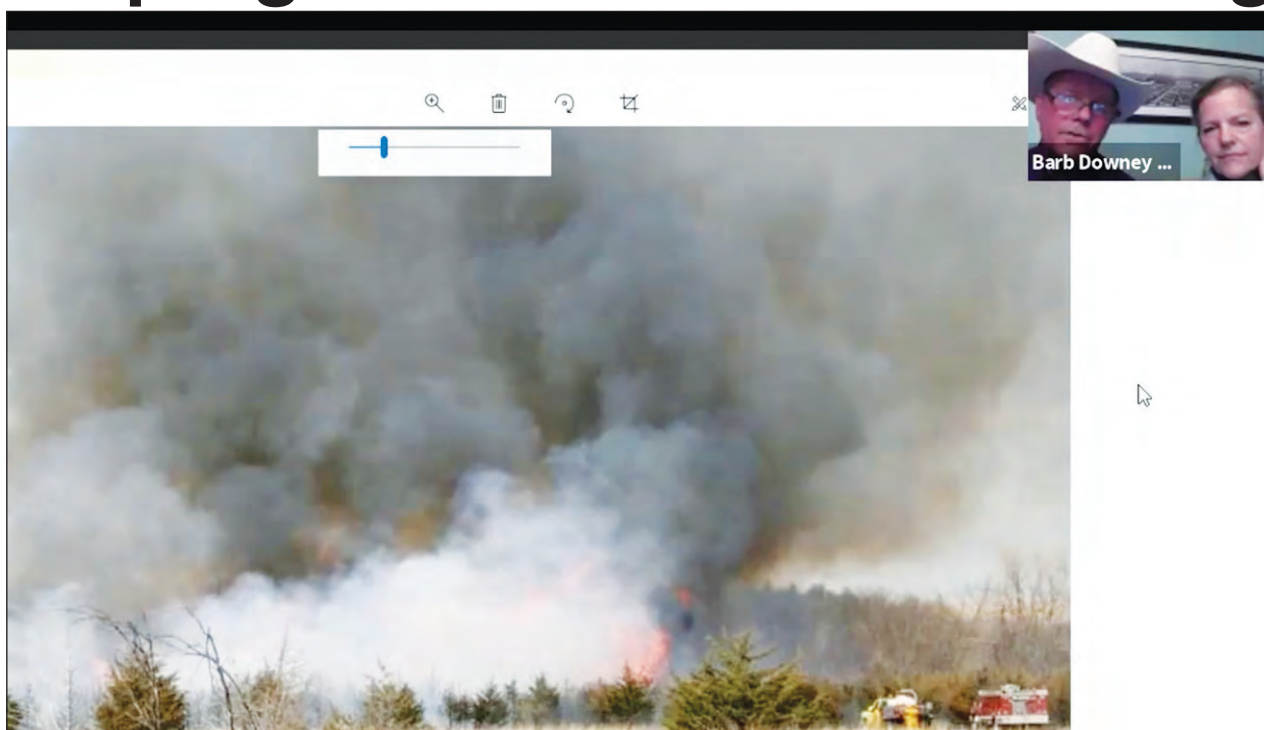
"This is our new series designed to get to know some of the experts of the Flint Hills and give viewers the opportunity to learn from them and ask questions," said Stephen Bridenstine, curator of education.

More than 50 viewers learned about what it takes to operate a cattle ranch in the heart of the Flint Hills from the owners and operators of Downey Ranch, Inc.

"We are a family-owned operation since 1986 with 6,000 acres in Riley and Wabaunsee Counties, north of I-70 and south of the Kansas River," Barb said.

The operation produces award-winning beef with their registered and commercial Angus cow herd.

"Our cattle breeds include mostly Angus, an all-purpose breed with good meat production," Barb said. "Angus are good at foraging with moderate size. They're also an all-around good breed as the core. We've added Simmental, known for more growth and higher meat production. The cross-bred cows are like a 'mutt,' or a mix of differ-



Joe Carpenter and Barb Downey discussed the importance of prescribed burns for the health of the Flint Hills ecosystem during an Ask the Experts Facebook Live event put on by the Flint Hills Discovery Center. They showed photos like the one above, of large, destructive fires that were the result of mismanagement and not burning in smaller, controlled increments.

ent breeds to bring out the best with a faster growth rate and better immune system."

Downey Ranch, Inc. incorporates modern range management techniques like fence-line weaning and prescribed fire to help sustain the native tallgrass ecosystem.

"We have a cow-calf operation who graze the grasses of the Flint Hills," Joe said. "We grow our calves for beef production and raise bulls and heifers for breeding stock for

other ranchers."

In the family for decades, Barb's family goes back generations in ranching, starting in the Black Hills of South Dakota before moving to Kansas in the late 1920s. Joe's family grew up in the wheat country of southern Kansas in Sedgwick County.

Sponsored by Flint Hills Discovery Center Foundation and Beach Family Foundation, the Facebook Live event allowed viewers a moderated question and answer

period to "Ask an Expert" to gain valuable insight into the issues and topics important to the Flint Hills.

"One of the things about the Flint Hills is the total grass of the rocky, hilly plains while it's growing in summer," Joe said. "Stocker calves, often a growing calf 400-800 pounds of steers or heifers, come in for a few months, depending on the different grazing systems. They can sometimes gain three pounds a day on the Flint Hills grass

during this time to put on pounds."

"The Flint Hills give ranchers and cattle great grass for June, July and August, but you've got to feed them out the rest of the year," Barb said. "It's the compliments of an integrated system."

Year-Round Insight

In a typical year, the first Downey Ranch calves are born around mid-February. This year they're about two weeks early. In late March and April, it's burning season in the pas-

tures.

"In May and June, we'll artificially inseminate and embryo transfer with different groups of cattle based on age and registration," Barb said. "Also, we'll turn out our bulls to go to their job for the next birthing season."

Summer time also allows for crop farming and feed production.

"In the fall, we start with more calf work in weaning to separate the calves from their mothers to care for as a separate group," said Joe. "The grazing will continue later in the year or be brought back into the lot for winter."

Annual Family Auction

Each year, Downey Ranch hosts an auction on the first Friday in November with 103 bulls available this coming year.

"We have a lot of technology in the auction now with an online feature to have bidders from all over the world to ship them out," Joe said. "We have TV screens with videos rather than a ring to make it easier on us and the animals. It's modernized."

To balance the breeding stock, the beef production side takes on additional feeding and finish out before sales.

"For these steers and heifers, it's much like a teenager to eat up," Barb said. "We've used some traits to create 'white-table cloth' beef as founding

• Cont. on page 3

Soy checkoff supports study on sustainable ag tech investment

The United Soybean Board is a proud funding partner and endorses a multi-organizational initiative to connect private sector capital investors with innovative climate-smart, soil-centric agricultural technologies. U.S. farmers are leaders when it comes to using leading-edge technologies and best management practices to improve soil health while also increasing economic and environmental sustainability. By scaling up climate-smart agriculture, U.S. agriculture could reduce greenhouse gas (GHG) emissions by more than half by 2025, from 9.9% to 3.8%, and ultimately be a carbon sink by 2035 at -4% of total U.S. GHG emissions by 2035.

U.S. Farmers & Ranchers in Action (USFRA) partnered with the World Business Council for Sustainable Development, The Mixing Bowl and Croatan Institute to release a report that analyzes the state of emerging soil health technology and the need for climate-smart technologies to be commercialized with partnership funding from private sector capital investors.

"U.S. agriculture has the potential to be the first net negative greenhouse gas emissions sector in our economy," said Lynn Rohrscheib, USB farmer-leader from Illinois and USFRA board member. "Reaching that goal is important to me because sustainability's connection to improving soil health translates into long-term viability for my farm and the next generation."

Providing economic context, the report included an in-depth analysis of the \$972 billion in annual capital that flows from asset owners through asset classes and

Linin shares Kansas Wheat Commission's success with Kansas Legislature

Brian Linin, past chairman of the Kansas Wheat Commission, shared success stories related to exports, consumer outreach, research and more in testimony to the Kansas Legislature.

Linin, who farms in northwest Kansas and northeast Colorado, testi-

fied virtually on January 27, 2021, before the House Committee on Agriculture and on February 4, 2021, before the Senate Committee on Agriculture and Natural Resources. The Kansas Wheat Commission included an annual report submission with verbal and written testimony.

Research remains the central focus of the Kansas Wheat Commission. The organization recently celebrated seven years in the Kansas Wheat Innovation Center, which was funded by farmers through the wheat assessment and now includes 37,000 square feet of laboratory and greenhouse space and a dozen full and part-time plant scientists. The commission also invested more than \$1.3 million in research proposals for work that will help wheat farmers increase and improve profitability, plus ensure the quality and integrity of Kansas-grown wheat to end-users and consumers.

"The Kansas Wheat Innovation Center represents the single largest investment by wheat producers in this nation, but it's not the only way in

financial intermediaries to participants in the U.S. agricultural value chain. The report revealed the primary funding sources include institutional investors (approx. \$600 billion), retail investors (approx. \$360 billion) and U.S. government via federal/state payments and incentives (approx. \$20 billion).

Beyond investment, leveraging technology to accelerate and scale on-farm adoption of climate-smart agriculture encompasses several action steps that align with USB's sustainability goals. This ranges from supporting the development of tools that collect on-farm data to exchanging best practice know-how and data related to soil health, yield, profitability, etc. The report outlines these action steps as a vital linchpin to unlock the full potential of our soils.

"It is critical the financial community partners with farmers and ranchers to help the U.S. achieve a transitional net-zero economy," said USFRA CEO Erin Fitzgerald. "Farmers and ranchers and the sector need investment over the next decade to realize the potential of agricultural soils as a natural climate solution."

Climate-smart agriculture is a suite of practices that increases productivity and income, enhances resiliency and adaptive capacity and reduces GHG emissions. Overall, the USFRA report focuses on six established farming and ranching practices, spanning:

- No-till/reduced tillage with retained residues.
- Cover crops.
- Crop rotation.



which wheat farmers invest in wheat research," Linin said. "Other Kansas Wheat-funded research projects are leading the way toward identifying genes that improve resistance to viruses, engineering resistance to pests and phenotyping wild wheat ancestors for drought, disease resistance and other traits."

The Kansas Wheat Innovation Center also houses a test kitchen and the Kansas Wheat Commission employs a full-time nutrition educator — both pieces of the organization's nutrition education efforts. Kansas Wheat also belongs to two national consumer-education organizations — the Wheat Foods Council and the Home Baking Association.

"We are one of the few state wheat commissions

to continue to make nutrition education a priority; this is vital as we continue to battle fad diets such as the low carb and gluten-free trends," Linin said. "We have taken advantage of our test kitchen to videotape baking demonstrations videos to share with consumers and give tips on home baking."

Average monthly traffic to the commission's EatWheat virtual campaign now totals nearly 65,000 visitors, boosted by COVID-19 pandemic consumer trends related to baking bread and cooking at home. Through EatWheat, the Kansas Wheat Commission shares farming practices and showcases the story of the American wheat farmer through recipes, crafts and profile stories.

The EatWheat campaign reaches consumers within the United States, but the Kansas Wheat Commission also promotes Kansas hard red winter (HRW) wheat to international end-users through a partnership with U.S. Wheat Associates. Kansas farmers export roughly half of their wheat crop

each year.

Due to the COVID-19 pandemic, the Kansas Wheat Commission and market development partner U.S. Wheat Associates switched from in-person programming to virtual trade teams and crop quality seminars. Kansas Wheat also works closely with the IGP Institute — conveniently located across the driveway from the Kansas Wheat Innovation Center — to provide additional educational opportunities for domestic and international milling groups, grain buyers and farmers.

As a result of these activities and market dynamics, HRW wheat exports ended the year up eight percent from the prior year at 374 million bushels. Top customers Mexico, Nigeria and Japan continue to be steady buyers of HRW wheat, while Latin America had a nearly 20 percent increase in wheat imports.

"Because of the importance of exports, trade issues have been on the forefront of our efforts over the past year," said Linin, who chairs the Joint

International Trade Policy Committee for U.S. Wheat Associates and the National Association of Wheat Growers. "We believe it is in the best interests of wheat farmers to renegotiate trade agreements and maintain relationships with our international customers."

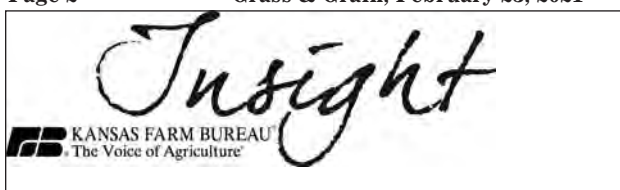
Looking forward to 2021, Linin reported winter wheat seeded area is 7.3 million acres, up from last year's 6.6 million acres. Increased acreage and a recent jump in prices provide optimism that this year's crop potential will be realized and further shared with consumers at home and abroad.

"We are hopeful that Mother Nature will help us grow a bountiful crop this year so that we can do our part to feed a hungry and growing world," Linin said. "Thank you once again for your support, this opportunity to share with you our efforts and your leadership in the future as we continue to work together."

Compost application.
Managed grazing.
Integrated crop and livestock systems.

The soy checkoff's sustainability goals intrinsically align with the six practices outlined in the USFRA report. From reducing land use impact by 10%, greenhouse gas emissions by 10% and soil erosion by 25%, while increasing energy use efficiency by 10%, U.S. soybean farmers can use sustainable farming practices to reduce their environmental footprint.

"This report reinforces the value of what can be achieved through sustainable farming practices and the momentum possible through investments in technology to enable U.S. soybean farmers to become carbon-negative," said Mace Thornton, USB vice president of communications and marketing strategy and USFRA Communications Council chair. "Partnerships for investments are critical to forge the widespread integration of these climate-smart agricultural technologies."



Sharing Our Secrets

By Glenn Brunkow, Pottawatomie County farmer and rancher

So, you want to be in animal agriculture? You get to be your own boss, but the pay is lousy. Still, the life is generally good. Weeks like this past one makes us reconsider our choice in vocation and, at times, our ability to make sane, rational decisions.

Yes, the past two weeks have brought us record- or near-record-low temperatures and snowfall. Conditions have been miserable to dangerous, but we knew what we signed up for to live this life. While we may not always like our jobs, we still love what we do. Sometimes we need to remind ourselves of that and show others how much we care.

To say it has been a grind would be an understatement. I do not know about you, but I found it hard to go out every morning, and each day felt kind of the same with no end in sight. It was tough and hard. I would dare say none of us enjoyed the past two weeks, but you

know what? Not one of us called in sick. We did not take any days off because of the inclement weather, and none of us stayed inside where it was warm and safe. Most of the rest of the world would ask one question — why?

Because that is what we do, that is who we are, and our livestock take priority over our own comfort, sometimes even our personal safety. I know each and every one of us have felt that the compulsion to not only do our jobs but go above and beyond what was needed to ensure the well-being of the animals entrusted to our care. We went out in the dark and cold, in the face of the howling wind and biting air to make sure our livestock had the best of care. We used extra resources, pushed machinery to the brink and ran ourselves ragged because of that nagging, gnawing need at our core to take care of the animals dependent on us.

While all of this was happening, our customers probably did not think

twice about our work. Shame on us; we need to make sure our consumers know how much we care for the animals we raise. They need to know about the sacrifices and the hardships farmers and ranchers go through in extreme weather to ensure the health and safety of livestock. We just need to do a better job telling our story.

I know we are busy trying to get things done, and we do not take the extra step of sharing all we do. I get it, and I am guilty of not sharing enough, too.

Telling our story is especially important when times are toughest. No one else is going to. In fact, there's plenty of groups eager to misrepresent the hard work we do caring for our animals because we're not telling our story.

We are the best-kept secret in animal care, and that's a shame. While we may not like making the extra effort to talk about our work, I believe it is worth showing everyone the love and care we have for our profession.

"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.

2020 grain dust explosions result in zero fatalities

Kingsly Ambrose, Purdue University associate professor of agricultural and biological engineering, recently released the 2020 annual grain dust explosions report that catalogues the number of deaths and injuries nationwide.

Grain dust is a high-

ly combustible substance and often airborne in handling and processing facilities. Explosions occur when there is a source of ignition, often from small, unintentional sparks within the facility.

According to the report, there were eight grain dust explosions in

2020, resulting in zero fatalities and nine injuries. The ten-year average for injuries is 8.1; it is 1.7 for fatalities. The grain types identified in the explosions included two cases of corn, two wheat, two mixed feed, one rice and one dietary fiber. Dust explosions occurred in eight



By Donna Sullivan

By the time this newspaper lands in your mailbox, the bitterly cold temperatures of the past couple of weeks will be behind us, and hopefully winter will be getting ready to exit stage right. I don't think anyone will be sorry to see it go. While it stayed relatively mild most of the way through, the season's finale was dramatic, but I seriously doubt it will receive any standing ovations for its performance.

To be honest, I feel a certain amount of guilt about complaining about the weather in any fashion, because for four days, I never ventured out of my house. The wonders of modern technology continue to allow me to work from home, and aside from a three-hour stint without power as part of a rolling black-out to conserve en-

ergy, I just worked happily away in my kitchen. However, my husband, sons and some of my grandchildren did have to go out, as they cared for their livestock and tried to keep them alive in the brutal cold. So did many of you. Unfortunately, even as hard as you tried, I know you suffered losses. And no matter how long you've been in this business, every animal matters and every loss hurts. Believe me when I tell you that I prayed for all the people out taking care of livestock in this weather, and for the animals, as well.

Speaking of praying... each night I would wake up from a dead sleep with the thought, "What if one of my sons went out to check their animals in the night, fell down and froze to death,

while their family slept inside, unaware they had gone out?" Ah, the perils of an active imagination. I willed myself not to call them at that hour to make sure they were safe (you're welcome, boys) and opted instead to pray for them until I fell back to sleep. It made for several fitful nights, but nothing compared to what they, and all of you, were going through. So believe me, I'm not complaining.

I make a policy of not forming strong opinions on subjects I don't fully understand, and certainly try not to write or make comments on things that I'm not well-versed on. But I will say there needs to be some examination of the way the rolling black-outs were handled to see if there is room for improvement. It's such a rare occasion when they would be necessary, that you can see how it would be difficult to know how to proceed. But rather than place blame, could we have a discussion on how the planned power outages affected the people charged with raising the food for the rest of the world? They may be small in number, but are essential nonetheless.



We have reached the point of lambing season where the nightly checks have become a chore. At first it is easy to go out and check the ewes when the babies are first coming. The season is new, and it is exciting. This year it the weather was mild during the first part of the season and often all I had to do was pull on leather boots and a hoodie and I was good to go. The preparation only took a few minutes, and the clothes were light and not cumbersome. Boy, did that all change a couple of weeks ago.

Do not get me wrong, I like checking ewes and I do not usually mind the night checks. I signed up for this and it is just part of the gig. Besides, its sure beats making a living some other way. However, at some point during the season it does get to be a grind, especially if extreme cold weather is involved and that, in turn, involves getting into all my winter clothes. I do not even have a problem with putting on my winter gear but often it takes longer to get dressed than the entire checking of the barns and pens take.

I have been known to put on the un-insulated leather boots, pull on my heavy coat and a warm hat and go out that way, but we all know what happens when you do that. If you are not fully prepared that is when everything goes to pieces and you are either out in the freezing cold until you are numb or run back into the house, get dressed and you have lost precious time. Maybe it is not that way on your operation, but Murphy's Law always applies on my place.

So, each evening I go into the room we have between the house and the garage. That room is the best part of our house; it is a separate area where you can change into nasty chore clothes and muddy boots separate from the house itself. Sure, it is a little chilly but that just offers more motivation to get dressed quicker and is kind of a warmup for the really cold air outside. It cuts down on the mud, hay and other gunk getting into the house and that makes Jennifer happy and me less in trouble.

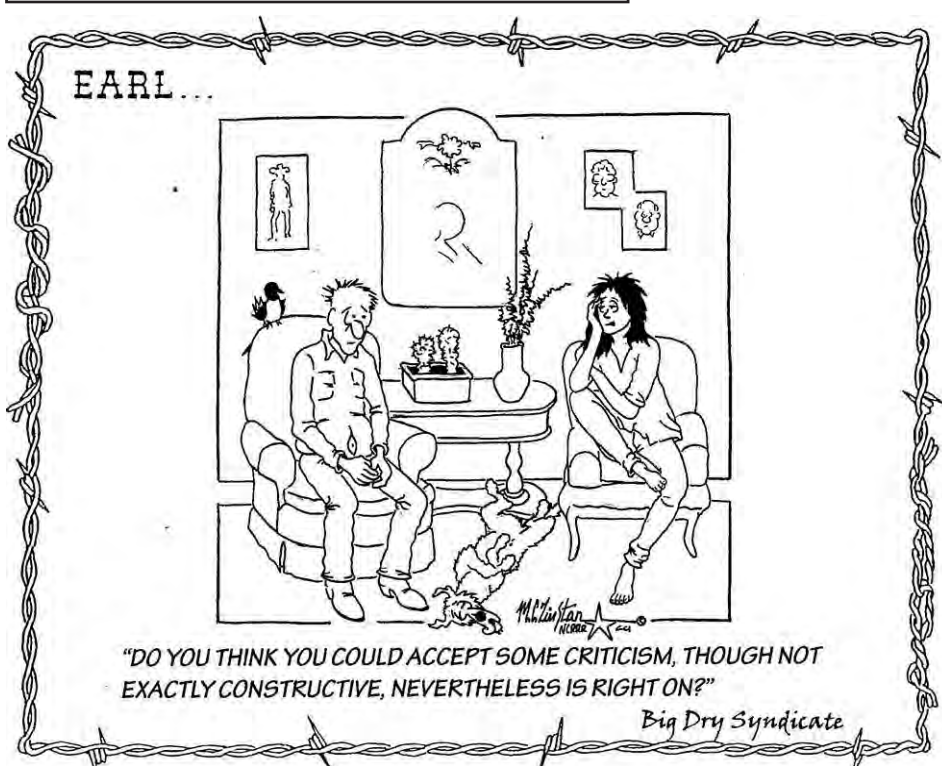
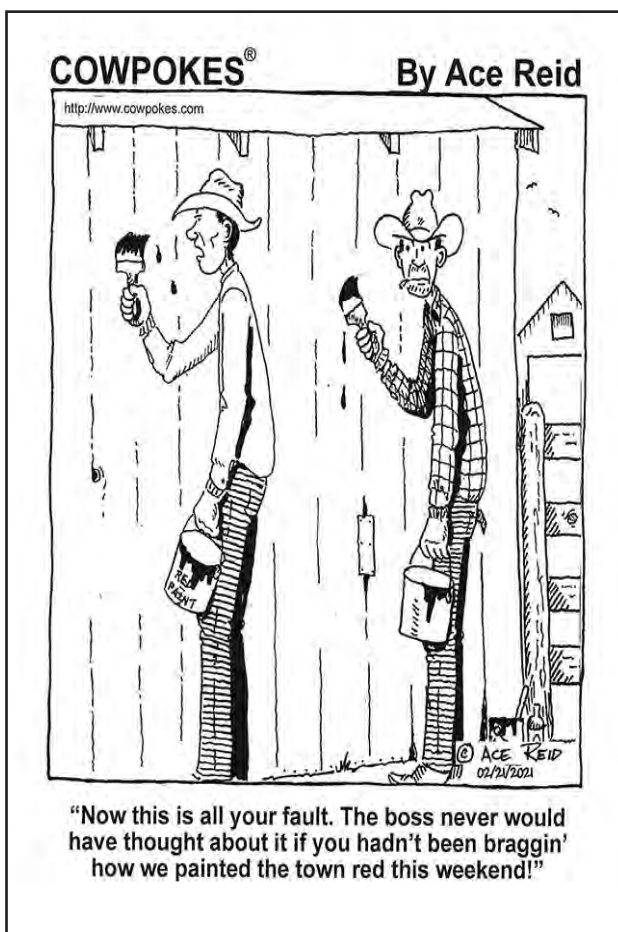
The first thing I do is put on my insulated boots. The older I get the more important insulated boots and gloves get. One thing I have learned is that the better the insulation on the boots, the

harder it is to put them on. It takes a lot of grunting, groaning, contorting, and cussing for me to get my boots on and heaven help me if there is a rock or they are not on right. Then I put my insulated bibs on. They are not too difficult, for most people. The level of difficulty for an old fat guy with a bad back who has stiffened up in the easy chair during the night is much higher. It involves dancing around trying to balance on one foot while leaning on the wall. My family gets great enjoyment from watching this dance. Hopefully, the straps stay in place and I do not have to put a shoulder out reaching for them.

Then I put my heavy coat on, which is no big deal. At this point I am usually breathing hard and sweating although the room is only about forty or fifty degrees. The result is me looking like the Michelin Man. Last is the hat and gloves. Not hard if I can first, find them and second, not drop them. Picking them up off the floor on a good day is difficult for this fat, out-of-shape old man, but add on the padded sumo suit and it is darn near impossible.

Finally, I grab the flashlight and head out the door. Well, unless I forgot my cell phone which leads to a very difficult decision. Do I go out and chance that I will not have to call for backup? That works much like not putting on all my heavy clothes and almost certainly guarantees that I will be hiking back up for help. However, getting my phone either involves me opening the door and asking Jennifer to bring it to me or trying to sneak inside and not track or drip on the kitchen floor, thus negating the ideal setup we have.

All told, this takes me somewhere around fifteen minutes for a ewe check that can only take about ten minutes if everything goes right. Of course, we all know how often everything goes right but when it does, it makes all that preparation seem meaningless. Then comes the taking it all back off and hanging it up in the morning because I really do not want to pick anything up off the floor. That takes another ten minutes. Twenty-five minutes for a ten-minute check, we are efficient with our time. Kind of makes me wonder what the challenge of lambing in warm weather would be.



WASDE projects higher meat production

USDA projections for red meat and poultry production in 2021 moved higher because of expectations for increased slaughter rates and greater protein demand, according to USDA's World Agricultural Supply and Demand Estimates (WASDE) report for February. The 2021 forecast for beef production is raised from the previous month primarily on higher cattle slaughter and heavier-than-expected early-year cattle weights, the report said.

Analysts at the *Daily Livestock Report* wrote, "The incentives have clearly shifted whereby producers will try to add more pounds outside feedlots. This should slow down the flow of cattle and limit beef production," according to the DLR report. The WASDE report forecasts beef production to climb to 27.5 billion pounds.

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New online program features Q&A with agriculture experts

•Cont from page 1
members of U.S. Premium Beef with ranchers who banded together.”

Downeys are co-owners with the number four packer in the world.

“We’re a corporation,” Barb said. “We’re ‘big’ agriculture. But it’s still just me, Joe, our daughters and a few employees.”

Life on the ranch allows for a family-first mindset to put all hands to the wheel to help out.

“One of the things that may be a down side, even with all of the up sides, but we’re always at work,” Barb said. “We’ll be back down to the barn tonight. We have two cows in labor right now. There’s no day off or start/end time. As a family, we have to be ready for the burnout.”

To help keep the family balance, Joe shared about some of the tactics adopted to keep the peace.

“We use low-stress methods to help our family,” he said. “We don’t hurt others’ feelings because we talk about so many things and (build) a much more pleasurable environment.”

“We’re always aware of the situations around the ranch. We know our cattle,” Barb said. “The cattle know us. We have a working relationship with them. It makes everything safer for everyone involved.”

Transitions with Technology
The technology of the ranch has advanced in the

People who are crazy enough to think they can change the world, are the ones who do.

– Rob Siltanen

last 20 years to support four-wheelers, sales at the auction and increase the odds of gender and other traits.

“One of the things we enjoy most is that we’re always learning. We’ve changed our calving procedures.”

“We have our own ultrasound machine that we own with other ranches,” Barb said. “It’s the same sort of thing as a doctor’s office. It’s a fun piece of technology.”

“There’re so many changes,” Barb said. “We’re much more holistic with a full system around the cattle, soil, insects and the full tallgrass ecosystems to move the whole management to reflect what we’ve learned over the years to facilitate.”

Yet, both Joe and Barb

share their belief in working the land to support their cattle herd.

“Leaving the (prairie) land alone is active destruction,” Barb said. “It takes so much management to keep the Flint Hills the Flint Hills.”

Joe, who also serves as a volunteer firefighter, told stories and showed pictures of large, destructive fires due to mismanagement and not burning often in smaller increments.

“We try to mimic the massive herds of bison and fire used for thousands of years. We rotate our cows every five days. The best thing is to maintain the ecosystem. We burn with a sufficient fire to keep cedars at bay. It’s a little harder now (with homes and towns spread out), but we adapt our methods.”

Rounding out their professional life on the ranch, Barb ran the Boston Marathon a few years ago, and they’ve done grocery store visits in New York. They both love prime rib cuts the most.

“We enjoy what we do and we feel the tremendous responsibility of what we do,” Joe said. “We’re always glad to answer questions of folks.”

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GRASS & GRAIN Our Daily Bread

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

Wilma Brooks, Manhattan, Wins This Week's
Grass & Grain Recipe Contest

Winner Wilma Brooks, Manhattan: "I like this cake recipe - thought others might also."

TOMATO SOUP CAKE

1/2 cup solid shortening
1 cup sugar
1 teaspoon soda
1 can tomato soup
1/2 teaspoon cloves
1 1/2 cups flour
1 teaspoon baking powder
1 1/2 teaspoons nutmeg
2 1/2 teaspoons cinnamon

Mix all ingredients and bake at 375 degrees for 45 minutes.
NOTE: Can also add 1 cup raisins and/or 1 cup nuts.

Linda Kepka, Dorrance:
PEANUT BUTTER COOKIES
1 cup shortening
1 teaspoon vanilla
1 cup sugar
1 cup brown sugar
2 eggs, beaten
1 cup peanut butter
3 cups flour
1/8 teaspoon salt
2 teaspoons baking soda

Mix together and form into balls. Place on cookie sheet and press both ways with a fork. Bake for 10 minutes at 375 degrees. Makes about 5 dozen cookies.

Michelle Brokes, Wilson:
AIR FRYER DOUGHNUTS
1 cup milk, lukewarm
2 1/2 teaspoons yeast
1 teaspoon sugar

1/4 cup sugar
1/2 teaspoon salt
1 egg
1/4 cup butter, melted
3 cups flour
Oil spray
Glaze:
6 tablespoons butter, melted
2 cups powdered sugar
2 teaspoons vanilla
4 tablespoons hot water

Proof yeast on milk with 1 teaspoon sugar. When frothy, add remaining ingredients, starting with 2 cups flour. Mix until combined, then knead in remaining flour. Place in greased bowl to rise. When doubled in size, roll out to 1/2-inch and cut with doughnut cutter. Place on parchment paper and rise to double. Preheat air fryer to

350 degrees. Spray doughnut with oil spray (or brush with oil) and fry approximately 4 minutes. While still very warm dip in glaze and place on parchment to cool.

Rose Edwards, Stillwater, Oklahoma:
BAKED CHOW MEIN

1 pound hamburger
2 cups chopped celery
1 cup uncooked rice (not instant)
1/3 cup soy sauce
1/2 teaspoon salt
1/2 teaspoon pepper
2 cups boiling water
1 can mushroom soup
1 small can sliced mushrooms
Brown meat and drain. Add celery, rice, soy sauce, salt, pepper, water, soup and mushrooms. Bake in a large covered casserole for 1 hour at 350 degrees. Stir once while baking.

Jackie Doud, Topeka:
APPLE CRISP

10-12 apples, peeled & sliced
1/2 cup sugar
1 teaspoon cinnamon
1 Jiffy white or yellow cake mix
1/2 cup melted butter
Place apples in a buttered 9-by-13-inch pan. Mix sugar and cinnamon and sprinkle on top of apples. Sprinkle cake mix on top. Pour butter over top and bake at 350 degrees for 30-40 minutes.

Darlene Thomas, Delphos:
YUMMY JAM CAKE

1 cup raisins
8-ounce can crushed pineapple, undrained
1 cup butter, softened
1 cup sugar
4 large eggs
12-ounce jar blackberry jam or 1 cup homemade blackberry jam
2/3 cup buttermilk
2 1/2 cups all-purpose flour
1/3 cup baking cocoa
1 teaspoon baking soda
1 teaspoon ground cinnamon
1 teaspoon ground nutmeg
1/2 teaspoon ground cloves
1 cup chopped pecans

Caramel Icing:

1 cup butter, cubed
2 cups packed brown sugar
1/2 cup whole milk
3 1/2 to 4 cups sifted confectioner's sugar

Soak raisins in pineapple and juice several hours or overnight. In a large bowl cream butter and sugar until light and fluffy. Add eggs, one at a time, beating well after each addition. Add jam and buttermilk and beat until well-blended. Sift together dry ingredients. Add to batter. Beat on low just until combined. Stir in the raisins, pineapple and pecans. Pour into 2 greased and floured 9-inch round baking pans. Bake at 350 degrees until a toothpick inserted in the center comes out clean, about 50 minutes. Cool in pan for 10 minutes before removing to wire racks. For icing, melt butter in a saucepan over medium heat. Stir in brown sugar and milk. Bring to a boil. Remove from heat. Cool just until warm. Beat in enough confectioner's sugar for icing to reach spreading consistency. Add more sugar for thicker icing, more milk to thin it. Frost cooled cake.

Pam Moeller, Tecumseh:
CHICKEN SUPREME

1 cooked chicken (save broth)
7 cups soft bread, broken up
1 cup chopped celery
2 eggs
1/2 teaspoon baking powder
2 cups milk
1 small onion, chopped
1 can cream mushroom soup

Remove chicken from bones and cut into small pieces. Mix bread, celery, eggs, baking powder, milk, onions and soup. Alternate layers of dressing and chicken in 9-by-13-inch baking pan. Pour chicken broth over top until it can be seen around the edges of pan. Bake at 325 degrees for 1 1/4 hours.



I never met my mom's dad, or at least the person she called dad; he battled a lot of demons and fought a hard fight with Parkinson's. I have heard lots of stories about him over the years and depending on who is telling them generally determines what you will hear. Sometimes they are good, sometimes they aren't, but the general theme of all of them is that when times were hard and he wasn't there, it was my Uncle Bud who stepped up to do whatever he had to do to help ensure everyone was taken care of. He became the father figure to my mom and her younger sister, leaving school to go to work to make sure there was food on the table and clothes on their backs. He took on that role and never looked back.

When my mom and dad got pregnant with me, my Uncle Bud bought them my crib, something that has always meant the world to my mom. When my parents found out they were having a baby, they wanted to give me godparents; they chose my Uncle Bud as one of them and I don't think I could have been given anyone better.

Looking back on my life, I can't think of one important event that Uncle Bud missed and quite frankly I don't think he would have missed a thing; if he could be there, he was there. Whether it was prom, graduations, award ceremonies or big family trips, he was there for all of them. He was the example of a great dad and father figure for my mom, for me he is the example of a great uncle and a great man.

My whole life I have watched him work hard, but I have also watched him stop what he was doing to be fully present in the moment. If you want to know what it means to see someone beam, look at my Uncle Bud when he is in a room with his grandkids or great-grandkids. He might not say much, but that face of his glows and that smile, oh it lights up a room when he is watching them. He is part of the inspiration for me wanting to be more present this year, he does it and he does it well. Life isn't always easy for him (or anyone for that matter), but he still tries to always show up

and to make the best of every situation and I admire that about him so much.

Life wasn't all roses for my mom's family growing up, times were tough, but when you grow up like that it gives you an appreciation for the things you have and it instills in you the need to give back, yet another thing I have always admired about my Uncle Bud. There truly isn't a thing in this world that this incredible man wouldn't do for another person. He is so selfless, caring and giving, and he does so without ever wanting any recognition; he has a true giver's heart.

I have also enjoyed watching my Uncle Bud chase his dream over the years, whether that be racing, running a small engine business or building a new house; whatever it is, he does it fearlessly. Chasing a dream is never easy and always scary, he does it anyways, and as a girl who tends to be a little bit afraid of the world, I admire that drive, ambition, and overall fearlessness.

Uncle Bud has a birthday on the 21st and we will all be coming together to celebrate him. I can only hope he knows just how much he is loved, appreciated, and admired.

Uncle Bud, I hope this next year is better than the last. I hope it is filled with lots of laughter, love, and moments where you can sit back and take it all in and truly realize that without you, none of this would be possible. You have laid the groundwork for an amazing family; we all owe you one. Thank you for being you, for teaching us all to be better humans and for loving us even when we are difficult. We love you and happy birthday!

Michele grew up in Junction City and graduated from Kansas State University. She worked in the restaurant management field for six years before deciding to switch careers and now works as an office manager for a company that manufactures oilfield products. Her passion for blogging and food can be followed on Instagram: [boobsbrainsandbaking](https://www.instagram.com/boobsbrainsandbaking/).

If you would like to contact Michele with comments please email mcarlyon88@gmail.com

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Popularity Of Air Fryer Beef Recipes On The Rise

The hot new trend in countertop cooking is the air fryer, and the Kansas Beef Council (KBC) has a new recipe series seeking to elevate beef within the hottest cooking genre of 2021. KBC-produced and -photographed air fryer recipes have been seen over one million times in the first six weeks of the new year.

Air fryer appliances are top of mind for consumers and have skyrocketed in popularity during the end of 2020 and the start of 2021. According to market research conducted by NDP Group, nearly 40% of U.S. homes have an air fryer. Not only have consumers purchased air fryers, they also are actively searching for recipes on Google, social media and the ever-so-popular recipe collection site, Pinterest.

Regarding the need for beef content in this genre, KBC chairman Tracy Thomas said, "Our staff noticed a dramatic uptick in search volume and the sheer amount of content being shared on social networks related to the air fryer. They also noticed beef was under-represented in this space. KBC worked diligently to develop beef recipes that taste great and capitalized on the search trends."

The recipe collections were published in mid-January of 2021 and, in approximately five weeks, have been seen over one million times and generated tens of thousands of website visits to bookmark the recipes.

"We're pleased with how well consumers are engaging with this check-off-funded content and the efficiency in which it is getting in front of them," said Scott Stebner, KBC communications director. "We're also excited to see that other states have leveraged assets produced here in Kansas to reach consumers beyond our state line, which maximizes the investment in demand-building activities."

AIR FRYER POPCORN STEAK BITES

Kid-friendly recipe alert!
Covered in a tasty potato chip crust and crisped to perfection in the air fryer, these popcorn steak bites are cooked up in the air fryer and are the ultimate finger food. These bite-sized steak bites are a great meal for kids, especially picky eaters, or an amazing game-day appetizer for family and friends.
1 pound cubed steak, cut into 1-inch chunks
6 cups ridged potato chips (we recommend regular flavor)
1/3 cup all-purpose flour
1 teaspoon pepper
2 large eggs, slightly beaten
Cooking spray
Cut beef steaks into squares. Place chips in food processor; pulse on and off to form fine

crumbs. If you don't have a food processor, use a rolling pin and place chips in a resealable plastic bag. Combine pepper and flour in shallow bowl. Place chips and eggs in two additional shallow bowls. Dip steak pieces in flour, then in egg, then in crushed chips, turning to coat all sides and pressing chips onto steak pieces. If the chip mixture is too coarse or loose, it will fall off the steak bite from the force of the air fryer.
Preheat air fryer to 400 degrees. Place on rack, making sure not to overcrowd. Cook 7-9 minutes until outside is golden brown and beef has reached an internal temperature of 160 degrees F. Open halfway through and shake the basket for crispier steak bites.

Tip: Individual models of air fryers will vary on time and temperature. We tested this recipe on two different air fryers for cooking time and temperature. Check throughout cooking to make sure it doesn't burn. Additionally, you do not need to spray the steak bite coating with cooking oil. There are enough oils in the potato chips to create a beautiful crispy crust.

More recipes can be seen on the Kansas Beef Council Facebook page: www.facebook.com/KansasBeef or www.kansasbeef.org.

By Ashleigh Krispense
At the beginning of the year, I shared some "lighter" recipes that we were enjoying on our quest to eat somewhat healthier. In the past couple weeks however, we've gone back to some of our favorite comfort foods. (Let's blame the cold weather!) Chocolate chip cookies, marinated steaks, garlic Cheddar biscuits, and my current project recipe: frosted cinnamon bread. So in the spirit of coziness and comforting dishes, I'm re-sharing a recipe from years back. If you're needing an easy dessert or just want something warm and sweet, here you go!



Southern 3-Ingredient Peach Crock-pot Cobbler

I know, that title holds a lot of promises, but I can assure you that this cobbler will live up to them! It's surprisingly simple and delicious. Layer it all in the slow-cooker, come back in a few hours, and you've got a sweet dessert to serve later at dinner. Guaranteed, everyone will be surprised at how easy it is to make!

- 1 box yellow (or white) cake mix
- (2) 21-ounce cans peach pie filling
- 10 ounces butter, sliced into pieces
- 2/3 cup walnuts, chopped (optional)



Get started by greasing a 4- or 5-quart crock-pot with butter (or non-stick cooking spray). Pour peaches in and spread them out evenly.



Dump in the dry cake mix and spread it out over the peaches.

Dot the top of the cake mix with pats of butter and then add the walnuts (if you want).

Cook on HIGH for 2 to 3 hours or until the top of the cobbler has cooked through and set up. If you need to, you can always add a little bit more but-



ter throughout the cooking process (because butter fixes everything, right?).

Let set a couple of minutes before dishing out and then serve with a big ol' dollop of vanilla ice cream on top. Enjoy!



Ashleigh is a freelance writer and the gal behind the website, *Prairie Gal Cookin'* (www.prairiegalcookin.com), where she shares step-by-step recipes and stories from the farm in Kansas.

Follow PGC online for more recipes and ramblings!



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Prescribed actions for building better soil

By Dale Strickler

If you have ever ridden a combine with a yield monitor during harvest, you have seen the variation that exists across a field that was managed completely uniformly. What is the main cause of this variation? Why do some parts of a field yield better year after year, and other parts yield worse year after year? The obvious answer is that the higher yield areas have better soil and the low-yielding areas have poor soil. Have you ever wondered how you could make the entire field yield like the best areas?

For centuries, we have thought that the quality of our soil was something which we could not improve; we could at most prevent it from getting worse. But many farmers are discovering that it is not only possible to dramatically improve your soil, but that the farming methods to make the soil better are far more prof-

itable than the way they were farming previously. We have discovered that better soil is created by increasing soil organic matter, and that soil organic matter is produced by certain soil microbes. If we know the habitat requirements of these microbes, then making better soil becomes simply supplying those habitat needs. Creating the proper habitat for these soil-building microbes consists of the following steps:

Stop tillage

Tillage causes all sorts of soil damage. It decreases soil organic matter, it destroys soil structure, it disrupts macropores such as old root channels and earthworm burrows that allow air and water to enter the soil. Building better soil is very difficult if tillage persists. A single tillage trip can destroy all the organic matter built during an entire year by a crop. Tillage can temporarily increase crop yields in some cases, but it comes

at the price of long-term soil productivity.

Retain all crop residue on the surface

Leaving crop residue on the soil surface can accomplish multiple objectives. It makes soil warmer in winter but cooler in summer, so more days of the year are in the optimum temperature range for microbes. It promotes water infiltration and reduces evaporation of soil moisture, so more days of the year are moist enough for microbial activity and plant growth. It is also critical for preventing soil erosion; it is hard to build soil if it is being washed away every time it rains.

Grow cover crops or perennial crops to keep a living root in the ground at all times

This is perhaps the most important step of all. The most effective soil-building organisms are the ones that feed on root exudates, which are sugary liquids that ooze from plant roots. The more days these microbes are fed throughout the year, the better soil will become. This is why having something green and growing as many days as possible is so critical, whether it is a cash crop, a cover crop, or a perennial crop like fescue or alfalfa. A pound of root exudates has been shown to have an astonishing eight times more contribution to soil organic matter than

a pound of plant residue.

Diversity

Diversity of species can provide many benefits. Diversity can mean having multiple species planted over time using crop rotation (for example, using a rotation of corn-soybeans-wheat-clover with four crops in four years instead of continuous corn, or corn-soybean rotation) or by having multiple plant species in one cover crop mix, or both. Each plant species has a unique root exudate. Some like sunflowers or flax are high in lipids (oil), some like sorghum-sudangrass are high in sugar, and legume crops have high protein root exudates. Mix them together, and they form a balanced microbial diet and thus a higher microbial abundance and higher organic matter. Diversity also means that there is a mixture of root types (deep taproots to explore the soil depths, and fibrous roots to fill the shallow layers) a mixture of plant heights and leaf types to fully use the sunlight so more productivity is achieved. Finally, diversity means that not all the eggs are in one basket; this ensures that no one disease or insect or weather condition will wipe a crop out. For example, although year in and year out a sorghum-sudan crop is often the single most productive cover crop, it

is also very vulnerable to sugarcane aphid if planted in monocultures. A polyculture of plants that attracts multiple species of aphids and has flowering plants will have many species of aphids and thus multiple predators of aphids so sugar cane aphids seldom become a nuisance in diverse polycultures.

Incorporate livestock grazing

Soil organic matter is produced by soil microbes. To thrive, soil microbes need conditions that are free of UV light (in other words, dark), moist, and in a favorable temperature range. They also need their food to be high in protein, energy, and minerals. But on the soil surface, the sun shines half the time, the temperature ranges wildly, it dries easily, and the high protein foods are separated from the high energy foods by a distance that cannot be traveled by microbes. This is why aboveground plant material is so less efficient at producing soil organic matter than root exudates. Inside a rumen, however, it is dark, warm, and moist, and the food is ground into small particles and mixed together so high protein materials are mixed with high energy materials and high mineral materials in a homogenous "soup". In less than two days, plant material ingested by a ru-

minant animal is deposited as an ideal organic matter producing medium. Research shows that grazing crop residue and cover crops leads to more organic matter production and higher eventual crop yields than leaving the material ungrazed, as long as enough material is left ungrazed to keep the soil surface covered and protected.

Following these five simple steps can make your entire acreage more productive than it is now, and the practices listed are usually more profitable than not doing them.

If the contents of this article interests you, and you would like to learn more about making your soil better, you can obtain entirely free copies of the 24-page *How to Make Your Soil Better* booklet or a free copy of the *Soil Health Resource Guide* by contacting Green Cover Seed at 402-469-6784 or emailing info@greencoverseed.com. You can also immerse yourself in a two-day learning event at the first ever Southeast Soil Health Conference at Iola March 5th and 6th at the new Green Cover Seed warehouse, for more information contact Green Cover Seed at the Bladen office 402-469-6784, the Iola office 620-363-6053, or email info@greencoverseed.com.

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Myth-busting eight common beliefs about cover crops

Myths surrounding cover crops typically fall into one of two camps. The first camp is that of detriment, with concerns about available moisture being sucked up in a drought-prone area or fear that cash crop yields will be hurt. The second is misplaced expectations – placing cover crops on a pedestal as the Holy Grail to simultaneously fix every production woe.

Below, Rob Myers, director of the Center for Regenerative Agriculture at University of Missouri, and Jerry Hall, director of research for GO SEED, bust eight of the most common cover crop myths.

There will be interference with cash crop production

"This is the most common myth out there. Understandably, farmers have a lot of acres to plant in the spring and need to do it when the weather window is right," explains Myers.

From data collected in the 2019-2020 National Cover Crop Survey, conducted by the non-profit Conservation Technology Information Center, farmers utilizing cover crops were found to often plant earlier following a cover crop due to an improvement in field conditions. This was evident in 2019 when 19 million acres were not able to be planted due to an oversaturated spring. Farmers that were planting green into a standing cover crop reported that they were often able to get into the field when their neighbors practicing conventional tillage were not. Sometimes the difference is just a few days, but every day counts in a busy spring planting season.

"Cover crops are very beneficial in building soil structure and internal drainage systems that help deal with heavy rainfall. The cover crops' root systems create channels for precipitation to flow deeper into the soil, minimizing run-off," adds Myers.

However, making sure a cover crop doesn't interfere with cash crop production does come with consideration. If cover crop termination is timed wrong, planting can be delayed due to the decaying cover crops creating a wet mat across fields – termination timing is especially important to get right if the cover crop was high in biomass. First-time users of cover crops may want to experiment with planting green on a modest acreage before making it a common practice.

Cash crop yields will take a hit

In a business running on tight margins, farmers looking to integrate cover crops into their systems are right to be concerned about the impact they can have on yield. The myth about cash crops seeing a reduction in yield following cover crops typically stems from issues seen when a monoculture of cereal rye is used before corn.

"A monoculture of cereal rye has a high carbon to nitrogen ratio (C:N). As a result, the microbes in the soil will utilize the nitrogen applied during the

sowing of corn so that it can break down the high C:N organic material from the cereal rye. The microbes will tie up nitrogen in the soil that the corn needs early on and the corn yield can suffer as a result. To avoid yield losses in corn following cereal rye, be sure to provide extra nitrogen at the time of planting corn or sow other species with the cereal rye that have a lower C:N ration, such as clovers, peas, or vetch," says Hall. "Terminating the rye early can also help avoid nitrogen tie-up issues and potential yield loss as the C:N ratio will increase as the plant matures and the percent lignin increases."

Aside from adjusting nitrogen applications in a case like this, yield reductions can also be avoided by simply matching the cover crop life cycle and nutrient output to the cash crop.

"For example, soybean crops will benefit from nitrogen later in the growing season. If the soybean is following a high C:N cover crop such as rye the soybean plant will respond by forming a more robust root system and form greater nodulation and associations with rhizobia. This typically results in a small yield bump following cereal rye, with the yield difference increasing over a period of years as soil health and rhizobia population in the soil improves," explains Hall. "As a rule of thumb, high C:N covers before legumes and low C:N covers should precede grains."

More importantly, don't throw the baby out with the bathwater over this myth and keep the overall production picture in mind. According to Myers, taking a more holistic approach will not only allow improved efficiency in the short term, but our data shows that it will improve productivity in the long term due to soil health improvements.

"Don't expect miracles, but a 3-5% increase in yield after a few years of strategic cover crop use is not out of the question. Bigger yield benefits from cover crops will likely be seen in dry years and sometimes in excessively wet years, as cover crops improve the resiliency of the cropping system through soil improvements," says Myers.

Water availability will be reduced for the subsequent crop

Decades ago, there were huge concerns about cover crops sucking up too much ground moisture, reducing availability for the subsequent cash crop. According to Myers, the improvements that cover crops contribute to soil resiliency make this concern no longer relevant for most producers. Diverse root structures will aid in water and nutrient circulation while helping soils drain. Higher levels of organic matter will also serve as a sponge to lock moisture into the soil.

"While the benefits are many, producers in areas with low annual rainfall or regular extended dry spells do need to manage cover crops based on

weather patterns to ensure moisture availability is not an issue for the following crop," explains Myers. "For example, if an area is heading into a dry spring, then it is best to terminate the cover crop early to ensure adequate soil availability ahead of planting. If weather conditions are going to be more saturated, then the cover crop can be allowed to keep growing longer and can help reduce excess soil moisture."

"With that being said, it is a smart practice for any producer in any part of the country to pay attention to weather when forming a cover crop termination strategy."

New pests will be introduced

With the introduction of new species in a field, comes the concern of attracting new pests.

In certain regions, slugs are at the top of the list due to residues giving them an ideal environment but adopting different management strategies will help mitigate this. If a cover crop is terminated well ahead of planting and biomass disintegrates, slugs will likely go after the emerging cash crop.

"If termination happens at planting or shortly after, slugs will typically remain on the cover crop and damage to the emerging plants will be significantly reduced," adds Myers. "Adjusting use of insecticide seed treatments can also allow for more ground beetles that are the natural control agent for slugs."

Another pest that draws concern is voles. Their presence varies from county to county and even farm to farm, but increased residues from cover crops or no-till can cause a surge in population.

"Fieldwork is finding that planting things like crimson clover and brassicas tend to be less attractive to voles than the likes of winter cereals such as cereal rye. Another helpful tactic for thinning out the population is to encourage birds of prey to the area by providing field-edge perches," says Myers.

Perhaps the biggest concern regarding pests is the "green bridge." The idea of a green bridge is that some insect or disease pests may feed on the cover crop and then move from the cover crop to attacking the emerging cash crop. While researchers are still studying how much of a problem this is, early indications show that there is less of an issue with insects jumping from the cover crop to a newly emerging crop if termination happens shortly after or immediately before planting the cash crop.

Soil temperatures will remain too cold

According to Myers, this myth originated from issues northern farmers were having when first starting no-tilling and soil temperatures were slow to warm up in the spring which eventually led to the adoption of strip-tilling in cooler regions.

While dead crop residue in a no-till system can keep soil tempera-

tures cooler in spring, it is a different ball game once cover crops are introduced. Having a living and growing crop in the ground creates a respiration system that generates energy. The extra energy in the living cover crop system and active soil microbial system usually leads to soils that are comparable in temperature to tilled fields and warmer than no-till fields with no cover crops.

Pollinators will be fed

Any cover crop can provide habitat for pollinator insects, but for pollinators to have food, they need cover crops that are allowed to reach the flowering stage. In the past, many cover crops were terminated before flowering. More recently, as farmers see the benefits of letting cover crops grow longer, some cover crops are at least briefly reaching the flowering stage before termination.

"Cover crop maturity is only part of the equation. To best support a thriving habitat for pollinators, we also need to provide more biodiversity. Sometimes that is possible to do with field borders, but it will be more effective if carried throughout the entire field," says Myers.

To do this, he recommends planting a small grain with a multi-species cover crop "cocktail" that can provide pollen sources through the summer and into the fall. Such diverse blends of cover crops, if planned well with some high biomass species, can also help speed up the process of soil health improvements.

Seed is too expensive

In 2012, the National Cover Crop Survey found cover crop seed to cost between \$20-40 per acre with a median of \$25 per acre. As time has gone on and management practices have improved, farmers have significantly economized through more efficient application and drilling. In the most recent survey, cover crop seed cost is now running between \$15-20 per acre on

average. Some producers get costs down to as low as \$10 per acre.

"When looking to cut costs, it is important to note that it does pay to buy quality seed that has been tested for germination and purity, and that comes from genetics proven to perform – otherwise, a cover crop is set up to fail before it is even in the ground," says Hall. "It is also important to look at seed counts per pound of seed. Sometimes there can be large variations within a species, by adjusting your seeding rate to reflect the seeds per pound you can save a substantial amount of money per acre."

According to Myers, there is currently more money than ever before in government programs that provide cover crop incentive payments, so producers looking to reduce seed costs should also reach out to the NRCS and state programs for available opportunities.

"It's important not to solely focus on seed costs. As mentioned before, over time cover crops will improve the soil and really start to pay for themselves. A national USDA-SARE report on cover crop economics found that cover crops typically break even in profit for corn and soybeans within three years of use, providing a net profit for years afterward," adds

Myers. "Some practices, such as using cover crops to help with herbicide-resistant weeds, deal with compaction, or for live-stock grazing can speed up the profit return. Because of the long-term gains to profitability, most farmers who give cover crop a fair trial for a few years swear they will never go without them due to the positive returns that occur with time."

They are the silver bullet

When implemented strategically, cover crops can build organic matter, improve soil structure, combat erosion and compaction issues, fix notable amounts of nitrogen, increase water holding capability... and the list goes on. But here's the catch-22: cover crops cannot fix production issues overnight, and some cover crops are better than others for certain objectives such as weed control or nutrient management.

"Instead of being a silver bullet that completely fixes a single problem, cover crops function more like a silver shotgun providing broad coverage to gradually improve cropping system challenges," concludes Myers. "It is best if they are used with specific goals in mind. Addressing field challenges with cover crops is going to take time, patience and strategy."



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No-till practices in vulnerable areas significantly reduce soil erosion

Soil erosion is a major challenge in agricultural production. It affects soil quality and carries nutrient sediments that pollute waterways. While soil erosion is a naturally occurring process, agricultural activities such as conventional tilling exacerbate it. Farmers implementing no-till practices can significantly reduce soil erosion rates, a new University of Illinois study shows.

Completely shifting to no-till would reduce soil loss and sediment yield by more than 70%, says San-

ghyun Lee, doctoral student in the Department of Agricultural and Biological Engineering at U of I and lead author on the study, published in *Journal of Environmental Management*.

But even a partial change in tilling practices could have significant results, he adds.

"If we focus on the most vulnerable area in terms of soil erosion, then only 40% no-till shows almost the same reduction as 100% no-till implementation," Lee says.

The study used physical data and computer modeling to estimate soil erosion in the Drummer Creek watershed, which is part of the Upper Sangamon River watershed in Central Illinois. The area's main crops are corn and soybeans, and tillage is a predominant agricultural practice.

"The rate of soil erosion is increased and accelerated by unsustainable agricultural production. One of the main reasons is conventional tillage in the field," Lee says. "Our

model provides a tool to estimate the impacts of tilling on soil erosion across the watershed."

Lee and co-authors Maria Chu, Jorge Guzman, and Alejandra Botero-Acosta developed the modeling framework, coupling a hydrological model (MIKE SHE) with the Water Erosion Prediction Project (WEPP) to examine the impacts of no-till practice in the watershed. The WEPP model provided the sediment sources from the agricultural fields under different tillage practices

and the hydrologic model simulated sediment transport across the watershed.

The researchers included historical data on climate, soil properties, sediment sample data, and other relevant measures, then used the coupled model to predict how different management practices affect soil erosion rates.

"Farmers may prefer tilling because wet climate conditions cause compacted soil," Lee says. "However, soil erosion removes topsoil, which con-

tains lots of nutrients, and this may reduce yield in the long term. Soil erosion also affects water quality, both locally over time and at a distance.

"Therefore, farmers need to weigh the benefits of tilling with the consequences of soil erosion and choose the best management strategies."

The modeling framework can help identify the most vulnerable areas, so producers can implement sustainable management practices where it matters most, Lee notes.

AGCO launches new studies on cover crops for carbon management

AGCO, a global leader in the design, manufacture and distribution of agricultural machinery and solutions, is conducting agronomic research trials and field demonstrations in 2021 to help farmers successfully add soil carbon sequestration to their farming operations.

The rapidly evolving carbon credit market is a potential revenue channel for farmers in which they can also contribute to the solution for climate change alongside feeding the world's growing population.

"Carbon sequestration's revenue potential for farmers through carbon credits incentivizes adoption, investment, and innovation for the betterment of our climate," said Louisa Parker-Smith, AGCO's global sustainability director. "With half of the earth's vegetated land employed in agriculture and abundant soil carbon sequestration potential, it's understandable that the

Ag supply potential is over 30 times today's total credit demand. However, we expect to see carbon-offset credit demand increase exponentially as surrounding markets mature and companies such as Apple and BP work towards self-imposed climate neutrality deadlines."

"We are undertaking this research to help create a clear path for farmers to successfully harness the revenue potential and climate benefits of biologic carbon sequestration through cover cropping and other regenerative agriculture practices," said Darren Goebel, AGCO's Global Agronomy and Farm Solutions director. "We are confident that these trials will demonstrate easy and cost-effective ways to add these practices into existing crop systems."

AGCO's Global Agronomy team is collaborating with the company's global brands to drive research trials at the Martin Riehenhagen Future Farm in Zambia,

Africa, and the Swiss Future Farm in Tänikon, Switzerland, as well as several sites in the U.S. and Denmark. The studies focus on best practices for cover crop planting timing (before, during or after harvest), termination methods, species selection and tillage systems to maximize carbon stores.

The research trials are one component of AGCO's new sustainability strategy, which includes a focus area on farm solutions for soil health and carbon capture.

"Our goal is to make regenerative agriculture attainable for farmers," said Parker-Smith. "As part of our new strategy, we're conducting these research trials to inform the development of new products to support soil health and carbon management. We're committed to supporting farmers as part of the solution to the global challenge of climate change."

Fighting climate change offers recovery, new revenues for America's farms

America's farms were struggling just to make a profit even before the COVID-19 pandemic, but long-ignored soil practices could provide new revenue opportunities and long-term profitability for thousands of hard-hit farms across the U.S., according to a new report from E2 (Environmental Entrepreneurs). The new analysis details why the U.S.'s farm economy — battered by extreme weather and unpredictable growing seasons over the last decade — needs to make carbon farming America's next cash crop.

With more than half of U.S. farms operating in the red since 2013 and more than 100,000 farms ceasing operations since 2011, *Healthy Soils and the Climate Connection: A*

Path to Economic Recovery on America's Farms provides a roadmap for how climate-smart agriculture policies could provide profit boosts for farmers and climate wins for advocates.

An estimated 1.85 gigatons of carbon dioxide (CO₂) per year—roughly the amount emitted annually by the global transportation sector—could be stored globally through regenerative practices. As an economic opportunity, becoming carbon-negative can open the door for farmers to the marketplace of carbon credits and other financial incentives through farm policy.

"Advancing agricultural practices that store more carbon in the soil is a win-win-win proposition: it's good for farm-

ers, good for the economy, and good for the environment," said Nicole Lederer, co-founder and chair of E2.

Some 19.4 million acres of U.S. farmland went unseeded in 2019 as farm debt reached an all-time high of \$420 billion in 2020. According to E2's latest report, regenerative farming practices such as cover cropping, crop rotation, and low-till or no-till practices that increase the amount of carbon in soil offer new revenue streams for hard-hit farms. If adopted at scale, such practices could add tens of billions of dollars to the farm economy.

These practices would also be critical to mitigating climate change's growing economic cost. No country had a higher

potential to store carbon than the U.S., according to a 2017 study in the scientific journal *Nature*.

President Biden's recent executive order will encourage further development of these practices but action under the new Congress is still needed to advance regenerative agriculture's economic potential.

"President Biden has made it clear that climate action is a top priority in every sector of federal policy, and that agriculture has a key role to play," said the report's author, veteran cleantech reporter and analyst Clint Wilder. "The healthy soil practices and policies outlined in this report can be game changers for removing carbon from the atmosphere and regen-

erating America's farm economy."

Policy measures endorsed in the report include reforming federal crop insurance, boosting funding for the U.S. Department of Agriculture's Soil Health Demonstration Trial, development of new markets for low-carbon ag products, and leveraging the USDA's Commodity Credit Corporation to finance transitions to regenerative agriculture—something that Biden's pick for agriculture secretary, Tom Vilsack, has already suggested.

"Soil carbon sequestration is not fantasy. It's science-based biology that we know how to enable and even amplify" said Paul Zorner, chief agronomist at Locus Agricultural

Solutions. "Incentivizing growers through markets which value that carbon will revolutionize agriculture and its positive contribution to jobs, rural economic stability and global ecosystem health"

In 2018, E2 assisted alongside Sen. Ron Wyden and a broad bipartisan coalition in crafting a regenerative agriculture pilot program that passed as part of the 2018 Farm Bill. Building on the success of the program, E2 and other allies are now pushing the Vilsack-led USDA to further implement and expand on the program, seen as a major tool for America's farmers to adapt to and combat climate change, which has taken its toll in the past few years on rural America.



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Agriculture makes gains in greenhouse gas emission reductions

New analysis of EPA data highlights agricultural emissions reductions and the importance of developing new research and technologies to capture more carbon in cropland and pastureland. The American Farm Bureau Federation's latest Market Intel also reviews trends in U.S. carbon sequestration as climate-smart farming

practices increase.

The report reveals that U.S. carbon sinks offset 12% of U.S. greenhouse gas emissions and sequestered 764 million metric tons during 2018. The largest carbon sink involved U.S. forestry lands.

It also highlights the fact that cropland productivity has increased by nearly 50% since 1990

while the net emissions "flux" – the net of carbon emissions and carbon sinks associated with land use and land-use changes – has remained consistent. This builds on existing evidence that farmers and ranchers are raising more food, fibers and producing more renewable fuels using fewer resources and utilizing smarter practices.

"Farmers and ranchers have made great strides in climate-smart practices, yet we're always looking for ways to do better," said AFBF president Zippy Duvall. "Agriculture has been proactive in working toward sustainability goals and we're looking for partners to help us do even more through market-based, voluntary

programs. The Food and Agriculture Climate Alliance, which we co-founded, has 40 recommendations for lawmakers as they consider climate policy. We encourage new allies to join us as we build on climate-smart advances while ensuring farmers continue to provide safe, affordable food for America's families."

The Market Intel re-

ports an almost 34-million-acre reduction in forestland and cropland since 1990, with a 28-million-acre growth in housing and commercial development.

New research and technologies are needed to achieve climate goals without jeopardizing production of the world's food, fiber and fuel.

Legend: Two decades of superior annual lespedeza

By Keith Carmichael

How does one measure success? One way is definitely longevity.

Two decades is a long time. That's how long Legend lespedeza has been improving bottom lines in cattle operations from Topeka to Tuscaloosa. It was almost 20 years ago, at what was then called CMSU (Central Missouri State University), that Legend dominated replicated forage trials three years in a row, establishing it as the premier annual lespedeza. Since that time, it's

safe to say that no serious work has been done on improving annual lespedeza.

Annual Lespedeza – Mix it up!

Annual lespedeza is not for every situation, but it is well known for its unique tolerance to drought and low pH soils. It is also one of the few legumes that does not cause bloat. Adding annual lespedeza with other legumes into cool-season grass pastures can mean extra forage and therefore extra pounds because many grasses often leave a significant forage

gap in summer months. Milk production, weaning weights and reproductive efficiency are all closely tied to the animal nutrition during this period. So, if you want cows to milk and breed, and calves to gain during the summer make sure you have annual lespedeza in your plan. Annual lespedeza should not be confused with its perennial cousin, Sericea, which is a serious weed problem in many areas.

Legumes- Fuel for Performance

Legumes added to the

pasture or hayfield produce nitrogen which eventually becomes available to grasses as well and they are a very important protein source. Without legumes in the mix, you really don't have your very best pasture or hay... you really don't have your best intake, performance, or gain.

Back to the Basics

Over-seeding pastures and hay fields with legumes is basic, common sense management. No single legume can do it all. Soil fertility, pH, texture,

and drainage all help determine which legume is best for your operation. If you believe in having diversity like the professionals, use several types of clover and perhaps alfalfa if your soil pH will support it. If not, perhaps you should take a look at annual lespedeza. The taller, more productive Legend lespedeza has proven to be a smart choice. Producers who have grown a variety of lespedezas over the years characterize it as a "very leafy lespedeza that grows taller and reseeds

itself very well."

Dilute the toxicity!

The effects of endophyte toxicity in some fescue pastures during the summer is well documented. This fungus affects all of animal performance – especially reproduction. Annual lespedeza in pastures can 'dilute' and significantly reduce its effect when it's doing its worst damage. It's all about 'timing'!

For more information visit ["http://www.Cutting-Edge-Products.com](http://www.Cutting-Edge-Products.com) Legendlespedeza.com.

CIBO and Peoples Company join forces to generate carbon credits for regenerative practices on more than 20,000 acres of managed land

CIBO, the technology company that delivers decision-ready insights on all U.S. cropland, and Peoples Company, the nationally recognized land transaction and advisory firm, have announced they will join forces to offer carbon credits on more than 20,000 acres of managed land. The partnership makes Peoples the first land management company to offer carbon credits.

"Together, CIBO and Peoples Company are leading the way in economically and environmentally sustainable incentives to growers and owners of cropland in the U.S.," said Steve Bruere,

CEO at Peoples Company.

"The benefits of sustainable and regenerative agriculture are clear over the medium to long term," continued Bruere. "What is missing is a way to create immediate, new incentives for sustainable management. As the leading farmland management firm in the U.S., we are uniquely suited to combine our expertise and reach with CIBO Impact to provide carbon credit incentives."

Through the partnership, Peoples Company has committed to initially enroll over 20,000 managed acres in the CIBO Impact platform, creating potentially \$400,000 of

new revenue for owners and operators in the first year when all credits are verified and sold. Additionally, Peoples Company and CIBO are working together to create partial incentive pre-payments for enrolled land. Under the partnership, for the first time, growers and owners will be eligible to receive immediate incentive payments against expected future sales of carbon credits.

"Partnering with Peoples Company makes sense, for farmers and for sustainable agriculture," said Daniel Ryan, CEO at CIBO Technologies. "Peoples Company is as forward-thinking about sus-

tainable farmland management as we are about delivering enabling technology. This partnership charts a pathway that others should follow."

CIBO Impact offers a streamlined approach for enrolling land, quantifying the carbon impact of various practices, and remotely verifying practices to generate and sell carbon credits – all with minimal effort on the part of farmers. CIBO uses ecosystem simulation and modeling to quantify the reduction of greenhouse gas emissions and carbon sequestration, and uses advanced computer vision to verify practices. Covered practices currently

include nitrogen application, tillage, irrigation, cash-crop identification and cover-crop emergence.

Regenerative management decisions are made annually by growers and owners, and create real, permanent reductions in greenhouse gas emission and sequestration of atmospheric carbon within our soil systems. CIBO Impact allows Peoples to have insights for individual fields and manage and monitor entire portfolios in one place: yield predictions, in-field variability, historical and current management practices, carbon credits and Regenerative Potential™.

Consumers and organizations alike can achieve their climate and carbon offset goals by purchasing credits directly from the voluntary CIBO marketplace. Enterprises can use CIBO to track, manage and monitor land, growers and owners in their supply chain, co-ops, management and investment portfolios and retail territories. Whether prospecting for new land, monitoring regenerative agriculture practices or buying carbon credits, organizations can benefit from CIBO Impact. Carbon offsets may be purchased now from U.S. farmers at <https://www.cibotechnologies.com/mp/carbon>.

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Planting green into live cover crops and rolling beans

By James Coover, Crop Production Agent, Wildcat and Southwind Extension District
There are a lot more cover crops out there

than one might think. A lot of progressive farmers are finding unconventional methods and positive benefits of incorporating cover crops into their

cropping rotations. The benefits have all been noted before; excellent cattle forage, protect the soil, improve soil health, and reduce weed pressure.

However, there can be issues when it is time to terminate the crop and plant corn or beans. Cover crops can get out of hand when it comes time to plant and can be difficult to run a planter through. Dry stemmy cover crops get caught in the planter wheels and plug the seed chutes. This is why many farmers have adopted the practice of "planting green."

Planting Green
Planting green is the practice of planting a cash crop into a living, standing cover crop. The main reason for this is, because standing green cover crops are easier to plant through, but also to extend the useful life of the cover crop. A study from Penn State Extension found that the 15-day difference in cover crop biomass between the standard pre-plant kill and the post-plant kill was 137 percent. Those last two weeks make a big difference and it is likely weed suppression is also dramatically increased. The Penn State study also found leaving the cover crop alive longer helped dry out the soil for earlier planting but also trapped more soil moisture later in the growing season.

Corn versus soybeans
In general, planting green works better for soybeans than it does for corn for a number of reasons. First off, green cover crops tend to cool the soil and can delay germination, which is more relevant in corn. Nitrogen tie up can also be a problem with corn. The older the cover crop the higher the carbon to nitrogen ratio which can lead to nitrogen immobilization, though that nitrogen is released during decomposition later. Multiple studies, including the one from Penn State, found that corn planted green into standing cover crops tended to have lower yields than corn in cover crops terminated before planting. Yields were not affected or improved in soybeans.

Cereal rye is by far the most common cover crop, either exclusively, or as the base in cover crop mixes. However rye releases allelopathic chemicals, which is great for controlling weeds, but can possibly slow corn germination and early growth. A publication from Nebraska Extension states that

studies have shown conflicting results on whether the allelopathic chemicals can affect a big corn seed but some root inhibiting is possible. The chemicals quickly degrade in a week or two after rye termination.

Rolling Beans
Running a roller crimper over a field of young soybeans might seem like a complete disaster, but as it turns out, it might actually improve yield, not to mention save on herbicide costs. The idea of rolling soybeans in the V3 to V4 stage is a more common practice in the northern states but has been spreading farther south. You might be surprised to find that there are producers in southeast Kansas and in the surrounding area who roll their soybeans as well. Studies from South Dakota, Iowa, and Minnesota found no significant yield losses to rolling beans at the V3 to V4 stage, and in some cases, had a slight yield improvement. The idea is the early season stress increases node production. The study found that while 10 to 15 percent of soybeans did break, they were compensated for by other beans taking their space. The cover crop acts as a cushion to protect the beans from the worse damage. (The publication didn't mention if a flat roller or roller crimper was used.)

Rolling crimping is best done when the cereal rye or other grass cover crop is in the heading stages but before it has gone to seed. Planting green means planting the soybeans two to three before during early boot stages. Studies working with vetch found that crimping at full bloom to early pod set works best and the hairy vetch growth stages better line up with wheat or triticale rather than rye.

Making cover crops work for any operation is a matter of practice, experience, and learning from other people's mistakes. There are several studies from researchers and lessons that they too have learned from the process of planting into green cover crops. Cover crops can work and can be a powerful tool in soil health, weed reduction, and saving on input costs. Currently, we have a weekly soil health webinar focusing on soil microbes, diseases, and

structure. The Soil Health program is every Monday in February from 7:00 to 8:00 p.m. Contact any K-State Research and Extension office in southeast Kansas if you are interested or me at 620-724-8233 or email jcoover@ksu.edu.

For more information, please contact James Coover, Crop Production Agent, jcoover@ksu.edu or (620) 724-8233.

USDA to survey farmers' planting intentions for 2021

As the 2021 crop production season begins, the U.S. Department of Agriculture's National Agricultural Statistics Service (NASS) will contact producers nationwide to determine their plans for the upcoming growing season. "Each year, the agriculture industry eagerly awaits USDA's Prospective Plantings report, which provides the first survey-based estimates of U.S. farmers' planting intentions for the year," said NASS' Kansas state statistician Doug Bounds. "The March Agricultural Survey provides the factual data that underpins these projections, making it one of the most important surveys we conduct each year."

NASS will mail the survey questionnaire in February, asking producers to provide information about the types of crops they intend to plant in 2021, how many acres they intend to plant, and the amounts of grain and oilseed stored on their farms. NASS encourages producers to respond online or by mail. Those producers who do not respond by the deadline may be contacted for a telephone interview.

NASS safeguards the privacy of all respondents and publishes only aggregate data, ensuring that no individual operation or producer can be identified.

Survey results will be published in the Prospective Plantings and quarterly Grain Stocks reports to be released on March 31, 2021. These and all NASS reports are available online at www.nass.usda.gov/Publications. For more information call the NASS Kansas Field Office at 800-582-6443.



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Saturday · March 20th, 2021
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31ST ANNUAL PRODUCTION SALE

BAR ARROW CATTLE COMPANY


MARCH 9, 2021 | 1:00 PM CST | AT THE RANCH



BAG 37H

Sire: BAG Fast Back AMGV1478527 BA75
Red Carrier • Heterozygous Polled


GED	BW	WW	YW	TM	YG	CW	CREA
10	1.7	82	120	58	-0.19	45	0.84
85	90	10	20	30	10	15	3



BAG H17

Sire: IVERS Cinch AMGV1478593 BA75

GED	BW	WW	YW	TM	YG	CW	CREA
12	0.4	72	114	51	-0.11	46	0.71
60	65	40	30	70	35	15	15



BAG 65H

Sire: BAG Clyde 46D AMGV1493983 BA63
Red Carrier • Homozygous Polled

GED	BW	WW	YW	TM	YG	CW	CREA
11	2.2	82	119	52	0.00	0.49	0.49
75	95	10	20	65	80	30	55

80 Gelbvieh & Balancer Bulls
15 Gelbvieh & Balancer Elite Heifers


OTHER SIRES:
GRU Early Encounter
LAZY TV Sam Elliot
BAG Dave F292



BAG 85H

Sire: BAG Fast Back AMGV1493984 PC75
Heterozygous Polled

GED	BW	WW	YW	TM	YG	CW	CREA
8	2.8	77	116	51	-0.14	38	0.70
95	>95	15	20	70	50	30	30



BAG H13

Sire: SKYS Encore AMGV1478566 BA50
Homozygous Polled

GED	BW	WW	YW	TM	YG	CW	CREA
11	1.4	82	119	61	-0.11	42	0.74
75	90	10	20	15	35	25	10

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AUCTION

SATURDAY, FEBRUARY 27, 2021 — 11:00 AM
Due to health concerns, following sells at 1487 W. 109th, WAKARUSA, KANSAS

2013 Chevrolet 3500 HD single cab, 4WD, 6.0L, leather, power w/9' Hillsboro alum. flatbed, 15,000 mi.; 1970 Chevrolet C-50 w/18' grain bed & hoist, may not run; 2002 Coose GN stock trailer, 7x28', some rust; JD 955 dsl Tractor, FWA, ROPS, Turf Tires, shows 754 hrs.; Land Pride 5' rotary mower, 3 pt.; Indep. Mfg. 8' blade, 3 pt.; NH 358 mixer grinder; NH 275T sq. baler; (3) four-wheel wagons; JD STX38 mower, not running; Troybilt Horse Tiller; 3 rolls of 3' woven wire, new; 3 small Quanset stock huts; assortment Farm Misc. Items.

NOTE: Blacktop Roadside Parking. Lunch available. Be on Time! Bigger items could sell before Noon. INSPECTION DAY OF SALE ONLY, Please. Cash or Check Only.

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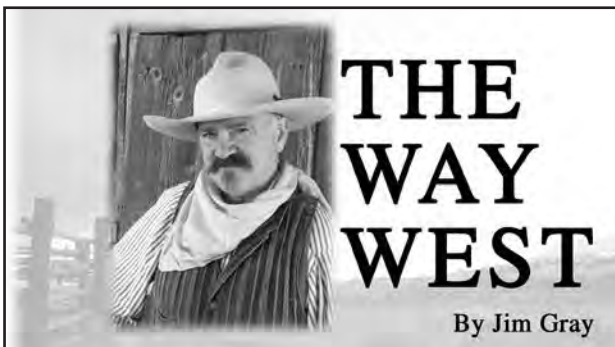
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Farewell to Peace

John W. Geary first set eyes on Kansas Territory from a riverboat steaming up the Missouri River on September 9, 1856, to the shores of Fort Leavenworth. His assignment was daunting to say the least. U.S. President Franklin Pierce had appointed Geary to Governor of Kansas Territory. He was charged with bringing peace guiding the territory toward statehood.

The day after he arrived in Kansas Governor Geary went directly to Leocompton, the territorial capital. In his first address to the people of the territory Geary affirmed his intention to faithfully execute the laws of the territory as passed by Congress in the Kansas-Nebraska Act. The governor announced, "I desire to know no party, no section, no North, no South, no East, no West; nothing but Kansas and my country." Two days later he disbanded the pro-slavery militia organized as an arm of the territorial government.

Pushback against Geary's open policies resulted in the resignation of Douglas County Sheriff Samuel Jones, leading to the appointment of William T. Sherrard. Geary questioned the legality of the appointment and refused to authorize Sherrard's commission. Resistance to Geary's leadership continued to heighten into the winter months. In the meantime, Sherrard went through legal channels to gain the commission but was thwarted at every turn.

When Geary visited the legislature on February 9, 1857. Sherrard was in the house, but was seen to get up and leave. At the close of the proceedings, as Governor Geary and his

secretaries were leaving through a narrow hallway Sherrard suddenly confronted the governor "fingering a pistol" in his belt. Sherrard shouted that the governor "had rudely assailed his character."

Geary continued past Sherrard as the assailant hurled more complaints before contemptuously spitting on the governor. Sherrard followed outside keeping his hand on his pistol, evidently hoping Geary would give him an excuse to use it. Unable to produce a response, Sherrard suddenly withdrew.

Both houses of the Legislature condemned Sherrard's action. Geary used the moment to his advantage bringing together a coalition of moderates from within the ranks of both the pro-slavery and Free State factions. A rally was planned to take place at Leocompton on February 18, 1857. A successful coalition could finally bring a peaceful resolution to the violence that kept the territory from forming a government that could lead to statehood.

At the appointed hour,

approximately two to three hundred people gathered at the Capital building in Leocompton. Attendance was purposely organized with equal representation of pro-slave and Free State men. Resolutions were composed recognizing that Governor Geary's policies had brought peace and prosperity to the Territory. The report concluded with a pledge of support from "all the actual bona fide settlers of Kansas, without distinction of party." Geary was lauded as "the people's friend" deserving support as long as he continued "to administer the government upon the principles above declared."

However, the Sherrard affair continued to hang over the proceedings, and Sherrard was indeed present in the crowd. He had previously stated that the discord between himself and Governor Geary was a

personal affair. But, at the conclusion of the reading of the resolutions Sherrard took the stand to declare that anyone supporting the resolutions was "a liar, a coward, and a scoundrel."

In the crowd, one man, Joseph W. Sheppard, was heard to say, "I endorse them, and I am neither a liar, a coward, or a scoundrel." Sherrard immediately drew his pistol, and with an oath fired. Sheppard returned the compliment as he advanced toward Sherrard. Smoke filled the air as Sheppard grasped Sherrard and beat him with the butt of his pistol. All about them pistols were drawn and fired by men in the crowd. As many as fifty shots were fired miraculously producing few wounds. Sheppard and Sherrard were separated. But Sherrard pulled a second pistol as soon as he was free and charged to-

ward John A.W. Jones, one of Governor Geary's secretaries. Seeing the danger, Jones raised his pistol and placed a lead ball right between Sherrard's eyes.

The melee was a political disaster for Governor Geary and his coalition policy to bring peace to the territory. The Legislature returned to an adversarial position just as Geary was about to overcome their prejudices. Recognizing the futility of the situation he rendered his resignation effective March 20, 1857. In his farewell speech Governor Geary prophetically reminded Kansans that, "You are entrusted not only with the guardianship of the territory, but

the peace of the Union, which depends upon you in a greater degree than you suppose."

Governor Geary's gamble to bring peace to Kansas Territory had failed, but for a few unfortunate moments at Leocompton, Kansas, the future of the nation might have been directed toward a historical resolution instead of an unfortunate farewell to peace 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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SATURDAY, FEBRUARY 27, 2021 - 2:00 PM

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LAND LOCATION: ¼ mile South of Beaumont on the Beaumont/Latham Road.

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FARM EQUIPMENT AUCTION

MONDAY, MARCH 1, 2021 * 10:30 AM

AUCTION LOCATION: 1459 Eden Road - ABILENE, KANSAS

DIRECTIONS: From ABILENE, KS: 9 miles South on K15 to 1400 Avenue (Rural Center School) then 3 miles West to Eden Road, then 1/2 mile North.

COMBINE: 1994 JD 9600 * HEADERS
TRACTORS: 1978 JD 4440, quad range * 1973 JD 4230
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Technology, innovative farming practices advance wheat farm sustainability

By Shelbi Knisley, USW Director of Trade Policy
Across the United States, farmers are producing more and better quality wheat using fewer natural resources, including land. According to an American Farm Bureau Federation report, in 2018, about 8 million fewer acres were needed to pro-

duce the same amount of wheat as in 1990.

With the Biden administration establishing clear policy goals to fight climate change and reward conservation, it is more important than ever to share the success stories of how U.S. wheat farmers have employed sustainable practices for

many years to protect their land and make a positive impact on the environment.

U.S. farmers are more economical and sustainable today by implementing agronomic practices and investing in technologies, research, and development. Technology plays an important role in mak-

ing U.S. agriculture sustainable. When breeding techniques and advanced technologies are used to produce high-yielding, high-quality wheat varieties, it contributes to preserving the land's natural resources through water and soil nutrient conservation that work in harmony with local conditions.

In their production, U.S. wheat farmers apply many aspects of the following sustainable tools and practices:

Reduced Tillage. The USDA Economic Research Service reports that reduced tillage has grown in popularity and is now practiced on nearly 70% of U.S. wheat acres. While at times a necessary tool, traditional plowing and other deep tillage can be concerning. Continuous wheat production with deep tillage contributed to the infamous U.S. "Dust Bowl" of the 1930s. The introduction of reduced-till and no-till practices have helped reduce soil erosion

and increase water retention on dryland crops. This practice also reduces fuel use and promotes carbon sequestration.

Crop Rotation and Cover Crops. After a harvest, most wheat farmers switch to a different crop in the same fields, a practice known as crop rotation. More and more farms are planting "cover crops" after harvest that will be incorporated into the soil before the next crop is planted. Both these practices are beneficial in preserving soil health as well as conserving water. Cover crops add soil nutrients and organic matter and help prevent soil and water runoff. In one study, for example, Desert Durum® wheat farmers who rotate to lettuce crops following their durum harvest, have reduced water use on average about 30%.

Water Conservation. Wheat is a naturally water-efficient crop. In much of the United States, wheat is grown during cooler

months and has a longer growing season – providing more opportunity for it to capture naturally occurring precipitation. Only about 10% of U.S. wheat acres are irrigated. Even when wheat is irrigated, it often needs less irrigation than many other crops.

Precision Agriculture. Farmers are using technologies such as crop yield monitors, soil maps and global positioning systems (GPS) as well as drones to apply inputs more precisely, monitor plant health, and collect data on soil nutrients and other natural resources. For example, such technology allows farmers to adjust seed, fertilizer and crop protection inputs with near pinpoint accuracy, ensuring the right rates are applied or seeded in the right location while on the go in their fields. Greater efficiency through precision agriculture practices means greater economic and environmental sustainability.

'Holy Grail of fields' is centerpiece of upcoming regenerative ag school

Soil health experts refer to it as the "Holy Grail of fields."

After it was cleared of trees in the 1940s, this farm field did not experience any tillage and remained in pasture until it was brought into production in 2010. Since then, no tillage has been used and it's been replete with cover crops since 2011.

"Year-end and year-out it is consistently the most resilient field in the geographical region," said Adam Daugherty, a district conservationist with USDA's Natural Resources Conservation Service in Coffee County, Tennessee. "This field has taught us a lot and has given us hope in restoring all of our cropland in this region, as well as others."

This "Holy Grail of fields" is owned by Robert Henley of Hillsboro, Tennessee. His will be one of three Tennessee farms featured during a three-day, Soil Health Academy (SHA) school April 20-22.

Non-profit SHA schools offer instruction by Ray Archuleta, Gabe Brown, David Kleinschmidt, Shane New, Allen Williams, Ph.D., and other technical consultants, all of whom are widely considered to be among the most preeminent pioneers, innovators and advocates in today's soil health and regenerative agricultural movement.

The farms of Lewis and Trudy Guthrie in Tullahoma and Adam Daugherty in Manchester will also be outdoor classrooms for the school.

"From the start, Lewis and Trudy Guthrie simply believed in the regenerative principles and have adhered to their implementation," Daugherty said. "There has been some trial-and-error and on-the-fly adjustments to climatic conditions, but their willingness to adapt and let nature drive the dynamics of their decision making proves that working with nature is much more productive and economical than working against it."

For his part, Daugherty

has worked with dozens of soil-health focused producers in varying climatic, production and economic conditions throughout the country. In addition, he operates his own small-scale farm and produces sweet corn, sunflowers, okra and other products, all of which are grown using regenerative agricultural principles.

SHA's Ray Archuleta said this school will offer a mix of demonstrations, expert presentations and hands-on experience. "Students will get to see, first-hand, large-scale plantings that will be occurring during the school—from green planting into biomass to planting into previously terminated covers—weather permitting," he said.

"From small-scale to large-scale producers, everyone who attends this school will see how to put regenerative agriculture principles to work for healthier soil, food and profits," Archuleta said.

For more information about the school, visit www.soilhealthacademy.org.



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Top 4% Doc (+30), **RE** (+1.01)



BJ Playbook 9157 (+19774518)
BD: 9/1/2019 ■ by TEX Playbook 5437
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Top 2% \$C (+297) ■ **Top 4% WW** (+77)
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Calving Quiz

This is a quiz to determine your calving sanity (or help you pass time in the calving barn). Match the columns.

- | | |
|--------------|--------------|
| 1. Aching | A. Tongues |
| 2. Black | B. Back |
| 3. C | C. Batteries |
| 4. Cold | D. Boots |
| 5. Cracked | E. Calves |
| 6. Dead | F. Breath |
| 7. Dry | G. Buckets |
| 8. Full | H. Checks |
| 9. Hot | I. Squeeze |
| 10. Leg | J. Hands |
| 11. Midnight | K. Feet |
| 12. Muddy | L. Fingers |
| 13. Round | M. Forearms |
| 14. Slick | N. Eyes |
| 15. Soft | O. Heads |
| 16. Steamy | P. Hooves |
| 17. Sticky | Q. Knees |
| 18. Stiff | R. Moons |
| 19. Swollen | S. Section |
| 20. Tight | T. Coffee |
| 21. Wet U. | Arms |

Answers: 1-U / 2-G / 3-S / 4-K / 5-J / 6-C / 7-N / 8-R / 9-T / 10-B / 11-H / 12-D / 13-O / 14-E / 15-P / 16-F / 17-M / 18-L / 19-A / 20-I / 21-Q /

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Do what you can with all you have, wherever you are.

- Theodore Roosevelt

March 15 last day to complete enrollment for 2021 Agriculture Risk Coverage, Price Loss Coverage programs

Agricultural producers who have not yet enrolled in the Agriculture Risk Coverage (ARC) or Price Loss Coverage (PLC) programs for 2021 must do so by March 15. Producers who have not yet signed a 2021 enrollment contract or who want to make an election change should contact their local USDA Farm Service Agency (FSA) office to make an appointment. Program enrollment for 2021 is required in order to participate in the programs, but elections for the 2021 crop year are optional and otherwise remain the same as elections made for 2020.

"FSA offices have multiple programs competing for the time and attention of our staff. Because of the importance and complexities of the ARC and PLC programs, and to ensure we meet your program delivery expectations, please do not wait to start the enrollment process," said FSA acting administrator Steve Peterson. "I cannot emphasize enough the need to begin the program election and enrollment process now. This process can be completed when applying for other FSA programs as well."

ARC and PLC provide income support to farmers from substantial drops in crop prices or revenues and are vital economic safety nets for most American farms.

Although 1,033,310 contracts have been completed to date, this represents less than 59% of the more than 1.7 million contracts anticipated by the Agency. By enrolling soon, producers can beat the rush as the deadline nears.

Producers who do not complete enrollment by close of business local time on Monday, March 15 will not be enrolled in ARC or PLC for the 2021 crop year and will be ineligible to receive a payment should one trigger for an eligible crop.

ARC and PLC contracts can be emailed, faxed or physically signed and mailed back to FSA. Producers with level 2 authentication access can electronically sign contracts. Service Center staff can also work with producers to sign and securely transmit contracts electronically through two commercially available tools: Box and OneSpan. You can learn more about these solutions at farmers.gov/mydocs. Producers may also make arrangements to drop off signed contracts at the FSA county office. Please call ahead for local mailing or drop off information and options for submitting signed contracts electronically.

Producers are eligible to enroll farms with base acres for the following commodities: barley,

canola, large and small chickpeas, corn, crambe, flaxseed, grain sorghum, lentils, mustard seed, oats, peanuts, dry peas, rapeseed, long grain rice, medium- and short-grain rice, safflower seed, seed cotton, sesame, soybeans, sunflower seed and wheat.

Yield Data and Web-Based Decision Tools Available

FSA recently updated the annual and benchmark yields for ARC/PLC program years 2019, 2020 and 2021. This data is useful to producers in choosing to participate in either ARC or PLC.

For added assistance with ARC and PLC decisions, USDA partnered with the University of Illinois and Texas A&M University to offer web-based decision tools to assist producers in making informed, educated decisions using crop data specific to their respective farming operations. Tools include: Gardner-farmdoc Payment Calculator, the University of Illinois tool that offers farmers the ability to run payment estimate modeling for their farms and counties for ARC-County and PLC.

ARC and PLC Decision Tool, the Texas A&M tool that allow producers to analyze payment yield updates and expected payments for 2019 and 2020. Producers who have used the tool in the past should

see their username and much of their farm data will already be available in the system.

Crop Insurance Considerations

Producers are reminded that enrolling in ARC or PLC programs can impact eligibility for some crop insurance products. Producers who elect and enroll in PLC also have the option of purchasing Supplemental Coverage Option (SCO) through their Approved Insurance Provider. Producers of covered commodities who elect ARC are ineligible for SCO on their planted acres.

Unlike SCO, RMA's Enhanced Coverage Option (ECO) is unaffected by participating in ARC for the same crop, on the same acres. You may elect ECO regardless of your farm program election.

Upland cotton farmers who choose to enroll seed cotton base acres in ARC or PLC are ineligible for the stacked income protection plan (STAX) on their planted cotton acres.

More Information

For more information on ARC and PLC including web-based decision tools, visit farmers.gov/arc-plc.

Visit farmers.gov/service-center-locator to find location and contact information for the nearest FSA county office.

Farmers & Ranchers

AUCTIONS EVERY MONDAY & THURSDAY

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

RECEIPTS FOR THE WEEK: 1,000 CATTLE

STEERS	61 mix Hope	968@126.75
500-600	\$152.00 - \$162.00	
600-700	\$148.00 - \$158.00	
700-800	\$130.00 - \$140.00	
800-900	\$118.00 - \$128.25	
900-1,000	\$117.00 - \$127.75	

HEIFERS

15 mix Gypsum	499@159.00
5 bwf Inman	514@158.00
4 blk Delphos	535@150.00
18 mix Brookville	577@147.50
5 blk Minneapolis	576@147.00
15 mix Glasco	589@145.50
6 mix Inman	585@145.00
13 blk Lindsborg	615@140.50
14 blk Delphos	640@136.00
65 blk Lindsborg	730@135.25
27 blk Delphos	725@134.50
15 mix Glasco	667@133.50
18 blk Inman	727@133.25

THURSDAY, FEBRUARY 18, 2021

STEERS

3 blk Minneapolis	538@162.00	22 mix Brookville	680@133.00
16 blk Marquette	614@159.50	11 blk Longford	735@133.00
6 blk Delphos	612@158.00	10 mix Lincoln	673@132.00
3 red Lincoln	598@156.00	10 mix Salina	683@131.00
2 blk Minneapolis	648@154.00	41 blk Florence	725@128.50
16 mix Marquette	678@142.00	20 blk Claflin	763@128.00
11 blk Delphos	710@140.00	16 mix Glasco	786@126.75
60 mix Marquette	743@137.25	35 mix Florence	837@126.75
25 blk Delphos	775@136.50	40 mix Claflin	838@126.50
12 blk Delphos	853@130.00	9 blk Longford	852@126.00
15 mix Inman	803@128.25	26 blk Lindsborg	846@126.00
64 mix Durham	911@127.75		

UPCOMING SPECIAL SALES 2021:

All Sales are Tuesday at 11 AM

COW SALES:

Tuesday, March 16 • Tuesday, April 20 • Tuesday, May 4

DON JOHNSON ANGUS BULL SALE: MONDAY, MARCH 8, 2021

NEW FRONTIER BUCKING BULL SALE: SATURDAY, MARCH 27, 2021

IN STOCK TODAY:

- Heavy Duty Round Bale Feeders
- 42' ROUND BALE DUMP TRAILERS
- Heavy Duty 5000# Grain Tote

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.

Time To Start Thinking About CONSIGNING HORSES for the
SPRING SPECTACULAR
HORSE SALE: MAY 15, 2021.
DEADLINE IS MARCH 1, 2021!

EARLY CONSIGNMENTS FOR THURSDAY, FEBRUARY 25, 2021

44 blk&red S&H 750-800 HR/LTW/3rd vacc; 6 S&H blk&red 500-600 60 days weaned/vacc/no implants/bunk broke; 65 strs blk 750-800 HR;108 blk strs 700-800 HR/LTW/vacc; 60 blk S&H 500-700 HR/LTW/vacc; 40 blk&red S&H 600-850 HR/2rd/45 days weaned/open; 45 blk&red S&H 600-850 HR/2rd/LTW/open; 65 blk strs 800-825 NS; 170 mostly blk strs 650-900 HR/LTW/vacc; 62 strs 850-900 NS; 60 charx S&H 600-800 HR/LTW/Char sired; 30 S&H mostly blk 600 2rd/LTW/Bunk&Hot wire broke; 90 strs 550-800 HR/LTW; 22 blk S&H 700-800 LTW/HR/run out mostly; 62 blk strs 850 NS;52 blk S&H 550-750 HW/LTW/open; 97 char/red angx S&H 500-600 60 days/2rd/HR/hot wire broke; 85 hereford S&H 450-550 LTW/Hay fed; 55 S&H red/blk/bwf 600-900 weaned/Off rye 90 days/No grain; 64 blk hfrs 550-700 60 days weaned/vacc; 30 hfrs 500-550 weaned oct; 22 S&H red angus 600-700 HR/LTW/2rd vacc; 8 S&H 400-500 LTW/HR; 48 S&H 500-600 vacc/weaned

SPECIAL COW SALE: TUESDAY, MARCH 16, 2021

BRED COWS/COW PAIRS

- 30 3-4 yr old cows April calvers bred blk
- 27+27 blk pairs 3n1 packages bred back to blk optimizer bull

REPLACEMENT HEIFERS

- 120 blk hfrs sim/ang home raised OCHV pelvic measured pre breeding vacc reputation herd

HEIFER PAIRS

- 30+30 blk hfrs sim/ang calves OCHV Novembercalves, calves worked

For Information or estimates, contact:

Mike Samples, Sale Mgr., Cell Phone 785-826-7884
Kyle Elwood, Asst. Sale Mgr., Cell Phone 785-493-2901

Check our listings each week on our website at www.fandrive.com

Jim Crowther
785-254-7385
Roxbury, KS

Lisa Long
620-553-2351
Ellsworth, KS

Cody Schafer
620-381-1050
Durham, KS

Kenny Briscoe
785-658-7386
Lincoln, KS

Kevin Henke
H: 785-729-3473, C: 785-565-3525
Agenda, KS

Austin Rathbun
785-531-0042
Ellsworth, KS

