



KFRM general manager Kyle Bauer, front center, welcomes attendees to the ninth Market Shoot-out at the Wichita Farm and Ranch Show. Analysts involved were, from left: Mark Gold, Tom Leffler, Derrick Hermesch and Pete Loewen. Photo by Donna Sullivan

No bullets, but plenty of opinions fly at Market Shoot-out

By Donna Sullivan, Editor

While the Republican presidential candidates held their fourth debate in Milwaukee, more than five hundred producers attended the ninth Market Shoot-out hosted by KFRM Radio on the opening night of the Wichita Farm Show. Exchanging their marketing opinions were Mark Gold of Top Third Ag Marketing based out of Chicago; Tom Leffler of Leffler Commodities, Augusta; Derrick Hermesch, Paragon Investments with offices in Kansas, Colorado, Nebraska, Missouri, Indiana and Florida and Pete Loewen of Loewen and Associates, Manhattan. The event was moderated by KFRM Farm Director Duane Toews.

"Man, it has been a challenging year," said KFRM general manager Kyle Bauer as he welcomed producers. "There are some people that if they hit it right, the markets have been pretty kind to them, but I bet those are few and far between. And look-

ing down the road it doesn't ting the seed in the ground necessarily look all that positive, either." Bauer pointed out that each of the analysts were there at their own expense. "They are here because a lot of you are their clients and in all honesty they really care about your business," he said.

While they recovered somewhat Tuesday night, stocks had tumbled during the day on bearish news from the USDA as U.S production and enduring stocks were higher than expected. Although armed with cap guns for the shoot-out, few shots were fired as the analysts generally seemed to see eye-to-eye on most subjects.

They largely agreed on the reliability and importance of long-term forecasts and analysis in both weather ports, and it was largely and commodity markets. "The simple answer is, they're pretty much worthless," Loewen stated. "So why are we constantly bombarded with 30, 60 and 90 day forecasts? Sensationalism and drama sells subscriptions and generates commissions." He added that the brokerage industry, and to some extent, the media, has led people to believe that a crystal ball is the primary component of the market program. "Evaluate the facts of the market and the things that influence those fact, and that is in my opinion much better than looking out thirty or sixty days." "Very seldom do things go as they are predicted and nobody knows what's going to happen," Hermesch said. He advised paying attention to what the analysts are saying to be aware of what to prepare for. "The problem you generally find is the opinion is always bullish," he said, pointing out that even the very action of put-

each vear demonstrates a producer's tendency to be bullish. "But don't put all your eggs in one basket and don't be afraid to hedge." He shared a key phrase he believes to be true, "If you don't treat farming as a business instead of a way of life, your way of life might not include farming.'

Leffler likened forecasting to looking at a crystal ball and Gold stated, "To look out any past a week is just nonsense in my opinion. You shouldn't be basing our decision on what the weather may be two months or six months down the road."

Next Toews asked about the possible level of changes in upcoming supply and demand and production reagreed upon that the corn crop could surpass current estimates. "Yields are surprising people and we might even see more surprises," Leffler said. January is a fantastic time of year on reports to get surprises. So be prepared for anything to come out." Gold believes the biggest shock in the recent report was the 22 million metric ton increase in the Chinese carry-out, which put world carryouts at 221 million plus. "I personally don't believe that number," he said. "The reports I get out of China is that they've actually lost a lot of corn bushels, maybe 15% of that crop, so how the government came up with that number, I don't think there can be a bigger shock than what we saw here today." Loewen added that the strong dollar is working against U.S. commodity prices, making them more expensive to the rest of the world in export trade. As for the single largest

influence they expect on grain futures prices in the next six months, most agreed that world weather would be a major factor. "probably the other single most important thing regarding grain prices is, what are you guys going to do with all of the grain you've got sitting in the bin?" Gold queried. "This market will not have a legitimate chance of a sustained rally until you guys sell the grain."

Answers ran the gamut when the analysts were asked about which marketing tool was the best - futures, options or cash contracts. Consistent with his daily message to listeners, Gold believes options combined with cash sales are the best options for managing risk.

"The best tool to use is

good to have carry in the market if you don't capture it."

Marketing is wrought with perils, but there are some common mistakes that can be avoided, the analysts warned. "First and foremost is listening to people that tell you what you want to hear instead of what you need to know," Loewen warned. "And not educating yourself in the form and function of every single marketing tool available to you to use today. Educate yourself on how those things work so you can make informed decision."

"Know your cost of production and be honest with yourself on the cost of production or the break-even on your cattle," Hermesch advised. He also cautioned against waiting until the crop ing record high prices evapois harvested before making rate, the analysts were asked

spent a lot of money to put those crops in the field, so you're making a huge mistake if you don't do anything. You can still be conservative but you're not being conservative by waiting until you have those bushels out of the field. You are being quite risky in my opinion, and missing out on some of the best opportunities.'

"The greatest mistake the American farmer makes is in doing nothing," Gold charged. "You've got to be educated in what you can do out there and do something. If you call one of us or read a book or magazine, you're doing something." He also warned against getting caught up in speculating.

As cattlemen are watch-

the tool that, if you take a snapshot at that moment in time, based on all the information you have available to you and that's the absolute best price at that moment in time," Loewen said.

"I look at it this way," Leffler said. "You're pretty narrow minded if you think there's only one way to market. I encourage my clients to use a variety, be diversified. Use what you're most comfortable with and diversification will help you a lot more than using one method of pricing."

What if producers are still holding onto 2015 corn, beans and wheat? "We know the vast majority of American farmers are holding onto corn in huge numbers and beans in big numbers," Gold said. "I think you have to ask yourself, with the carry so small, why are you storing beans? You should have sold the beans and bought a call option and managed the risk that way. It doesn't do any

marketing decisions. "You

 $Continued \ on \ page \ 3$

Racing the sun



A producer east of Leonardville chops silage. Photo by Kevin Macy



Grass & Grain, November 17, 2015



Make your own plan

By John Schlageck, **Kansas Farm Bureau**

The vocation of agriculture began thousands of vears ago when the first farmer dug a hole in the soil and planted the first seed. Way back then others began working with and domesticating animals that have evolved into present-day hogs, cattle, sheep, chickens and other livestock.

The farm and ranch creed has always been to nurture the land and livestock while making improvements and coaxing a bountiful harvest. Farmers and ranchers hold enduring respect for the land that sus-

tains them. Their reward has resulted in abundance.

With this evolution in agriculture, today's producer faces many new and sometimes unexpected challenges. Profit margins and production costs are in a constant state of flux. Weather patterns change while farmers and ranchers continue looking for ways to make profits and stay in this business.

This week *Insight* takes a look at the opposite end of the spectrum. Here are 11 ways to cut your profit margins. Think long and hard before implementing any of these in your operation.

1) Blindly follow seasonal trends or patterns. If the market is going up, do not sell. It may go higher. If the market falls - do not sell. It may turn around and go up. 2) Never trust a U.S. De-

partment of Agriculture crop or livestock report. From all the information available these reports are "strictly legit." But never mind; discard these reports at all costs.

3) Blame the big grain companies. Everyone knows they manipulate the farmer and make all the profits.

4) Blame the big cattle packers. Everyone knows they manipulate stockmen and make all the profits.

5) Assume prices and costs are related. No place is it written that because you spend \$1,000 an acre to produce irrigated corn you are guaranteed a profit on your grain.

6) Hold the short crop because less corn, wheat or beans must mean the price of these commodities will increase. In reality, by the time you hear a crop is in short supply, everyone else has heard the news too and the price has already gone up.

7) Follow the majority. If your neighbor sells his corn, it is probably the right time for you to sell yours. Ignore most conversation in the local coffee shop or coop. Figure out your own marketing strategy.

8) Ignore the futures market and basis because everyone knows that a bunch of speculators are rigging the market. Remember, speculators lose money too and provide liquidity for the market.

9) Never sell until you have a crop. Oftentimes, before you harvest a crop is the best time to lock in profits. Take a hard look at future contracting.

10) Shoot for the market high. Smart marketers have abandoned this philosophy for the goal of, "shooting for higher."

11) Blame the banker or your wife. Again, everyone knows a banker lends you money when he/she should-

Continued on page 3



Several weeks ago I expressed my frustration with McDonald's in announcing that they would be serving "antibiotic-free" beef in their German locations. I asked a couple of non-agriculture people what they heard when I said that and their response was, "That there must be antibiotics in American beef." So I stand by my assertions made in that column, because we all know there are no antibiotics in American beef. But I also believe in giving credit where credit is due. When I was in Wichita for the Farm and Ranch Expo, I stopped to eat at a nearby McDonald's and saw a poster that outlined the economic impact Mc-



Donald's has on Kansas agriculture. According to the poster, in 2014 the fast food giant purchased over \$161 million in food sourced from Kansas farmers. That included 94,320,465 pounds of beef valued at \$154,350,868;

26,748,120 pounds of flour worth \$5,842,674; 1.980,211 pounds of soybeans worth \$694,193 and 16,556 pounds of pork valued at \$34,377. Those kinds of purchases are significant and should be appreciated and celebrated. They illustrate the mutually beneficial partnership between McDonald's and Kansas agriculture.

A reader who I always enjoy hearing from because he's not afraid to ask me to look at things from another angle called and said, "I think you were awfully hard on McDonald's in your column." I explained to him that, for good or bad, I tend to be a pretty black-and-white thinker. For me, either something is all true or it's all false. And when Mc-Donald's announced they would only serve organic, antibiotic-free beef in Germany, while they might not have intended to mislead, they definitely flung the door wide open for misinterpretation and misunderstanding. To illustrate, I used the pizza restaurant I own as an example. What if in all my advertising I touted, "MY pizza doesn't have rat poi-



DUST ON THE DASHBOA

This is a monumental week at our house. Yes, basketball practice starts, but that is not it. We should have everything buttoned down and in place for the winter and while that makes me happy that is not it either. This week, Wednesday to be exact, Jennifer and I celebrate twenty years of wedded bliss. Okay, so it has been twenty years of wedded bliss farmer style.

The very day of our anniversary is probably a shining example of what is like to be married to me. The morning will be a rush to get chores done before she goes off to work and I take off for the Governor's Water Conference. I will try to check in that night as I rush on to Session meeting at our church, leaving Jennifer in charge of chores for the night. We farmers are incredible romantics.

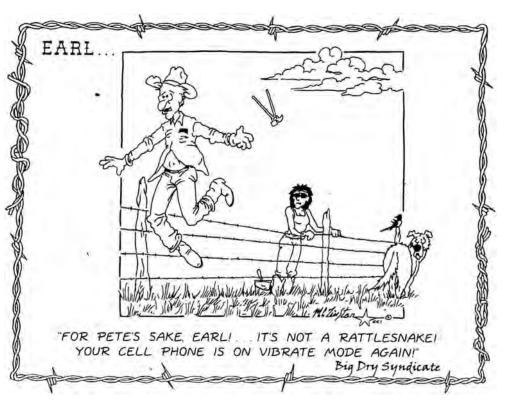
However, it is not much different than what she has come to expect over the past two decades. Quiet nights at home are often interrupted by a crisis of some sort. A tough day at work, yes, the very same work that most farm wives must go to. It is mandated that we have health insurance. As I was saying, a tough day at work when all she can think of doing is falling back into her chair and relaxing – only to have me meet her at her car and ask her to help me get the cows back in. Then there are those mornings during lambing season when the alarm goes off extra early so we can go out and check ewes before she spends eight hours at her other fulltime job. Luckily there are weekends. Yeah right, weekends when you are married to a farmer are far from relaxing. Chores and projects are never ending around the farm and farmer husbands are always needy when it comes to weekends. At least she gets vacation days at work. Workers are given vacation days as a time to recharge and get away; that is unless you are married to a farmer. Then your leave time is spent working calves, hauling cows to pasture and building fence. If you do get away there will be many farm related stops thrown in.

comes first. Everything must wait until the end of the year. Whether or not the kitchen gets remodeled or the car gets traded off is at the whimsy of the weather and the markets. We all know that good years are few and far between. It is not fair, but that is the way farming is. Too often she has heard, "Well, maybe next year will be better and we can do..."

There are long hours during lambing, calving, planting, having and harvest. Often I am out the door early and back late. Projects that need to be done are often tagged with "I will do it on the next rainy day." It is really funny how often we are in a prolonged drought. At least that is what one would think if those projects were really waiting on the next rainy day.

I am not sure if this is what Jennifer signed up for twenty years ago. I do know that she has gone back and looked at the fine print of our wedding vows and found out that picking up rocks was not part of the deal. She also often wonders out

"All right clumsy, now you're gonna have to re-set this post and re-stretch the wire!"



The most difficult part of being a farm wife is knowing that the farm

loud when the richer part is going to get here too. Lord knows the better and worse parts of those vows have cycled through. Farming is all about the highs and lows.

I think she might be able to get me for false advertisement. I am sure I might have oversold the whole "farming is a wonderful lifestyle" thing during our courtship. I know this because the subject has been brought up from time to time. Like all farm wives I know Jennifer deserves more and better and I am certain there is a special place in heaven reserved just for farm wives.

To be honest I am not sure why she has put up with me or the farm for the past twenty years. I am not sure which is more frustrating (I think I know but I am afraid to ask; only one of us has increased in value). All I know is that I feel incredibly blessed to have spent the twenty years with her and I cannot imagine this crazy life without her. I am not sure what the next twenty will bring (I am sure they will be better) but I know they won't be dull.



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son in it!" What does the consumer hear? "Somebody's pizza somewhere must have had rat poison found in it, so we better eat hers." I didn't lie, my pizza doesn't have rat poison in it. But I definitely misled for my own gain.

My point in dragging this all up again is this. Mc-Donald's and agriculture have a good partnership going. We produce the high-quality products they need for their restaurants and because we are pretty darned good at what we do, they can offer wholesome, affordable menu items to their customers and feel good about it. Unlike Chipotle, where I haven't eaten in years because of the messages in their advertising that I believe to be anti-agriculture, I continue to eat at Mc-Donald's. I might not have agreed with their latest marketing ploy, but at least they come to the discussions and make an effort.

As the poster illustrates, they not only buy Kansas agriculture products, but are proud to do so. And for that, they deserve a sincere thank you.

Kansas Forage and Grassland **Council Annual Conference to** be held Tuesday, December 15

Grassland Council will hold its Winter Conference and Annual Meeting on December 15, 2015, at Kansas Farm Bureau Headquarters, 2627 KFB Plaza, Manhattan, KS. Registration begins at 9:00 a.m. with a Welcome and National Alfalfa and Forage Alliance Update starting the day off at 9:30 a.m.; followed by several breakout sessions covering an assortment of alfalfa, forage production and grazing management issues presented by university and industry experts.

"We're excited about this year's conference," said Roger Black, KSFGC President and Cowley County hay producer. "Forage production is the backbone of our state's livestock industry and this conference brings together both Kansas State University and forage industry experts to deliver a great educational opportunity for farmers and ranchers. Dr. Doohong Min, KSU Forage Research Specialist, will be our keynote speaker, providing an update of his work involving low-lignin alfalfa, alfalfa cutting management, planting alfalfa with cover crops, and teff as

The Kansas Forage and an alternative summer annual forage in Kansas. Truly, there's something for every forage producer at this year's conference."

> Other breakout topics include: Hay Market Update; Old World Bluestem Management; Alfalfa Insect Control; Utilizing Cover Crops as Forage; Alfalfa Breeding: GMO vs. Non-GMO; Hay Contracts, Sales and Liability; Forage Testing 101; and Forage Research: Past, Present and Future Directions. The full agenda is available on the KSFGC website, www. ksfgc.org.

> Individual conference registration is \$65 in advance (\$85 at the door) and includes lunch, a conference proceedings and 2016 KSFGC membership. Additional registration information for businesses, vendors, and forage industry supporters can be found on the KSFGC website. To register go to www.ksfgc.org and complete and send the registration form, along with the appropriate fee payable to KSFGC, 1228 Westloop Place, PMB #144, Manhattan, KS 66502-2840; Or simply register online at www.ksfgc.org.

Big data: the future of agriculture

overlap errors. GPS plays

an integral role in big data

of big data is using what has

already happened to pre-

dict or estimate what will

happen in the future. While

in the past, predicting next

year's crop results was risky

at best, big data may offer

producers their best chance

at being prepared for multi-

Economics department has

recognized the importance

of big data and has hired

Terry Griffin as an Exten-

sion cropping systems econ-

omist. Terry's background

and research focuses on the

economics of precision agri-

culture and big data. With

the growing interest, we

have invited Terry to speak

at our Annual Agronomy

Night event coming up in In-

dependence on December

the FFA Creed continues

with the statement "... with a

promise of better days

through better ways, even as

the better things we now

enjoy have come to us from

the struggles of former

years." Hopefully Professor

Tiffany's promise comes

true and the future of agri-

culture remains quite

That first paragraph of

17th.

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The K-State Agriculture

tudes of possibilities.

One of the major impacts

accumulation.

By Josh Coltrain, **Crop Production Agent**, Wildcat Extension District

"I believe in the future of agriculture ... " Past and present members of the FFA will recognize these immortal words of the FFA Creed written by E.M. Tiffany in 1928. At that time, the future of agriculture consisted of breakthrough technologies like hybrid crop breeding methods and pesticide development. Now, the future of agriculture appears to be precision agriculture and big data.

Whether you like it or not, we are living in the Information Age. While other industries have rapidly accepted big data, agriculture as a whole has lagged behind on adaptation. However, trends definitely show production agriculture is beginning to utilize these technologies more and more.

What exactly is big data? Simply, it is massive amounts of information gathered through a multitude of measurements and technologies. If left unanalyzed, the data collected has very little value. If the data is compiled and analyzed through algorithms and complex systems, the data becomes incredibly valuable and on which economically important decisions can be based. At one time, it was not economically feasible to even consider storing all of the data that just a single producer can accumulate in short amounts of time. However, technology advancements in communications, data storage, and sensing have made it not only economically feasible. but quite possibly essential for economic sustainability.

Some aspects of precision agriculture have been rapidly accepted. Global Positioning Systems (GPS) is now widely used by producers. Iowa State University Agricultural Economics group have shown a savings of up to \$8 per acre simply by utilizing GPS Autosteer technology to limit planting

Grass & Grain, November 17, 2015

Opinions fly at Market Shoot-out

Continued from page 1 about the two biggest mistakes made by cattle producers.

"Money is made or lost in cattle when you buy them, not when you sell them," Loewen pointed out. Being willing to buy first cost losses then having to hope the market goes up sharply to have a chance of making money is a mistake, he believes. "The biggest mistake is not evaluating the market value of your animals at multiple different points in time in multiple different ways. Stop selling things on the same date at the same weight as you have for the last 20 years."

"You need to know your break-even," Hermesch emphasized. "You can't always be bullish."

Leffler believes not marketing fat cattle when they're ready to go is also a huge mistake. Feed conversion costs go up and there can be price penalties for overweight cattle.

Education, diversification and treating farming and ranching like a business rather than a lifestyle came through as predominant themes for the evening. While there may have been more agreement among the analysts than shots fired, their passion for helping ag producers remain profitable was clearly evident.

Insight – Make your own plan

Continued from page 2 n't. And if all else fails, who has any broader shoulders than your spouse.

You may just want to take a hard look at yourself. Operating a farm or ranch is as tough a profession as there is going these days. It takes all the wisdom, knowledge, technology, dedication and determination, luck and the blessing of Mother Nature to grow a profitable crop or market outstanding livestock.

And that's not even tak-

ing into consideration a continually evolving marketing plan. Each farm and ranch and farmer and rancher is different. Look to yourself and those who are knowledgeable and can help you be successful. Best of luck.

John Schlageck is a leading commentator on agriculture and rural Kansas. Born and raised on a diversified farm in northwestern Kansas, his writing reflects a lifetime of experience, knowledge and passion.



URDAY, NOVEMBER 21 — 10:00 AM CITIZEN POTTAWATOMI COMMUNITY BUILDING (SOUTHEAST CORNER OF ROSSVILLE) AUCTION HELD INSIDE 806 NISHNABE TRAIL - ROSSVILLE, KANSAS

Loveseat hide-a-bed; Louis IVX type chair: blue swivel rocker: glass top table & 2 chairs; twin headboard with wrap around footboard; wood cart; sleigh rocker; quilt racks; Brovhill bedside table: black iron coat/hall tree; maroon padded chair.

11 Lladro figurines; 11 Torralba figurines; German tea set; decorative spoons; 20pcs German glassware; corner shelves; 23 German beer mugs/steins/ glasses; Noritake; 35 various pictures; crystal ice bucket, cake stand, slipper, candleholders; 30 glass animals & paperweights; 17 crystal bowls with covers; Christmas dishes; Christmas decorations; lighted Village pieces; stain glass lamps; 350 thimbles; Lefton bird figurines: 5 crystal baskets; 9 crystal bowls; 27 crystal vases; silver tea set; crystal epergne; various nice lamps; 116 various baskets of all

types; German punch set; 18 swans; 53 Angel figurines; 3'X2' beveled lead framed mirrors; many candleholders of all types; decorative plates; 3 glass perfume bottles; assortment of brass décor; 11 small covered jewelry boxes; colored glassware: 24 assorted flower blossoms; animal figurines; 15 silver trays; porcelain bells, butterflies, figurines; crystal bowls; vases; candy dishes; ironstone; relish trays & dishes; 20pcs glass fruit & vegetables; 7 covered chickens; stemware; punch bowls; old plates; marble fruit; Mikasa; 11 ceramic chickens; rabbit & quail figurines; 31pcs miniature blue & white figurines; 1950's Wedding dress; vintage purses; eye glasses; trivets; brass wall mount coat rack: 15 Collector plates; 37 blue & white ceramic pieces; Holiday glassware; 2 crystal clocks; silverware set; wood goblets;

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glass juicers; wall candleholders; crystal of all types, sizes & styles; miniature iron table & chairs; Jubilee ice tea dis-penser; 114 tins; LP records; 9 small jewelry boxes; plate rack Kodak 8MM movie camera; penser; 114 tins; LP records; 9 1960's Saturday Evening Posts; marble rolling pin & turntable.

GUNS: (SELL APPROX. 12:00 NOON)

Winchester model 1200 shot-gun; Remington 870 Magnum 12ga with 2 barrels; Remington 12ga pump shotgun Wards Hercules model 50 double barrel shotgun; Westernfield model XNH 560-8A shogtun; Glenfield model 60, 22 rifle; Crossman model 1 pump, 22 rifle; 22 pistol; Green rifle; Belgium pre 1877 needle gun; 2 BB guns; 3 pellet guns; scope; holster; magazines; 22 rifle; Crossman model 1 various ammo.

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Grass & Grain, November 17, 2015



This Week's Grass & Grain Contest Winner Is Barbara Barthol. Olathe

Winner Barbara Barthol, Olathe: "Thanks for your wonderful recipes, always look forward to the new Grass & Grain each week."

MOCK SWISS STEAK

4 cutlets, dipped in milk & then flour

Brown both sides and place in baking dish. Mix together:

1 tablespoon brown sugar

2 tablespoons vinegar

1 teaspoon Tabasco Sauce

1 teaspoon dry mustard

1 teaspoon paprika

1 teaspoon celery salt

1 can tomato soup (do not add water)

Combine and pour over cutlets. Bake 1 hour at 375 degrees.

Lydia J. Miller, Westphalia: "This marinade is for tomatoes, green beans, broccoli, asparagus or other vegetables." MARINADE

FOR VEGETABLES 1 cup French dressing

- 1 garlic clove
- 2 teaspoons mixed dried

herbs (mint, tarragon, basil)

2 tablespoons chopped chives

Few sprigs of parsley, chopped Mix all ingredients; cover and store in refrig-

erator. Remove garlic and use as a marinade.

By Gina Aurand The leaves have turned color and Halloween has come and gone so that means that the holidays are right around the corner. While children look forward to days off of school and gifts, most adults look forward to our favorite foods that seem to appear at this time of year. We all have our favorite desserts, side dishes and party foods but at the heart of most holiday meals seems to be the traditional turkey. Preparing the turkey correctly is very important so that you keep your family safe from foodborne illness during the holiday season.

The first step is to decide if you want to purchase a fresh or frozen bird. A fresh turkey shouldn't be purchased more than one or two days before the day you plan to prepare it. It should be stored in the refrigerator on a shallow pan with sides that will contain the juices that might leak from it.

stored indefinitely but should be used within a year to ensure the best quality. There are three ways to safely thaw a turkey. The first is to place it in the refrigerator on a shallow pan. You need to

allow 24 hours for every 4 to 5 pounds of bird. So a 12 to 16 pound bird could take 3 to 4 days to thaw. If you don't have that kind of time or that much refrigerator space to give up then you may try the second method which is to soak in cold water. With this method you wrap your turkey tightly in plastic wrap to help prevent juices from leaking and risking the chance of cross contamination. You then submerge the bird in cold tap water. You need to change the water every 30 minutes. With this method you need to allow about 30 minutes per pound. So with this method the 12 to 16 pound bird will take 8 to 10 hours to defrost. It is very important that you cook the turkey right after thawing and DO NOT refreeze. The third option is to defrost it in the microwave. Follow your microwave oven's manual for the size of turkey and the power level to use. With this method you remove the wrapping and place on

When roasting your turkey do not cook it at a you choose to stuff your bird then remember that the cooking time will be longer. A stuffed turkey usually takes about a half hour to forty-five minutes longer to cook than an unstuffed turkey. Do not stuff the turkey until just before putting it in the oven. It is extremely important that you use a meat thermometer and make sure that the stuffing reaches a temperature of 165 degrees Fahrenheit.

Preparing For The Annual Holiday Season: It's Turkey Time!!

within two hours of being taken from the oven. You should use all left overs within three to four days. Be sure that you reheat leftovers to 165 degrees Fahrenheit to prevent foodborne illness. If you have more turkey than you can use in that time period then put it in the freezer as soon as possible.

turkey gets refrigerated

A little planning can ensure a healthy holiday filled with all of our favorite foods.

Make sure left over

1977 FLASHBACK!

OUR DAILY BREAD

- by G&G Area Cooks

Mrs. Maurice Merrit, Burlington, Is Winner

Winner, Mrs. Maurice Merritt, 711 North Second Street, Burlington: "Enjoy the recipes so much that Grass & Grain prints and hope everyone will like this recipe."

DREAM CAKE COOKIES

- cup oleo
- 1 and one-third cups sugar 2 cups flour

11/2 teaspoons baking powder

2 egg yolks

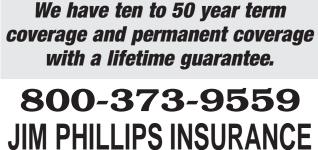
Cream oleo and sugar. Add egg yolks; add flour sifted with baking powder. Spread batter evenly in greased 13x9x2-inch pan. TOPPING

- 1 cup brown sugar
- 1 cup chopped nuts
- 1 teaspoon vanilla

2 egg whites

Beat egg whites until peaks will keep shape; add brown sugar, nuts and Navoring. Spread over first batter. Bake at 375 degrees for 30 minutes or until crusty. Cool and cut in squares or rectangles. Yields 12-16 servings.





LIFE INSURANCE

G&G Announces Its Annual Holiday Recipe Contest

Nov. 24 through Dec. 22 In observance of the holiday season, Grass & Grain will award the weekly winners

\$35 in addition to the prize gift. **Recipes received NOW through DECEMBER 11** will be entered in the holiday contest. Enter as often as you like during this period.

BATTER DISPENSER

A frozen bird can be a microwave safe dish to catch any juices. With this method you want to cook your turkey immediately after thawing.

temperature lower than 325 degrees Fahrenheit. If

- Holds up to 4 cups of batter
- Prevents messy drips when making pancakes and muffins
- Squeeze the handle to dispense as much as you need.
- Design allows it to stand on the counter, and the cover lets you store unused batter in the fridge. • 7 1/4"x6 3/4"x4 3/8".
- Polystyrene and silicone.

BONUS DRAWING

Second chance to win! The names of all contestants will be entered in a drawing from which four names will be chosen. Each of these four contestants will receive \$35. Winners will be announced Dec. 22.

The winner each week is selected from the recipes printed.

Send us your favorite recipe. It may be a main dish, leftover, salad, side dish, dessert, or what-havevou.

1. Check your recipe carefully to make certain all ingredients are accurate and instructions are clear.

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

Be Careful To Store Produce Correctly To Extend Life

By John Forshee **District Extension** Director

As I write this news column it is hard to believe that it has not frosted or frozen hard enough to kill the flowers at my house or the office. By the time you read this, that might have changed but as we look toward winter I thought it would fun to take a quick look at extending the storage life of many of our fall fruits, vegetables, and nuts.

Pecans and Other Nuts - During the upcoming holiday seasons, pecans and other nuts are commonly given as gifts or purchased for holiday cooking. Nuts can quickly lose quality if not stored properly. Nuts in open containers can have excessive water loss resulting in shriveled nutmeats. If exposed to warm temperatures the fats and oils in nuts can quickly spoil developing an off-flavor or rancid taste. Store shelled (or unshelled nuts) in the refrigerator, or preferably the freezer. Nuts quickly absorb flavors from other stored products, so store them in a tightly sealed container so they won't lose water or absorb flavors from other fruits or vegetables. A solid plastic container with a tightly fitting lid is preferred. You can use a heavy grade resealable plastic bag as well. If nutmeats are tightly sealed, they can be stored in a freezer for up to one year, but using them within six months is preferred

Potatoes — Potatoes stored below 40 degrees will not sprout and will remain firm for long periods. However, such storage will often lead to starches being converted to sugars, which will give tubers an undesirable sweet taste. Before use, move potatoes to room temperature for 2 to 3 days which will allow the sugars to be converted back to starches and improve taste.

Beets fall beets should be washed, the tops trimmed to ½ inch. and then stored in a perforated bag in the refrigerator or in a cold, moist cellar or pit for 3 to 5 months.

Cabbage — has been a favorite for so many years

months.

Carrots & Winter Radish — wash and trim tops to 1/2 inch, place in a perforated bag, and store in refrigerator or cold. moist cellar or pit for 4 to 5 months.

Pumpkins & Winter Squash — harvest before frost and when skin has hardened and colors darkened. Cure these at 80-85 degrees for 10 days to toughen rind and extend storage life. Store these on shelves in single layers for 2 to 3 months.

Sweet Potatoes should be harvested in fall before frost or immediately after frost kills tops. Handle carefully to avoid bruising and cure for 1 week in warm, humid conditions of approximately 80-85 degrees and 85% humidity. Then store in a location that is always above 50 degrees for up to 4 months.

Turnips — in my mind these are cover crops or cattle feed but for those that like this crop, they are one of our most durable. They can withstand several light freezes before harvest. After harvest simple trim the tops to ½ inch or less, wash off any remaining soil, and store in perforated plastic bags in refrigerator or in a cool, moist cellar or pit. Turnips will store nicely for 4 to 5 months.

Apples - vary in shelflife depending upon the variety. In general, apples will store nicely in the refrigerator fruit crisper for 1 to 6 months. As they reach the end of that storage span and are no longer crisp then I like to use them in a variety ways for cooking or baking.

When storing any produce, inspect it regularly and remove and use or discard any item that is becoming overripe or showing signs of rot or decay.



Saving a piece of history

stored

Patty, a preservationist,

became intrigued and

purchased the building.

with the understanding

that it would be re-

and beautifully so. The

Volland Store now hous-

es an art gallery, special

event space with a cater-

ing kitchen and a loft

where guests can stay to

soak up some peace and

quiet. The gallery hosts

rotating exhibits with

Women's Work: Point of

View, an exhibit of con-

paired with vintage

quilts, showing until De-

with hardwood floors,

exposed brick walls and

ceilings that rise to the

roofline reveal the origi-

nal second-story win-

dows which floods the

space with natural light.

This space, with digital

presentation equipment

built-in, makes a great

location for business

meetings, family re-

unions, workshops and

performances.

The large open room

textiles

temporary

cember 20.

Restored it has been -

By Lou Ann Thomas

I love a good comeback story and there are few better than the story of the Volland Store. Volland is a tiny town (official population 2) located halfway between Alma and Alta Vista on the scenic Skyline Drive. The drive alone is worth the trip, but now add a stop at this historic twostory brick general store opened by Otto Kratzer in 1913 and you have even more reason for the journey.

For years the Volland Store served as the social, cultural and communications center for the area. In addition to providing goods it also housed the post office and had two phone lines, one for Alma and one for Alta Vista.

The store closed in the early 1970s after Otto's death and sat abandoned, its roof eventually falling in smashing through both the first and second floors. Otto's granddaughter, Karen Durso, of Franklin, Tenn., had an offer to buy the store for the bricks, but she didn't want to see the building demolished. Then in 2000 preservationist Patty Reece, of Kansas City, noticed the brick building while she and her husband, Jerry, were restoring a stone farmhouse in the area.



So, if you want value and performance that's guaranteed, we're ready to get started. Call us today

Grass & Grain, November 17, 2015

guest room with private bath and kitchen, and Abby Amick, shopkeeper and marketing manager for the store, says people from all over the country have already enjoyed a stay in Volland. The 14-acre outdoor space includes gardens, picnic area and trails. There is also a pasture, which can accommodate equestrian events or

field games.

The Volland Store is open on Saturday and Sundays from noon to 5 p.m. and at other times by appointment. Learn more about the history, restoration or to schedule an event at www.th evollandstore.com.

After all, who doesn't love a comeback story?



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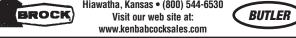
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The Loft provides a



Page 5

as it can be stored in a refrigerator, cold cellar, or outdoor pit for up to 13



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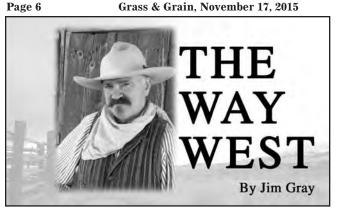
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Big Trouble in Hunnewell

The Chisholm Trail opened the way for hundreds of thousands of Texas cattle to be driven to the railroad corrals in central Kansas. Abilene, Newton, Ellsworth, and Wichita each took a turn as end of trail towns from 1867 through 1876. By '76 the new shipping town was in western Kansas at Dodge City. Some of those cattle arrived by way of a branch of the Chisholm, but most of the traffic was carried by a new trail that became known as the Western Cattle Trail. Kansas was a "ghost trail" with no destination. Caldwell had long coveted the cattle trade, but with no railroad the town had little to offer drovers looking for a reliable cattle market.

In February of 1880 Caldwell received word that the Cowley, Sumner, and Fort Smith Railroad would build from Wichita to Caldwell. Extensive shipping pens were to be built just north of the border with Indian (Oklahoma). Territory Farmers were excluded could be loaded into railcars at the state line without disturbing the farmers on the Kansas side of the border. Caldwell braced itself to become the greatest of all Kansas cattle towns.

The celebrating didn't last long. By March of 1880 a competing railroad, the Kansas City, Lawrence, and Southern Railroad, built into Wellington and promptly announced plans to build to a point on the state line several miles east of Caldwell. Their branch line from Wellington operated under the name of the Sumner County Railroad Company. Later in the year the Santa Fe Railroad gained control of both railroads, securing a monopoly on the Dodge City, Caldwell, and Railroad and cattle men quickly set about to establish a town to rival Caldwell as a shipping point. The new town was named Hunnewell, after the president of the Kansas City, Lawrence, and Southern Railroad. The railroad

ting store was completed to supply drovers arriving at the cattle town. Q. A. Hale completed the only hotel ever to operate in Hunnewell. Originally named the Hunnewell House, most Cowboys referred to it as the Hale Hotel.

As businesses began to flourish, the need for law and order became evident. With no formal government yet in place a police judge and two town marshals were privately hired by the businessmen. With no allegiance to an organized form of government the law was handled crudely with the observation that in Hunnewell, "the devil was whipped around the stump."

Hunnewell became one of the wildest cow towns in Kansas. During the shipping season trail herds arrived daily, bringing scores of cowboys. The cattle trade brought a lot of undesirable cowboys to Hunnewell. Three cowboys found their way into trouble

Top buyers of U.S. soy-

• Mexico: meal from 85

million bushels of U.S. soy-

bean meal include:

66 million bushels

million bushels

ner County Press, "The origin of the trouble was whiskey and lewd women."

The cowboys had been drinking for some time when they mounted their mustang ponies and rode into several saloons, shooting their pistols recklessly. That's when Mayor J. A. Hughes brought his "doublebarrelled" shot gun into play. One barrel was discharged, sending a portion of the load into the face of Albert Chastain, however he was able to keep riding. The second load of bird shot hit Bill Mills in the back and caused his horse to fall. Chastain and Allen Carter turned their horses to race back to rescue Mills. As they bore down on the

gathering crowd the cowboys fired their six-shooters to open the way. Eighteen year old Sadie Colder, "...a beautiful and estimable young lady of Hunnewell," ran into the street "to get a little child." A bullet from Chastain's pistol struck Sadie in the forehead and killed her. Chastain continued on to pull the wounded Mills up behind him and the

three wild cowboys on two horses raced for Indian Territory. They were soon captured by a posse. The Barbour County Index reported, "It was the intention of the people of Hunnewell to hang all three, but they were put aboard a train and sent to jail at Wellington."

At Wellington, a vigilance committee with rope in hand surrounded the jail, however officers were able keep them at bay. A few weeks later Mills was released on a five hundred dollar bail. Chastain was sentenced to ten years, and Carter, two years. By mid November both men were placed behind bars in the state penitentiary to reflect upon better days spent beyond prison walls on The Way West.

"The Cowboy," Jim Gray is *author of the book Desperate* Seed: Ellsworth Kansas on the Violent Frontier and Executive Director of the National Drovers Hall of Fame. Contact Kansas Cowboy, Box 62, Ellsworth, KS 67439. Phone 785-531-2058.

from the open range of Indireached Hunnewell on June when they rode in "to take the town," September 21, For the last few years of the an Territory. To Caldwell's 6, 1880. On that same day, the Ford & Leonard Outfit-1881. According to the Sum-1870's the Chisholm Trail to advantage, Texas cattle

deliver on what customers want U.S. soybean farmers continue to

bushels

beans

International customers want high-quality, reliable products, and that's what U.S. soybean farmers keep delivering – literally. In the most recent marketing year, the United States exported

MORE

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more than 2.3 billion bushels of U.S. soy, valued at more than \$27 billion.

According to the U.S. Department of Agriculture, the final export total for the 2014/2015 marketing year,



lion bushels of whole U.S. soybeans, meal from 552 million bushels of U.S. sovbeans and oil from 172 mil-

lion bushels. Exports accounted for 59 percent of U.S. soy demand this past marketing year. "As a U.S. soybean farmer, I take pride in growing a high-quality product for my customers, whether they're five miles away or 5,000," says Bob Metz, United Soybean Board international opportunities target area coordinator, member of the U.S. Soybean Export Council board of directors

which ended September 30,

includes more than 1.8 bil-

and soybean farmer from Peever, South Dakota. "These numbers show not only how much our international customers rely on our soybeans, but also how much we rely on our customers."

Top buyers of whole U.S. soybeans in 2014/2015 include:

• China: 1.084 billion bushels

• Mexico: 130 million bushels

Japan: 78 million

405 CENTRAL

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bean oil include:

• Mexico: oil from 46 million bushels of U.S. soybeans

• Dominican Republic: oil from 22 million bushels • Peru: oil from 19 mil-

The 70 farmer-directors of USB oversee the investments of the sov checkoff to



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The U.S. Soybean Export Council connects U.S. soybean farmers with opportunities to improve human nutrition, livestock production and aquaculture. This mission is accomplished with a science-based technical foundation and a global network of partnerships including soybean farmers, exporters, agribusiness and agricultural organizations, researchers and government agencies. USSEC operates internationally and works with aquaculture programs in different nations to help ensure sustainability and profitability for industry producers. USSEC programs are partially funded by the United Soybean Board (USB).

kelvin@hecklandco

Skyler Forge of St. George showed the reserve champion breeding heifer at the Pottawatomie County Fair. He is pictured with judge Wes Tiemann.



• Philippines: meal from lion bushels • Canada: meal from 39 Top buyers of U.S. soy-



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PROPERTY LOCATION: 1/2 mile west of the intersection of E1900 Rd. and N1325 Rd. Lawrence, KS 66046 (East of Lawrence, adjacent south and west of the water ski lake)

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The story of Kansas is interpreted through dozens of historic sites around the state. Each tells one piece of the story whether it is westward expansion, the struggle for statehood, or the rich and varied cultures that have called Kansas home.

There are four National Park Service sites: Forts Scott and Larned, Brown V Board, and Nicodemus. In addition, the Tallgrass Prairie Natural Preserve celebrates the grassland ecosystem of the Great Plains. Five nationally recognized trails cross Kansas: the Santa Fe (with more miles in Kansas than any other state): the Pony Express; the Oregon; the California: and Lewis and Clark. Signage and sites along the way, in addition to prerecorded audio tours, are available for the explorer.

The Kansas State Historical Society administers several sites including its museum and the newly restored statehouse. They are Constitution Hall in Lecompton, Fort Hays, Grinter Place, Hollenberg Station, Kaw Mission, Shawnee Indian Mission, Pawnee Indian Museum, Red Rocks Home of William Allen White, and Mine Creek Battlefield. Self-guided sites are Iowa and Sac & Fox Mission, Pawnee Rocks, and Marais des Cygnes Massacre site. Partner sites are Cottonwood Ranch, the First Territorial Capital, Goodnow House, and the John Brown Museum.

Merely listing these names gives you an idea of the variety of eras and stories represented at each of these places. Many of them have Friends organizations and gift shops. Support those with your dollars. Take the kids. Take the

grandkids. Pick up a National Park Service passport and encourage your family to begin collecting the stamps from across the nation, Kansas first. Often, we plan trips to experience something new when we haven't even experienced what we have here at home. Spend a portion of the holiday, and your holiday spending, supporting our rich history. Many sites offer unique events during the season, like the Candlelight tour at Fort Scott on December 4 and 5, or the town of

McPherson, home to thousands of lights with trolley tours throughout the month. It's already looking a lot like Christmas at Lane University in Lecompton. Volunteers have spent hundreds of hours decorating 70 trees with thousands of ornaments, many of them his-

toric, many of them donated by the local families. Paul Bahnmeier, president of the Lecompton Historical Society, showed me through the boxes and cartons of decorations that gave the appearance of Santa's workshop rather than a history museum. As Paul pointed out, though.

there is history in the ornaments and trees, too. He opened the glass case in which the fragile feather tree is displayed. Like many Christmas traditions, including the Christmas tree itself, the feather tree has its origins in Germany. They were made in the 1880s and 1890s from a center dowel with dyed green goose feathers forming the branches. Many of the fragile glass ornaments are light as a feather and come from Germany as well. Other ornaments are Scandanavian or Czech.

The variety of Christmas trees ranges from tiny tabletop vintage trees, including brush trees from the 1940s a small, pink Barbie tree, and the 15-foot cedar that is the focal point of the chapel upstairs. Volunteers estimate there are at least five thousand ornaments used to decorate the trees but add that the number increases because donations continue to come to the museum.

This exhibit was very successful last year and the Lecompton Historical Society anticipates large crowds for this one. Group tours are welcome.

The exhibit opened November 1 and will be open through New Year's Day.

Lane University was originally intended to be the state capitol and when that honor went to Topeka instead, the building was finished and turned into a university. Kansas senator Jim Lane pledged funds for the school and it was named in his honor. It is now the home and museum of the Lecompton Historical Soci-

Click your heels and repeat. There's no better history than in Kansas, There's no better history than in Kansas, There's no better history than in Kansas!

And there's no better, nor more beautiful, time to enjoy it than the holidays!

Grass & Grain, November 17, 2015 Page 7 Study shows farmers get \$45-to-\$1 return from wheat export promotion funds

U.S. wheat producers invested an average of \$4.9 million in checkoff funds per year to promote their milling wheat overseas between 2010 and 2014, and for every one of those dollars they received up to \$45 back in increased net revenue. That is a principal conclusion of a new economic analysis of wheat export promotion released by U.S. Wheat Associates (USW).

USW commissioned the study with funding from the USDA/Foreign Agricultural Service (FAS) Market Access Program. Dr. Harry M. Kaiser, the Gellert Family Professor of Applied Economics and Management at Cornell and director of the Cornell Commodity Promotion Research Program (CCPRP), designed and conducted the research using established methods from his 30 years of research experience.

"The study showed that investing in U.S. wheat export promotion had a large and beneficial impact for producers and the economy that far exceeded its cost," Dr. Kaiser said. "The econometric models we used showed that between 2010 and 2014 the total investment in wheat export promotion by farmers and the government increased total annual gross revenue by \$2.0 billion to \$3.0 billion. So for every \$1 farmers and the government invested, the estimated return in gross revenue to the U.S. economy was between \$112 and \$179." Dr. Kaiser added that the most likely annual gross revenue return is about \$149 for each dollar spent based on USDA supply elasticity studies.

Dr. Kaiser quantified the impact of wheat export promotion through models that account for several factors affecting commodity export demand such as prices and exchange rates. The study determined that cutting promotion by 50 percent between 2010 and 2014 would have significantly reduced wheat exports by about 15 percent. That represents a total potential export loss equal to nearly 161.5 million bushels per year. The value of that loss was determined, then compared to total wheat export promotion cost to calculate a series of benefit-to-cost ratios (BCR).

The BCR from the total promotion cost averaged 14.9 to 1. Because producers contributed about one-third of the total producer and FAS investment through state checkoff program, the BCR for their investment averaged about three times the total, or about 45 to 1. Assuming farmers get ten percent of the total revenue. Dr. Kaiser said the study shows wheat export promotion increased net revenue

for farmers by more than \$247 million per year. The impact of in-kind contributions from state commissions was not considered in this study.

"Our organization is accountable to wheat farmers and other taxpayers who fund the market development work we do," USW President Alan Tracy said. "Dr. Kaiser's research methods are well respected and the conclusions echo previous studies in 2004 and 2009, so we can very confidently say that the money farmers provide for export promotion is well worth the investment. In fact, the study predicts that increasing the promotion investment has the potential for even greater returns to wheat farmers, the wheat supply chain and the U.S. economy." USW will use additional results from the study to help plan and manage its future activities. The organization has posted full study results on its website. www.uswheat.org.



REAL ESTATE AUCTION MONDAY, NOVEMBER 23 - 7:00 PM Auction will be held at The Café in TIPTON, KANSAS **LEGAL:** E ½ W ½ & W ½ E ½ 2-8-10 Mitchell Co. Possession: Possession will be January 1, 2016.

Kansas The farm is located 4 miles North of Tipton, Kansas then 3 ¼ miles East on M road. There are 310.88 acres. 90.14 crop acres, 220.74 acres of grass with 4 ponds and a well. The bases are 56.55 acres wheat, 42 bu yield, 12.14 acres grain sorghum, 83 bu yield, 8.63 acres soybeans, 21 bu yield, 3.03 acres oats, 42 bu yield, 9.89 acres corn. 86 bu vield, for a total base of 90.24. The farm is in the ARC-CO program election. Seller will pay 2015 taxes. 2014 taxes were

Terms: 10% of purchase price as down payment day of auction. 40% will be due on or before December 31, 2015, 50% will be due on or before January 10, 2016. Down payment will be escrowed with Mitchell Co. Abstract. Escrow fees will be split 50/50 between seller & purchaser. Title insurance will be used, the cost will be split 50/50 between seller & purchaser.

Thummel Real Estate & Auction LLC is acting as seller agent. All statements made day of auction take precedence over printed material.





Page 8 Grass & Grain, November 17, 2015 USDA expands investment in water conservation and improvement in nation's largest aquifer

Agriculture Secretary Tom Vilsack has announced USDA will invest \$8 million in the Ogallala Aquifer Initiative (OAI) in Fiscal Year 2016 to help farmers and ranchers conserve billions of gallons of water annually while strengthening agricultural operations. The eightstate Ogallala Aquifer has suffered in recent years from increased periods of drought and declining water resources.

"USDA's Ogallala Aquifer Initiative helps landowners build resilience in their farms and ranches and better manage water use in this thirsty region," said Vilsack. "Since 2011, USDA has invested \$74 million in helping more than 1,600 agricultural producers conserve water on 341,000 acres through this initiative."

The Ogallala Aquifer is the largest aquifer in the

U.S. and includes nearly all of Nebraska and large sections of Colorado, Kansas, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming. It is the primary water source for the High Plains region. Covering nearly 174,000 square miles, it supports the production of nearly one-fifth of the wheat, corn, cotton and cattle produced in the U.S. and supplies 30 percent of all water used for irrigation in the U.S.

Water levels in the region are dropping at an unsustainable rate, making targeted conservation even more important. From 2011 to 2013, the aquifer's overall water level dropped by 36.0 million acre-feet, according to the U.S. Geological Survev.

USDA's Natural Resources Conservation Service (NRCS) supports targeted, local efforts to conserve

the quality and quantity of water in nine targeted focus areas through the OAI, adding two new focus areas for fiscal year 2016, while continuing support for seven ongoing projects. These projects include improving the efficiency of irrigation systems; building soil health by using cover crops and no-till practices that allow the soil to hold water longer and buffer roots from higher temperatures; and implementing prescribed grazing to relieve pressure on stressed vegetation. The new focus areas in-

clude: Middle Republican Natural Resource District in Nebraska: The project addresses groundwater quantity and quality concerns. The focus will be in areas where groundwater pumping contributes to high levels of stream flow depletion. Priority will be given to areas where groundwater pumping contributes to more than 48 percent of the

POTTAWATON A-H FI

The reserve champion market lamb was shown at the Pottawatomie County Fair by Jordan Sylvester of Wamego. Also pictured is Judge Scott Sutton.

overall aquifer depletion rate. The project will enable participants to voluntarily implement practices to conserve irrigation water and improve groundwater quality.

Oklahoma Ogallala Aquifer Initiative: This project will help landowners implement conservation practices that decrease water use. It includes an educational component that will educate citizens about water conservation and conservation systems. These systems include converting from irrigated to dryland farming and conservation practices that improve irrigation water management; crop residue and tillage management; nutrient and pesticide management, and grazing systems; and playa wetland restorations. The targeted area includes places where great amounts of water are consumed. Focal areas will be heavily-populated municipalities in the aquifer region.

NRCS analysis of Environmental Quality Incentives Program (EQIP) conservation projects in the region, including those implemented through OAI, estimated reduced water withdrawals of at least 1.5 million acre-feet, or 489 billion gallons of water, from 2009 through 2013 and an energy savings equivalent of almost 33 million gallons of diesel fuel due to reduced irrigation. With the growing demand for water and drought conditions plaguing the West, NRCS is working with farmers and ranchers to help them implement proven conservation solutions on targeted landscapes to improve the quality of water and soil, increase water supplies, increase the infiltration of water into the ground, and make lands more resilient to drought.

This investment in the Ogallala region expands on USDA's substantial efforts to help producers address water scarcity and water quality issues on agricultural lands. Between 2012 and 2014, across the United States, NRCS invested more than \$1.5 billion in financial and technical assistance to help producers implement conservation practices that improve water use efficiency and build long term health of working crop, pasture, and range lands. These practices include building soil health by using cover crops and no-till, which allow the soil to hold water longer and buffer roots from higher temperatures; improving the efficiency of irrigation systems; and implementing prescribed grazing to relieve pressure on stressed vegetation.

For more on technical and financial assistance available through conservation programs, visit www. nrcs.usda.gov/GetStarted or a local USDA service center.





www.qualitystructures.com # 800-374-6988





Grass & Grain, November 17, 2015

Angus Foundation celebrates 35 years

For more than three decades, the Angus Foundation has fostered investments toward the future of the Angus breed. Through support for Angus education, youth and research, the nonprofit arm of the American Angus Association provides invaluable insight and opportunities for those involved with Angus cattle

The Angus Foundation celebrated a milestone 35th anniversary during its Supporter Recognition Event, hosted Nov. 2 at the Sheraton in Overland Park, prior to the start of the 2015 Angus Means Business National Convention & Trade Show.

The evening event also honored Angus Foundation supporters who have contributed \$250 or more during the past fiscal year (Oct. 1, 2014 - Sept. 30, 2015).

"The Angus Foundation's growth and progress these past 35 years can only be attributed to visionary Angus breeders, allied industry interests and friends," says Milford Jenkins, Angus Foundation president. "We're grateful for their Foundation continued support in our mission to advance the Angus breed through education, youth and research."

More than 200 attendees enjoyed a delicious meal featuring the Certified Angus Beef® (CAB®) brand, while the following emcees led the evening's festivities: National Junior Angus Board (NJAB) chairman Alex Rogen, Brandon, S.D.; NJAB Foundation director Evan Woodbury, Quenemo; and Angus Foundation Board chairman Charlie Boyd, May's Lick, Ky.

"Celebrating 35 years of the Angus Foundation is a milestone not only for the Angus breed, but also for the countless individuals and families who benefit from its efforts," Boyd says. "Pride overwhelms you when you see countless people who are able to go one step further in college because of scholarships, evaluate their herd better because of research or tablish the Joseph and Sustrengthen their knowledge through educational events all because of Angus Foundation-funded initiatives.

During the event, the Angus Foundation announced that during fiscal year 2015, the organization reached an all-time record for total revenue.

"Our total revenue in 2015 topped \$11.3 million," Jenkins says. "Our ability to fund scholarships, conduct research and continue education continues to grow. Each gift helps us fulfill that mission. Our sincere thanks to our donors who make this possible."

Investing in the Future

Dave Nichols, Bridgewater. Iowa, is a long-time supporter and current member of the American Angus Association Board of Directors. This fall, Nichols will be inducted into one of the livestock industry's most prestigious honors, the Saddle & Sirloin Club Portrait Gallery in Louisville, Ky. To celebrate that occasion, Nichols will establish the 'Dave Nichols Beef Cattle Research Fund" through the Angus Foundation.

During the Supporter Recognition Event, an elite bred Angus heifer, Nichols Lula B14, was donated by Nichols Farms and sold with all proceeds to benefit the research endowment in Nichols' honor. The female was purchased for \$35,000 by David and Mary Ann McMahon of Belle Point Ranch, Lavaca, Ark., who will donate her to Subiaco Abbey Angus.

The Angus Foundation also auctioned the American Angus Association's 18 millionth animal registration number for \$15,000 to Whitestone Farm, Aldie, Va. The piece of Angus history will benefit the Angus Foundation's education, youth and research initiatives.

Another highlight of the evening, Joe and Susanne Bush, J&S Ranch near Gatesville, Texas. announced a \$10,500 gift to es-

sanne Bush/J&S Ranch Scholarship and Junior Activities Endowment Fund.

The Angus Foundation was also proud to honor Lifetime Giving Supporters for their continued investment in the Angus breed. The individuals and families recognized have, over the lifetime of the Angus Foundation, contributed an accumulative \$25,000 or more.

Considered Angus Builders, who contributed \$100,000 or more during the fiscal year, were: Wilma Minix of Black Witch Farm, Athens, Ga.; Bob and Dana McClaren, 44 Farms, Cameron, Texas; and Charles W. and Judy Herbster, Herbster Angus Farms, Falls City, Neb.

Honored as an Angus Patron for donations of more than \$50,000, were Gordon and Robin Keys, Beaver Dam Farm, Middleburg, Va. The lifetime Angus Benefactors, reaching \$25,000, were: Cargill Meat Solutions, the North Carolina Angus Association, the Virginia Junior Angus Association, the Indiana Angus Association, and Crazy K Ranch LLC of Michie, Tenn.

"Looking around the room, one can only be humbled by the support shown by so many of our Angus friends and families," Jenkins says. "If the past 35 years are any indication, the future is bright for the Angus Foundation and the entire Angus breed."

Additional highlights from the evening included a special presentation to the National Junior Angus Show (NJAS) Steer Carcass Contest winners, and recognition of Chairman Boyd for his service and leadership on the Angus Foundation Board of Directors.

For more news from the 2015 Angus Convention, tune in to The Angus Report the week of Nov. 16 on RFD-TV. The 30-minute news program airs at 7:30 a.m. central time Monday, 5 p.m. Wednesday and 1:30 p.m. each Saturday on RFD-TV.

+1.3 WW

+64

YW +119

Milk +26 CW +52 Marb

+1.64 RE +1.02

Fat +.048

\$W +62.87 SF +85.75 SG +59.07 **SB** +183.04

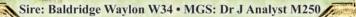
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Grass & Grain, November 17, 2015 Page 10 Now is the time to scout emerging wheat

By Jeri Geren. **Crop Production Agent** Wildcat Extension District

Autumn is seen as the best time of the year for many folks. The leaves are changing colors, cooler temperatures replace the unbearable summer heat, and the combines are harvesting this year's crop. What could go wrong? When it comes to the newly sowed winter wheat crop, there are a variety of issues that can affect its emergence and growth. Many of these can be detected while scouting.

The first problem producers might encounter after planting is poor stand establishment or uneven wheat stands. Poor stands can be caused by a number of problems, such as a plugged drill, poor seed quality, dry soil, planting depth, soil crusting, diseases, or insects. This year in particular, dry soils and poor seed quality may be major factors that contributed to some of the poor emergence.

While out in the field, producers may also notice color variations visible among the wheat. Purple or yellow banding on the young leaves at emergence, called color banding, is an environmental problem caused by warm days with cool nights. Plants with whitish streaks on the upper surfaces of leaves may have suffered flea beetle injury. The effects are often present along one side of the field and older injuries are sometimes confused with wind damage or dry weather. In addition, there may be some parts of the field that appear yellowish. Greenbug infestations, which are more common after a frost, but before Christmas, will appear on the upper surface of leaves as clusters of pinpricks that turn dark red. The affected leaves may turn yellow, and plant growth will slow Other factors that can

contribute to a poor wheat stand can include soil nutrient issues, herbicide carry-

over and several insects such as aphids, the Hessian fly, and fall army worms. To get an accurate assessment of the situation, it's best to scout wheat several times throughout the fall. This also offers a great opportunity to make note of the types and amounts of weeds present within the fields.

Although some factors that affect wheat emergence and growth cannot be changed, scouting can be a tool to help maximize the potential of the wheat for

September beef exports

Beef export value in Sep-

tember equated to \$233.80

per head of fed slaughter -

down nearly \$80 from a year

ago. For January through

September, per-head value

was \$280.46 - down \$6.36

percent of total beef produc-

tion and 10 percent for mus-

cle cuts only – both down 1

percentage point from the

first nine months of last

leading market Japan fell 34

percent in volume (15,386

mt) and 36 percent in value

(\$99.7 million) from a year ago. For the first nine

months of the year, exports

to Japan were down 12 per-

cent in volume (161,961 mt)

September exports to

vear.

those factors that can be altered. Just like enjoying watching the leaves turn color in the fall, it is just as nice to watch a healthy wheat field turn golden in the summer.

If you have questions or would like more information, please call me at the office (620) 331-2690 or email me at jlsigle@ksu.edu, or visit the Wildcat Extension District website at www. wildcatdistrict.ksu.edu.

U.S. pork exports improve in September; beef exports struggle Few bright spots for

U.S. pork exports showed modest improvement in September while beef exports endured the most difficult month in some time, according to statistics released by USDA and com-

piled by the U.S. Meat Export Federation (USMEF).

September pork export volume was up 6 percent from a year ago to 172,012 metric tons (mt). Export value was \$456.1 million,

SUNDAY, NOVEMBER 22 - 11:00 AM 6240 SW DOUGLAS ROAD (LOCATED 1/4 MILES SOUTH OF DOVER, KANSAS) REAL ESTATE (SELLS APPROXIMATELY 1:00 PM) Very Well Kept 3-Bedroom, 2 Bath Home on 65 Acres; 1972 Chevy Pickup, Ferguson 35 Tractor, JD Lawn Tractor, Portable Generator, Machinery, Equipment, Blacksmith Anvil, Tools, Furniture, Household, Antiques, Handmade Crafts See last week's Grass & Grain for complete listings & details. MRS. MURRELL (ZELDA) WRIGHT **GANNON REAL ESTATE & AUCTIONS** VERN GANNON. BROKER/AUCTIONEER 785-770-0066 · MANHATTAN, KANSAS · 785-539-2316 www.gannonauctions.com

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spring tooth; used iron; 50+

pieces gated 10" irrigation

pipe; 12 volt post hole digger;

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tle & hog panels; 4 irrigation

booster pumps (2 have new 20

hp B & S motors); pipe turners

& other irrigation equipment;

oil barrels; hand tools; Crafts-

man 5 hp upright air compres-

sor; bench grinder on stand;

Craftsman 12" radial arm saw

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w/7 hp gas engine; collection mini windmills; treadmill; small

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See last week's Grass & Grain for listings & Check our website for pictures www.thummelauction.com

> **THOMPSON INC. -** 785-335-3048 Auction Conducted By: **THUMMEL REAL ESTATE & AUCTION LLC** 785-738-0067

down 11 percent year-overyear but the highest since May. Pork exports through the first nine months of the year declined 4 percent in volume (1.58 million mt) and 17 percent in value (\$4.21 billion) compared to January-September 2014.

Beef export volume fell 21 percent from a year ago in September to 79,474 metric tons (mt) and value was down 28 percent to \$456.6 million - the lowest since January. For the first nine months of 2015, exports were down 12 percent in volume (782,705 mt) and 8 percent in value (\$4.8 billion).

September pork volume strong to Mexico, other Western Hemisphere markets

Pork export value per head slaughtered was \$46.90 in September, down \$11.21 from last year. For January through September, per head value was down \$15 to \$49.45. January-September exports accounted for just over 24 percent of total pork production and nearly 21 percent for muscle cuts only - down from 27 percent and 23 percent, respectively, during the first nine months of 2014.

Exports to Mexico, the leading volume destination for U.S. pork, fell slightly in volume in September but climbed 5 percent through the first nine months of the year to 529,798 mt, while export value fell 20 percent to \$932.6 million.

Other pork export highlights include:

September exports to Canada were the largest of 2015, though January-September volume was still down 5 percent to 148,669 mt and value was 13 percent lower at \$589.9 million.

Central/South America took 89,712 mt through September, up four percent from a year ago, as growth to Honduras and Chile offset smaller volumes to Colombia. Export value to the region fell 6 percent to \$226.1 million.

January-September exfrom the same period last ports to South Korea were year. Exports equated to 13 up 34 percent in volume (129,314 mt) and 23 percent in value (\$373.8 million), though the market cooled in September, falling below last year's monthly volumes for the first time in 2015.

Japan remains the leading value market for U.S. pork, despite January-September value declining 18 percent year-over-year to \$1.23 billion. Export volume to Japan was down 12 percent to 314.760 mt.



The Pottawatomie County Fair champion breeding doe was shown by Kyle Riffel of Westmoreland. He is tured with judge Scott Sutton. **Diamond L Supply** 1-888-608-7913 www.diamondlsupply.com **Metal Roofing & Siding** 29ga 40yr ptd.....\$64/sq. #2 29ga ptd(8 colors)..... ...\$55/sq. We also carry complete line of post frame and all steel buildings kits, trim, accessories, doors, trusses, and yellow pine lumber. Now stocking full line of livestock equipment, gates, panels, bale feeders, squeeze chutes, alley and continuous fence. 6 bar cont.-\$85

and 14 percent in value (just over \$1 billion).

Other notable results for beef exports include:

September exports to Korea were the lowest since January, but January-September volume was still up 9 percent to 92,577 mt, while value was 4 percent higher at \$612.9 million.

Exports to Taiwan were also below year-ago levels in September but still up 5 percent in volume (26,772 mt) and 12 percent in value (\$241.3 million) for the first nine months of the year.

January-September exports to Mexico totaled 161,356 mt (down 10 percent year-over-year), valued at \$808.4 million (down 6 percent).

September exports to Hong Kong rebounded somewhat from low summer totals but results for the first nine months of the year were down 26 percent in both volume (78,612 mt) and value (\$565.1 million) from a year ago.

Tough year continues for lamb exports

For January through September, U.S. lamb exports fell 17 percent in volume to 6,714 mt year-overyear and were down 32 percent in value to \$14.3 million. Exports expanded to the Middle East - up 49 percent in volume to 271 mt and 2 percent in value to \$874.000 — but declined to Mexico, Canada and the Caribbean.

Meeting to address ag lease basics

On Tuesday, December 8 beginning at 1:30 p.m. K State Research and Extension, Geary County Extension agent, Chuck Otte will try to help landlords and tenants better understand the important concepts of agricultural leases. This meeting will be held in the Sunflower Room, 612 E Campbell Street in Westmoreland. Most farmers in Kansas do not own all the land they farm, in fact most farmers have more than one landlord. So ag leases are regularly used and often misunderstood. A major component of leasing is the notification timeline. Otte will discuss various topics including the basics of the Kansas Ag lease law, crop share leases, cash leases including variable cash leases. and the importance of communication. A minimum of ten participants are required to hold this meeting. To sign up please call the Extension office at 785-457-3319 or email dsass@ksu.edu by December 4. There is no charge, this program is free to the public.



Free Pictures with Saturday, November 28th 8:30 am - 2:00 pm KanEquip Santa will have lunch from *11:30-12:30. *No photos at this time 18035 E HWY 24, Wamego, Kansas Pictures will be ready for pick-up December 5th

Grass & Grain, November 17, 2015 Page 11 **Calving schools planned for December and Januar**

When it comes to calving, timely assistance can cut calf and January. death losses by half and help boost the cow's reproductive health after delivery, according to a Kansas State University animal scientist.

"Timely, correct obstetrical assistance has been estimated to reduce calf death losses by over 50 percent," said Sandy Johnson, K-State Research and Extension livestock specialist. "Prolonged duration of labor or late calving assistance delays the cow's return to estrus after calving and decreases subsequent pregnancy rates."

The topic is the focus of 11 calving schools to be hosted in different locations around the state during December

"Producers can do several things to minimize potential losses related to calving," Johnson said. "Adequate nutrition for the cow and developing fetus before calving is the foundation. Timely and correct obstetrical assistance when needed increases calf survival and speeds the cow's ability to rebreed."

Veterinarian Dave Rethorst, director of outreach with Kansas State's Beef Cattle Institute, will give the keynote address at each school, including a review of the normal calving process, how and when to intervene, and how to manage a difficult birth. Cow nutrition and real life exam-

ples of the effect of nutrition during pregnancy on calving management, as well as the lifetime health and performance of the calf, will be part of the program.

A meal will be served at each calving school. More information about dates, times, locations, and how to register for a particular calving school is available at www.KSUbeef.org or by calling Johnson at 785-462-6281. Registration for the December schools is requested by Dec. 2, and for January schools by Jan. 2, to ensure a meal. Nominal charges vary by location.

Help for soybean industry in Africa starts with the source

soybean harvest, start with high-quality seeds. This is simple for farmers in the United States who can choose from hundreds of seed varieties. For farmers in developing countries, it's not that easy. Why?

Soybean breeding in Sub-Saharan Africa is not well developed, and soybean farmers have access to a very limited number of varieties that do not have the yield potential of varieties typically grown in North or South America. University of Illinois plant geneticist Brian Diers and USDA-Agricultural Research Service plant geneticist Randy Nelson are working on a solution to this problem. Rather than training farmers how to grow inadequate seed, they're going to the source, sharing their own tricks of the trade with soybean breeders.

Nelson Diers and demonstrated how they run their breeding programs to three visiting soybean breeders from Ghana, Ethiopia, and Zambia. And not just any breedersthese three are at the national and international level in their countries. The tricks included simple, tried-and-true strategies that range from how to physically arrange envelopes of seeds for field planting to managing thousands of new soybean experimental types each year.

"In the past, we've put technology in the hands of the farmers, forgetting that agricultural research has been gutted in these countries," said Peter Goldsmith, U of I economist and principal investigator of USAID's Soybean Innovation Lab. "This program through Feed the Future is focused on helping researchers in developing countries. It targets the key influencers to change the foundation of the soybean system. If we can affect the source, it will have a ripple effect down through the soybean supply chain.' Goldsmith explained that the goal is for breeders to begin to understand how to improve their own programs - showing them ways to improve their efficiency, increase the scale of their program, helping them see the types of equipment that they need, and how to introduce new seed varieties. "They haven't had new germplasm for decades," Goldsmith said. "U of I is home to the USDA Soybean Germplasm Collection. which has over 20,000 unique soybean types and has good relations with Brazilian soybean breeders so we can provide African breeders with high-yielding varieties that they can use as parents. "Currently, we're working in five African countries, but we've been contacted by soybean breeders in many others who also

If you want a bountiful want the training and better germplasm," Goldsmith said. "They all have the same problems. Even at the national research institutes in Africa, they are harvesting soybean by pulling plants out of the ground by hand; then women gather around and hit them with sticks. This is not an effective or sustainable technique."

> This month a conference was held in Ghana to give policy makers and those who work with farmers the opportunity to visit farms and to learn more about soybean as a commercial crop.

While out in the field practicing how to operate a hand planter, one of the national breeders said that he's proud that the conference is hosted at his home institution, the Savanna Agricultural Research Institute in Ghana.

"I think it will open up

the gates for research," said Nicholas Denwar. "They will get to know what the stakes are in the soy industry, what varieties farmers want to grow, what varieties industry wants, and what can they use soybean for." Denwar explained that

processors and feed mills have to import soybeans and soybean mill from Brazil to supply the nation's poultry farmers. He would like to see soybean for animal feed grown in Ghana.

"The government intends to make agriculture very businesslike and to grow agriculture," Denwar said. "We think that soybean is one of the crops that can feed into that agribusiness model."

Godfree Chigeza, who was recently hired at the International Institute of Tropical Agriculture in Zambia, said that soybean is the fastest-growing crop in Africa.

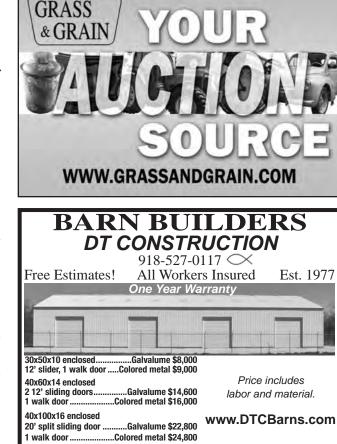
"People are now aware of the importance of soybean, not just in terms of human nutrition, but in terms of poultry feed," he said. "Farmers are diversifying into soybean for animal feed. They are able to get income, and then they are able to send their kids to school. That's very important. In the past, the only emphasis was on human food crops-things like maize, cowpea, drybeansbut you need to understand that for farmers to move from poverty they need to have income, and crops like soybean provide farmers an opportunity to have income so that they can reinvest

into their farm practices." Goldsmith elaborated on how this program is a very different approach to how researchers can address real needs and affect change in developing countries.

"There have been critiques of programs that just provide emergency support, yet do little to avert the next calamity," he said. "There have been critiques of grain delivery programs that distort markets and decrease incentives for local production. There have been critiques of university research because it affects journals but not livelihoods. And there have been critiques of development efforts that just implement projects with no regard to sustainable solutions or effectiveness. Feed the Future 'research for development' breathes new life into how universities can be relevant and extend their service mission to include the developing world." For more information,

visit www.soybean innovationlab.illinois.edu.

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The grand champion breeding ewe at the Pottawatomie County Fair was exhibited by Shilo Schaake of Westmoreland. Also pictured is judge Scott Sutton, Weir.

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Open for viewing at 11:00 A.M. on Saturday morning. See last week's Grass & Grain for listings & Check web site for pictures at www.thummelauction.com

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

WORK. WORK. WORK. JOBS ARE MORE DEMANDING. WORK DAYS ARE GETTING TOUGHER, AND LONGER





Page 12 Grass & Grain, November 17, 2015 Pumpkin Ranch teaches children hands-on agricultural lessons

(AP) - It wasn't all play on this brisk autumn morning.

Before picking their own pumpkin from the patch or running through a sorghum maze or racing pedal carts on a dirt track, this group of Buhler Grade School students got a quick lesson.

Growing pumpkins isn't necessarily easy. And pumpkins don't just appear in the store. At P&M Pumpkin Ranch near Moundridge, operators Jamie and Tim Kaminkow are determined to go beyond just giving kids an opportunity to pluck pumpkins, the *Hutchinson News* reports.

In a world where those involved in production agriculture make up 2 percent of the population, the Kaminkows saw an opportunity to turn their little McPherson County farm into a fall destination and allow their visitors to reconnect to their agricultural roots.

On Tuesday, first-graders sat in a metal shed-turnedclassroom learning about the growth cycle of a pumpkin, the different varieties and the effort it takes to grow pumpkins.

When school let out for the summer, Jamie Kaminkow told the kids that she and her husband and their two daughters, Paityn, 10, and Macy, 7, planted 8,000 pumpkin seeds across five acres. They spent the summer weeding and caring for their crop.

It was all in preparation for the nearly 1,000 school kids who will trek through their farm this fall, along with the countless families yearning for a trip to the country.

Jamie Kaminkow recalled the comments from county officials when she and her husband presented them with their plan for the acreage.

"They said how excited they were that we were providing a place for city kids to come to the farm," she said.

For two seasons, the Kaminkows have opened their farm to the masses. Along the banks of Turkey Creek, kids can feed fish in the pond and roast marshmallows over an open fire. They can climb to the top of a mound of earth and slide down it on a sled. There is a nature trail along the creek,

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a cart track to race on, a petting zoo and a barrel train, along with a giant jumping pad and a sorghum maze.

Most importantly, families can scramble through five acres of pumpkins and pluck a favorite.

"Our reasons for starting this were threefold," Jamie Kaminkow said. "We wanted a way to generate income from home; we wanted to give back what God has given to us; and we wanted to teach our girls the value of hard work."

The couple, who have an erosion control business, always wanted to get back into farming. Jamie grew up on a farm near Inman and Tim helped his parents on their Maryland Christmas tree farm.

They began researching pumpkin varieties and formulating a plan – naming the patch after their children. Besides typical orange pumpkins, the couple also planted specialty pumpkins, including white and pink ones. In all, they have 50 different varieties of pumpkins and gourds, Jamie Kaminkow said.

And it isn't easy. It is hard work – and a lot of it – especially since their season lasts just five or six weeks.

It's part of what they try to get through to the students, said Kaminkow. Older classes play a game where they are operating their own farm. But like any farm, the teams get a loan from the bank and are faced with roadblocks, whether it

is the expense of spraying for bugs on their cucumber plants or losing everything after a hailstorm comes through and damages the entire crop.

"Whoever has the most cash wins," Kaminkow said, but added she stresses "that doesn't mean they are better farms than the other team."

It's a short season, but it is worth it, Kaminkow said. By Nov. 1, thousands will have trekked through P&M Pumpkin Ranch's gates, enjoying the changing fall colors and, for these Buhler first-graders, a simple class in Agriculture 101.

The pumpkin patch's educator, Rachel Ediger, talked to the students about how a pumpkin grows and develops – from bees pollinating the flowers to the day they are ripe for the plucking, with the students marching to the patch to find a pumpkin after the morning lesson.

"Look at my pumpkin," exclaimed Reyne Kaufman, who hoisted her orange sphere up for her teacher, Christine Schletzbaum, to see.

Schletzbaum said she had prepared the students for the field trip beforehand by reading about pumpkins. The class won't take its pumpkins home just yet, she added. They will stay in the classroom one more day so her class can use them during math time.

"I like that they have so much for (the kids) to learn and do here," she said.

She watched as her students rode sleds down the earth tunnel slide. A few were playing in a corn pile. Others were riding carts around the track.

"I don't have a license, but anyway, I'm a good driver," yelled Addy Tech as she pedaled ahead of the rest of the pack.

Parent Justin Gray, of Hutchinson, said he brought his son, Jerrick, to the patch last year and enjoyed it. The family gardens, he said, but they aren't around farming much.

"He loves being out here," Gray said, adding that for the class, "It's good to get the kids out here."

Jamie Kaminkow said it is a blessing to see how the farm has grown in just two short years and all the people who are enjoying it. She noted a question posed by one class – about why her family chose pumpkins.

She reflected for a moment before answering.

"We didn't choose pumpkins," she said at last. "They chose us."



The top sheep showmen at the Pottawatomie County Fair are pictured here with judge Scott Sutton: champion senior showman, Shilo Schaake, Westmoreland; champion intermediate showman, Will Johnson, Westmoreland; champion junior showman, Mason Rookstool, Wamego; reserve champion senior Shay Duer, Onaga; reserve champion intermediate, Grace Johnson, Westmoreland and reserve champion junior Jordan Sylvester, Wamego.





RETIREMENT FARM MACHINERY AUCTION

SATURDAY, DECEMBER 5 – 10:30 AM

DIRECTIONS FROM SABETHA, KS: 4 miles north on Hwy. 75

COMBINE, TRACTORS & SEMÍ TRUCKS 2005 JD 9760 STS Combine, RWA, duals, Contour Master, heavy final drives, extended hi capacity unloading auger, straw chopper w/twin spreaders; 2615 engine hrs., 1625 sep. hrs.; low hour machine, yearly maintenance program, looks like new, must see to appreciate, serial # H09760S 712562; 1997 AGCO 9675 tractor, FWA, Duals front & rear, 18 speed, 5860 engine hrs.; 700 hrs. on complete engine overhaul: nearly new tires: 1973 AC 7050 tractor, power direct, duals, 2000 hrs. on complete overhaul; 1971 AC 185 tractor, diesel, new starter, w/Bush Hog loader, 7' bucket & hay prong; 1993 Peterbilt, 379 flattop, 3406C Cat, 13 speed, sleeper, all new tires; 1975 Pe

terbilt, 359 flattop, 3406B Cat,

13 speed, sleeper, 95% rubber. TRAILERS & PICKUPS 2002 Cornhusker 48' spread axle trailer, new tarp, 80% rubber, complete new rear hopper & 5th wheel plate 3 yrs. ago; 1998 Tempte 42' trailer, nearly new tarp, new rubber; 1979 Fontaine 42' flatbed steel trailer w/2-1600 gal. poly tanks, inductor tank & Honda pump; 2003 Dodge 3500 Laramie 4x4, heavy duty dually, 4 door, 5.9L diesel, 6 speed manual trans.; full size 8' bed w/gooseneck hitch, shock absorber receiver hitch, alum. toolbox, leather seats, new tires, brakes & calipers, loaded, approx. 245-248K miles by sale date; 1990 Chevy 2500 ext. cab, 5.7L automatic. AC. elec. W&L. 2WD. 162K miles

MACHINERY & EQUIPMENT 2010 Great Plains YP 1625A 16-31 interplant planter, liquid fert.w/pump, seed firmers, hydraulic pump, drive & reservoir one year old; approx. 5K acres, always shedded; A&L 650T roll over tarp Krause 1407 25' disc; Krause 1592 17' single fold disc (neighbor); Sunflower #5331 32' field cultivator w/harrow; Hesston 2210 25' field cultivator w/harrow (neighbor); AC 6x18 semi-mount, steerable plow; 2013 Mayrath grain auger, 10"x 82', 540 PTO, low profile swing away hopper, used 2 years, like new; Grain auger, 8"x 60', 540 PTO; 6" bin unloading auger, 2 h.p. motor; Woods 15' batwing shredder; Soilmover, 3 cubic yard bucket; Tucker 12' box scraper; Scranton 3 point big bale mover; Gnuse 3 point 6' 5' bucket; Clark 3 stage forklift, 3 point hitch, 5' 6" forks, set of extra 4' forks; 16' car trailer set up as a farm service trailer, includes 500 gal. diesel tank & pump, air compressor w/5.5 hp Honda motor and set up for acetylene torch & bottles: Shop



12' grain wagon w/hoist; Bumper hitch two wheel trailer, 7'x 9', new tires & jack, loaded w/firewood, sells as one lot; 3 point post hole digger, 8" & 12" augers; 2 wheel header trailer (neighbor).

SHOP TOOLS & MISC.

John Deere L110 riding lawn mower, hydrostat, 430 hrs., 42" deck, new rear tires & seat 1000 gal. fuel tank w/pump, used for clear diesel; 500 gal tank, used for waste oil: Volt Master 12,000 watt generator, 540 PTO, like new, used one week; Honda gas generator; Snap On tool box, 20 drawer w/9 drawer side box; Large free standing belt drive drill press w/ 1/2" to 1 5/8" bits; bucket full of extra bits sell separate, came Mellenbruch Machine from Shop, Fairview, Ks; ESAB mig welder w/bottle; Large alu-minum tool box, 24"x 30" x 7'; Pallet jack; Acetylene carl w/torch and gauges, no bottles; 4'x 4 1/2' welding table on wheels; 3' x 2' cart on wheels for inside the shop; 112 gal. propane tank for pickup, 30 gal. propane tank, 55 gal. drums Stihl MS 290 chainsaw w/case & extra chains; Stihl 510 chainsaw, Echo gas weed eater, gas leaf blower; Fertilizer/Grass lawn seeder, pull type; Radson grain moisture tester; Ingersoll Rand 1" drive impact wrench, air driven, long shank; Pair of 33mm & 1 1/2" sockets; 3/4" & 1" drive; Lots of log chains and 4" nvlon straps for flatbed trailers Lots of tools for trucks & trailers incl. wheel bearing sockets, seal drivers, tire tools; Bead Blaster, Hand sprayers; 34" drive socket set. 2-50# scale weights: General run of shop tools & supplies; Mid century ceramic wash basin, Youngstown; Bowflex Ul timate 2 exercise machine,

Call for best price: We won't Be UNDERSOLD ON ATVS: Carbon's Honda Motor Televent Motor Televen

Located at Monticello Auction Ctr, 4795 Frisbie Rd. Shawnee KS Chem-Trol. Trucks, Trailers, Chipper/shredders, Spray equipment, Utility vehicles, Bobcat & more.

Preview: Nov. 23 Noon-4 pm. Bidding ends Nov. 24



extra bows; Body Solid weight machine.

LIVESTOCK EQUIPMENT, HAY & FIREWOOD

B & W horse hay feeder, like new; Lots of 5 ½ & 6' steel posts; Lot of cattle panels; Round pen, complete w/13 panels @ 12' and 6' walk thru gate; 13 big bales of net wrapped brome; Approx. 3 cords of firewood, mostly hedge, sells as one lot.

DOG SHOW, GROOMING & KENNEL EQUIPMENT (small & medium breeds)

2 Grooming tables; Oster clipper w/full set of attachments; 2 heavy duty dryers, one on a stand; Several X pens; Kennels & carriers; Bedding, bowls & water bottles.

HORSES 3 Quarter horses, 2 mares, 1 gelding; 9-17 years old.

For more pictures visit www.ashrealtyandauctions.com

AUCTIONEER'S NOTE: After a lifelong career in farming, David and Kara are retiring from farming and pursuing other interests in their families businesses. Everything sells to the highest bidder. Make plans to attend this very clean, well maintained machinery auction. LUNCH BY PAT & SYLVIA. Porta Pot on premise.

TERMS: Cash or Approved check. All items sold as-is. Buyers make your own inspections before bidding. Not responsible for accidents or theft. Nothing removed until settled for.

SELLERS: DAVID AND KARA RUMBAUGH 785-547-6060

Auction conducted by: ASH REALTY AND AUCTIONS LLC Sabetha, Ks. 785-547-5034 or 785-284-2417 Steven Aeschliman – Broker/Auctioneer Tom Williams – Auctioneer 785-850-1516 Image: Source of the set of th

Legal Description: Tract I-E/2 of 23-18-24, Ness County, Kansas F.S.A. Information: 278.09 Acres Cultivation; 142.37 Acres Planted to Wheat, 135.72 Acres Idle; Balance in Wet Walnut Watershed Easement & Grassland. Oil Production: One producing oil well, one Salt Water Disposable Well with a \$300.00 per year rental payment. Tract II- SE/4 of 24-18-24, except a 4.77 Acre Tract located in the Southeast Corner. F.S.A. Information: 148.35 Acres of Cultivation; 76.46 Acres Planted to Wheat, 71.6 Acres Idle. Possesion: Upon closing on idle cultivation and grassland Possession on planted wheat acres will be after the 2016 wheat harvest with landowner(s) 1/3 share of the harvested wheat delivered to the nearest elevator in the Purchaser(s) name.

For terms, or a complete brochure, contact FARMLAND AUCTION & REALTY CO., INC. Our New Address as of November 1, 2015 1390 East 8th Street, Unit A, Hays, Kansas 67601 785-628-2851 Toll Free: 1-888-671-2851

Web: www.farmlandauction.com

Road, Hesston, KS from I-135, take the Hesston exit west to Ridge Road, go south to Factory & follow signs. LAWN EQUIPMENT, MOWER RELATED ITEMS & MISC.

See last week's Grass & Grain for listings. **EXCEL INDUSTRIES, INC., SELLER** For information call Martin Tibbets (620) 327-1213

VAN SCHMIDT · Auctioneer/Realtor 7833 N. Spencer Road, Newton, KS 67114 620-367-3800 or 620-367-2331

Schmidt Clerks & Cashiers / Lunch provided by K & B Catering www.hillsborofreepress.com

DISCONTINUING FARMING AUCTION: Fri, Dec 4, 10am Major machinery sells at approx. 12pm 480 S Springdale Rd, Mayfield KS

'83 JD 4450; Koyker 585 front loader sells sep; '81 Vers 875 & '76 Vers 850, both Series 2; '97 Case IHC 2188 & '91 IHC 1680, AF; '06 MacDon 30' flex platform; Brent #620 grain cart; '94 Timpte 42' hopper bottom gm trir; '91 Kenworth dsl truck; '01 Case IHC 4260 self-prop sprayer; '96 Willmar #8100 self-prop sprayer; '79 Fruehauf 40' flatbed trir w/sprayer & nurse tanks; Case-IHC SDX 40 air seeder w/ADX 2230 air cart; White #8222 12R planter; JD 535 round baler; JD 12 wheel hay rake; IHC 440 wire tie sq baler; '13 Polaris Ranger XP, 234 hrs; add'l farm, livestock items. Full details at www.theurer.net

BID LIVE & ONLINE! Mark & Pam Kendrick, Sellers

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Study of U.S. farm data shows loss of crop diversity

U.S. farmers are growing fewer types of crops than they were 34 years ago, which could have implications for how farms fare as changes to the climate evolve, according to a largescale study by Kansas State University, North Dakota State University and the U.S. Department of Agriculture. Less crop diversity may also be impacting the general ecosystem.

"At the national level, crop diversity declined over the period we analyzed," said Jonathan Aguilar, K-State water resources engineer and lead researcher on the study.

The scientists used data from the USDA's U.S. Census of Agriculture, which is published every five years from information provided by U.S. farmers. The team studied data from 1978 through 2012 across the country's contiguous states.

Croplands comprise about 408 million acres (165 million hectares) or 22 percent of the total land base in the lower 48 states, so changes in crop species diversity could have a substantial impact, not only on agroecosystem function, but also the function of surrounding natural and urban areas. Because croplands are typically replanted annually, theoretically crop species diversity can change fairly rapidly. There is the potential for swift positive change, unlike in natural ecosystems.

Aguilar began the study while working as a researcher with the USDA's Agricultural Research Service. He joined K-State Research and Extension, a part of the university, in 2012. The study was conducted in collaboration with a diverse team, including rangelands expert John Hendrickson, USDA-ARS; weeds experts Greta Gramig, NDSU, and Frank Forcella, USDA-ARS; agricultural economics expert David Archer, USDA-ARS; and soils expert Mark Liebig, USDA-ARS.

"At the very simplistic level," Aguilar said, "crop diversity is a measure of how many crops in an area could possibly work together to resist, address and adjust to potential widespread crop failures, including natural problems such as pests and diseases, weed pressures, droughts and flood events. This could also be viewed as a way to spread potential risks to a producer. Just like in the natural landscape, areas with high diversity tend to be more resilient to external pressures than are areas with low diversity. In other words, diversity provides stability in an area to assure food sustainability."

The study is the first to quantify crop species diversity in the U.S. using an extensive database over a relatively long period of analysis, Aguilar said.

The results of the effort, partially funded by the K-State Open Access Fund, were published Aug. 26, 2015, in the scientific journal *PLOS One* http://journals.plos.org/plos one/article?id=10.1371/journ al.pone.0136580

Farm resource regions

In addition to the national trend, the researchers studied regional trends by examining county-level data from areas called Farm Resource Regions developed by the USDA's Economic Research Service. Although the study showed that crop diversity declined nationally, it wasn't uniform in all regions or in all states.

"There seem to be more dynamics going on in some regions or states," Aguilar said, noting that not all of the factors affecting those regional trends are clear.

For instance, the Heartland Resource Region, which is home to 22 percent of U.S. farms and represents the highest value, 23 percent, of U.S. production, had the lowest crop diversity. This region comprises Illinois, Iowa, Indiana and parts of Ohio, Missouri, Minnesota, South Dakota, Nebraska and Kentucky.

In contrast to all of the other regions, the Mississippi Portal Region, which includes parts of Louisiana, Mississippi, Kentucky and Arkansas, had significantly higher crop diversity in 2012 than in 1978.

While overall, the national trend was toward less crop diversity, the region called the Fruitful Rim (parts of Washington, Oregon, Idaho, California, Arizona, Texas, Florida, Georgia and South Carolina) and the Northern Crescent (states along the northeast border from part of Minnesota east through Wisconsin, Michigan through to Maine and south to New Jersey and Pennsylvania) had the most crop diversity.

The data used was specific enough that the researchers were able to quantify crop diversity and trends even down to the county level.

"A significant trend of more counties shifting to lower rather than higher crop diversity was detected," the team wrote in the study results. "The clustering and shifting demonstrates a trend toward crop diversity loss and attendant homogenization of agricultural production systems. which could have far-reaching consequences for provision of ecosystem services associated with agricultural systems as well as food system sustainability. "

Implications for agriculture and the environment

"Biodiversity is important to the ecosystem function." the researchers wrote. "Biodiversity in agricultural systems is linked to critical ecological processes such as nutrient and water cycling, pest and disease regulation, and degradation of toxic compounds such as pesticides. Diverse agroecosystems are more resilient to variable weather resulting from climate change and often hold the greatest potential for such benefits as natural pest control."

A classic example where high crop diversity could have been crucial was during the corn leaf blight epidemic in the 1970s, Aguilar said.

During the 20th century, increases in the value of human labor, changes in agricultural policies and the development of agricultural technologies led to increased specialization and scale of production. Economic and social factors helped drive the adoption of less-diverse cropping systems.

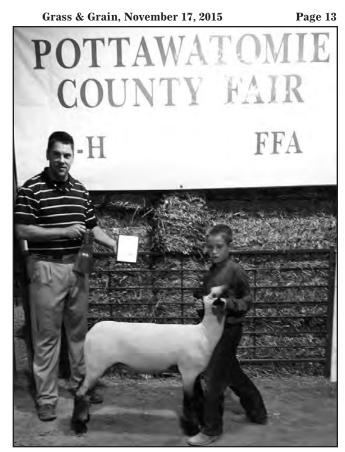
"An important consequence of increased crop homogeneity is the potential for yield instability with anticipated increased unpredictability in weather patterns linked to climate change. Diverse cropping systems tend to increase farmers' chances of encountering favorable conditions while decreasing the probability of widespread crop failures," the team wrote, citing a study based on longterm data collected in Ontario, Canada.

A simple example would be if a farmer planted part of his acreage to sorghum and the rest to corn. If the growing season was unusually dry and the farmer didn't irrigate, the sorghum would likely fare better, because it's more drought tolerant than corn. In that example, the farmer has come out better by having diverse crop species than if he had planted all of his acreage to corn, in which case he may have had low or non-existent yields.

Next steps

In addition to quantifying the changes in crop diversity, Aguilar said, the scientists hoped to spur further studies and research with regard to changing agricultural condition and status.

"The factors that affect crop diversity in North Dakota do not necessarily apply to what is happening here in Kansas. This study also has relevance to other agronomic and environmental issues," he said, adding that the research has already generated inquiries from scientists who are studying weed resistance to herbicides, honeybee "friendliness" of the landscape and agricultural community resilience to pressures such as climate change.



Mason Rookstool of Wamego, led the grand champion market lamb at the Pottawatomie County Fair. He is pictured here with Judge Scott Sutton of Weir, Kansas.



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Page 14 Grass & Grain, November 17, 2015 Kansas State University swine researchers say feeding amino acids cuts costs, benefits environment

In human nutrition, amino acids are considered the good guys. As the building blocks for protein, they are a key ingredient in improving muscle.

Similarly, Kansas State University researchers have been learning more about how adding amino acids to swine feed helps improve animal muscle safely while reducing producer's costs and a farm's environmental impact.

"It's an area that people have worked on for a lot of years and we are continuing to refine the use of amino acids in swine feed through our research program," said Mike Tokach, Kansas State University distinguished professor of animal sciences and industry.

Soybean meal and corn are good sources of amino

merchandise:

acids for swine, Tokach said, but typically the amino acids are not in a perfect balance to meet the animals' needs. Researchers can essentially "stack" amino acids in the formulation of swine diets so that the pig receives the correct amino acid, in the right proportion. just when its body needs it.

"We don't have to use as much sovbean meal or the more expensive protein sources, such as fish meal, to give the pig what it needs," Tokach said. "If we know what a pig's requirement is, we can use a different protein source and supplement with the correct amino acids."

There are millions of proteins, all made of amino acids, but there are only 20 known amino acids and just ten that can be made by

swine. The other ten amino acids must be provided in an animal's diet.

Tokach said that Kansas State University's research focuses on five amino acids: lysine, threonine, methionine, tryptophan and valine. They are formulated in grain-based diets, reducing the amount of soybean meal or other protein sources.

That is good news for reducing a farm's carbon footprint. Through various trials. Kansas State University scientists and graduate students have found that feeding fewer plant proteins translates to less nitrogen and ammonia from the farm.

Plus. Tokach said farmers use less water because pigs drink and urinate less when they are eating lower protein diets, further reducing pollutants. One study showed that a 1 percent reduction in dietary protein reduces ammonia emissions from swine manure slurry by 10-12 percent.

Tokach said that feeding amino acids differs based on such factors as genetics and the pig's stage of life. The university is working with swine producers and amino acid suppliers to incorporate its research findings into diets that are appropriate for U.S. herds.

The university's work with amino acids will be one topic discussed during the annual Swine Day, which is Nov. 19 in Manhattan. Nearly 400 U.S. swine producers and industry professionals typically attend the annual meeting

For more information. visit KSUswine.org.

check out the on-line schedule at www.grassandgrain.com Online auction (bidding tate. Auctioneers: Gannon ends Nov. 24) - trucks, trailers, chipper/shredders, spray equipment, utility vehi-

cles, Bobcat & more (www.lindsayauc tions.com). Auctioneers:

GRASS

& GRAIN

Lindsay Auction Service. November 17 - 153.51 acres Flint Hills grassland in Lyon County held at Emporia for the William A. Martin Revocable Trust. Auctioneers: Griffin Real Estate & Auction Service, LC.

November 17 — 198 acres Saline & McPherson County farmland held at Salina for the children of John & Margaret Morris. Auctioneers: Riordan Auction & Realty.

November 18 — Tractors, combines, trucks, trailers, farm equipment of all kinds, lawn & garden & more online at (www.big iron.com). Auctioneers: Stock Auction Co.

November 19 — Machinery consignment auction at Clay Center, Auctioneers: Mugler Auction Service, LLC.

November 19 – 4 story brick concrete building held at Hutchinson for Crossroads Lumber Co., Inc. Auctioneers: Midwest Land Specialists, Inc.

November 19 — Dickinson County grassland & timber held at Abilene for Gene Wick & Dale Wick. Auctioneers: Riordan Auction & Realty.

November 21 — Furniture. figurines, glassware, Christmas, crystal, guns at Rossville for Gepner Es-

Real Estate & Auctions. November 21 - Car, tools, misc., guns, coins, belt buckles, antiques & household at Belleville for Lloyd Lee Ray Falk. Auctioneers: Novak Bros.

Auction Sales Scheduled

& Gieber. November 21 — Tractor, trucks, farm machinery, livestock equipment, new lumber, tools & more at Augusta for Heirs of Orville Carver. Auctioneers: Chuck Korte Real Estate & Auction Service, Inc.

- November 21 Fabric. housewares, small appliances, clothing, boots, sewing items, Christmas & holiday items & much more at Hartford for Bill's Hardware. Auctioneers: Hancock Auction & Real Estate.
- November 21 359 acres m/l of Osage County native grass hayland, farmland & timber for hunting or wildlife held at Osage City for Ted L. & Patricia A. Davis Trust. Auctioneers: Cline Realty & Auction, LLC.

November 21 - Lawn equipment, mower related items & misc. at Hesston for Excel Industries, Inc. Auctioneers: Van Schmidt.

- November 21 Historic down building held at Strong City for Great Plains Annual Conference. Auctioneers: Griffin Real Estate & Auction Service, LC.
- November 21 Guns at Concordia. Auctioneers: Thummel Real Estate & Auction, LLC.
- November 21 Chase County home, Flint Hills. wildlife, cottonwood river held at Emporia for Children of James H. & Peggy

L. Cooper. Auctioneers: Griffin Real Estate & Auction Service, LC.

November 21 — Tractors, combine, heads, header trailer, pickups, camper, skid loaders, backhoe, skid loader attachments & trailer, machinery, trucks, trailers, semi trailers. man lift & misc. at Summerfield for DDSR Enterprises, Inc. Auctioneers: Jurgens, Henrichs, Hardin.

- November 21 Tractors, trucks, combine, trailers, grinders, ATVs, farm machinery & misc. at Garnett for Dudley & Carol Ann Feuerborn. Auctioneers: Ratliff Auctions.
- November 21 Vehicles, tractors, tools, antiques, collectibles South of Concordia for Jim White Estate. Auctioneers: Larry Lagasse Auction

November 21 - 4020 JD, Oliver tractor w/ldr., collector car chassis, livestock equipment, household, antique farm items at Oak Hill for Betty M. Reed Rev. Living Trust. Auctioneers: Reynolds Auction Service.

November 21 — 75 acres m/l Nemaha County land held at Corning for Heirs of Arthur & Esther Cottrell. Auctioneers: Ash Realty & Auctions, LLC.

November 21 — Antique furniture, antique glassware & collectibles, pottery, silverplate, house & kitchenwares, old toys, 1968 Pontiac Catalina, 1992 Buick Roadmaster at Council Grove for property of the late Bill Williams & Family. Auctioneers: Macy Realty & Auction.

November 21 - 903 acres agricultural real estate South of Barnes for Harold Bierbaum Revoca-



DUDLEY & CAROL ANN FEUERBORN 1501 E. 4th · Garnett. KS · 785-448-8272 **RATLIFF & RATLIFF AUCTIONS**

NOTE: WE ARE NOT ADVERTISING SPECIFIC ITEMS AND THE ADS ARE NOT LONG, BUT THE AUCTION WILL BE! At future auctions, we will sell the hardware, electrical, plumbing items and antique fixtures. Concessions by the local 4-H Club. Terms: Cash or approved check day of auction. Remove all items day of auction. Sales tax applies. Seller: BILL'S HARDWARE ANN AUCTION & REAL ESTATE 620.340.5692 www.hancockauctionandrealestate.com RETIREMENT FARM MACHINERY

AUCTION for BILL'S HARDWARE

SATURDAY, NOVEMBER 21 - 10:00 AM

At the Hartford Community Center (across from High School)

HARTFORD, KS. (Hartford is located southeast of Emporia)

Bill's Hardware has been a long standing staple for this community

and this is the first in a series of auctions and will include all new

FABRIC: Bolts and bolts of fabric (maybe a semi trailer load)

Thread, buttons, and sewing items

HOUSEWARES: Small appliances; Clothing & boots; Kitchen items

** CHRISTMAS AND HOLIDAY ITEMS **

A few modern display counters and shelves

Literally hundreds and hundreds of items!

MONDAY, NOVEMBER 30 – 10:00 AM **BEATRICE, NEBRASKA**

AUCTION SITE: From the west edge of Beatrice, 8.5 miles west on Highway 4 to the county line and 1 1/2 miles south on 582nd Ave. From Plymouth, 4 miles east on Highway 4 and 1 1/2 miles south on 582nd Ave.

LIVE ONLINE BIDDING: On major machinery. Pre-registration required. See marshallauction.com

TRACTORS, LOADERS & TELEHANDLERS JD 7920 MFWD; JD 7210 MFWD w/JD 740 loader; NH TM165 MFWD; NH TM150

side slinger manure spreader; Soilmover 9 yd. scraper w/hyd. push ejection; 2007 Friesen 220 seed tender; Blizzard 8' snow blade for vehicle; 3 pt. mist



SATURDAY, NOVEMBER 21 – 9:30 AM OAK HILL, KANSAS: From Clay Center, KS, go 9 miles South on Hwy. 15 then 11 1/2 miles West on 9th Road. Property located SW corner of Oak Hill, KS. FOLLOW SIGNS! Or 5 miles North of Longford, KS on Cherokee Road & 1/2 West to Oak Hill, KS.

FARM EQUIPMENT, VEHICLES, Vehicles for parts & salvage. FARM SUPPLIES, HOUSEHOLD, COLLECTABLES

See last week's Grass & Grain for listings &

For complete listing & additional pictures, go to ksallink.com click on Market Place then auctions. Also ... kansasauctions.net/revnolds

SELLER: BETTY M. REED REVOCABLE LIVING TRUST

MFWD w/NH 72L loader; Gehl CT7-23 telehandler; Gehl CT6-18 telehandler; Kabota B20 loader/backhoe; Gehl 6635 skidsteer; Cat 824B 4WD dozer; JD 520 tractor. TRUCKS & TRAILERS

19912 Kenworth T-800 semi w/N14 and 10 spd.; 2002 Jetco 34' alum. hopper btm. trailer; 1985 Freightliner w/3406 Cat & Aeroswint 20' steel box; 1998 Chevy 1500 4x4 pickup; 1994 Dodge 2500 diesel 4x4 pickup; 2000 Travalong 24' gooseneck stock trailer; 1998 Hillsboro 30' flatbed; flatbed 40' semi trailer plus 8' ext.

MACHINERY

2005 Kinze 3500 8-15 splitter (interplant) planter on swivel base; DMI hydra wide 5 btm. 12-22 vary width plow; Degelman 5700 12' frt. mount dozer; JD 722 20' mulch-finisher; Parker 450 grain cart; 2007 Supreme T-900 mixer-feeder wagon; 2005 Kuhn Knight 8132 blower; Honda Rancher 4x4 4 wheeler: Johnson 7 shank ripper; Surge 50K PTO generator; Orthman 6R30 ridger; Howse 5 3 pt. shredder; Snowco 8" PTO auger.

COMBINE HEADS JD 893 8R30 corn hd. w/poly snoots; JD 630F flex hd

MAURE EQUIPMENT Ag Pro 6000 manure spreader; Doda portable manure pump w/Detroit 453 & fuel tank, all on trailer; (2) Elec. manure pumps. 15HP & 30HP.

IRRIGATION

1,000' of 8" alum. gated pipe; pipe trailer; irrig. pipe fittings. SHOP & MISC.

Large quantity of shop tools & equipment inc. near new Chicago 240v inverter plasma cutter power tools of all kinds; wrenches, socket sets; 5HP air compressor and much more. 1,000 gal. fuel tank w/elec. pump; (2) 300-gal. fuel tanks; In-line bale wrap, 30"x4,921' and more.

See detailed listing & photos at marshallauction.com CLAASSEN RANCH

Dennis Claassen, owner · For info call Jesse at 402-230-0618

AUCTIONEERS: Miles Marshall, Jeff Marshall, Robin Marshall

MARSHALL LAND BROKERS & AUCTIONEERS 2033 Central Ave. - Kearney, NE Office 308-234-6266



REAL ESTATE AUCTION 315 Acres m/l of POTTAWATOMIE COUNTY NATIVE PASTURELAND

SATURDAY, DECEMBER 12 - 11:00 AM Auction Location: In the North Room of the

Wamego Senior Center at the corner of 5th & Ash St — WAMEGO, KS PROPERTY LOCATION: From Belvue, KS on Hwy. 24, 1 mile West to Camp Creek Road, then 3 miles North on the East side or from Wamego, KS 5 1/2 miles East on Hwy. 24 to Camp Creek Road. then 3 miles North.

LEGAL DESCRIPTION: The West Half of Section 16, Township 9 South, Range 11 East, Pottawatomie County, Kansas.

This property consists of 315 acres m/l of Little and Big Bluestem Native grass pastureland. There is a large pond and a smaller creek for water. There is a wooded area along the creek making for deer or turkey hunting or shade for cattle. The balance of this pasture is clear grass with mostly very good fence. This land is bordered by 1 mile of Camp Creek Road and 1/2 mile of Tower Hill Road

IF YOU ARE IN NEED OF A GOOD PASTURE ... COME TAKE A LOOK! For more info or viewing please call John E. Cline, 785-532-8381 or check website at mcclivestock.com/clinerealty

Terms: The Seller requires 10% down day of sale with the balance to be due January 12, 2016. Possession to be upon closing. Buyers and Seller to equally split the title insurance and closing cost. Sellers to pay 2015 taxes in full. Statements made sale day take precedence over printed material. Sale subject to sellers confirmation. Cline Realty & Auction, LLC represents the sellers interest

SELLERS: JAMES F. RIAT TRUST

Auction Conducted By: CLINE REALTY & AUCTION, LLC John E. Cline, Broker-Auctioneer · Onaga, KS 785-889-4775 R WEBSITE: www.mcclivestock.com/clinerealty

CLERKS: Margaret Ratliff, Deanna Wolken, Lacie Davis

Terms of Sale: Cash or Approved Check. Nothing Removed Until Settled For. Not Responsible for Accidents or Theft. Statements day of sale take precedence over printed material.

SUNDAY, NOVEMBER 22 - 9:30 AM Auction will be held in Kenwood Hall at the Saline Co. Expo 900 Greeley SALINA, KANSAS

1000 TOYS 200+ John Deere inc.: Precision, JD memorable, literature, A w/Farmhand, many 1950's & 60's tractors & implements, new in box; 4 wheel drives 7520, 4850, yellow top 8650, 8870, 8760; plastic Yoder, chain saw. implements in box: 1/16th combines: 15 M M: 60 Case inc.: Black Knight, 1370, 1200 on plaque, 4994, Stars & Stripes, Spirit of 76; 37 Case IH; Hesston, Steiger, Coop tractors; 43 Tru Scale; 47 MF combines; Topping 30 Fergu-

son; Ruehl Massey 44; King Massey combine; **Ruehl** pull type combine; 65 **Allis**; **AC** combines in boxes; 22 Oliver; 23 White; 11 Versatile; 72 Ford; 125+ various other tractors; Seed Boss planters; Great Plains drill in box; Cletrac Ronson cigarette lighter crawler; Versatile & Challanger advertising items; 43 rd scale AC, Case, Ford; 100 pieces of 1/64th; Water Lou Boy watch fob; Furrow magazines 30's, 40's, 50's & 60's.

The Salina toy show will be on Saturday, November 21 in the same building.

See last week's Grass & Grain for listings & Check our web site for pictures www.thummelauction.com

ADRIAN & BECKY HANNEMANN 785-667-4297 or 785-493-1674

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

ble Trust. Auctioneers: Wilson Auction Service, Jim Vathauer, agent.

- November 22 Tractors, track loader, vehicles, ATVs, gold cart, trailers, portable welders, farm & livestock equip. & misc. at Olpe for fall consignments. Auctioneers: J&D Auction Service, LLC.
- November 22 Antiques, furniture. household. mowers, tools & misc. at Topeka for Estate of Don & Mary Lee Irvin, Auctioneers: Kooser Auction Service.
- November 22 3BR, 2BA Home on 65 acres; 1972 Chevy pickup, Ferguson 35 tractor, JD lawn tractor, portable generator, machinery, equipment, blacksmith anvil, tools, furniture, household, antiques, handmade crafts South of Dover for Mrs. Murrell (Zelda) Wright. Auctioneers: Gannon Real Estate & Auctions.
- November 22 1,000 toys (JD, Case IH, Hesston, MF, Ruehl, King, White, Oliver, Versatile & more) at Salina for Adrian & Becky Hannemann. Auctioneers: Thummel Real Estate & Auction, LLC.
- November 23 320 acres +/-Trego County land held at Wakeeney for Pfeifer Family Heirs. Auctioneers: Farmland Auction & Realty Co., Inc.
- November 23 Tractors, truck, machinery, trailers,

tools & other held west of Scandia for Thompson, Inc. Auctioneers: Thummel Real Estate & Auction, LLC.

- November 23 Mitchell County Kansas farmland held at Tipton for Hoffman Farms, LLC. Auctioneers: Thummel Real Estate & Auction, LLC.
- November 23 Riley County farmland held at Randolph for the Heirs of Adeline Ericson & Twila Ericson. Auctioneers: Ravmond Bott Realty & Auction.
- November 25 Tractors, combines, trucks, trailers, farm equipment of all kinds, lawn & garden & more online at (www.big iron.com). Auctioneers: Stock Auction Co.
- November 27 150 acres m/l Marshall County cropland, pasture, timberland, wildlife habitat held at Frankfort for Heirs of the Loleta Morton Trust.
- November 28 Tractors, sprayer, combines, headers, seeding equip., trucks, tillage & hay equip., farm equip., grain handling equip., grain bins, trailers, cattle equip., zero turn mower & more at Westphalia for Larry Dieker, Inc. Auctioneers: Kurtz Auction & Realty Service. November 28 - Model A, vehicles, tractor, machinery & lawn, woodworking & carpenter tools, household & antiques North of

Belleville for Henry & Mildred Blecha Estates. Auctioneers: Novak Bros. & Gieber.

- November 28 271 acres m/l Pottawatomie County pastureland, CRP, meadow, wildlife habit, creek, farmstead, rock house held at Onaga for Regis L. & Evelyn F. Heiman Family Trust. Auctioneers: Cline Realty & Auction, LLC.
- November 28 Consignments held at Salina. Auctioneers: Wilson Realty & Auction Service.
- November 30 280 acres Marion County land in 2 tracts held at Marion for Janet Priddy. Darryl Ehrlich & Carol Stevens. Auctioneers: Leppke Realtv & Auction.
- November 30 480 acres +/-Ness County land held at Ness City for Ummel Brothers. Auctioneers: Farmland Auction & Realty Co., Inc.
- November 30 Tractors, telehandlers, loaders, trucks, trailers, machinery, combine heads, manure equipment, irrigation, shop & misc. at Beat-Nebraska rice, for Claassen Ranch, Dennis Claassen. Auctioneers: Marshall Land Brokers & Auctioneers.
- November 30 320 acres m/l cropland sold in 2 tracts held at Colony. Auctioneers: United Country Real Estate, Great Plains

Auction & Real Estate. December 1 — 446 acres m/l prime Ottawa County land held at Minneapolis for Jerry Meiller. Auction-

- eers: Hill Realty, Tom Hill & Homestead Realty & Auction. December 1 - 157 acres Saline County grassland, home held at Salina for children of Wes & Elma Sanderson. Auctioneers: Riordan Auction & Realty. December 2 — Tractors,
- combines, trucks, trailers, farm equipment of all kinds, lawn & garden & more online at (www.big iron.com). Auctioneers: Stock Auction Co.
- December 3 456 acres m/l in Clay & Dickinson counties in 4 tracts, CRP, pasture, homestead held at Junction City. Auctioneers: Horizon Farm & Ranch Realty, LLC. December 4 — Farm equip-
- ment, Polaris Ranger, farm & livestock items & more at Mayfield for Mark & Pam Kendrick. Auction-Theurer eers: Auction/Realty.
- December 5 Pottawatomie County home & personal property at Wamego for Beulah M. Carley Estate. Auctioneers: Crossroads Real Estate & Auction, LLC.
- December 5 -Combine. tractors, semi trucks, trailers, pickups, machinery, equipment, shop tools & misc., livestock equip-

Grass & Grain, November 17, 2015

- ment, hay & firewood, dog show, grooming & kennel equipment, horses near Sabetha for David & Kara Rumbaugh. Auctioneers: Ash Realty & Auctions, LLC.
- December 5 158 acres m/l of Southern Nemaha County native grass pastureland held at Corning for Dennis & Mary Katherine Stallbaumer. Auctioneers: Cline Realty & Auction, LLC.
- December 8 2,701 acres Hodgeman County land held at Jetmore for MAB, LLC (Oliphant Family) & Debra K. Abercrombie Irr. Trust. Auctioneers: Carr Auction & Real Estate, Inc.
- December 10 360 acres m/l of Clay & Ottawa County land with farmstead held at Longford for Betty M. Reed Rev. Living Trust. Auctioneers: Reynolds Real Estate & Auction Co. December 10 - productivefarm ground, hunting, homesites held at Wamego for Isla Shortt Solt. Auc-

Page 15 tioneers: Crossroads Real Estate & Auction, LLC.

- December 12 Cloud County real estate (144 acres tillable & creek w/home & acreage sold separately) South of Concordia for Jim White Estate. Auctioneers: Larry Lagasse Auction.
- December 12 315 acres m/l of Pottawatomie County native pastureland held at Wamego for James F. Riat Trust. Auctioneers: Cline Realty & Auction, LLC.
- December 12 258 acres m/l Pottawatomie County farmland, meadow & wildlife habitat offered in 2 tracts held at Wamego for Elaine K. Laughlin Trust. Auctioneers: Cline Realty & Auction, LLC.
- December 17 308 acres Dickinson County farmland held at Abilene for children of Gaylord & Ruth Buhrer. Auctioneers: Riordan Auction & Realty. March 12, 2016 - Annual

Machinery Consignment auction at Concordia for Concordia Optimist Club.

REAL ESTATE AUCTION 158 Acres m/I of Southern Nemaha County Native Grass Pastureland

SATURDAY, DECEMBER 5, 2015 — 1:30 PM Auction Location: Corning Community Center at the corner of 5th & Main Streets — CORNING, KANSAS

PROPERTY LOCATION: 8 miles south and west of Corning, KS on Hwy. 63 to "J" Rd., then 1/2 mile north to the SE corner of the property OR 4 miles north of Havensville, KS on Hwy. 63 to "J" Rd., then 1/2 mile north on the west side.

LEGAL DESCRIPTION: The Northeast Quarter of Section, 33, Township 5 South, Range 12 East, Nemaha County, KS

This property consists of 158 acres, m/l, of very clean native grass pasture with several ponds for water, very good fence and a loadng corral. This property is bordered by "J" Rd. on the east and 8th Rd, on the north.

AUCTIONEER'S NOTE: IF YOU ARE IN NEED OF A GOOD. **CLEAN PASTURE, COME TAKE A LOOK!**

For more info or viewing please call John E. Cline, 785-532-8381 or check website at mcclivestock.com/clinerealty

Terms & Possession: The Seller requires 10% down day of sale with the balance to be due January 7, 2016. Possession to be given upon closing. The Buyer and Seller will equally split the title insurance and closing costs. The Seller will pay the 2015 taxes in full. Sale subject to sellers' confirmation. Cline Realty & Auction. LLC represents the Sellers' interests. Statements nade sale day take precedence over printed material.

SELLERS: DENNIS & MARY KATHERINE STALLBAUMER

Auction Conducted By: CLINE REALTY & AUCTION, LLC John E. Cline, Broker-Auctioneer · Onaga, KS 785-889-4775 WEBSITE: www.mcclivestock.com/clinerealty



SUNDAY. NOVEMBER 22 — 9:30 AM 6635 NW Topeka Blvd. - TOPEKA, KS Directions: From Hwy 24 North on Topeka Blvd. WATCH FOR SIGNS!!

ANTIQUES, FURN. & HOUSEHOLD: Antique Rocker/Recliner, Quilt Rack, Gone With Wind Lamps, Kerosene Lamps, Butter Churns, Book Shelves, Satin Glass, Perfume Bottles, Table Lamps, Auto. Washer (LIKE NEW), Gas Dryer, Modern Bookcase, Umbrella Clothes Dryer/Rack, Swivel Rocker, Coffee & Lamp Tables, Refrigerator w/Cross Top Freezer, Queen Bed w/Matching Dress er, Oak Dresser, Queen Bed, Well Pump, Apt. Sz. Refrigerator, Dinner Bell, School Bell, Book Cabinet, Milk Cans, Wash Tubs, Advertisement Items, Computer Desk. MOWERS, TOOLS & MISC .: Grasshopper 126 Zero Radius Turn Mower (NEW APPROX. 17 HOURS), Grasshopper 616 Zero Radius Turn Mower, Weed Eater, New Mower Parts, Grasshopper 16HP Motor, Misc. Chains, Table Saw, Sawzall, Battery Chargers, Floor Jacks, Jack Stands, Hammer Drill, Chain Saw, Welding Table/Cabinet, Acetylene Bottles & Torches, Bench Grinder, Drill Press, Sander, Miter Saw, Snow Blower 179cc (LIKE NEW), Antique Drill Press, Lincoln 225 Welder, Wards Arc Welder, Chrysler 440 727 Torque Flight Engine, Barb Wire, Wagon Wheels, Plows, Heaters, Linens, Fishing Poles & Access., Dehumidifier, Puzzles, Games, Holiday Décor., Misc. Dishes, Sm. Appls., Pots, Pans, Bowl & Pitcher, Luggage, Pictures & Frames, Marbles, Old Utensils, Milk Bottles, Paper Weights, Shop Vac, Folding Tables, Handicap Access., Lantern Globes, Metal Shelving/Cabinets, Parts Cabinets, 5' X 8' Trailer, Harrow, Scrap Iron, Barrels. OTHER AR-TICLES TOO NUMEROUS TO MENTION!



R

Buy a lifetime license now and save

for yourself or giving one as a special Christmas gift to a lucky young hunter or angler, buy it before the end of the year and save. The price of a lifetime hunting or fishing license will go from \$440 to \$500 and a lifetime combination hunt/fish license will increase from \$880 to \$960 on January 1,2016

Kansas lifetime hunting and fishing licenses are available to Kansas residents who have lived in Kansas for at least a year before making application. Domiciliary intent is required to establish that the applicant is maintaining their place of permanent abode in Kansas. Mere ownership of property is not sufficient to establish domiciliary intent. Evidence of domiciliary intent includes, but is not limited to, the location where the person votes, pays personal income taxes or obtains a driver's license.

Depending on your age, a lifetime license is a bargain. At the current price of \$880 for a lifetime hunt/fish combination license, the initial investment will pay off in less than 20 years, and that's not accounting for future license fee increases. The holder of a lifetime hunting license is eligible to purchase resident big game and turkey permits even if they move out of the state. And the holder will never again have to worry about buying a new license after the first of the year.

The Kansas Wildlife, Parks and Tourism (KDWPT) Commission approved a proposal to raise fees for fishing and hunting licenses at their public meeting in Burlington on October 22, 2015. The new fees will be effective January 1, 2016. Basic hunting and fishing license fees hadn't in-

creased since 2002, and the price of resident deer and If you've been thinking about buying a lifetime license turkey permits haven't increased since 1984. Inflation has

increased the cost of doing business by almost 30 percent since 2002, and the uncommitted balance of the Wildlife Fee Fund was beginning to decline. Fee increases were deemed necessary to ensure pivotal programs important to hunters and anglers could be maintained and enhanced. License and permit revenues go into the Wildlife Fee Fund to pay for wildlife and fisheries programs, which receive no state general fund money





UNRESERVED ONLINE AUCTION · BigIron.com WEDNESDAY, NOVEMBER 25, 2015 First Lots Scheduled to Close at 10:00 AM Central Time NO BUYERS PREMIUM FEE & NO RESERVES!!

· Riedel Family Trust B, Joe Riedel, 785-673-9723, Park, KS 67751: 1988 John Deere 4850 Tractor; 1979 John Deere 4440 Tractor: 1967 John Deere 4020 Tractor. Kevin Barnett, 785-443-1722,

Big Iron Sales Rep

() est

· O'Malley Implement, Justin Fortman, 800-662-5539, Pittsburg, KS 66762: 2007 John Deere 635F Header; 2005 John Deere 635F Header; 2006 John Deere 630F Header; 2000 John Deere 893 Header.

Lance Anderson, 785-456-3858, Big Iron Sales Rep . Trey Mosier, 620-282-0004, Ellinwood, KS 67526: Pull Type Windrow Roller; Vermeer VR1428 Rake; Tonutti G R 350 Rake.

Dennis Unruh, 620-386-0503, Big Iron Sales Rep · Abraham Peters, 620-640-0320, Sublette, KS 67877: Caterpilla T50DSA Forklift; Little Terry Sales 3 Pt Blade; (30) Round Bottom Feed Bunks

Todd Hubbard, 620-271-3656, Big Iron Sales Rep Dible Farm LLC., Nancy Bartell, 785-565-8683 or Kevin Barnett, 785-443-1722, Oakley, KS 67748: 1952 Farmall Super C Tractor. 1935 John Deere B Tractor; Hutchinson 6233SC Auger.

Kevin Barnett, 785-443-1722, Big Iron Sales Rep

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Time to sell your equipment! Call Today! 1-800-937-3558

SATURDAY, DECEMBER 12 — 2:00 PM Auction Location: In the North Room of the

Wamego Senior Center at the corner of 5th & Ash St — WAMEGO, KS

TRACT 1: Located from Louisville, KS on Hwy. 99, 1 mile North on Hwy 99 to the Louisville Bd, then 3/8 mile West on the South side LEGAL DESCRIPTION: The East Half of the Southwest Quarter and the East 25 acres of the West Half of the Southwest Quarter of Sec tion 17, Township 9, Range 10, Pottawatomie County, KS.

This property consists of 101 acres m/l of which 98.53 acres are till able farmland with a 2.16-acre waterway area according to FSA records. There are some terraces in the higher area of the field with most of the land being bottomland. Come take a look at this highly productive farm! This land is bordered by the Louisville Bd. on the North and Levi Rd. on the East.

TRACT 2: Located from Louisville, KS on Hwy. 99, 1 mile North on Hwy. 99 to the Wheaton Rd., then 2.6 miles North on the Wheaton Rd. to Marten Rd., then 2 3/4 miles East on the North side

LEGAL DESCRIPTION: The Southeast Quarter of Section 35 Township 8, Range 10, Pottawatomie County, KS.

Tract 2 consists of 157 acres m/l of which 67.82 acres are tillable up land acres, 6.2 acres are CRP acres, approximately 55 acres of Na tive meadow with the balance in trees making for excellent wildlife habitat. This property is bordered by Marten Rd. on the South, Laclede Rd. on the East and Indian Creek Rd. on the North. The CRP acres expire Sept. 30, 2016 and the payment is \$54.27 per acre or \$336. Tract 2 has good turkey and deer hunting potential along with building site potential.

For more info or viewing please call John E. Cline, 785-532-8381 or check website at mcclivestock.com/clinerealty

Terms & Possession: The Seller requires 10% down day of sale with the balance to be due January 12, 2016. Possession to be upon closing. The Buyer agrees to abide by all CRP rules and regulations. Buyer and Seller to equally split the title insurance and closing cost. 2015 taxes to be paid in full by the Seller. 2016 taxes to be paid by the Buyer. Statements made sale day take precedence over printed material. Sale subject to sellers confirmation. Cline Realty & Auction, LLC represents the sellers interest.

SELLER: ELAINE K. LAUGHLIN TRUST

Auction Conducted By: CLINE REALTY & AUCTION, LLC John E. Cline, Broker-Auctioneer • Onaga, KS 785-889-4775, 785-532-8381 WEBSITE: www.mcclivestock.com/clinerealty



ESTATE OF DON & MARY LEE IRVIN TERMS: Cash, GOOD Check OR Major Credit Card (\$50 minimum purchase, 5% Convenience Fee). Anything Stated Sale Day Takes Precedence Over Any Printed Material. Everything to sell "AS IS." Concessions Offered!!!

KOOSER AUCTION SERVICE · Topeka, KS 785-235-1176 • 785-478-4176 "Our Service Doesn't Cost, It Pays" www.kooserauction.com



Grass & Grain, November 17, 2015 Page 16 soy genetics reveal health benefits, resilience

ward is to look back. This may be the case with soybeans, whose wild relatives have higher levels of beneficial fatty acids. Most health experts pro-

Sometimes, the way for- mote foods with essential fatty acids--substances that cannot be produced in the body. One of these, plantsourced omega-3 alphalinolenic acid (ALA), is in chia and flax seeds, as well



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as soybeans.

"Essential fatty acids can have multiple positive health benefits, including reduction of cardiovascular disease and improved cognitive function," says Jeong-

Dong Lee. Lee is a professor in the School of Applied Biosciences, Kyungpook National University in the Republic of Korea.

In many Asian countries, the diet includes relatively high amounts of soybeans and soy products like tofu, soy sprouts, and soybean paste. Soybean oil is a key source of ALA. However, ALA oxidizes rapidly, leaving an undesirable flavor. Breeding methods have tried to reduce ALA content—until recently.

"Increasing the ALA or omega-3 fatty acid concentration in soybean seed oil has become a major goal in food-grade soybean breeding," Lee says.

Lee thinks soy's wild relatives may lead the way. Wild soybeans mostly grow in a broad area including China, Japan, and Korea. They have adapted to a variety of conditions. The result, crop scientists found, is wild soybeans have higher genetic diversity than their cultivated cousins do. By recycling this diversity, wild soybeans genetics can improve the properties of cultivated soybeans.

"Wild soybeans generally have higher ALA concentration than cultivated sovbean," Lee says. In general, cultivated sovbeans contain 8-10% ALA. Wild soy can contain more than twice that amount.

Lee's study identified wild soybean varieties with the highest ALA percentages. In addition to higher ALA levels, Lee also tested for stability in different growth conditions. Scientists provided the lab plants different soil types and fertility levels, and varying amounts of moisture, salt concentrations, and temperatures.

The researchers extracted seeds from each sample and analyzed the fatty acid content by standard laboratory tests. The results idensoybeans with high ALA concentrations that were stable across all environmental conditions tested.

Lee's group is currently studying specific areas of wild soy genome-the complete collection of genes—to pinpoint those areas responsible for high ALA production. This will assist in identifying a particular property of the crop, such as high ALA or tolerance to heat, salt, insects, disease and other environmental challenges.

Lee's work may have a deadline. "Human activities

tified several types of wild are infringing on and destroying the natural habitats of wild soybeans," Lee says. His research will help preserve the genetic diversity and useful features of wild soybeans, aiding the improvement of future cultivated varieties.

Lee's research is published in Crop Science. The Next-Generation BioGreen 21 Program for Agriculture and Technology Development (Plant Molecular Breeding Center, Project No. PJ01109201), Rural Development Administration, Republic of Korea, provided funding.



The Farmer and The Salesman

fender," said the farmer to the rep.

"TAKE A LOOK AT THIS NEW SEED CORN,"

"Git your foot offa my step!"

"AND I'VE GOT A LINE OF CLEANERS TO RE-DUCE YOUR BAC-T COUNT,

"And reduce my line of credit by the very same amount!'

"NOT TO MENTION SCOURS VACCINE TO PREVENT THE DREADED CRUD,

AND THIS IRON EN-RICHED INJECTION TO REJUVENATE TIRED BLOOD."

"I don't need yer blamed concoctions! All my calves are at their peak!"

"YEAH, I NOTICED THAT YER DEADMAN'S PILE IS SMALLER THAN LAST WEEK,

AND YER PIGS ARE DOIN' BETTER SINCE

"Don't be leanin' on my YOU BOUGHT MY SUP-PLEMENT."

"It's that parsley I been addin', not yer feed that makes 'em grunt!"

"HOW'S THAT HERBI-CIDE I SOLD YA? KILLED THE WEEDS IN YOUR FIELD."

"Huh! It rained just right this summer, that's what doubled up my yield!"

"DO YA NEED SOME MORE INFLATIONS, BAL-ER TWINE OR RUBBER BOOTS?'

"Read my lips! No milk replacer, no organic substitutes!

Everything you try to sell me just adds to my expens-

It's hard enough to keep 'er runnin' smooth between the fences!

Can't you see yer takin' up my time? I've got to go and feed.

So say goodbye and leave me... what you think I'm gonna need."



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