



Agriculture

CENTRAL KANSAS EXTENSION DISTRICT NEWS

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July 2017

Upcoming Events

July

- 21** CKD On Farm Research/
Row Crop Tour, 8:30
a.m., Gypsum
- 18-
22** Ottawa County Fair

August

- 8-** Kansas Grazing Lands
- 10** Adult Range Schools
Shortgrass/Mid-grass
School, Camp Lakeside
Scott City, KS
- 9-
12** Tri-Rivers Fair
- 15** K-State NC KS Irrigation
- 17-
18** K-State Risk and Profit
Conference, Manhattan
Kansas Grazing Lands
- 22-** Adult Range Schools
- 24** Tallgrass School, Camp
Wood Elmdale, KS
- 24** CKD Preplant Wheat
Meeting, Salina
- Applied Reproductive
- 29-** Strategies in Beef Cattle
- 30** Workshop

Saline County On-farm research/row crop tour, July 21

K-State Research and Extension and the Central Kansas Extension District will host tours of two farms that are using on-farm research to optimize seeding rates for dryland corn and soybeans in Saline County on Friday, July 21. Discussion will focus on the use of satellite imagery, site-specific precision farming and other precision ag tools to help farmers fine tune their seeding rates.

The first stop will begin at 8:30 a.m. at the Matt Everhart farm located at 9512 E. Hedberg Rd., Gypsum, KS or 2 miles east of Gypsum, KS on K-4 Hwy then 1 mile south on Donmyer Rd. An on-farm research plot comparing soybean seeding rates of 60K, 100K, and 140K seeds per acre in 15" rows will be evaluated. In addition, current soybean growth and development conditions will be discussed.

The second stop will begin at 10:00 a.m. at Knopf Farms hay shed located just north of Gypsum on K-4 Hwy. An on-farm research plot that has used satellite imagery to optimize dryland corn seeding rates will be discussed as will site-specific precision farming tools for soybean and corn seeding rates. A presentation showing producers what K-State is doing regarding soil moisture monitoring, how to use soil moisture to delineate field management zones, and a discussion of future applications for soil moisture information.

Speakers include K-State Extension specialist Dr. Ignacio Ciampitti; Dr. Andres Patrignani, professor soil water processes; Tom Maxwell, Extension agent; and cooperating farmers. The tour will conclude by 11:30 a.m.

For more information about the tour, contact Tom Maxwell at the CKD-Salina office at 785-309-5850.

All interested persons are invited to attend, no RSVP is needed.

Wheat Harvest 2017

The 2017 wheat harvest is wrapped up and overall, yields were better than average, test weights were good, but protein was generally low. Thanks to all who shared reports of their harvest yields, performance of different varieties, crop rotations, tillage, fertility, etc. Those reports and your information are valuable as we prepare to plant the 2018 wheat crop and start making the decisions that affect profitability. I heard of yields ranging from mostly 40 to 70 bushels/acre. I did observe a few fields that were hurt by the April 27th freeze where we got down to 29 degrees for almost 5 hours. Some yields on freeze affected fields were as low as in the 20's bu/acre. A few reports of some really good yields on river bottoms came in as high as 80-90 bu/acre. Unfortunately, there were fields damaged by infection from wheat streak mosaic virus and some growers reported as much as 50% yield loss or more in areas of the field that were heavily infected. Cheat and downy brome infested some fields and cut yields, consider rotation to clean up these problem weeds. Wheat in low lying areas suffered from water logging and yields suffered where the wheat drowned out. Many producers covered their wheat with a foliar fungicide as stripe rust and leaf rust were starting to build on susceptible varieties. I think this paid off especially on rust susceptible varieties.

Check the yield results from the "K-State Intensive Management" research plots at Ellsworth and McPherson counties to see how varieties responded to additional fertility and fungicide applications. I have the results from our 3 wheat variety plots printed in this newsletter. Take a look to see how some of the new varieties performed, remember that these plots are non-replicated strip plots. Be sure to go to the K-State performance test web site and take a look at the results from replicated research plots at Ellsworth, Republic, McPherson and Mitchell counties at: <http://www.agronomy.k-state.edu/services/crop-performance-tests/> The K-State wheat performance test at Gypsum was abandoned due to freeze damage to the plot.

Wheat prices have started to rebound some since harvest was completed, giving a little encouragement to growers that there is potential for a profit. Questions on grazing wheat are more common as livestock producers consider ways to improve the profitability of wheat. Considerations for "dual purpose" wheat are included in this newsletter and outlines the management practices that livestock producers should consider to be successful. Control your volunteer wheat this summer to break the "green bridge" from this year's crop to the 2018 crop. The rule of thumb is that volunteer wheat should be dead two weeks before wheat is seeded. This is the best way to control wheat streak mosaic, barley yellow dwarf and Hessian fly problems. Be a good neighbor, control your volunteer.

Tom Maxwell, Crop production agent

Pre-plant Wheat Meeting at Salina

Thursday, August 24, 2017

American Ag Credit basement meeting room
925 W. Magnolia
Salina, KS



Program: 9:30 a.m. – noon, with a sponsored lunch following. A Hog Wild Pit BBQ pulled pork sandwich meal will be served courtesy of our sponsors.

K-State Extension wheat specialist Romulo Lollato will cover the results of the K-State Performance Tests, variety selection and recommendations for the 2018 crop and intensive wheat management practices for Central Kansas.

There is no cost to attend, but **please register for the sponsored lunch by no later than Monday, August 21** by calling either CKD Extension office, Minneapolis 785-392-2147 or Salina 785-309-5850 or e-mail Tom Maxwell @tmaxwell@ksu.edu.

Managing wheat for forage and grain: The dual purpose system

Dual purpose wheat management spreads production risks by providing producers a second source of income in addition to the harvested grain. If wheat grazing is managed properly, its grain yield penalty can be minimized.

If cattle are not removed prior to first hollow stem, greater grain yield reductions can occur. In years when early spring conditions are not favorable—such as when there is a spring freeze after some varieties have begun jointing or when the spring turns out dry—wheat that has been grazed may even outyield ungrazed wheat. That's because moderate to heavy grazing will typically delay maturity a bit in the spring and reduce some of the lush fall growth of early-planted wheat.

Seeding date. Early-planting is essential to ensure good fall forage production as long as soil moisture and temperature allows. Wheat grown under dual-purpose management is usually sown in September, at least two to three weeks earlier than wheat sown for grain-only. Research performed in north-central Oklahoma indicates that wheat fall forage production decreases approximately 1000 pounds per acre for each two-week delay in planting in September.

Seeding rate. Dual purpose wheat management requires seeding rates 1.5 to 2.0 times greater than that for grain-only management. Research has shown that the increase in fall forage yield associated with increasing seeding rate from 90 to 120 lbs/acre pays for the increased seed cost in regions with approximately 30 inches annual precipitation or more, especially when planting is done early-to mid- September.

Seeding depth. Earlier planting date results in wheat planted into hotter soils. Increased soil temperature decreases the coleoptile length of germinating wheat, which can affect emergence of deep-planted seeds. Therefore, if moisture is not available in the top inch or inch-and-a-half of the soil profile, it is preferable to seed shallower and hope for rain than to try to reach moisture in the profile.

Variety selection. Wheat varieties grown under dual-purpose management should germinate well under high soil temperatures (> 85 deg. F) should have excellent forage production and grazing potential in the fall, and recover well from grazing. Genetic resistance to barley yellow dwarf, wheat streak mosaic, and Hessian fly are also valuable traits as early planted wheat is at greater risk of damage by these diseases and pests.

Nitrogen fertility. A bushel of wheat with 12.5% protein requires approximately 2 to 2.4 lbs N/acre during the growing season to be produced, regardless if management is for grain-only or dual-purpose. Additionally, approximately 30 pounds of nitrogen per acre are needed to produce 1000 pounds of wheat forage in the fall/winter in dual-purpose systems. Thus, nitrogen requirements of dual-purpose wheat are generally 60 to 90 lbs N/acre greater than that of grain-only wheat. Nitrogen removed by grazing should be accounted for by additional pre-plant nitrogen fertilizer or by a topdress application during spring to ensure proper grain formation.

Starter P fertilizer. Wheat forage yield responds remarkably well to phosphorus (P) application because of improved tillering and the typical jump-start resulting from banded P. Phosphorus deficiency reduces tillering and makes plants more susceptible to winterkill. Banded P applications at 50 to 60 pounds per acre diammonium phosphate (DAP) or the equivalent in P from other fertilizer sources at planting is more efficient than broadcasting, especially on acid soils low in available P.

Soil pH. Acidic soils are an especially important issue when growing wheat for forage and grain. Wheat forage production is more impacted by low soil pH than what grain yield, and extremely acidic soils can decrease forage production even in low pH tolerant varieties. A minimum soil pH of approximately 6 is needed to maximize wheat fall forage production for most wheat varieties. In-furrow phosphorus fertilizer can be used as a strategy to amend the effects of low soil pH and increase wheat forage production in acidic soils.

2017 CKD-SALINE & OTTAWA COUNTY WHEAT VARIETY PLOTS

Brand	Variety	Vaughn Isaacson & Sons Mentor, KS		Tom, Pat & Luke Ryan Solomon, KS		Tim & Ryan Myers Minneapolis, KS	
		Bu/Acre	% of Avg.	Bu/Acre	% of Avg.	Bu/Acre	% of Avg.
		Planted: Oct. 3, 2016		Planted: Sept. 29, 2016		Planted: Sept. 30, 2016	
AGSECO	AG Gallant	74	90%	91	106%	91	106%
AGSECO	AG Robust	77	94%	76	88%		
AGSECO	Hot Rod	71	87%	99	115%	89	103%
Limagrain	LCS Chrome	82	100%	69	80%		
Limagrain	LCS Mint	89	109%	78	91%		
Limagrain	LCS Pistol	80	98%	86	100%		
Limagrain	LCS Wizard	85	104%	81	94%		
Limagrain	T-158	86	105%	91	106%		
OGI	Bentley	90	110%	85	99%		
OGI	Doublestop CI+	75	91%	75	87%	83	97%
OGI	Gallagher	93	113%	91	106%	87	101%
Syngenta	SY Flint	87	106%	87	101%	86	100%
Syngenta	SY Monument	94	115%	80	93%	89	103%
Syngenta	SY Wolf	86	105%	86	100%		
WestBred	WB-4303	73	89%	99	115%		
WestBred	WB-4458	82	100%	86	100%	82	95%
WestBred	WB-4515	80	98%	77	90%		
WestBred	WB Cedar	66	80%	92	107%		
WestBred	WB Grainfield	90	110%	92	107%	95	110%
WestBred	Winterhawk	78	95%	82	95%	96	112%
Wildcat Genetics	1863	78	95%	90	105%	83	97%
Wildcat Genetics	Everest	71	87%	88	102%	80	93%
Wildcat Genetics	KanMark	77	94%	85	99%	96	112%
Wildcat Genetics	Larry	98	120%	85	99%		
Wildcat Genetics	Zenda	85	104%	92	107%	93	108%
Blend	WB4458/SYWolf/SY Monument	93	113%	85	99%		
	WB4458 CK#2					84	98%
	WB4458 (grazed)					83	97%
Plot Average		82	-----	86	-----	86	-----
	Previous Crop and Tillage System:	Conventional till wheat after wheat		Conventional till wheat after wheat		Conventional till wheat after sorghum silage '15, oats '16	
	Fertilizer:	40-20-0 pre-plant 40 lbs. N topdress		60-20-0 pre-plant 30 lbs. N topdress		40-20-0 pre-plant 50 lbs. N. topdress	
	Seeding Rate	88 lbs./acre		65 lbs./acre		75 lbs/acre	
	Foliar Fungicide	No fungicide		4 oz./acre Tebuconazole		4 oz./acre Tebuconazole	

All yields adjusted to 12.5% moisture.

The results presented here are from unreplicated demonstration plots.

For replicated research plot results farmers will want to study the 2017 K-State Wheat Performance Test Results available on the web at <http://www.agronomy.k-state.edu/services/crop-performance-tests/>.

Special Thanks to: Vaughn Isaacson and Sons; Tom, Pat and Luke Ryan; and Tim and Ryan Myers for planting and harvesting the plots.



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Nitrates – what we know and where we need to go

By Sandy Johnson

Nitrate toxicity is a well-known metabolic issue in cattle associated with the amount of nitrate in the feed and water; however, it is a complex issue, especially in regards to grazing green forages. Once consumed by cattle, nitrates enter the rumen where microbes convert nitrate to nitrite in a rapid manner. Other microbes convert nitrite to ammonia, but at a much slower rate than those converting nitrate to nitrite. This rapid accumulation of nitrite in the rumen is then absorbed into the bloodstream, where nitrite binds with hemoglobin to form methemoglobin, thus reducing the oxygen-carrying capacity of the animal. As methemoglobin increases, symptoms of nitrate toxicity become worse. At low levels of methemoglobin dry matter intake and performance can be stunted. At moderate levels of methemoglobin, pregnant animals will abort. At high levels of methemoglobin incoordination and death can occur.

Nitrate values in feeds have been found to correspond to levels of methemoglobin in blood. For many years, a diagnostic test for nitrates has been recommended to determine if feed is “safe” or “toxic”. Luckily, toxic nitrate hays can be diluted to safe values with the addition of low or non-nitrate containing forages and/or grains. Depending on the testing laboratory and the method of reporting, the labs will provide a guideline for feeding of the nitrate forage. These values and recommendations are very accurate for dry, harvested forages; however, there is some question as to whether recommendations are equally appropriate for grazed, green, growing, high nitrate feeds.

As previously discussed, nitrate toxicity is a complex metabolic issue. Studies have shown several mitigation practices that can be successfully implemented in order to feed higher nitrate feeds. Some examples include providing a starchy feed such as corn, higher sulfur diets, and adaptation to high nitrate diets. In

European studies, a higher level of nitrate in high moisture feeds such as fresh grass and turnips are required before similar methemoglobin levels are detected as compared to feeding hay. More research is needed to understand the complexity of nitrate toxicity and the safe use of feedstuffs containing high concentrations of nitrates.

Do you graze or hay annual forages? We need your help!

We want to hear about your experiences feeding or grazing high nitrate feedstuffs. Many annual forages /cover crops are known to accumulate nitrate in dry or cool conditions (such as during late fall or early spring). Our goal is to understand how often producers run into nitrate issues when using these forages so that we can help cattle producers through applicable research and extension programming. Fresh and dry forages act differently in the rumen, and the incidence of nitrate toxicity may reflect these differences in grazed versus hayed forages. The short survey (estimated time to answer these questions is 5 minutes) will be used to direct future research and extension programming.

Please complete the short survey by following the link below.

Annual Forage Nitrate Survey https://ssp.qualtrics.com/jfe/form/SV_2mek8zeFxbJUoSh

This survey is a collaboration of the University of Nebraska and Kansas State Extension. Your answers will remain anonymous and confidential. We know your time is valuable and appreciate your help.

[Jaymelynn Farney](#), Beef Systems Specialist, Kansas State University

Mary Drewnoski, Beef Systems Specialist, University of Nebraska-Lincoln

Mary Beth Lentz, Graduate Student, University of Nebraska-Lincoln

Remove Bales Soon After Harvest

Many fields have been cut and baled for hay lately. Looking around, though, I see many of those bales still in the middle of fields.



Bales and stacks of hay left in the middle of fields have to be removed sometime. After the final cutting for the year, it may not matter too much if they set there for a while. But when more harvests are expected from that field, delaying removal can be harmful.

One problem is directly under the bale or stack. Plants underneath often are killed if covered for more than a week or two. This may not hurt yield too much, but makes for a great place for weeds to get started. And you know how they can spread.

Most of the damage, though, is due to wheel traffic on the regrowth. Studies have shown that when fields are dry, plants driven on right after harvest and before regrowth occurs will yield about 5 to 7 percent less at next cutting. It gets much worse if you wait to remove bales. Just seven days after cutting, when regrowth shoots had started to grow, yield was reduced over 25 percent and fewer of these plants survived.

Worse yet is removing bales when fields are wet. Then wheel traffic causes much more compaction. When this happens, yield loss typically exceeds 30 percent.

These studies emphasized the benefits of baling and removing bales from hay fields as quickly as possible after cutting as well as by limiting the total area damaged.

Hay fields must be driven on, of course, to remove bales after harvest. But you can lessen damage by controlling where, when and how often you drive.

Bruce Anderson
Extension Forage Specialist
University of Nebraska-Lincoln
402-472-6237

Save the Date: K-State to Host 2017 Applied Reproductive Strategies Workshop

MANHATTAN, Kan. – Make plans now to attend the 2017 Applied Reproductive Strategies in Beef Cattle (ARSBC) Workshop Aug. 29-30. Hosted by the Kansas State University Animal Sciences and Industry Department and K-State Research and Extension, the event will be headquartered at the Hilton Garden Inn and Conference Center in Manhattan, Kansas.

Considered the premiere national event in beef cattle reproductive management, the meeting has a long history of providing the latest information on the application of reproductive technologies and includes a range of topics related to cow herd reproduction such as nutritional interactions, management and male fertility.

The meeting is open to anyone with an interest in beef cattle reproduction including producers, technicians, veterinarians and professionals in related industries.

Program details have not been released, but look for future announcements at KSUBeef.org. Extensive online coverage of past meetings can be found at www.appliedreprostrategies.com.

The meeting is organized by the Beef Reproduction Task Force, a multi-state Extension group made up of specialists from Kansas State University, University of Missouri, Iowa State University, University of Nebraska, South Dakota State University, University of Florida, University of California-Davis, University of Idaho and Oregon State University.

The Beef Reproduction Task Force hosted the first ARSBC Symposium in 2002 at Manhattan, Kan. Since that time, symposia have been conducted at 16 locations across the U.S.

"We are looking forward to bringing this meeting back to Kansas," says Sandy Johnson, K-State Department of Animal Sciences and Industry associate professor and extension beef specialist.

2017 Nebraska Grazing Conference



Thank you for your interest in the 2017 Nebraska Grazing Conference. We're currently in the process of updating the 2017 schedule and will post information as it becomes available. Continue to check back for additional information related to conference registration options, sponsor and exhibitor opportunities, and program details. Thank you.

August 8-9, 2017 in Kearney, NE

The cost to attend both days of the conference is \$80 (regular) and \$50 (student) if registration is completed before August 1, and \$100 (regular) and \$60 (student) if registration is completed after August 1. Full conference registration includes lunch each day, one admission to the banquet, break refreshments, and a copy of the conference proceedings manual. However, options are available for those who are unable to attend the full event. Information about cost breakdowns will be in the Nebraska Grazing Conference schedule, which is currently being updated and will be available online soon.

- Fences and Water Points: Where They Should Go ... Jim Gerrish, Grazing Consultant/Owner, American GrazingLands Services, LLC
- Beef Systems Initiative ... Archie Clutter, Dean/Director, Agricultural Research Division, University of Nebraska-Lincoln
- Grass-based Health and the Ruminant Revolution ... Peter Ballerstedt, Forage Product Manager, Barenbrug USA
- The Good, Bad, and Ugly of Weedy Plants ... Chris Helzer, Director, Science for the Nebraska Program, The Nature Conservancy
- 2016 Leopold Conservation Award Winner ... Nancy Peterson, Plum Thicket Farms
- Managing Grassland Vegetation to Benefit

Livestock and Wildlife ... Patricia Johnson, Professor, South Dakota State University, West River Ag Center

- What is Plant Cover, and How Can We Manage It for Wildlife Needs? ... Dwayne Elmore, Associate Professor and Bollenbach Endowed Chair in Wildlife Management, Oklahoma State University
- Fencing and Water Development Workshop ... Jim Gerrish, Grazing Consultant/Owner, American GrazingLands Services, LLC
- Producer Panel: Annual Forages vs. Row Crops Under Irrigation ... John Maddux, Producer
- Producer Panel: Economics of Grazing Strategies ... Jim Jenkins, Producer
- It Costs How Much!? ... Aaron Berger, Extension Educator, University of Nebraska Extension, Panhandle Research and Extension Center
- Managing Risks in a Risky World ... Jay Parsons, Associate Professor, Agricultural Economics, University of Nebraska-Lincoln
- Selecting Cool-season Grasses for Irrigated or Dryland Conditions ... Peter Ballerstedt, Forage Product Manager, Barenbrug USA
- Working Lands for Wildlife ... Bill Vodehnal, Wildlife Biologist II, Nebraska Game and Parks Commission
- NRCS Cost Share Programs ... Craig Derickson, Nebraska State Conservationist, and Brad Sonksen, Nebraska Assistant State Conservationist, Natural Resources Conservation Service

To see a complete conference schedule, click on [Nebraska Grazing Conference Schedule](#).

Note, the sponsor list shown on the schedule may change as additional sponsors and exhibitors are added. Please check back for updates.

Central Kansas Extension District

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Address Service Requested

The enclosed material is for your information. If we can be of further assistance, feel free to call or drop by the Extension Office.

Sincerely,



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