

Agriculture

CENTRAL KANSAS EXTENSION DISTRICT NEWS

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November 2020

Upcoming Events

November

18-19 KSU Swine Day

December

Weed Control and Pasture Management Mtg. the second week of Dec. Date and location TBD.

The 2020 KSU Swine Day will be held virtually! From 10 am to noon on Nov. 18 and 19, a series of 15-20-minute presentations will discuss swine nutrition, feed safety, and feed processing topics.



Wednesday November 18 (10 am – 12 noon CST) “Focus on applied swine nutrition”

Introductory comments for the 2020 K-State Swine Industry Day –

Joel DeRouchey

- Feeding sows immediately before farrowing – What have we learned? – *Jason Woodworth*
- Minimizing disruption in nutrient intake after weaning – *Mike Tokach*
- Preparing for a world without ZnO – *Jordan Gebhardt*
- Additional current K-State swine nutrition and management research – *Bob Goodband*
- Understanding of and influencing factors of pig body weight variation – *Joel DeRouchey*

Thursday November 19 (10 am – 12 noon CST) “Focus of Feed Safety and Feed Processing”

- Feedmill Biosecurity: What have we learned since 2013? - *Jason Woodworth and Chad Paulk*
- New research and information developed at K-State - *Cassie Jones*
- Latest findings from the K-State-Vietnam partnership – *Jordan Gebhardt*
- The future of Feed Safety research - *Everyone*
- Adjusting hammermill settings to achieve a target corn particle size - *Charles Stark*
- Key diet composition characteristics that influence pellet quality - *Chad Paulk*
- Can pelleting different diet types influence amino acid digestibility? - *Chad Paulk*

Registration is free and is located online at <http://bit.ly/2020SwineDay> or on the Central Kansas District website at <https://www.centralkansas.ksu.edu/>.

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Grazing Crop Residue

Temperatures are dropping and fall is among us. For us, it's the time for hot chocolate and pumpkin spice lattes. For cattle, it's time for corn and milo stalks. Now is the perfect time for producers to take advantage of ways to lower feed costs and extend grazing periods by utilizing crop residues.

Lease Types

There are a few different methods for leasing crop residue. All of which depend on preference of the cattle producer and landowner, type of crop residue being grazed, and level of involvement of each party. For landowners who prefer minimal participation, the flat rate (per acre or per head) method is ideal and often used in grazing residue. However, if the landowner prefers to be more involved, there are other options. Renting crop residue "on the gain" is another method that offers economic incentive to both the cattle producer and residue owner. Typically, with this agreement, the cattle are weighed right before being put on the pasture or residue and then again at the end of the grazing period. The initial negotiated rate is multiplied by the total pounds gained to determine final payment. With animal performance a common goal, the landowner is also encouraged to contribute to the management and care of the cattle to ensure the greatest possible gain.

Stocking Rates

Proper stocking rates are a vital part of grazing crop residue. Not only do they affect the amount of grain, husk, and leaf that is available to each animal, but can directly affect animal performance and resulting gain.

There are a few ways to determine the proper stocking rate on crop residue. One of them is

the well-known "rule of thumb", which is one acre per cow per month. However, we all know nothing is ever perfect (especially in 2020). So, a more accurate way to arrive at a proper stocking rate is to use grain yield and divide it by 3.5. This results in an estimation of how many grazing days are needed per acre for a 1,200 - pound cow. This final number should be adjusted for producers depending on the number of head, nutrition available throughout the grazing period, weather conditions, and supplemental feed provided.

If you like a little more math, another way to determine proper stocking rates is to use AUM as a tool. AUM (animal unit month) is the amount of forage needed to maintain a 1,000-pound cow for one month. If that 1,000 - pound cow is expected to consume approximately 680 pounds of dry matter monthly, then a 1,200 - pound cow (1.2AU) will consume about 816 pounds per month.

From here, you can use crop grain yield to calculate. Say a crop residue pasture produces 2400 pounds of leaf and husk per acre on a dry matter basis. If only 50% of that was consumed, the residue would provide a 1200-pound cow approximately 44 days of grazing.

This was determined by the following:

$$2400 \text{ lbs} * 50\% = 1200 \text{ lbs}$$

$$\frac{1200 \text{ lbs}}{816 \text{ lbs}} = 1.47 \text{ AUM}$$

$$1.47 \text{ AUM} * 30 \text{ days} = 44 \text{ days}$$

Again, this final calculation will need to be adjusted for different operations and situations.

Nutrition & Selective Grazing

Both corn and milo stubble offer nutritional value to cattle. Nutrient content varies between type of crop and time of year. The tables below show a small breakdown of nutrients values for corn and milo leaves and stems. Milo leaf is generally higher in crude protein and total digestible nutrients than corn leaf. Nevertheless, the leaves of both crops offer more nutrients, are generally more palatable, and are higher in digestibility than the stems.

Leaves				
Crop	CP	ADF	NDF	TDN
Corn	4.6-6.0	46.7-48-	75.6-81	51-
Corn (Dec)	4.6-5.7	48.4-53.5	75.2-77.3	47-51
Milo	8.3-11.7	40.3-46.1	58.5-65.7	53-57

Stem				
Crop	CP	ADF	NDF	TDN
Corn (Nov)	3.3-4.4	55.9-60.6	79.0-79.7	41-45
Corn	3.9-4.6	55.3-59.1	78.7-	42-
Milo	5.3-4.9	46.3-	66.2-	49-

Cattle will usually choose to eat the best, highest quality feed first when grazing crop residue. They begin with grain, then move to the leaves and husk. This means that, depending on the staking rate, available grain, and type of cattle you are grazing, no energy or protein supplementation may be needed early in the grazing period. Unfortunately, as we get further into the grazing period, the availability and quality of feed will decrease. Here is where proper supplementation, grazing strategies, and management practices

should be taken to ensure the cattle are obtaining all required nutrients.

Bottom line is, crop residue grazing can be a valuable tool used by cattle producers to reduce feed costs and extending their grazing periods, while also providing residue owners with an efficient, profitable way to manage crop aftermath.

Justine Henderson, Livestock Production Agent

The Cost of Too Dry Soybeans

Producers lose a significant amount of money with water weight loss at harvest time as soybeans rapidly dry down. Using the soybean plot as an example, it has a harvest moistures range of 8.4 percent to 12.9 percent. I figured the moisture adjusted average to compare soybeans of various moisture content and then compare it to the actual yields. The results indicate the plot averaged 1.8 bushels per acre less than the potential had we been able to harvest at the ideal moisture content of 13%. Figuring the perfect moisture content to be 13% because that is the most water we can take to town without being docked.

Logistical constraints make it impossible to harvest all the soybeans at the ideal moisture content. Many times, the plant is not adequately mature as the grain is ready. However, this example shows the value of harvesting as efficiently as possible because rapid dry-down costs significant money.



Soil Testing Season is Nearing

As harvest is drawing to a close, it is a great time to start making plans for the crop ahead with a soil test. Rain is likely needed to make soils soften up enough to get a probe in the ground. If you are interested in mobile nutrients Nitrogen, Sulfur, and Chloride, you will want a 24-inch profile test to go with the 6" surface sample.

I am on the lookout for Soybeans Cyst Nematode again this year. If you know of small areas that yielded low or saw sudden death syndrome in soybeans (not related to drought), please call the office. Last season I was able to find a couple of small pockets of nematode activity, mostly related to fields with long soybean history and flooding.

Factors That Created Variable Yield Conditions

In my travels around the district talking to producers, I have heard a trend of how fall crops have turned out. The late summer weather or lack thereof has led to highly variable yields across our district. Wide variations are apparent from field to field but also within areas of the field.

Prior to August, many of our fall crops had almost an irrigated environment receiving enough rain that many fields had never lacked for moisture. Our plants grew fast and larger than we are accustomed to under "normal" Kansas stress.

The most noticeable thing I witnessed while harvesting plots is seed size. An average soybean size usually ranges from 2500 to 3000 seeds per pound. While harvesting plots, I saw seed so small that I was amazed the combine could catch it before it blew out the back.

Showing the excellent potential the soybean crop had. If our plot making 48.5-bushel per/ acre averaged approximately 4000 seeds per pound would have received enough timely rain to increase to 3000 seeds per pound, the resulting yield would have increased by 25% to 64.7 bushels per acre on seed size alone.

The consensus in talking to producers is that maturity and planting dates played a significant role in this year's crop. That statement is not uncommon in our variable climate, though; the late-season drought magnified this to an extent. The soybean crop was running out of moisture in its critical growth stage. Every soil condition that can limit water uptake became apparent. Root-limiting conditions such as compaction on end rows or previous waterlogged soils in low areas are evident. Soil property conditions such as infiltration rates are seen on the slopes, such as the backs of terraces and hillsides. Soil texture as it relates to water holding capacity could be witnessed like lines on a soils map. Clay soils versus loamy soils or sandy soils showed up in yields. Areas that came up short of expectations displayed poor pod set, a significant abortion of seeds per pod, and smaller seed size.

Maybe we can learn from this experience as many years just one timely rain can hide problems. Are there things from a management perspective that we can do better? It is easy to look at the weather and say, "here is our problem." That statement might be 100% true and correct. Or yet I wonder if we left or created a little more ground cover, would it have changed the outcome? Would it have conserved a little more of the July moisture? Maybe you found a compaction problem that needs attention. I tend to look for the takeaway from these farming experiences as they present themselves. Some years it is not as visual and apparent as farmers witnessed this harvest.

Jay Wisbey, Crop Production

Soybean Plot**Planted: May 1, 2020****Lindsey, Ks****Harvested: October 5, 2020**

South	Brand	Variety	Moisture	Test Weight	Adj Yield	Yield % of AVG
1	Pioneer	P37A27X	8.5	54.8	54.9	113.1%
2	Pioneer	P42A96X	9.1	56.1	52.7	108.6%
3	Asgrow	AG37X9	8.7	57.5	44.8	92.3%
4	NK	S39-G2X	8.7	56.1	40.4	83.3%
5	Pioneer	P39A58X	8.4	56.8	45.3	93.3%
6	Phillips	408	8.9	56.2	44.6	91.9%
7	Golden Harvest	GH3982X	9	55.7	49.9	102.8%
8	Dyna-Gro	S41XS98	8.6	57.8	54.2	111.6%
9	Channel	4119R2X	8.8	56.6	46.6	95.9%
10	Croplan	CP4150XS	10.1	56.2	50.7	104.4%
11	Asgrow	AG41X8	10.4	56.6	47.4	97.6%
12	Dyna-Gro	S43XS70	12.9	54.1	51.6	106.3%
13	Channel	4317RX2/SR	12.1	54.9	47.6	98.0%
14	Pioneer	P45A02X	10.3	56.5	49.1	101.0%
15	Pioneer	P42A96X	11.1	54.5	48.5	99.9%

Average 48.6**Sorghum Plot****Planted: June 5, 2020****Lindsey, KS****Harvested: October 6, 2020**

South	Brand	Variety	Moisture	Test Weight	Adj. Yield	Yld. % of avg.
1	Pioneer	85P44	11.3	57.2	78.3	74.9%
2	Channel	6B60	11.4	58.2	94.0	89.9%
3	Dyna Gro	742C	11.2	56.9	97.8	93.6%
4	Dekalb	38-16	11.9	60.5	117.2	112.1%
5	Golden Acres	3960B	11.7	57.6	106.2	101.6%
6	Pioneer	85Y40	12.3	59.7	115.8	110.8%
7	Phillips	637	12.3	58.6	104.9	100.4%
8	Dekalb	45-23	11.9	56.8	106.3	101.7%
9	Dyna Gro	M60GB31	13.2	57.7	96.5	92.4%
10	Pioneer	85G03	12.1	59.1	110.0	105.3%
11	Channel	7B20	13.1	57.2	110.7	105.9%
12	Pioneer	85P44	12.2	58.5	115.9	110.9%

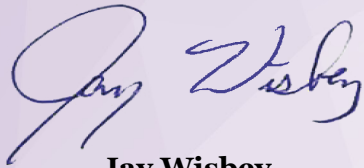
Average 104.5

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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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