

Osage County Agriculture Newsletter



**OKLAHOMA COOPERATIVE
EXTENSION SERVICE**

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The 2021 Cattle Market

Beginning Slate

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The cattle industry, like everyone else, is more than ready to move past 2020 and into a new year. While the industry will start the year with a new slate, there are numerous factors in place that will shape markets for, at least, the first few months of 2021. Cattle markets face a mix of opportunities and challenges as the New Year begins.

The pandemic continues and seems likely to face the worst conditions to date in the next few months. For cattle markets, this means a continuation of a limited food service sector and more challenges in food product markets. Boxed beef prices at the end of 2020 were just about exactly equal to one year earlier but that obscures the continuing variation in food service and retail grocery product demands. Primal chuck and round prices were higher year over year along with ribs, while loins were down. Food service dependent products continue to be noticeably affected by limited demand with, for example, prices for tenderloin down 14 percent; Petite tender prices down 25 percent and brisket prices down four percent, while strip loin steaks (popular in retail grocery) are up 12 percent year over year. Overall beef demand has been, and continues, strong but the challenges to food

supply chains will continue.

Grain and oilseed prices are significantly higher than one year ago as 2021 begins. On average, cash corn prices in December 2020 were about 22 percent higher than one year earlier, with sorghum prices up over 50 percent; wheat prices up about 30 percent; and soybean prices up 35 percent year over year. Dried distillers grains (DDGs) prices at the end of 2020 were roughly 39 percent higher than the end of 2019. Higher feed prices mean higher feedlot ration costs and higher supplemental feed costs for stocker and cow-calf production. Cattle production will be affected by higher feed prices, not so much in terms of how much production will occur, but more in terms of how production will change. For example, higher ration costs will change feedlot demand for the type and size of feeder cattle preferred in feedlots.

At the end of 2020, 41 percent of the U.S. was experiencing some degree of drought (Drought Monitor D1-D4), mostly in the western half of the country. One year ago, the D1-D4 level in the country was less than 10 percent. The current level of drought is concerning and, should it persist into the coming growing season, may have significant impacts rather quickly in 2021. Drought generally expanded through 2020 to encompass most of the Rocky Mountain and western Plains regions.

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UPCOMING EVENTS

January 28th

Washington County Cattle Conference & Tradeshow

March 6th

9th Annual Spring Horsemanship Clinic

Tulsa State Fairgrounds

Hay supplies going into 2021 appear to be adequate with a slight reduction in 2020 hay production offset by larger May 1 beginning stocks. Hay prices in late 2020 were slightly lower year over year for both alfalfa and other hay and are projected to average lower in 2021. In part, the lower price projections reflect expectations of less total hay demand as cattle numbers decline in 2021. Regional hay market conditions vary considerably and are be higher than the national average prices in regions where drought is more severe. Persistent drought conditions may influence both hay demand and supply in 2021.

Persistent drought conditions may influence both hay demand and supply in 2021.

Cattle prices struggled through much of 2020 but ended the year with some momentum. Calf prices in Oklahoma were close to year earlier levels at the end of December and increased nearly 20 percent from lows earlier in the fall. Prices for heavier feeder cattle remained about 7 percent below year earlier levels at the end of the year but similarly increased roughly 13 percent from fall 2020 lows. Fed cattle prices finished the year with strength that represented a roughly 18 percent increase from summer lows but were more than 8 percent lower year over year.

Strong beef demand and tightening cattle supplies provide cautious optimism for cattle markets in 2021. Higher feed prices and continuing drought conditions are threats to individual producers and perhaps to overall market conditions in the coming year. Consumer demand will be supported by additional federal stimulus for a time but continuing macroeconomic challenges will persist through the year. The continuing pandemic and the time needed for vaccine implementation suggest that

much of the promise of 2021 may be pushed into the second half of the year. In the meantime, uncertainty and volatility are likely to remain elevated and risk management continues to be a key management and marketing consideration.

PASSIVE IMMUNITY STATUS AND LONG TERM HEALTH AND PERFORMANCE OF CALVES

BY

GLENN SELK, OSU

Emeritus Extension Animal Scientist

You have heard the warning: “What happens in Las Vegas, stays in Las Vegas!!!” Perhaps you have not heard: “What happens in the first 24 hours, impacts the rest of a calf’s life”! Veterinary scientists, while with the USDA experiment station at Clay Center, Nebraska monitored health events and growth performance in a population of range beef calves in order to identify associations of production factors with baby calf passive immune status.

Blood samples were collected at 24 hours after calving from 263 cross-bred calves to determine the amount of passive maternal immunity that had been obtained from colostrum. Colostrum is the first milk produced by a cow upon giving birth. The baby calves were classified with “Inadequate” or “Adequate” Passive Immune status based on that blood sample at 24 hours of age. Growth performance and health events in the study population were monitored from birth to weaning, and after weaning throughout the

feedlot phase.

The lowest levels of passive immunity were observed among calves that were sick or died prior to weaning. Calves with “inadequate” passive immunity had a 6.4 times greater risk of being sick during the first 28 days of life, a 3.2 times greater risk of being sick any time prior to weaning and a 5.4 times greater risk of death prior to weaning, when compared to calves with “adequate” passive transfer. Passive immune status was also indirectly associated with growth rates through its effects on calf health. Sickness during the first 28 days of life was associated with a 35 pound lower expected weaning weight.

Based on 24 hour proteins (most of which are antibodies or immunoglobulins) in the blood, the risk of being sick in the feedlot was also three times greater for “Inadequate” compared to “Adequate” calves. Respiratory disease in the feedlot resulted in a .09 lb lower expected average daily gain. (Continued on P. 3)

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Thus, passive immunity obtained from colostrum was an important factor determining the health of calves both pre- and post-weaning, and indirectly influenced calf growth rate during the same periods. The most likely candidates for “inadequate” passive immunity are calves born to first calf two-year-old heifers. Breeding heifers to “calving ease” bulls should reduce the percentage of difficult deliveries and sluggish baby calves when born. Also, cow calf producers can help themselves and the future owners of their calves, by properly growing replacement heifers, providing a good health program for cows and heifers, and providing natural or commercial colostrum replacers to calves that do not receive it in adequate quantities on their own. Remember that most of the transfer of antibodies from colostrum to the calf happens in the first 6 hours. The first day sets the stage for the rest of his life. (Source: Wittum and Perino. 1995. Amer. Jour. Of Vet. Research. 56:1149.)

Strategic Feedlot Bedding in the Winter

BY WARREN RUSCHE

SDSU Extension Beef Feedlot Management Associate

Key Takeaways

- Bedding cattle during extreme cold conditions dramatically reduces maintenance energy costs and improves gain and feed efficiency with potential carryover effects to the end of the feeding period.

- Bedding during more moderate weather conditions also improved cattle performance, but to a lesser degree.
- Proving bedding is a viable management strategy to mitigate the impacts of winter on cattle performance, especially under severe conditions.

Feeding cattle in the winter is not for the faint of heart, especially in South Dakota. Frigid temperatures combined with wind, snow and ice test every aspect of animal husbandry in the quest to provide the best care for livestock and maintain performance and profits.

Providing bedding is one of the time-tested strategies for dealing with winter weather. But how does bedding affect the bottom-line? Providing bedding does increase costs not only from material costs but also the additional labor requirements.

Examining Bedding Impacts

Research recently conducted at SDSU by Dr. Zach Smith and his graduate student Dathan Smerchek examined the effects of bedding on efficiency and estimated maintenance requirements during different weather conditions. They conducted two different experiments during two time periods in 2019:

- Experiment 1, January – July 2019: Finishing study
- Experiment 2, October – December 2019: Receiving study

The early months of 2019 were

remarkable for the extreme winter weather conditions experienced. The average temperature and wind chill during the first 36 day of the experiment were 5.2° and 0.3° F, respectively with average values of 39.8° and 37.3° F for the entire feeding period. The second experiment was conducted under more moderate weather conditions with average temperatures and wind chill values of 26.5° and 22.8° F, respectively.

The researchers compared no bedding vs. putting out sufficient wheat straw so that each steer had a dry area to lay down. All pens were concrete-surfaced. In Experiment 1 the bedded steers were provided 4 lbs. per head per day of wheat straw, on average while in Experiment 2 the bedded steers received 2 lbs. per head per day of wheat straw.

Table 1 shows the results of the studies. During the first 36 days of the Experiment 1, bedding had a dramatic effect on cattle performance. Bedded steers gained 1.08 pounds per day faster on the same amount of feed resulting in a 49% improvement in feed efficiency. Benefits from bedding were partially maintained even after winter stress ended as shown by improved ADG and feed efficiency for the entire period. Steers that were not bedded required 35 more days on feed to reach a similar fat endpoint as the bedded steers.

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Bedding also improved performance in the second experiment conducted under less severe conditions, although not to the same degree. There was a 5.6% improvement in feed efficiency when calves were provided bedding during the receiving phase in that study.

TABLE 1. EXPERIMENT FINDINGS

	Experiment 1 (January to July 2019)				Experiment 2 (October – December 2019)	
	d 1 -36 (Jan)		d 1 to Harvest		56-d receiving period	
	No Bed- ding	Bedded	No Bed- ding	Bedded	No Bed- ding	Bedded
ADG	2.25	3.33	2.60	3.15	3.00	3.04
Feed : Gain	8.06	5.41	7.87	6.85	5.05	4.78
Dry Matter Intake	18.1	18.1	20.5	21.7	15.2	14.6
Increased Maintenance Requirements	40%	-	11%	-	18%	-
Hot Carcass Weight	-	-	791	785	-	-
Days On Feed	-	-	178	143	-	-

Economic Benefits

The economic benefits to bedding are clear under severe winter conditions. If we assumed 24 pounds of dry matter intake of a diet costing \$175/T of dry matter plus 45 cents per day yardage, the additional 35 days on feed required for the non-bedded steers cost \$89.25. If straw or corn stalks cost \$60/T and bedding increased labor and machine costs by 7 cents per head per day, the net result would be approximately \$62 per head cost reductions over a 143-day feeding period. Under less extreme conditions such as those in Experiment 2, bedding is closer to a breakeven proposition. It is important to remember that health effects were not measured in these small-pen studies, so there is not accounting for any animal health benefits related to bedding. Also, cattle feeders who also manage crop acres would recapture some of the bedding expense as crop nutrients when spread on fields.

Cattle feeders in the northern plains should look at bedding as effective risk mitigation strategy. Using tools, such as the SD Mesonet [Livestock Stress Tool](#) along with precipitation forecasts can provide additional guidance when livestock bedding will be most effective.

Gardening Tips

In order to have a successful garden, the gardener must follow a few rules. The following tips may help to prevent some common garden problems from occurring, or help overcome those that do arise:

- Sample soil and have it tested every three to four years.
- Apply fertilizers in the recommended manner and amount.
- Make use of organic materials such as compost where available.
- Use recommended varieties.
- Thin plants when small.
- Use mulches to conserve moisture, control weeds, and reduce fruit rots.
- Avoid excessive walking and working in the garden when foliage and soil are wet.
- Examine the garden often to keep ahead of potential problems.



Oklahoma Garden Planning Guide Tables

Vegetable	Time to Plant	Feet of Row Per Person	Days to Harvest	Method of Planting	Spacing Between Rows
Cool Season					
Asparagus	Fall or Spring	10-20	—	Crowns	4 ft.
Beet	March	10-20	50-70	Seed	1 1/2 ft.
Broccoli	March	10	80-90	Plants	3 ft.
Cabbage	Feb.15 to March 10	10-20	60-90	Plants	3 ft.
Carrot	Feb.15 to March 10	20	70-90	Seed	1 1/2 ft.
Cauliflower	Feb.15 to March 10	15	70-90	Plants	3 ft.
Chard, Swiss	Feb.15 to March 10	10	40-60	Seed	1 1/2 ft.
Kohlrabi	Feb.15 to March 10	10	50-70	Seed	2 ft.
Lettuce, Head	Feb.15 to March 10	20	60-90	Seed or Plant	1-1 1/2 ft.
Lettuce, Leaf	Feb.15 to March 10	20	40-70	Seed or Plant	1-1/2 ft.
Onion	Feb.15 to March 10	25	60-120	Sets	1-1 1/2 ft.
Onion	Feb.15 to March 10	25	60-120	Plants	1-1 1/2 ft.
Peas, Green	Feb.15 to March 10	30	60-90	Seed	3 ft.
Potato, Irish	Feb.15 to March 10	50	90-120	Tuber pieces 2-3 oz.	3 ft.
Radish	March 1 to April 15	15	25-40	Seed	1 ft.
Rhubarb	Fall or Spring	12	—	Crowns	4 ft.
Spinach	Feb. 15 to March 10	35	50-70	Seed	1 1/2 ft.
Turnip	Feb. 15 to March 10	20	50-60	Seed	1 1/2 ft.

Table 1A. Garden Planning Guide, Cool Season.

These dates indicate planting **times from southeast to northwest Oklahoma. Specific climate** and weather may influence planting dates. For cool season vegetables, the soil temperature at the depth where the seeds are planted should be at least 40°F.

Vegetable	Spacing Within Rows	Depth to Cover Seed	Quantity Needed Per Person	Frost Tolerance
Cool Season				
Asparagus	2 ft.	6 in.	3-5	Hardy
Beet	4 in	1 in.	1/8 oz.	Semi-Hardy
Broccoli	1 1/2 ft.		6-7 plants	Hardy
Cabbage	1-1 1/2 ft.		6-15 plants	Hardy
Carrot	3 in.	1/2 in.	1/8 oz.	Semi-Hardy
Cauliflower	1 1/2 ft.		6-8 plants	Semi-Hardy
Chard, Swiss	3 in.	1/2 in	1/2 oz.	Semi-Tender
Kohlrabi	6 in.	1/2 in.	1/8 oz.	Hardy
Lettuce, Head	1 ft.	1/4 in.	1/8 oz. or 20 plants	Semi- Hardy
Lettuce, Leaf	3 in.	1/4 in.	1/8 oz or 40 plants	Semi-Hardy
Onion	4 in.	1 in.	1/4 qt. sets	Hardy
Onion	4 in.	1 in.	1/8 oz. or 75 plants	Hardy
Peas, Green	2 in.	2 in.	1/4 lb.	Hardy
Potato, Irish	1 ft.	4 in.	6-8 lbs.	Semi-Hardy
Radish	2 in.	1/2 in.	1/8 oz.	Hardy
Rhubarb	2 ft.	3 in.	3-4 crowns	Hardy
Spinach	2 in.	1/2 in.	1/4 oz.	Hardy
Turnip	3 in.	1/2 in.	1/8 oz.	Hardy

AVOID THE FOLLOWING MISTAKES:

- Planting too closely, which prevents walking or working in the garden.
- Placing fertilizer directly in contact with plant roots or seeds.
- Cultivating deeply, resulting in injury to plant roots.
- Depending on varieties not recommended for your area; however, do try new releases.
- Watering frequently or excessively so that the soil is always wet and soggy.
- Allowing weeds to grow large before elimination.
- Applying chemicals or pesticides in a haphazard manner, without reading label directions or proper mixing.
- Using chemicals not specifically recommended for garden crops.
- Storing leftover diluted spray.





OSAGE COUNTY JR. LIVESTOCK SHOW 2021



Sunday, February 28th

6:30-9 pm Pen/Show Arena set up-For all 4-H and FFA Families

Tuesday, March 2nd

3:00-6 pm Sheep, goat, and hog weigh-in (*Absolutely no sick animals allowed in the barn*)

Wednesday, March 3rd

9:30 am Swine Show (Gilt, Barrow)
Swine Showmanship
PeeWee Showmanship

2:00 pm Sheep Show (Ewes, Wethers)
Sheep Showmanship
PeeWee Showmanship
Goat Show (Does, Wethers)
Goat Showmanship
PeeWee Showmanship

7:00-8:00 pm Heifer and Steer Check In

Thursday, March 4th

8:00 to 9am Market Steer Weigh In

2:00 pm Heifer Show

4:00 pm Steer Show
Beef Showmanship
PeeWee Showmanship

6:00 pm Super Showmanship

7:00 pm **All sale changes must be turned into the office**

Friday, March 5th

9:00 am Judging Contest

3:00 pm Set up for BBQ

5:00-6:30 pm BBQ Dinner

6:30 pm Awards Ceremony

7:00 pm Auction

9:00 pm Animals will be hauled to Packing Houses

Saturday, March 6th

9-11 am Tear Down/Clean-Up-For all 4-H and FFA Families

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Upcoming Events and other news

9th Annual Spring Horsemanship Clinic on March 6th, 2021

Registration due **February 19th**, Bronco Barn at Tulsa State Fairgrounds



Washington County Cattle Conference & Tradeshow January 28th, 2021

Starts at **1PM** at Fairgrounds in Dewey, OK



Master Cattleman Program

Be watching for dates and information on the upcoming Master Cattleman program to held at the Osage County Fairgrounds. Plans are being made to offer a Master Cattleman Program starting in March or April. Information will be on the Osage County Extension Facebook, upcoming newsletters and in the local newspaper.

Osage Nation news

On December 21st Cheyenne Patrick and Trudy Hollman attended the ribbon cutting to Harvest Land previously known as Bird Creek Farms new facilities. Located on Nation-owned land south of Bird Creek, Harvest Land now features a 42,000 square-foot greenhouse growing space and a 44,000 square-foot multipurpose building that includes aquaponics and food processing areas. The aquaponics area is already sprouting with a variety of fresh greens and other vegetables.



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