

TIMELY TOPICS

OSU EXTENSION - NORTHEAST DISTRICT
December 2022 – Volume 42 – Issue 12



EXTENSION

<i>In this edition...</i>			
Value of Vitamin A	<i>Page 1</i>	Considerations for 2023	<i>Page 3</i>
Strip Grazing	<i>Page 2</i>		

The Value of Vitamin A

Barry Whitworth, DVM, Area Food/Animal Quality and Health Specialist for Eastern Oklahoma

A ranch in Australia experienced an abnormally high number of stillbirths and weak born calves in 2004-2005. An investigation revealed that the usual infectious causes were not the problem. After additional testing, veterinarians diagnosed low levels of vitamin A as the cause.

According to Dr. Greg Hanzlicek, with the Kansas State Veterinary Diagnostic Laboratory (KSVDL), Kansas had an unusually high number of stillbirth cases and weak born calves in the spring of 2019. After many laboratory tests, it was concluded that the problem stemmed from a lack of energy, protein, Vitamin A, or combinations of all of these.

Both above examples demonstrate the importance of vitamin A in reproductive efficiency. Research has shown that low vitamin A levels during pregnancy are associated with abortions, stillbirths, and weak born calves. In addition to playing an important role in reproductive efficiency, vitamin A is essential for vision, bone growth, and maintaining epithelial tissue such as skin and hooves.

Animals obtain vitamin A from consuming green forage and/or the addition of vitamin A supplements to the diet. Lush green pastures contain high amounts of vitamin A. As plants mature and during times of drought, the amount of vitamin A decreases. The ranch in Australia experienced below average rainfall in the previous two years prior to the calving season. During the calving season, rainfall was below average with very dry conditions and little green forage was available.

In general, animals obtain adequate amounts of vitamin A by grazing green forage. Animals grazing green pastures will build a healthy store of vitamin A in the liver. When vitamin A is in short supply, the stores in the liver prevent deficiencies. According to Dr. Lalman, Extension Beef Cattle Specialist Oklahoma State University, the stores should last 2 to 4 months during times of deficiency. During times when green forage is not available, vitamin A supplements need to be added to the diet to prevent deficiencies.

When vitamin A levels are deficient, night blindness is one of the earliest clinical signs. Other eye issues include clouding of the cornea, ocular discharges, and possible ulcerations. Skin issues found when levels of vitamin A are deficient include a dry rough coat, scales on the skin, and dry cracked hooves. Other neurological signs include incoordination or gait problems. Seizures may occur due to the increase cerebrospinal fluid pressure. Birth defects have also been attributed to low vitamin A levels.

Animals displaying vitamin A deficiency should be treated immediately with vitamin A injections. If treated early, response is usually rapid and complete. However, delaying treatment may result in irreversible damage. Even with treatment, cattle with vision impairment due to vitamin A deficiency may not regain their sight.

Preventing vitamin A deficiency depends on producers being attentive to the environmental conditions that favor low vitamin A levels in forage. During these times, producers need to supplement the diet with vitamin A. Producers need to be aware that Vitamin A supplements degrade rapidly, so vitamin A supplements should not be stored for long periods of time. In addition to vitamin A supplementation, research indicates that diets low in protein result in poor absorption

TIMELY TOPICS

OSU EXTENSION - NORTHEAST DISTRICT
December 2022 – Volume 42 – Issue 12



EXTENSION

of vitamin A. It is important that producers ensure that the rations have sufficient protein levels. Lastly, since colostrum contains high levels of vitamin A, producers need to ensure that newborns obtain adequate amounts of colostrum at birth.

Similar to the Australian example, most of Oklahoma had below average rainfall for the year of 2022. This resulted in pasture quality decreasing earlier than normal. Due to this year's lack of green forage, liver stores of vitamin A may be inadequate for the animal's needs. Producers need to ensure that the diets of their cattle have adequate amounts of vitamin A, energy, and protein. For more information about Vitamin A, producers should contact their veterinarian and/or visit with their Oklahoma State University County Ag Educator.

References

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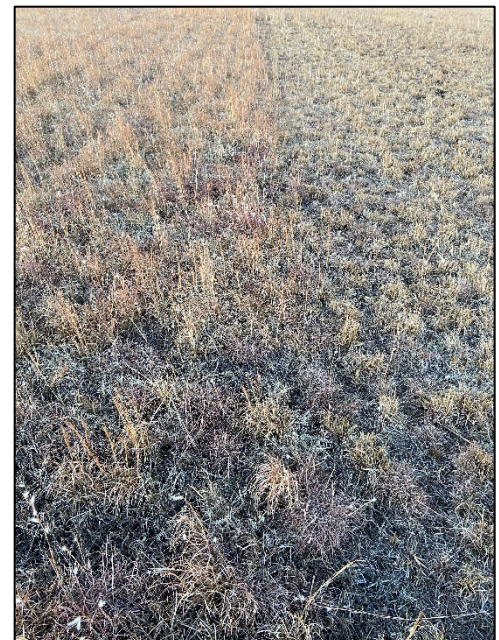
Strip Grazing

Earl H. Ward, Area Livestock Specialist

Without a doubt 2022 has been a difficult year to produce forage in Oklahoma. Many reports have come in of hay meadows only producing half of their normal production, leaving many producers scrambling to grab any source of roughage that they can. There are ways that we can manage our harvested forage to decrease waste, but what are the options to extend the standing forage?

One great option to extend standing forage is to strip graze. Some might describe strip grazing as “supervised over grazing.” However, it is a great way to force animals to utilize a higher portion of the available roughage. Although it may not be the highest quality, it does provide some nutritional value. In a continuous grazing situation, research has shown that the animals utilize approximately 30-40% of the available forage. However, rotating the animals through a paddock system will increase this utilization to 50-60% for rotating to three or four paddocks or 60-70% utilization if you rotate to six to eight paddocks. To max out forage utilization, strip grazing will provide approximately 70-80% utilization.

Strip grazing is achieved by simply restricting access to only enough forage that the animals can consume in a short amount of time. This is where an electric fence becomes an extremely useful tool. Just using a solar charger and one or two strands of electric fence can reduce the size of accessible pasture, requiring the animals to eat plants that they wouldn't normally eat if given a choice. Figure 1 shows the grazing line of the regrowth from



a hay meadow after the electric fence was moved. The picture shows that animals were consuming undesirables such as broomsedge. Once the fence is moved back to allow the animals access to a new section of the field, they are still allowed access to the previously grazed portion to take advantage of any regrowth and access to the original water source.

Increasing efficiency requires more management, and that is not any different with strip grazing. It is highly recommended that producers keep a keen eye on the available forage as well as the animals' body condition score and health. Although this situation would require the appropriate supplementation, it does save a few days from having to provide hay and decreases the waste of standing forage.

If you have any questions about strip grazing or other ways to minimize forage loss, contact your OSU Extension office.

Considerations for 2023

Scott Clawson, Area Ag Economics Specialist

With “real” winter weather setting in, perhaps we can find a few minutes to warm up and do some thinking and planning on 2023. It looks like the new year will be an intersection of price optimism from a shrinking cow herd, looming forage and input market concerns, and some macroeconomic uncertainty to boot. All in all, these issues do provide outlets to capitalize on opportunities as they arise. Below are three ideas to consider about our own operation as we prepare to take advantage of opportunities in 2023.

1. *Develop a Monthly Cash Flow Projection*

The beauty of a monthly cash flow analysis is that it is simple. It is simply cash in and cash out within the month. There is really nothing fancy or complex about it. Figure 1 shows a simplified monthly cash flow. Hopefully, this will highlight any cash issues in the near term that will need to be met from our ranch checking account or our revolving operating credit line. More information can be found at AGE-751 Developing a Cash Flow Plan.

2. *Calculate Working Capital*

Many times, cash may be tied up in purchased feed, hay, or livestock. Working capital will help us evaluate that. It is the difference between your current assets and current liabilities. Working capital is a liquidity measure and shows us how effectively we will be able to cover our short-term obligations. This includes any operating costs we have on the horizon and any upcoming debt obligations we need to be ready for. Figure 2 below shows the formula and some common items that a cow-calf operation would include. More information on Current Assets and Current Liabilities are provided by OSU Extension Fact Sheet AGE-752.

3. *Start Separating Enterprises*

Lastly, consider splitting out different activities in the operation to look at opportunities to expand or change direction to be more efficient. A typical cow calf operation may be able to be split amongst areas like cow-calf production, heifer development, and hay production. Starting to treat each of these areas as individual enterprises will highlight which is driving our profit or which areas are pulling profit from the others. This is a bit tougher to map than our cash flow or working capital but can really pay long term dividends.

2023 looks to be a culmination of many significant market and management decisions. Having a strong understanding of cash needs, working capital, and our most efficient segments of production can be a big help in uncovering which opportunities are right for our operation. For more information, contact your local OSU Extension Educator.

TIMELY TOPICS

OSU EXTENSION - NORTHEAST DISTRICT
December 2022 – Volume 42 – Issue 12



EXTENSION

Figure 1: Sample monthly cash flow

CASH INFLOWS	TOTAL
Wages and Salaries	\$ 2,700.00
Other Income (ex. royalties, etc.)	\$ 450.00
Livestock Sales (raised)	
Sale of Assets (ex. land, equipment, breeding stock)	
TOTAL CASH INFLOWS	\$ 3,150.00
	May
CASH OUTFLOWS	TOTAL
Family Living	\$ 1,775.00
Short Term Payments Due (not your operating RLOC)	
Payments on Intermediate Loans	
Feed	
Chemicals	\$ 2,000.00
Fertilizers and Lime	\$ 3,262.00
Conservation Expenses	
Rent or Lease	
Veterinary, Breeding, and Medicine	\$ 1,232.00
Repairs and Maintenance	\$ 1,000.00
Supplies	
Seeds and Plants	
Pension and Profit-sharing	
Capital Expenditures (ex. land, equipment, etc.)	
Payments on Real Estate	
Payments on Intermediate Loans	
Payments on Intermediate Loans	
TOTAL CASH OUTFLOWS (Sum Lines 41-56)	\$ 9,269.00
	May
NET CASH FLOW (inflows-outflows)	\$ (6,119.00)
BEGINNING CASH BALANCE	\$ 6,057.00
ENDING CASH BALANCE	\$ (62.00)

Figure 2: Sample working capital calculation



Current Assets - are cash and other assets that are typically and easily converted to cash in the course of business during the year without any loss in value


Current Liabilities - are those that are due in the current operating period, usually within 12 months.

TIMELY TOPICS

OSU EXTENSION - NORTHEAST DISTRICT
December 2022 – Volume 42 – Issue 12



EXTENSION



Value of Gain Calculation

EXTENSION

OK Weighted Average Report 12/16/22

Weight	\$/lb	Value/hd	Added lb.	Added \$	\$/lb Added
332	\$ 2.4592	\$ 816.45			
375	\$ 2.4209	\$ 907.84	43	\$ 91.38	\$ 2.13
428	\$ 2.2647	\$ 969.29	53	\$ 61.45	\$ 1.16
473	\$ 2.2003	\$ 1,040.74	45	\$ 71.45	\$ 1.59
525	\$ 2.0779	\$ 1,090.90	52	\$ 50.16	\$ 0.96
573	\$ 1.9596	\$ 1,122.85	48	\$ 31.95	\$ 0.67
622	\$ 1.8667	\$ 1,161.09	49	\$ 38.24	\$ 0.78
673	\$ 1.7976	\$ 1,209.78	51	\$ 48.70	\$ 0.95
719	\$ 1.8013	\$ 1,295.13	46	\$ 85.35	\$ 1.86
774	\$ 1.7715	\$ 1,371.14	55	\$ 76.01	\$ 1.38
824	\$ 1.7644	\$ 1,453.87	50	\$ 82.72	\$ 1.65
912	\$ 1.7215	\$ 1,570.01	88	\$ 116.14	\$ 1.32

Long Stocker Run

Starting

332

\$ 816.45

Ending

912

\$ 1,570.01

Total Gain Δ Value

580

\$ 753.55

VOG

\$ 1.30

Short Stocker Run

Starting

332

\$ 816.45

Ending

525

\$ 1,090.90

Total Gain Δ Value

193

\$ 274.44

VOG

\$ 1.42

Heavy Stocker Run

Starting

622

\$ 1,161.09

Ending

912

\$ 1,570.01

Total Gain Δ Value

290

\$ 408.92

VOG

\$ 1.41



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