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Agriculture

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Tough Environments Require Tough Cows

Mark Z. Johnson, Oklahoma State University Extension Beef Cattle Breeding Specialist

Recently I had the opportunity to interview James Henderson of Bradley 3 Ranch on our Ranchers Lunchtime webinar series. The Bradley 3 Ranch is located in Memphis, TX and has a earned a reputation for producing high quality Angus and Charolais seedstock that are uniquely well-adapted to their environment. The Bradley 3 Ranch is famous, innovative and award winning. The title of my article this is borrowed from James Henderson's topic last week.

The tough environment the 600 head of registered cows at Bradley 3 Ranch is described by James as follows:

- Low rainfall (23 inch average per year, considerably less than average over the past 18 months)
- Bad water (high in nitrates and sulfates)
- Large acreage (16,000 acre ranch)
- Temperature extremes (-10 to 123 degrees F)
- Heavy brush
- Toxic weeds

Predators

The tough cows were described as follows:

- Athletic and capable of covering a lot of ground to get to forage and water
- Will drink water that taste bad
- Will survive in extreme temperatures (hair shedders)
- Will protect a calf during birth and after
- Learns to avoid toxic plants
- Can maintain body condition in weather extremes
- Will cycle and breed in all conditions
- Will raise a calf to weaning every year
- Will adapt to the environment through natural selection
- Angus cows average mature weight of 1195, average weaning off 50% (or better) of their mature weight each year (600 lb. weaned calves)
- Charolais cows average mature weight of 1400, average weaning off 48-50% of their mature weight each year (670 – 700 lb. weaned calves)

On a whole herd basis, Bradley 3 Ranch averages an 86% calf crop weaned as compared to a national average percent calf crop weaned of 78%.

James Henderson encourages producers to do the math and manage their beef operation like a business. Hold cows accountable. Another interesting point he made was the donor cow selection criteria. In order for a cow to make the cut for the Bradley 3 Ranch ET program she is a 10 year old who has ratioed 105 or better on each calf weaned, each year she has been in production. Wow! A very high standard.

Bottomline: Your cowherd can achieve the benchmarks for performance that you establish and hold them accountable for. If you will be growing your cow inventory in the future, take measures to insure your cowherd matches your production environment and intended marketing endpoint for the calves you will produce.

The presentation from James Henderson from April 6th, as well as the entire Ranchers Lunchtime series webinars can be viewed at: https://extension.okstate.edu/programs/beef-extension/ranchers-Thursday-lunchtime-series/navigating-dry-conditions-and-high-prices.html

Mineral Balance for the Breeding Herd

David Lalman, Oklahoma State University Extension Beef Cattle Specialist

Grazing cattle generally benefit from a mineral supplementation program. Simple, right? Afterall, a well-balanced, cost-effective program only requires knowledge of vitamin or vitamin precursor, and mineral supply from the forage base, vitamin and mineral element digestibility and availability, and the animals' vitamin and mineral requirements for their current age, stage of production, and mineral status (abundant vs depleted stores). Top it off with cattle's tendency to be finicky and unpredictable in mineral supplement consumption and you have a situation that one of my friends would refer to as "a conundrum causing great annoyance and displeasure".

Chief among the sources of uncertainty is the dynamic nature of forage vitamin/mineral supply and the cows' requirements; moving targets. Obviously, the mineral program does not need to produce precise balance each month, which is just about impossible to achieve anyway. Nevertheless, a simple mineral balance exercise or audit should be helpful to a) give you some confidence in your current program, or b) reveal an obvious need for a change. A mineral balance exercise involves developing a simple, consistent record keeping system to track forage mineral composition and your cow herds' average or "normal" mineral consumption pattern during the same time of year. With this information, you can use a nutrition evaluation program to project deficiencies and/or excesses. You will need an idea of forage mineral concentration, an estimate of forage intake, a current estimate of average daily mineral supplement consumption, and the mineral product's composition from the label. Most beef cattle nutrition evaluation programs provide an estimate of forage intake and an estimate of daily mineral requirements based on the animals' weight and stage of production.

	Diet Concentration			Daily Amount		
Nutrient	As Fed	DM	Required	DM	Required	Status
Diet DM	100%	-	-	-	-	-
TDN	70%	70%	-	23.8 lb	TDN:CP	5.00
ME, Mcal/lb	1.12	1.12	-	38.2 Mcal	-	-
NEm, Mcal/lb	0.71	0.71	-	24.4 Mcal	-	-
NEg, Mcal/lb	0.44	0.44	-	15.2 Mcal	-	-
NDF	68%	68%	-	4.8 lb	-	-
peNDF	61%	61%	7 - 20 Min	20.8 lb	7.0 pH	ADEQUATE
Crude Protein	13.9%	13.9%	-	4.76 lb	3.30 lb	ADEQUATE
Fat	3.2%	3.2%	-	1.09 lb	-	ADEQUATE
Calcium	0.39%	0.39%	0.28%	60.2 g	43.8 g	ADEQUATE
Phosphorus	0.23%	0.23%	0.18%	35.0 g	28.2 g	ADEQUATE
Sodium	0.06%	0.06%	0.10%	9.36 g	15.53 g	DEFICIENT
Potassium	1.60%	1.60%	0.60%	248.0 g	108.7 g	EXCESSIVE
Magnesium	0.27%	0.27%	0.15%	42.6 g	31.1 g	ADEQUATE
Sulfur	0.15%	0.15%	0.15%	23.3 g	23.3 g	ADEQUATE
Cobalt ppm	0.18	0.18	.15 ppm	2.8 mg	2.3 mg	ADEQUATE
Copper ppm	14.40	14.4	10 ppm	224 mg	155 mg	ADEQUATE
Iron ppm, mg	199.69	199.7	50 ppm	3101 mg	776 mg	EXCESSIVE
Manganese ppm	74.88	74.9	40 ppm	1163 mg	621 mg	ADEQUATE
Selenium ppm	0.26	0.26	.1 ppm	4.0 mg	1.6 mg	EXCESSIVE
Zinc ppm	45.65	45.7	30 ppm	709 mg	466 mg	ADEQUATE

Figure 1. Mineral balance for a lactating beef cow grazing spring tallgrass prairie forage.

As an example, Figure 1 shows the nutritive balance table for 1,200 pound lactating beef cows grazing lush spring tallgrass prairie forage and consuming 3.3 ounces per day of a commercial mineral supplement. You can quickly view the status indicators in the right column to determine where major gaps or excesses exist. In this example, these cows are projected to be about 7 grams per day short of sodium. Since salt contains 40% sodium, this suggests that these cows could use an additional 15 grams of salt or about 0.5 ounce per day. There are several excesses identified in this example. Most mineral balance exercises in the Southern Great Plains are going to reveal excessive potassium and excessive iron due to high forage concentration of both minerals. The other revelation in this balance exercise the the considerable excess of selenium. Thus, the conclusion of this exercise is that a) this mineral supplement is a good complement to this forage source for this time of year and b) one could blend about 10 to 15% salt with the mineral to better match the sodium requirement with intake and c) the selenium concentration in the commercial product could be reduced by about 50% if that were an option. It most definitely points out that there is no need to purchase mineral product containing a greater concentration of selenium in this case.

Several commercial nutrition companies provide services to conduct these balance exercises and follow up by recommending or manufacturing mineral formulations customized to your operation's needs.

In recent years, commercial livestock nutrition laboratories have incorporated mineral composition analytical services. For example, our lab at OSU charges $12 per sample to get macro and micro minerals. Depending on your level of concern or interest, one might get started by conducting a winter feeding and summer grazing balance. A more ambitious approach might be to collect "hand-plucked" samples from one or more pastures each month. The idea of the hand-plucking method is to select only plants and parts of plants that you believe to represent what your cattle are currently grazing.

Consider collecting forage mineral composition and mineral supplement consumption data several years in a row to get a clear view of your operations' patterns over time. Using that valuable information, you can get a good idea of how well your current program or product matches your forage resource to meet your cow herd's needs.

ONION CARE AND HANDLING and so much more on HORTICULTURE TIPS

CHECK OUT THIS SITE/LINK : https://extension.okstate.edu/county/mcintosh/media/docs/agriculture/hort-tips-april-2022.pdf

April's Topics: Garden Tips; Ajuga; Don't Cut Back Spring Flowering Bulbs Too Early; Tomato Cages; Gardening over Lateral Lines (Septic Drain Fields); Pruning Hydrangeas; Onion Care & Handling; Using Bedding Plants in the Landscape; Low Chill Hours for 2022

Garden Tips for April

David Hillock, Associate Extension Specialist

Vegetables

Wait a little longer for it to warm up before planting cucurbit crops and okra. Plant vegetable crops in successive plantings to ensure a steady supply of produce rather than harvesting all at once. Cover cucurbit crops with a floating row cover to keep out insect pests. Remove during bloom time. Watch for cutworm damage and add flea beetle scouting to your list of activities in the vegetable garden.

Garden Planting Guide for Warm-Season Vegetables

Vegetable	Time to Plant*	Days to Harvest	Method of Planting
Bean, Lima	April 15-30	90-120	Seed
Beans, Green or Wax	April 10-30	50-60	Seed
Beans, Pole	April 10-30	60-90	Seed
Cantaloupe	May 1-20	80-100	Seed or Plants
Cucumber	April 10-30 or later	50-70	Seed or Plants
Eggplant	April 10-30	80-90	Plants
Okra	April 10-30 or later	60-70	Seed
Pepper	April 10-30 or later	90-110	Plants
Pumpkin	April 10-30	90-120	Seed
Southern Pea	May 1-June 10	85-100	Seed
Squash, Summer	April 10-30 or later	40-60	Seed or Plants
Squash, Winter	May 15-June 15	110-125	Seed or Plants
Sweet Corn	Mar. 25-April 30	80-100	Seed
Sweet Potato	May 1-June 10	100-120	Plants
Tomato	April 10-30	70-90	Plants
Watermelon	May 1-20	90-120	Seed

*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.

Fruit and Nut

Don't spray insecticides during fruit tree bloom or pollination may be affected. Disease sprays can continue according to schedule and label directions. (EPP-7319)

Control cedar-apple rust. When the orange jelly galls are visible on juniper (cedar), following a rain, begin treating apple and crabapple trees with a fungicide. (EPP-7319, EPP-7611)

Fire blight bacterial disease (EPP-7615) can be controlled at this time. Plant disease-resistant varieties to avoid diseases.

Continue spray schedules for disease prone fruit and pine trees.

Cucumbers and Zucchini – Getting Ahead of Pests

David Hillock, Associate Extension Specialist

Many are excited by the thought of fresh cucumbers and squash and eagerly set about planting them in the garden. But before long, enthusiasm can dwindle when the squash bugs arrive. Squash bug is the most serious pest of squash and pumpkins in the US and seems to be particularly troublesome in southern regions where it produces multiple generations per year. Their feeding behavior causes plants to wilt, yellow, and often die back, as they transmit viral infections from plant to plant. Squash bugs are by far the insect that we receive the most questions about. It is also one of the most difficult to control.

Squash bugs feed on summer squash, winter squash, pumpkins, melons, and cucumber. However, some cultivars are more susceptible than others to squash bug feeding and damage. So, our very first line of defense against squash bug damage is in the vegetable varieties we select for the garden. For example, yellow straightneck and yellow crookneck summer squash are highly susceptible to squash bug damage. Substituting zucchini for the yellow squash because it has demonstrated higher tolerance to squash bugs in numerous studies can reduce squash bug problems. However, there is one zucchini cultivar called 'Cocozelle' that has shown considerable susceptibility to squash bugs and should be avoided. Experiment with different cultivars of squash listed as resistant to determine which works best in your garden.

While cucumbers are also attacked by squash bugs, cucumber beetles tend to be a greater problem. Again, many cultivars are resistant to or are tolerant of cucumber beetle damage. Cucumber beetles are stimulated to feed by the chemical cucurbitacin, which is the chemical that gives some cultivars a bitter taste and causes gas in some people. Varieties listed as "burpless" or "non-bitter" contain little to none of the chemical compound and so are less attractive to cucumber beetles.

Selecting resistant cultivars is just one line of defense against squash bugs and cucumber beetles. We need to implement multiple strategies to manage these pests. Covering planted rows with floating row covers excludes both squash bugs and cucumber beetles from the plants, preventing egg-laying. The row covers must be tightly secured to the ground to exclude pests. We have used bags of sand, which are gentler on our row covers than rocks, bricks or boards.

Cucumbers and squash are insect pollinated crops, so we must remove the row covers once plants begin flowering. At that time, hand picking insects and smashing egg masses provides additional control. You can also place wooden boards near the plants, where the squash bugs will congregate overnight. In the morning, you can lift the boards and remove the insects. The key to successful control of these pests is frequent monitoring for their presence and then taking immediate action to reduce the potential infestation.

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CALENDAR

Fed Cattle Field Day.....April 27

Butterflies & Hummingbirds..... May 9

Lahoma Field Day ..... May 19

Balko/Hooker Wheat Field Day .....May 23 & 24

Cattlemen's Conference.....May 24-25

CATTLEMENT'S CONFERENCE

"Blueprint for the Future"

MAY 24-25, 2023

Stillwater, OK

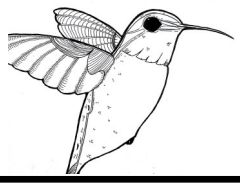
REGISTRATER AT

https://cattlemenscongress.com/conference/

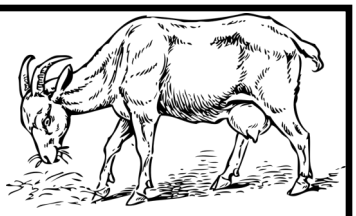
HUMMINGBIRDS & BUTTERFLIES PROGRAM

TUESDAY , MAY 9, 2023 10AM

BEAVER CO. EXTENSION CONFERENCE ROOM



Goats:
An alternative
brush
management tool



For information please check out the link below.

https://www.wildlifedepartment.com/outdoorok/ooj/goats-alternative-brush-management-tool

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