Minimizing Feeding Costs with Winter Grazing Systems

EXTENSION

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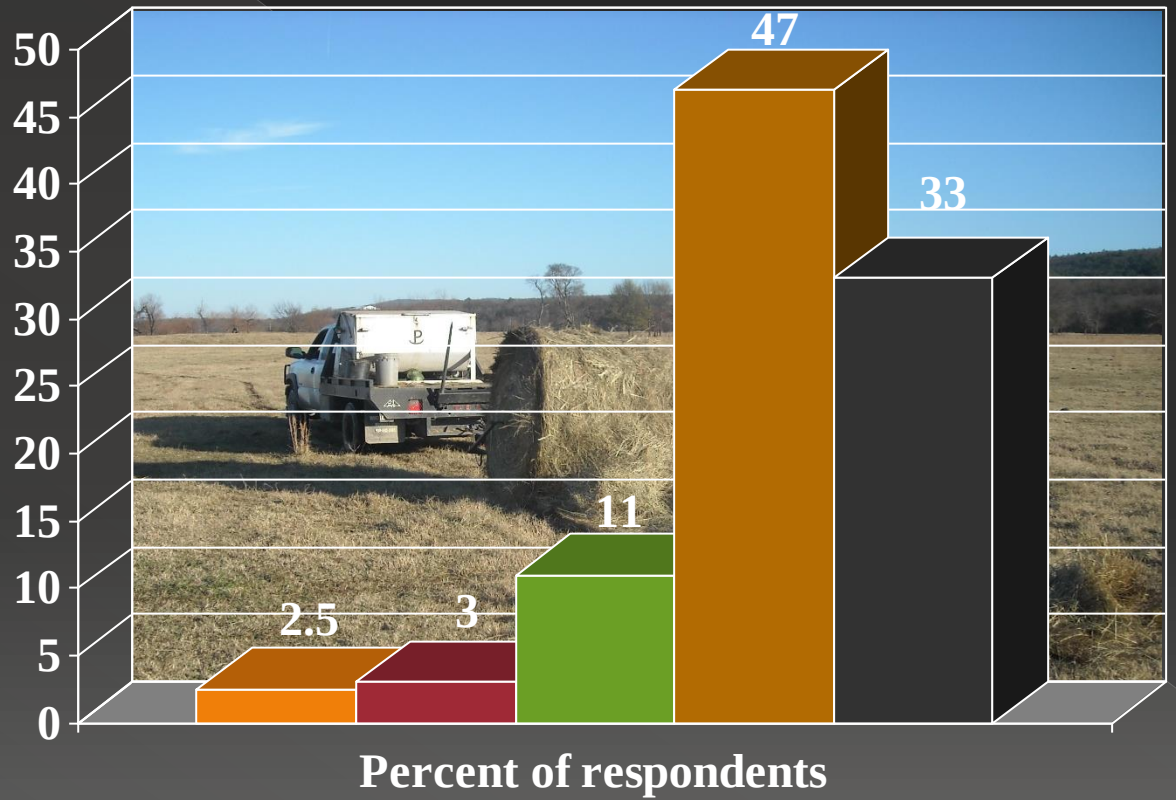
Low Hanging Fruit

- KFMA data shows "Feed" is 45-55% of annual cost of cow ownership
- An average winter daily cost will be $1.50 per cow per day
  - Feed = Forage + Hay + Supplement
  - $35 1100 lb 4x6 bale - $0.032/lb @ 30 lbs = $0.96/c/d
  - $240 ton by-product - $0.12/lb @ 4 lbs = $0.48/c/d
  - WASTE?

NE OK Typical Hay Feeding Season – 1999 Survey



Picture taken Nov 4th, 2006

Average Snow Cover – 4 days

*Most introduced forage producers fed hay over 110 days

** 75% of producers in more than 120 day bracket fed Nov1-Apr 15 (165d)

Effectively Managing Fall Bermudagrass

- Why start with Bermuda?
- Almost every producer in E OK has some Bermudagrass
- I would guess 98% of those never manage Bermuda after Sept. 1
- Remember the Low Hanging Fruit
  - It's already established
  - Resilient
  - Responsive to N
  - Will meet a cow's nutrient requirements

Forage Growth, Rainfall, and Fertilizer Timing

Stockpiled Bermudagrass (Nov-Dec)

How do I stockpile Bermuda?

- *Stockpiled Bermudagrass*
  - ✓First week of September
  - ✓Remove existing forage to 2-3”
    1. Graze it!
    2. Bale it
    3. Clip it
  - ✓Apply 50 to 75 lbs of N ($16.20-$24.45/A)
  - ✓Expect 1 ton of forage per Acre
    - ✓Soil potential and year may give 0.5-2 tons/A
  - ✓Target grazing after frost when growth is complete (Nov-Dec)
  - ✓Use It When You Need It!

1acre = 45-60 grazing days for a 1200 lb cow

Tripping the Fall Stopwatch

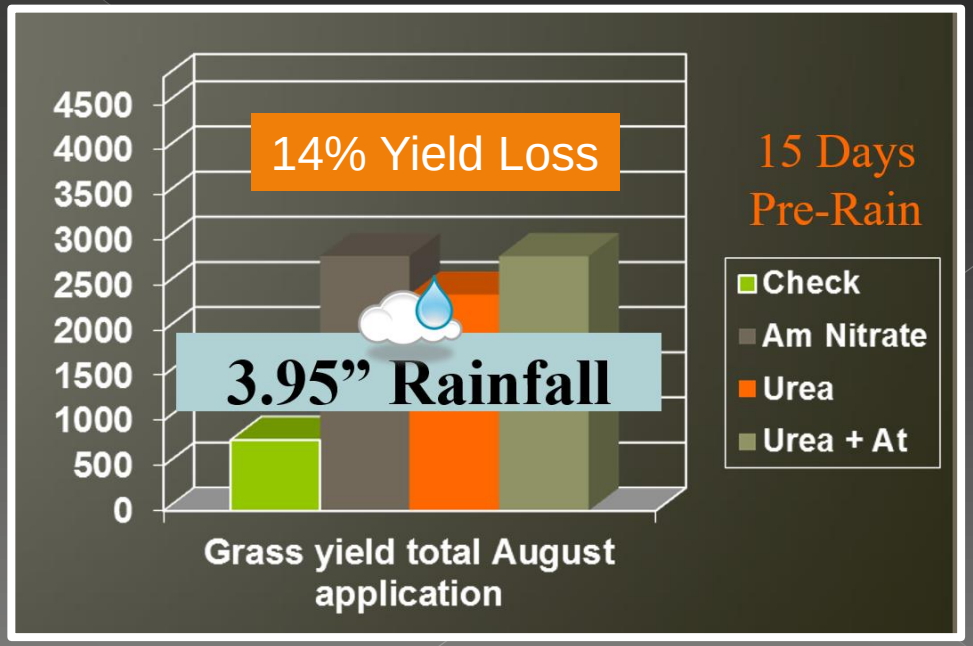
1. Date that N is applied to field
   - Don't wait on a rain!
   - We often miss good rains by waiting on a good rain
   - Research shows losses of urea N rarely exceeds 15%
   - You will lose more yield from shortened growth period than ammonia volatilization

N Source Effects On Yield

Kinta, OK 2005

Brian Pugh & Chris Rice

Statistically no significant differences!



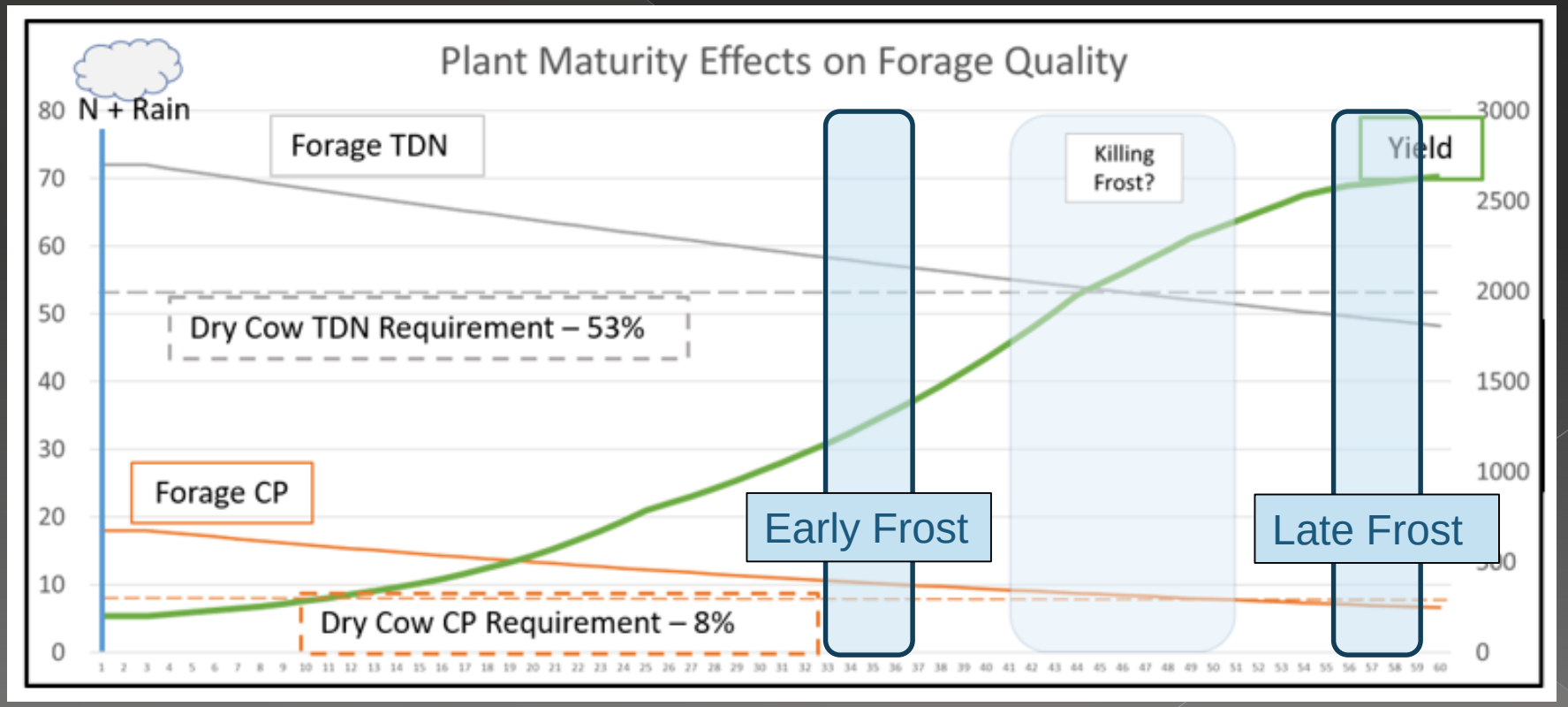
Tripping the Fall Stopwatch

2. Date that first ½" of rain falls
   - Moisture required to fully move N into root zone
   - Soil moisture alone will dissolve prills and cause a color change, but still need rain
   - Determines the onset of vigorous and high quality regrowth

Tripping the Fall Stopwatch

3. Date that frost occurs

- The final word in total production
- #1 factor affecting quality!



Grazing Strategy Effects Forage Utilization

Harvest Method	Low Efficiency	High Efficiency
Continuous Stocking	30	40
Slow Rotation (2-4 paddocks)	50	60
Moderate Rotation (4-8 paddocks)	60	70
Strip Grazing, MOB, Daily, etc.	70	80
Hay Harvest	30	75

Converting from a continuous to a rotational stocking system.

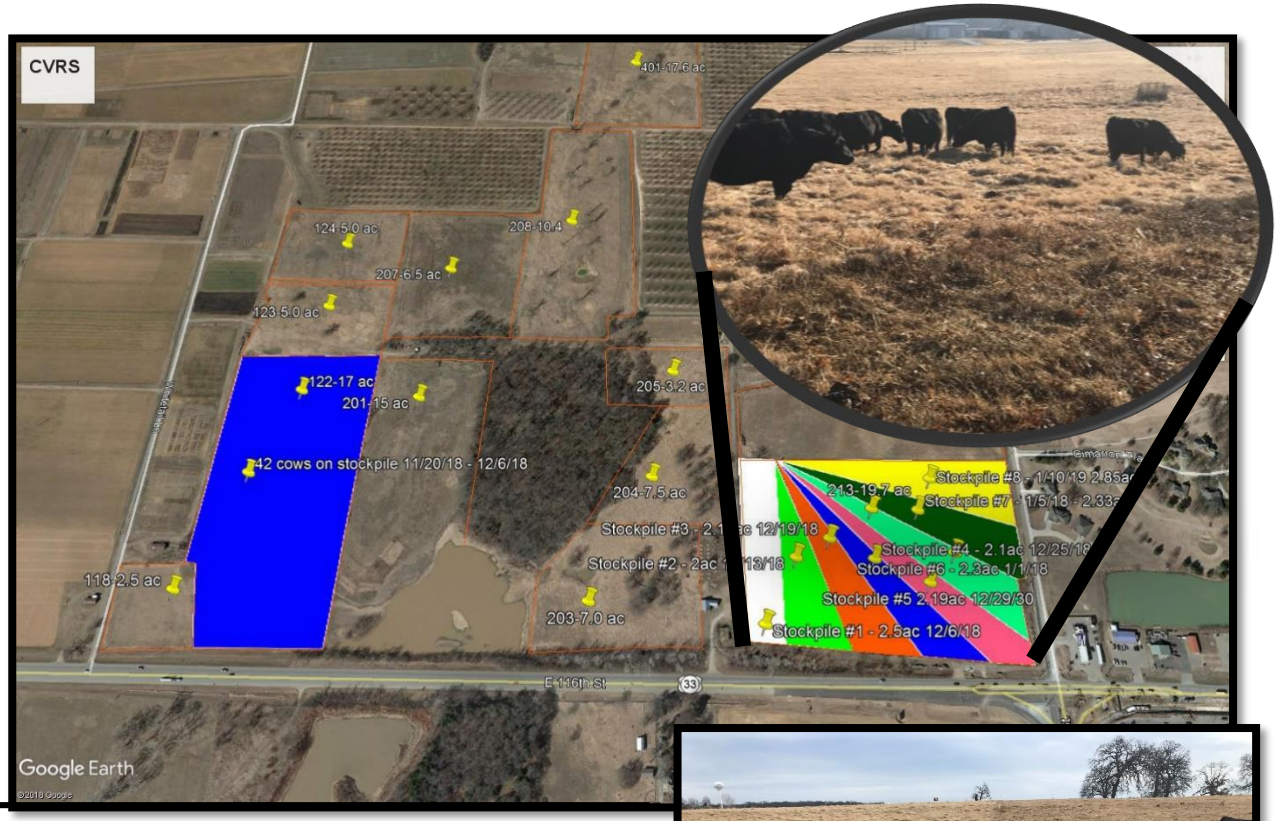
State Trials	% Increase StckRate
Arkansas	44
Georgia	37
Oklahoma	35
Virginia	61

CVRS – 2018-19

Is Strip Grazing Worth the Work?

SW Paddock – 12.3 Acres
Yield = 2,934 lbs/A
Total = 36,088 lbs forage
17 Days of grazing
Cows in Mid 1/3 gestation
10 minutes at Turn-In **20 min**
10 minutes at Pull-off

Sonic Paddock – 17 Acres
Yield = 4,477 lbs/A
Total = 76,109 lbs of forage
40 days of grazing
Cows in Last 1/3 gestation
45 minutes at set-up **2.75 hrs**
20 minutes per move (6 times)



SW - Continuous Grazed Stockpiled Bermudagrass:
Cows in Mid 1/3 gestation
1285 lb x 0.0225 = 28.9 DMI x 42 hd = **1,214 lbs/herd/day** **57% Utilization**
36,088 lbs forage/ 17 days grazing = **2,123 lbs/day (RQDM)**

Sonic - Strip Grazed (4-5 day move) Stockpiled Bermudagrass:
Cows in Last 1/3 gestation
1285 lb x 0.025 = 32.1 DMI x 42 hd = **1,349 lbs/herd/day** **71% Utilization**
76,109 lbs forage/ 40 days grazing = **1,903 lbs/day (RQDM)**

Sonic – If we hadn't strip grazed:
1349 lbs/herd/day = 2,367 lbs RQDM/herd/day = 76,109 lbs forage = **32 Days**
.57 Utilization 2,367 RQDM **We gained 8 days**

What's That 8 Days Worth?
8 bales of hay @ $40/bale = **$320**
5 lbs By-prod/c/d @ $240/ton = **$202**
$522 Savings!

Savings	$522.00
Fencing	- $336.50
	$185.50 ÷ 2.4 hrs
labor	**$77/hr return!**

Savvy use of Funds

Brand X 1.3 Joule Energizer =	$160.00
¼ mile Turbo Polywire =	$75.00
15 – Tread-In Posts =	$67.50
2 – Ground Rods =	$22.00
2 – Insulator/ Tensioners	$12.00
Total Electrified System	**$336.50**

Pitfalls to Watch For

- *Stockpiled Bermudagrass*
  - ✓Take a standing forage sample!
  - ✓Leaves contain the bulk of the "quality"
    - ✓Increased rain speeds leaf degrade
    - ✓"Tight" grazing encourages more stem removal
      - ✓Assess rates of weathering and grazing, then compare to animals nutrient requirements
  - ✓Inclement weather (ice/snow) is a game changer on SP Bermuda
    - ✓Often hard to convince cows to begin grazing again

Pitfalls to Watch For

- ***Stockpiled Bermudagrass***
  - ✓Lactating Cows ride the edge
    - ✓Monitor BCS and manure pats
  - ✓Super tight grazing when dormant?
    - ✓Won't hurt Bermuda most years
    - ✓Can increase spring CS weeds
  - ✓Tight grazing prior to frost
    - ✓Can reduce winter survival of stand
      - ✓Graze no tighter than 3-4" until after frost

Cimarron Valley Research Station

Perkins, OK 2018-2020

- ✓42 Cow Herd
- ✓115 grazeable acres
- ✓2.74 Acres/cow

Special Thanks:

- Chris Stansberry
- Matt Sparks
- Josh Massey
- Jordan Green
- Dr. Chris Richards

150 Average days of historically feeding hay/supplement

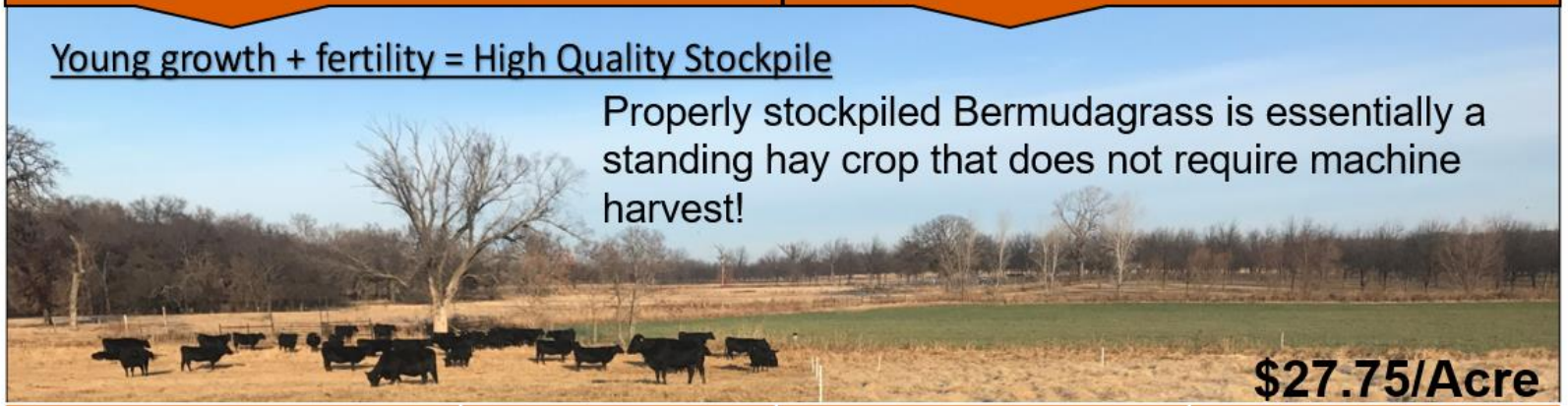
Days of winter feeding in 2018 - 2019 **59**

Cimarron Valley Research Station
Perkins, OK 2018-2020

Grazing Season **Extension** Overview

128/91 Days supplement/hay reduction compared to traditional method.

$1 Expected savings per cow per day when grazing fertilized winter forages vs hay and feed



CVRS	Bermuda Hay	SP Bermuda 2018	SP Bermuda 2019
Crude Protein (CP)	11.1	12.4	12.3
Energy (TDN)	61.3	60.4	59.4
Yield (lb DM/A) – Graze Days		3,829 lb – 57 days	3,199 lb – 61 days?
"Feeding" Cost/C/D (utilization)	**$0.97 (90%)**	**$0.35 (67%)**	**$0.43 (65%)**

Cimarron Valley Research Station

Perkins, OK 2018-2020

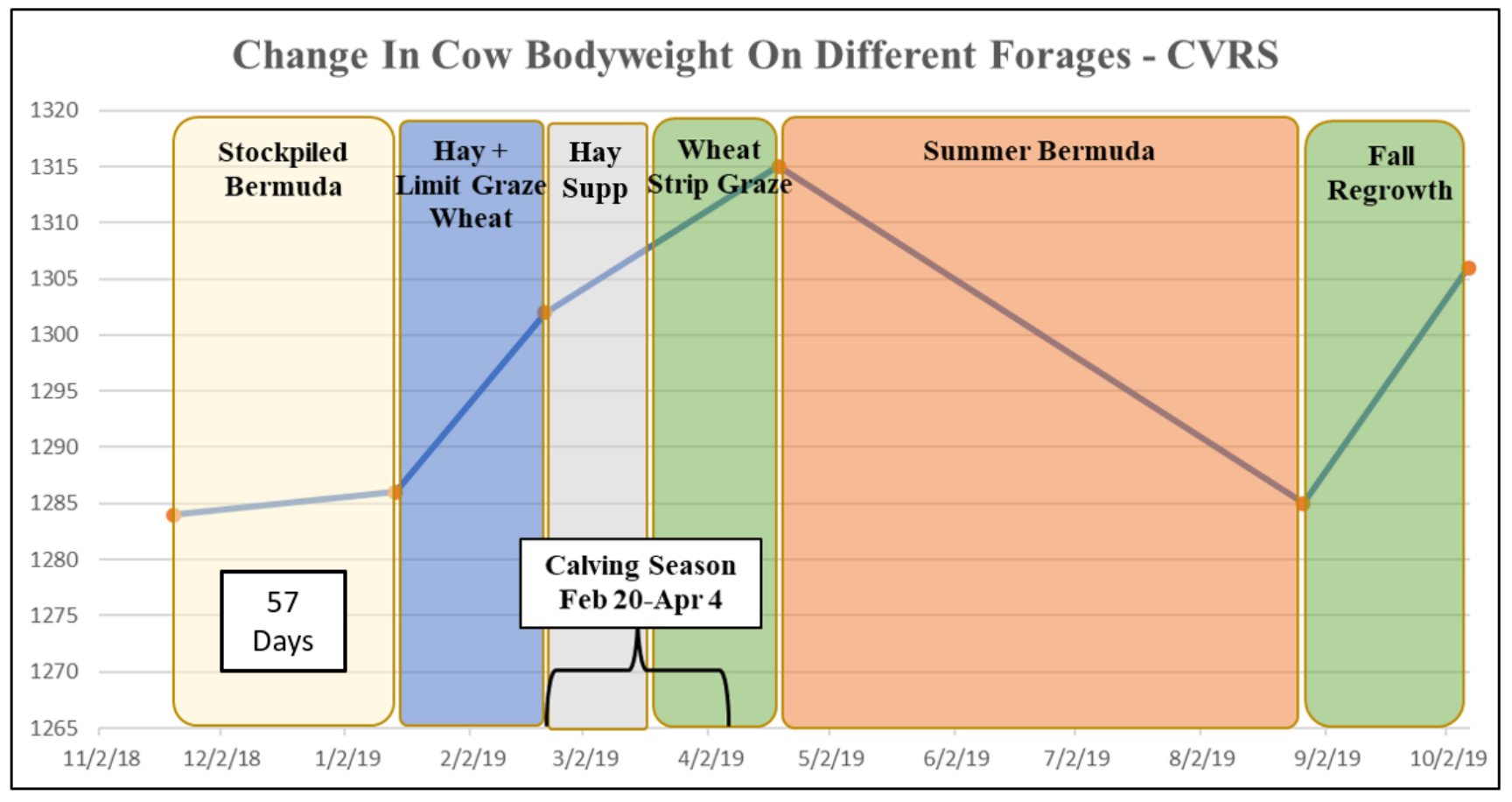
Cowherd Nutrition Overview

600 vs 132 Pounds of supplement per cow fed to the Traditional herd compared to the Progressive forager cows.

4.1 vs 1.6 Bales of hay fed per cow to the Traditional herd compared to the Progressive herd

Cimarron Valley Research Station

Perkins, OK 2018-2020



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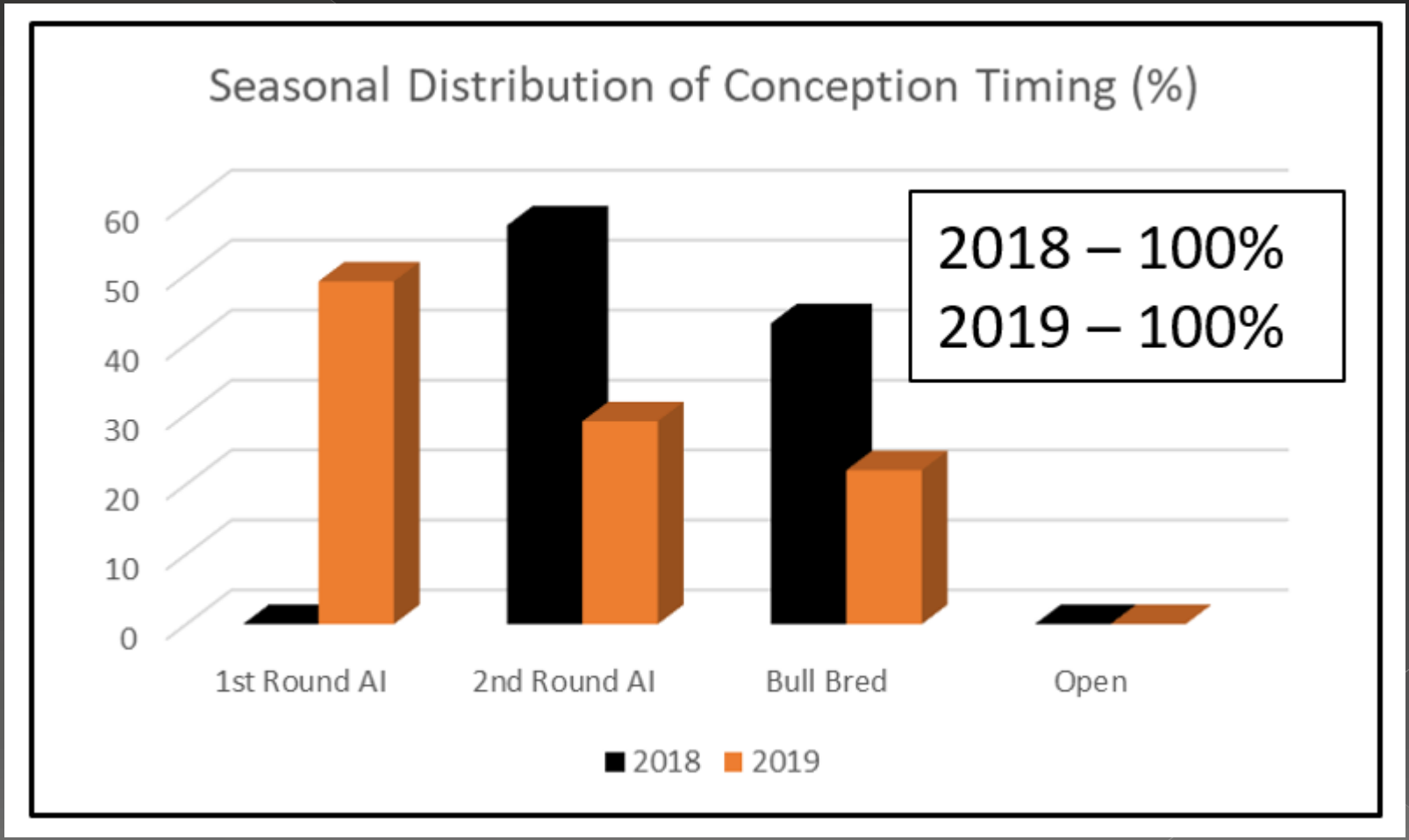
Perkins, OK 2018-2020



Cimarron Valley Research Station
Perkins, OK 2018-2020

Feed Cost

$220/ton – Traditionally fed 600 lbs/cow for 150 days. **2019 feed use was 132 lbs/cow over 22 days (only fed during calving).**

Hay Cost

$35/bale – Traditionally fed 4.1 bales (1200 lb) over 150 days. **2019 hay use was 1.62 bales of of grass hay per cow over 59 days.**

Pasture Cost

Traditionally no fall fertility or seed was used. **In 2019, 32 acres of SP Bermuda at $27.75/A. 9 acres of CT small grains + DAP fertilizer at $75/A.**

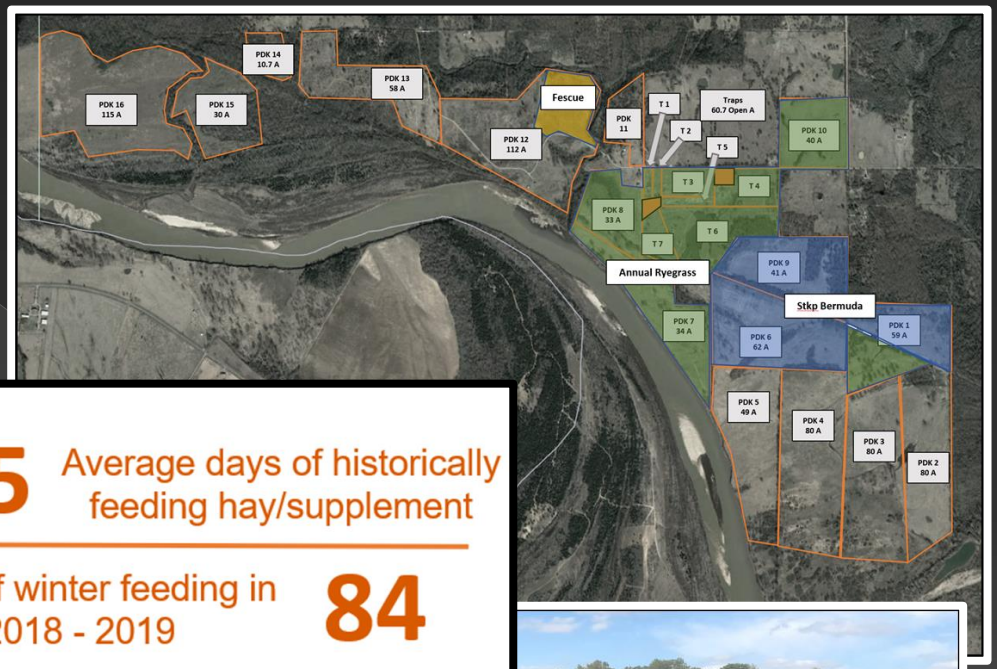
CVRS 2018/19	Traditional	Progressive
Feed ($/hd)	$66.00	$14.52
Hay ($/hd)	$143.50	$56.70
Pasture ($/hd)	$0	$37.21
Total Cost ($/hd)	$209.50	$108.43

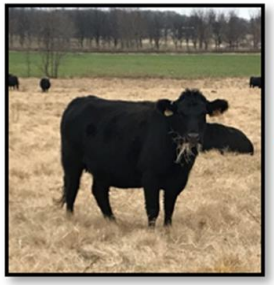
$101.07/cow winter cost savings

Small changes in forage production/acre or utilization of that forage make much larger changes in reduced feed/hay, amplifying the savings of a winter forage system!

Mac Lindley R&D Farm
Valliant, OK 2018-2020

- ✓272 Cow Herd
- ✓945 Grazeable Acres
- ✓3.47 Acres/Cow





135 Average days of historically feeding hay/supplement

Days of winter feeding in 2018 - 2019 **84**

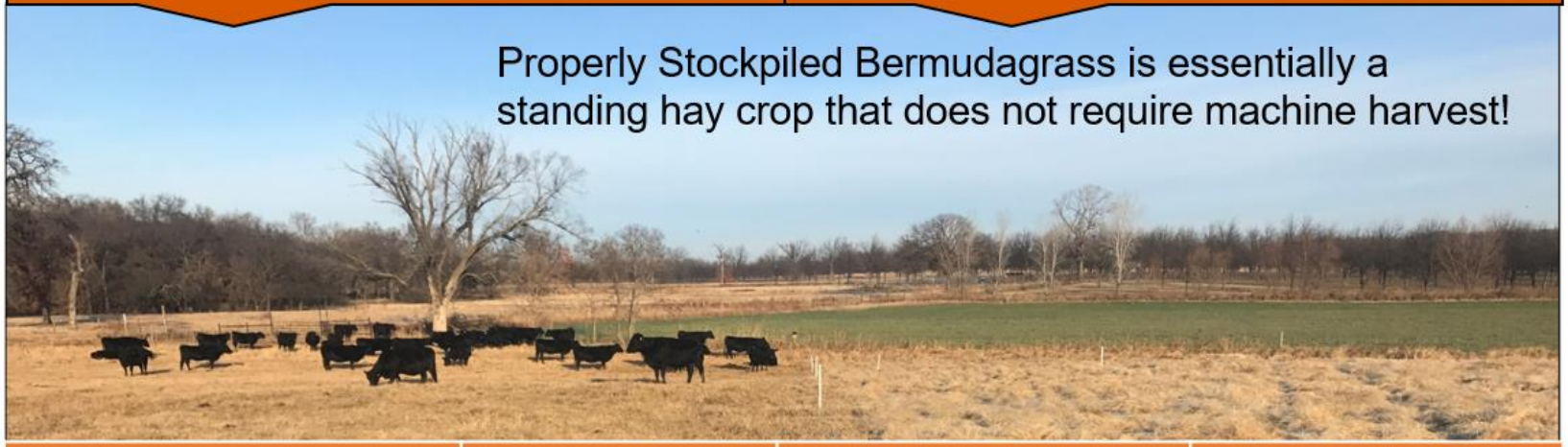
Special Thank

- Curtis Cowell
- Ryan Evans
- Bob Heineman
- Casey Meek
- Chris Stansberry
- Dr. Chris Richards
- Glenda Rankin
- Keith Anderson
- Randy Holeman
- Dennis Wilson

Mac Lindley R&D Farm
Valliant, OK 2018-2020

51 Days total hay and supplement reduction.

$1 Expected savings per cow per day when grazing fertilized winter forages vs hay and feed



MLRDF	Bermuda Hay	SP Bermuda 2018	SP Bermuda 2019
Crude Protein (CP)	11.3	12.7	12.5
Energy (TDN)	62.1	59.3	58.2
Yield (lb DM/A) – Graze Days		2,249 - 38	3,192 – 76
"Feeding" Cost ($/C/D)	$0.97 (90%)	$0.38 (81%)	$0.47 (65%)

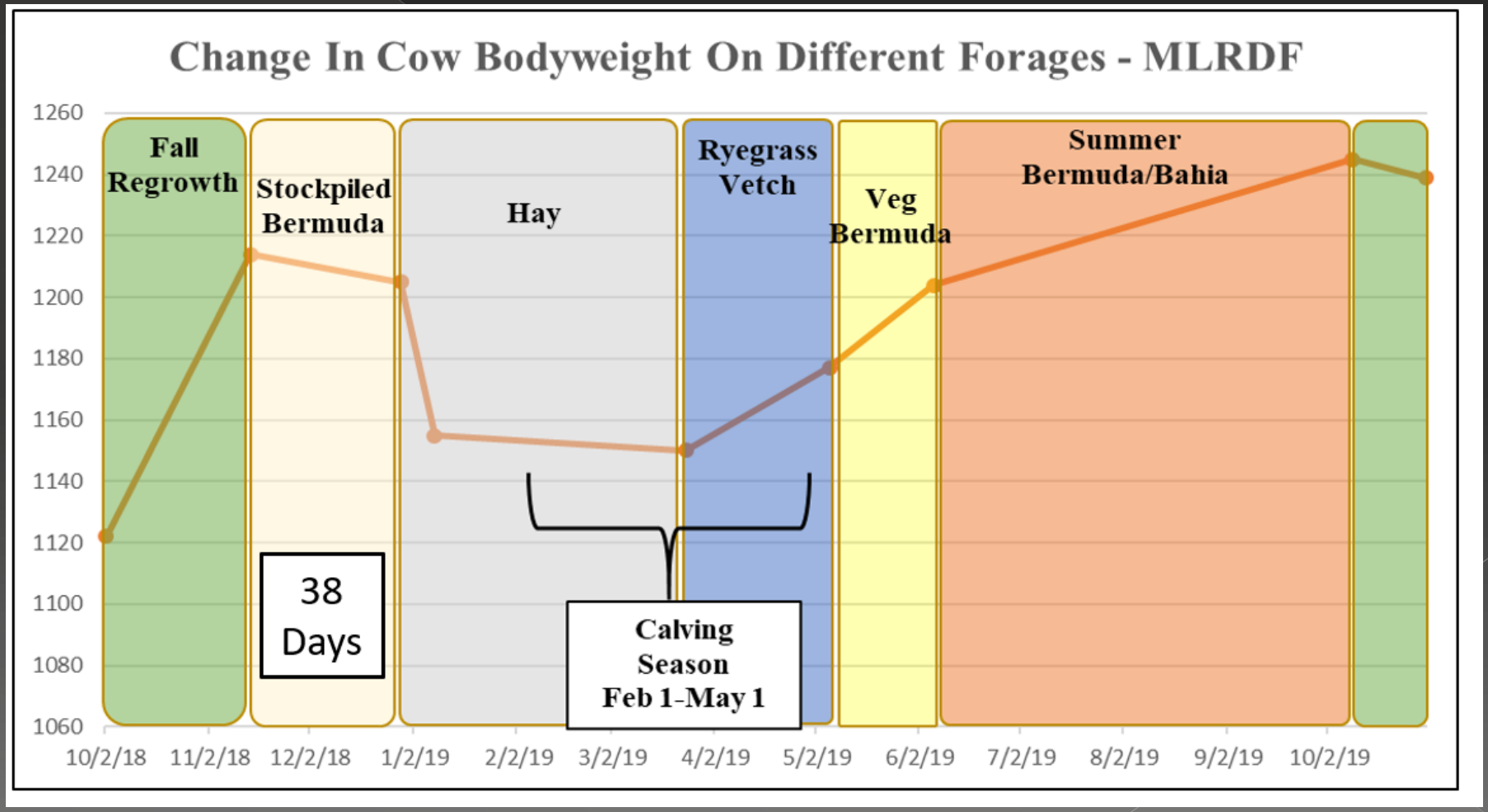
Mac Lindley R&D Farm
Valliant, OK 2018-2020

Cowherd Nutrition Overview

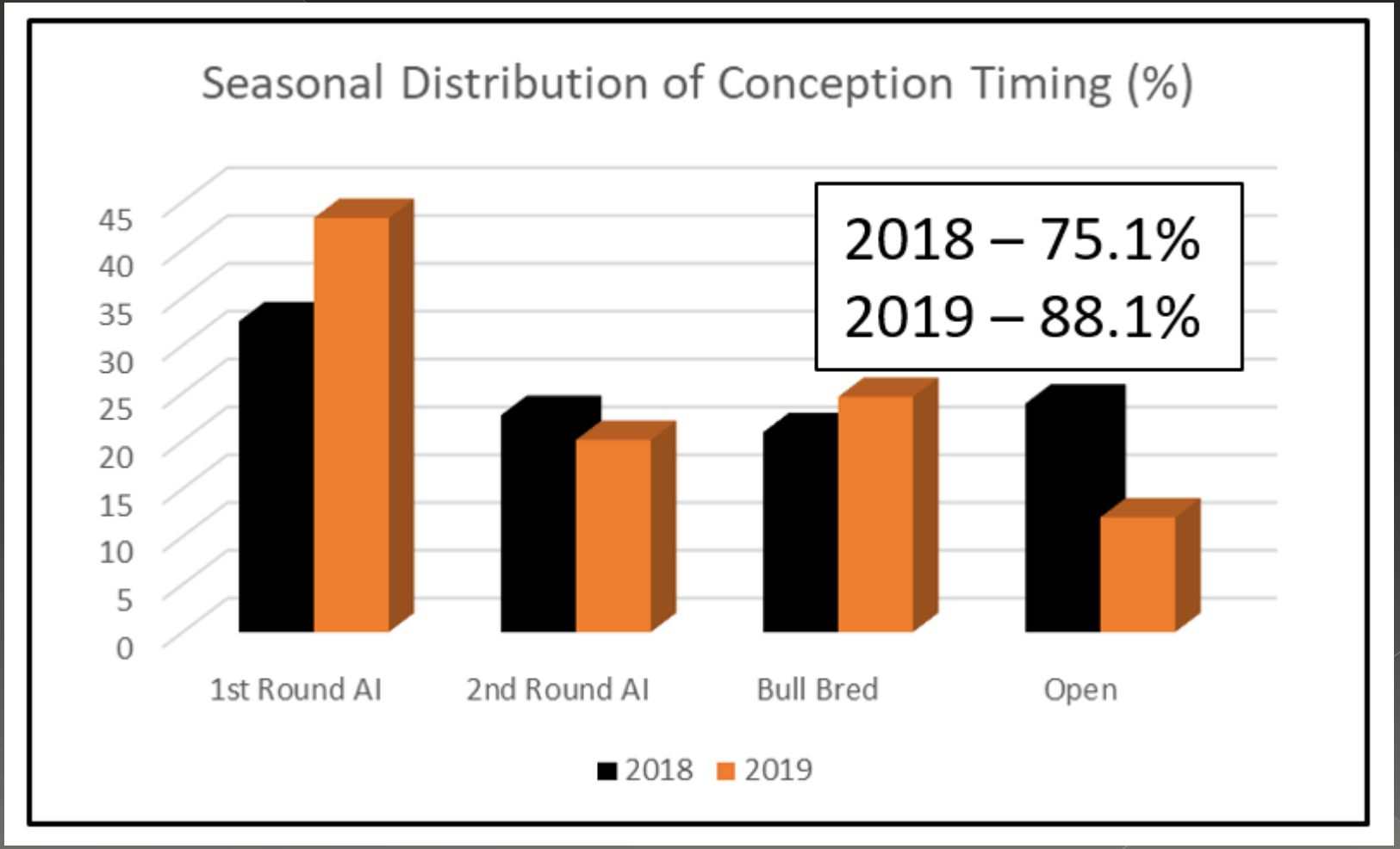
600 vs 204 vs 0 Pounds of supplement per cow fed to the Traditional herd, Progressive Young cows (3,4,5 yr) and Progressive Older Cows

3.3 vs 2.3 Bales of hay fed per cow to the Traditional herd compared to the Progressive herd

Mac Lindley R&D Farm
Valliant, OK 2018-2020



Mac Lindley R&D Farm
Valliant, OK 2018-2020



Mac Lindley R&D Farm
Valliant, OK 2018-2020

Feed Cost

$220/ton – Traditionally fed 600 lbs/cow for 150 days. **2019 feed use was 77 lbs/cow over 84 days (only used for 3-5 year olds).**

Hay Cost

$35/bale – Traditionally fed 3.33 bales over 125 days. **2019 hay use was 0.66 bales of alfalfa per cow ($45/bale) and 1.63 bales of grass hay per cow over 84 days.**

Pasture Cost

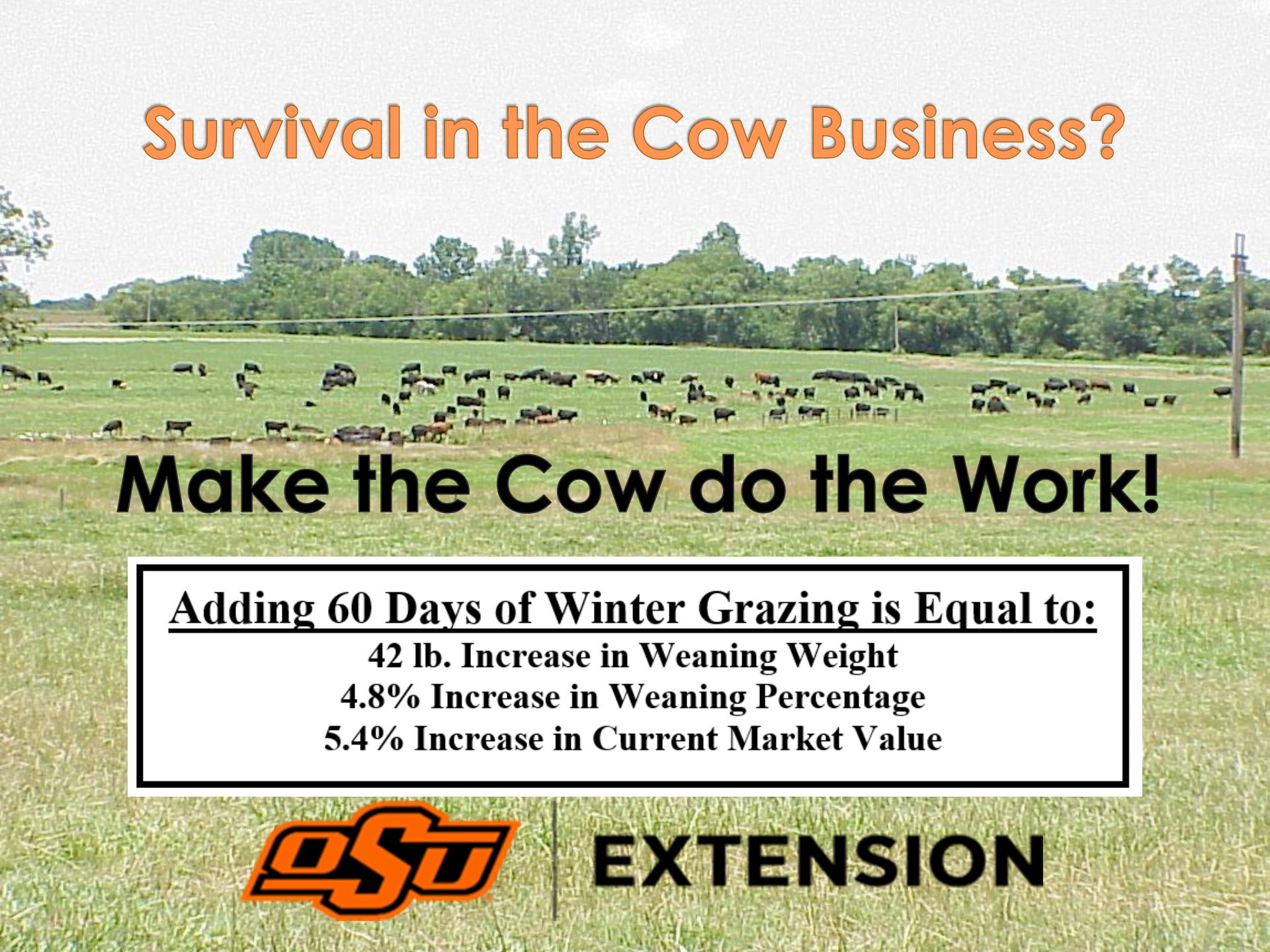
Traditionally no fall fertility or seed was used. **In 2019, 133 acres of SP Bermuda at $27.75/A. 107 acres of drilled ryegrass + DAP fertilizer at $46/A.**

MLRDF 2018	Traditional	Progressive
Feed ($/hd)	$66.00	$8.47
Hay ($/hd)	$116.55	$86.75
Pasture ($/hd)	$0	$31.30
Total Cost ($/hd)	$182.55	$126.52

$56.03/cow winter cost savings

Small changes in forage production/acre or utilization of that forage make much larger changes in reduced feed/hay, amplifying the savings of a winter forage system!

Survival in the Cow Business?



Make the Cow do the Work!

Adding 60 Days of Winter Grazing is Equal to:

42 lb. Increase in Weaning Weight

4.8% Increase in Weaning Percentage

5.4% Increase in Current Market Value

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Economics Overview - The Impact of Cow Fertility

21 days extra gain
2 lbs. / day ADG
$1.50/lb. Value of Gain

$63/cow

What does it cost if a cow misses a cycle?

$$= \frac{Number\ of\ females\ diagnosed\ as\ bred}{Number\ of\ females\ exposed}\ x\ 100$$

Preg. % Target = 95%

How big of difference can Weaning % make?

$$= \frac{Number\ of\ calves\ weaned}{Number\ of\ females\ exposed}\ x\ 100$$

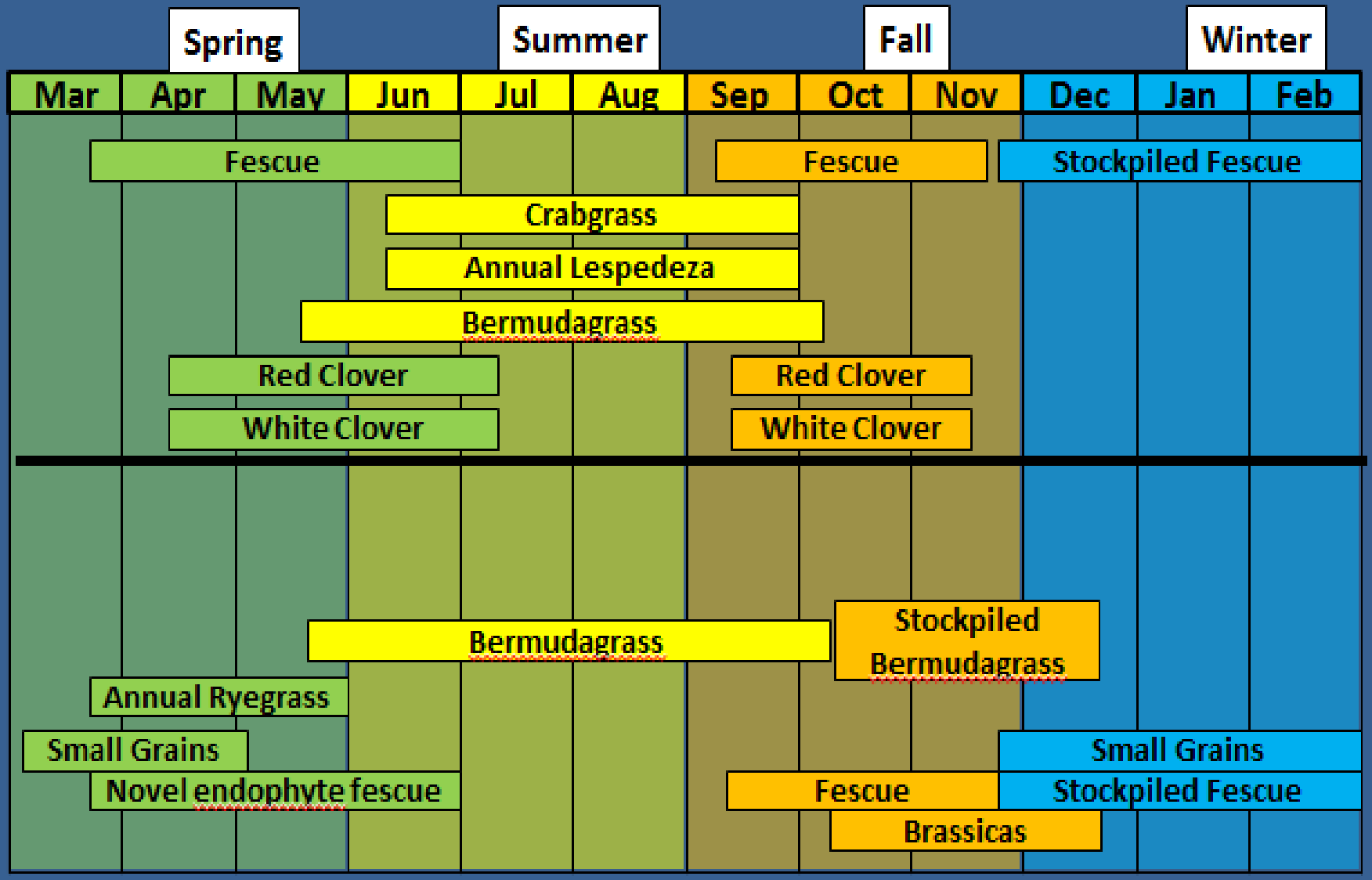
Weaning % Target = 90%

Calculated on a sample 100 cowherd including price slide for additional weight

Gross Revenue Comparison (WW vs W%)

Avg. Weaning Weight	Weaning % 80%	85%	90%	95%
475	$62,700	$66,619	$70,538	$74,456
500	$64,000	$68,000	$72,000	$76,000
525	$65,520	$69,615	$73,710	$77,805
550	$66,440	$70,593	$74,745	$78,898

Forage Production Planning Calendar




Can We Take It Further?
Utilize Native Forages!


Can We Take It Further?
Utilize Cool Season Forages!

Feeding Cows in the winter is normally the #1 variable cost associated with owning that cow.

- **Make The Cow Do The Work!**
- **Having a balanced forage system will help reduce hay feeding days.**
- **Supply quantity and quality!**
- **Grazing fertilized forage can save you $1/C/D!**
- **Stockpiling fall forage production as a standing hay crop – Bermudagrass, Fescue, Brassicas, Small Grains, Native**
- **Growing a cool season spring production forage – Annual Ryegrass, Small Grains, Clover, Fescue**