



FEED GREATNESS™

WIND **AND** **RAIN**®
CATTLE MINERAL

New Mexico Cattlemen's College

Dr. Ty Davis

Technical Cattle Consultant
Lubbock, TX

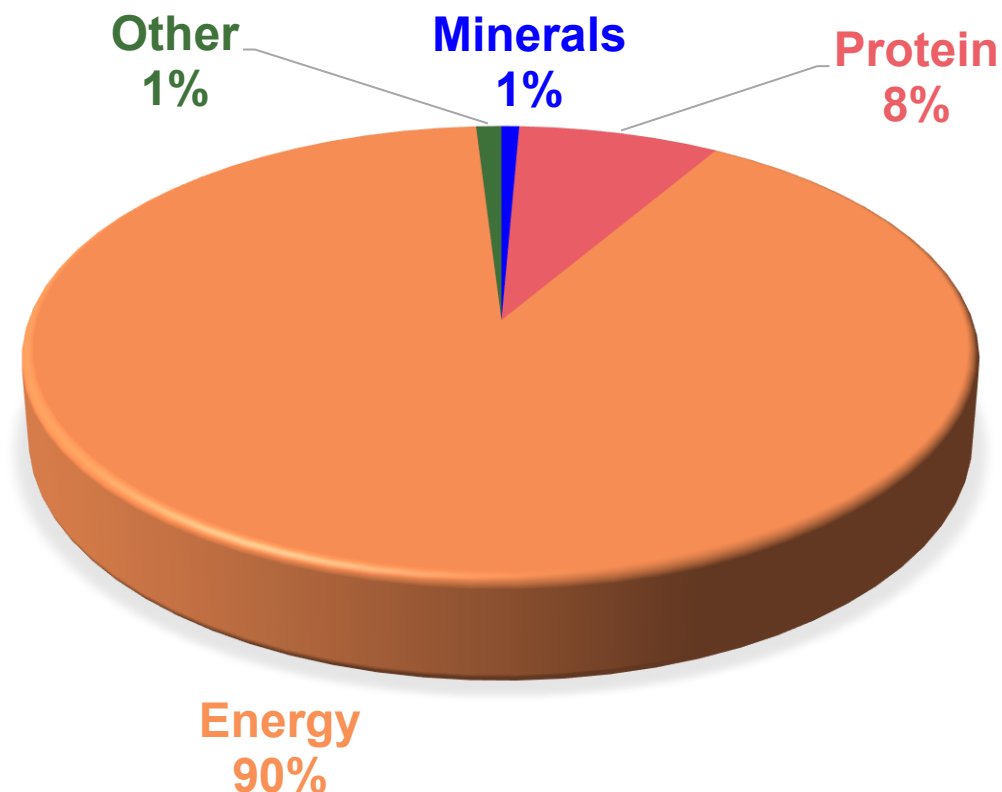
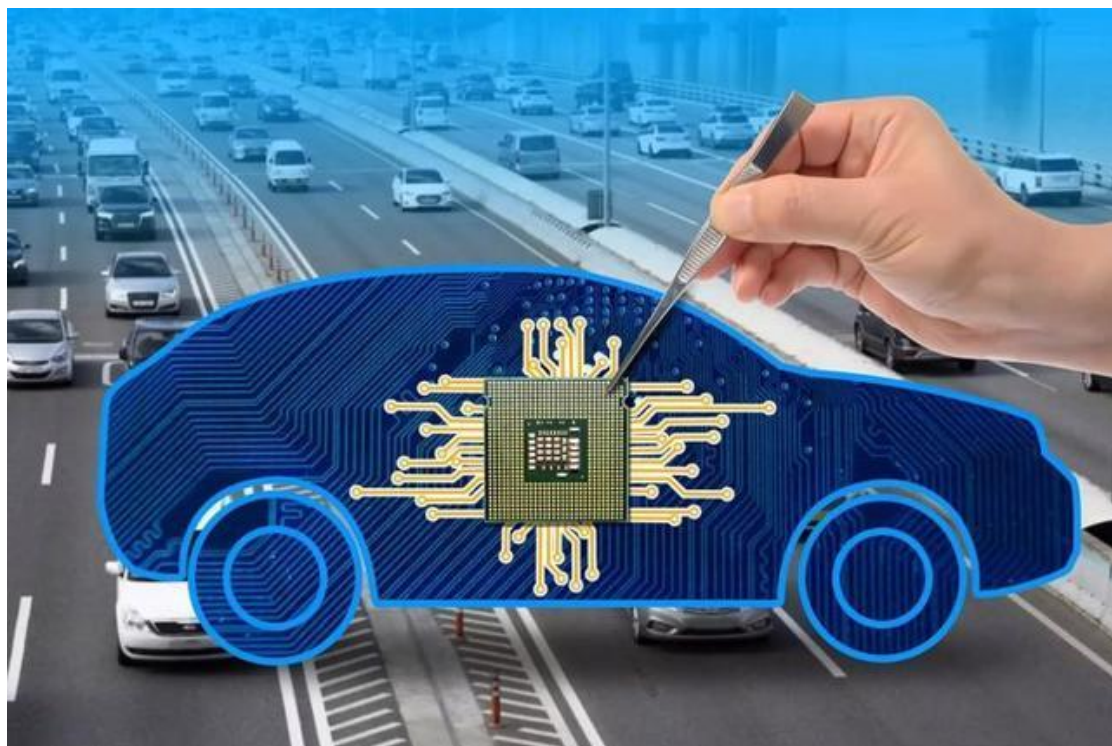
Dr. Clay Burson

Beef Technical Consultant
Lubbock, TX



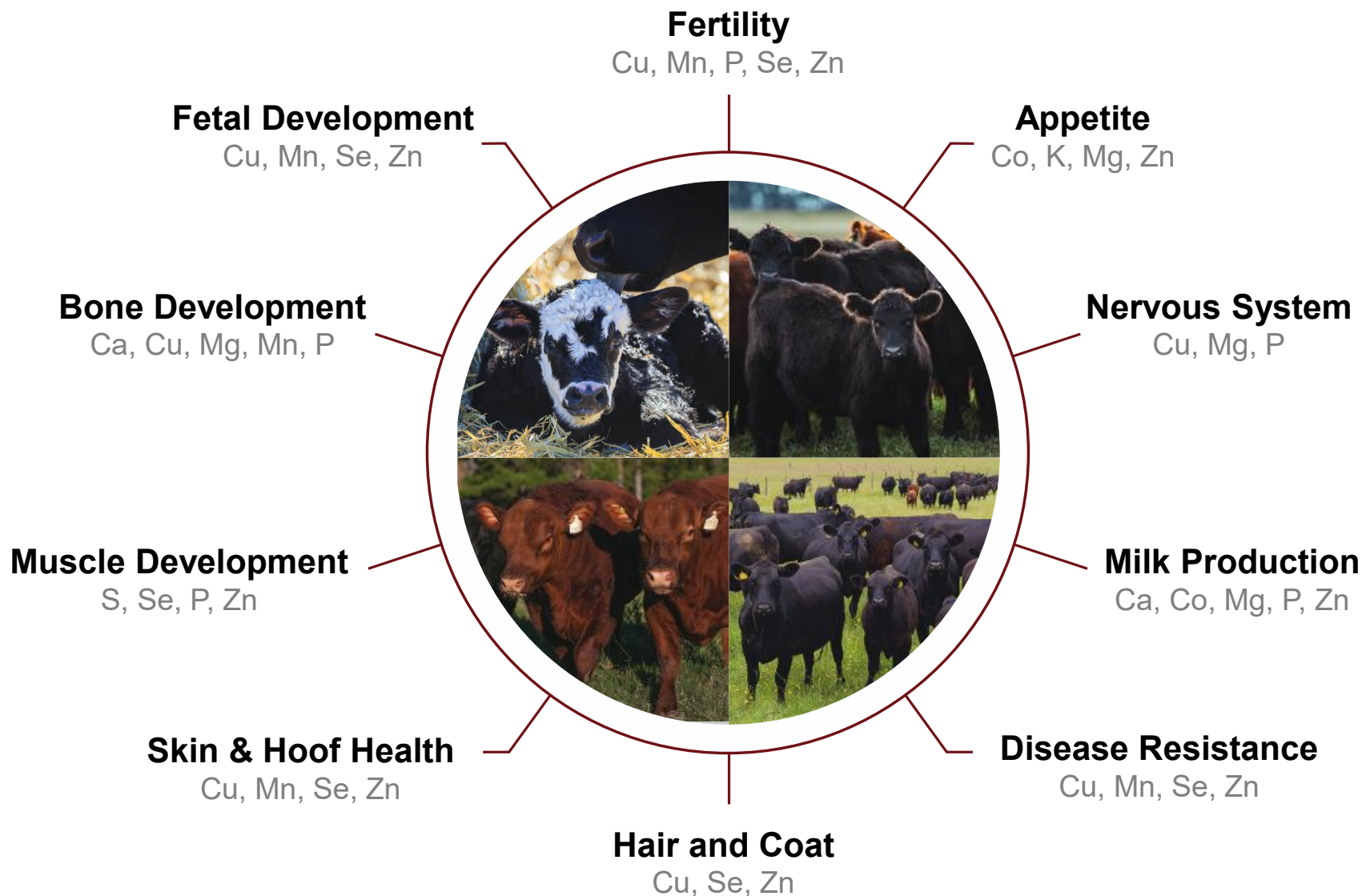


MINERALS MAKE UP A SMALL PORTION OF THE DIET, BUT THEY MAKE A BIG IMPACT ON PERFORMANCE!

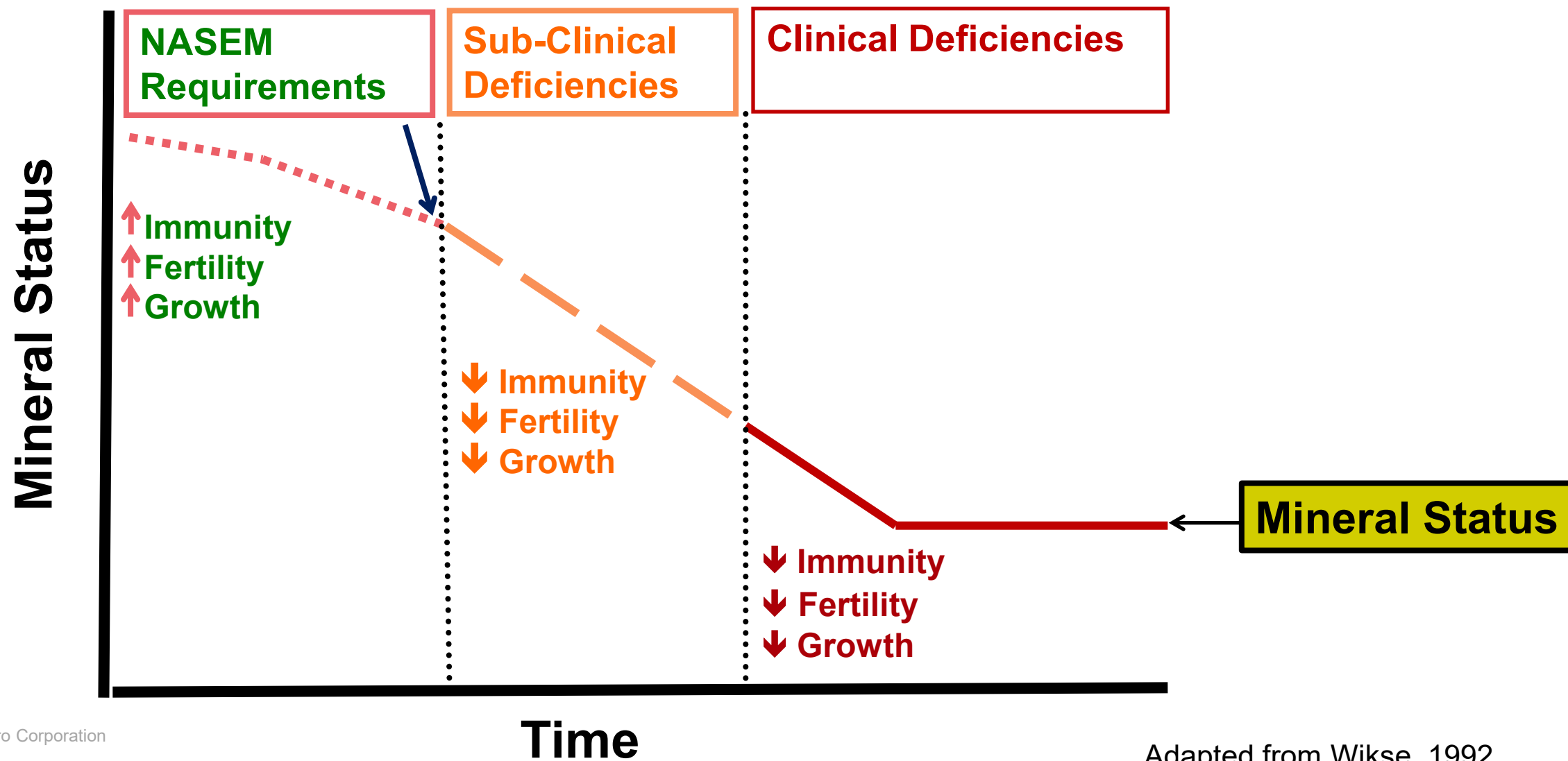




MINERALS MAKE UP A SMALL PORTION OF THE DIET, BUT THEY MAKE A BIG IMPACT ON PERFORMANCE!



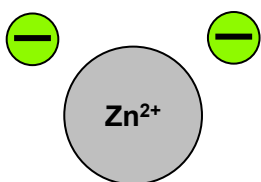
EFFECTS OF TRACE MINERAL DEFICIENCIES



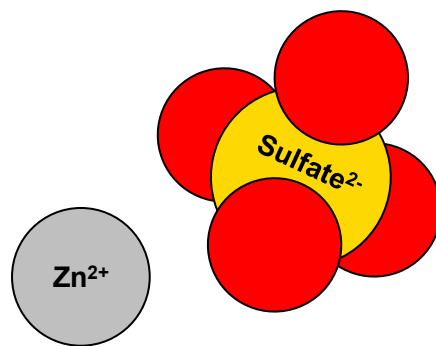


INORGANIC VS. ORGANIC TRACE MINERALS

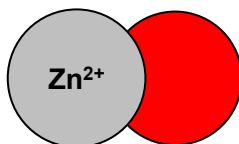
- Inorganic: no carbon-hydrogen bonds



Zinc chloride

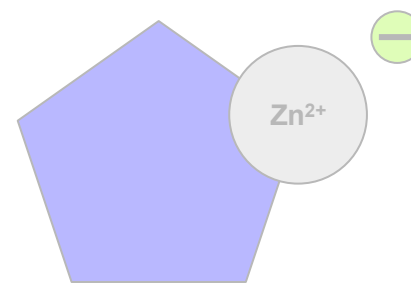


Zinc sulfate

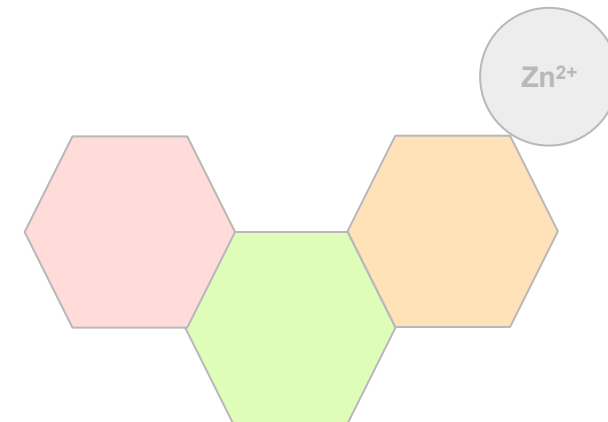


Zinc oxide

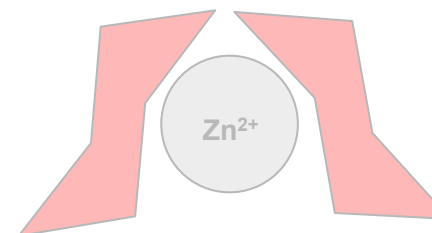
- Organic: has carbon-hydrogen bonds



Zinc amino acid



Zinc Proteininate



Zinc Polysaccharide



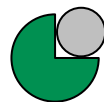


Intestinal lumen

Inorganic Zinc



Organic-salt Zinc



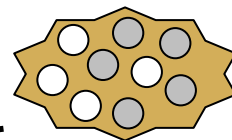
Zn^{2+}

Ca^{2+}

Other metals

Cu^{2+}

Fe^{2+}



Dietary chelator

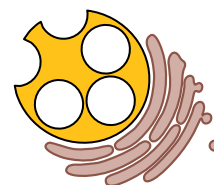
Zinc transporter

Enterocyte

Zinc shuttle



Metallothioneine

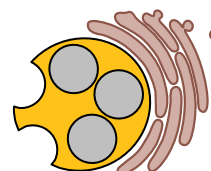


Ca^{2+}

Other metals

Cu^{2+}

Fe^{2+}



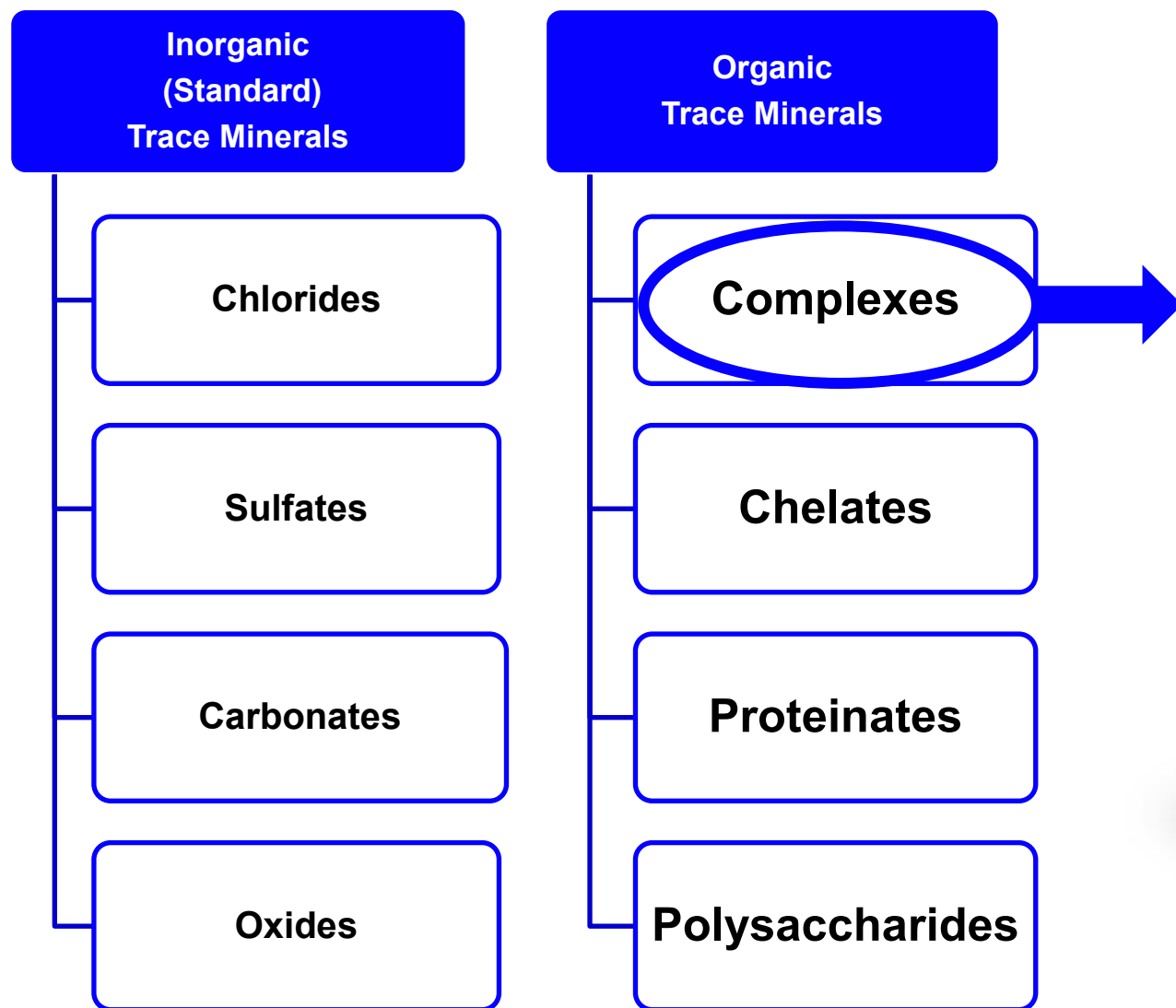
Circulation

Zinc transporter

High blood Zinc level



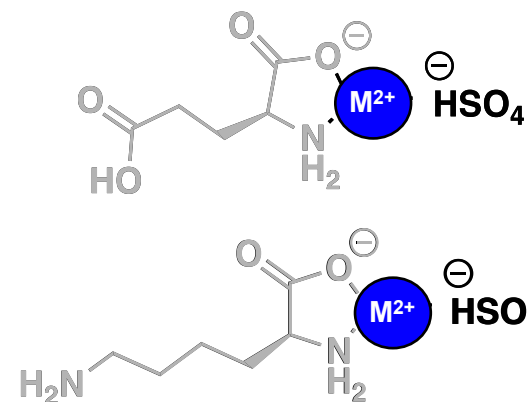
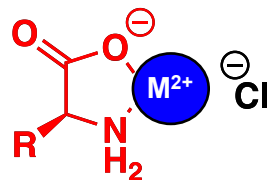
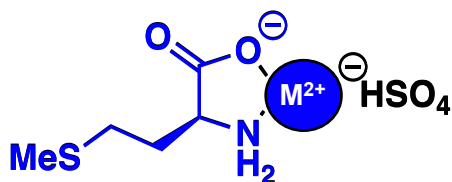
CHOICES





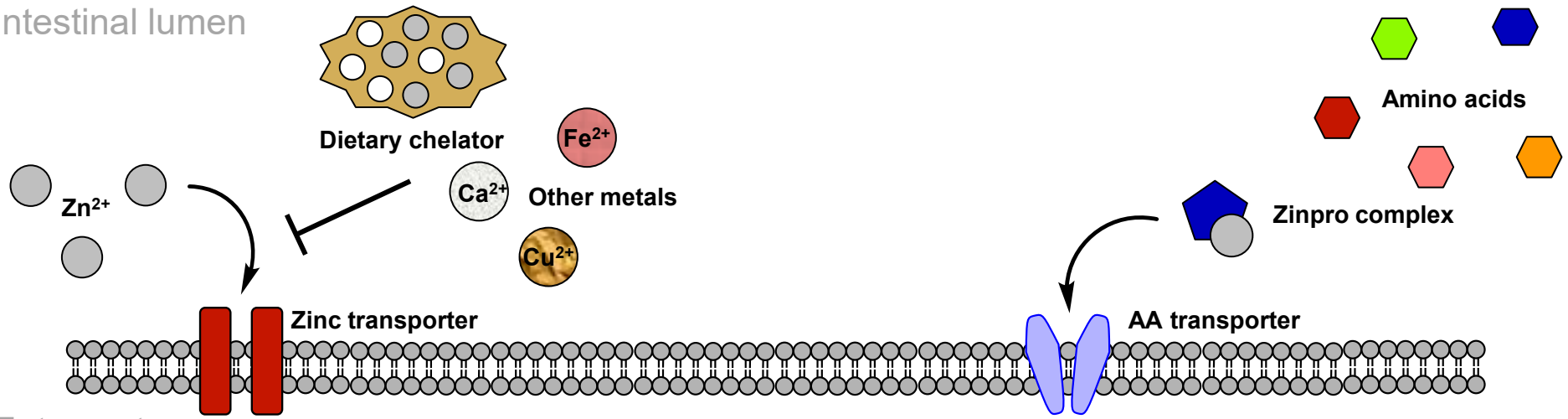
ZINPRO PERFORMANCE MINERALS

- Zinpro uses amino acids (AA) to form mineral complex
- Binding is the same between product lines
 - Identity of AA ligand changes
- Binding the same with Zn, Mn, and Cu

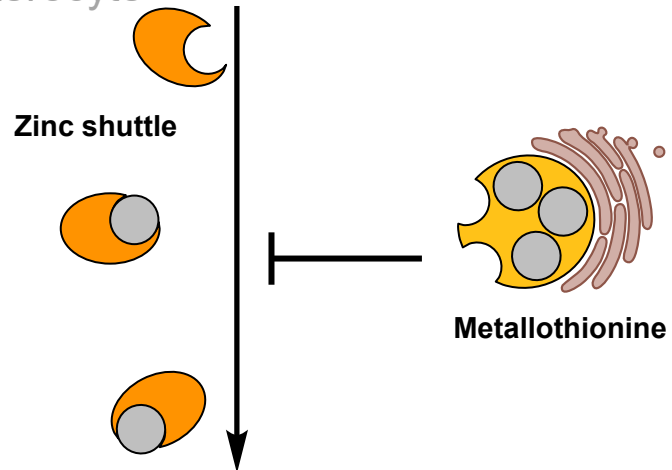




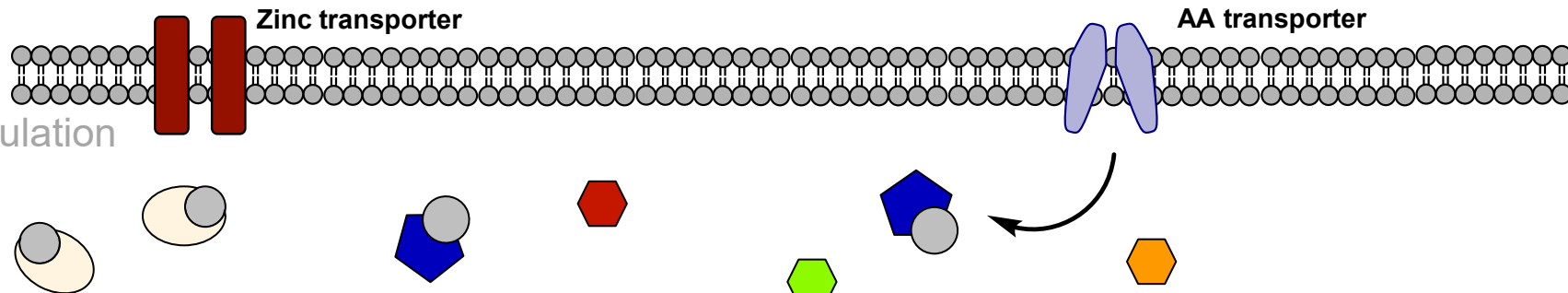
Intestinal lumen



Enterocyte

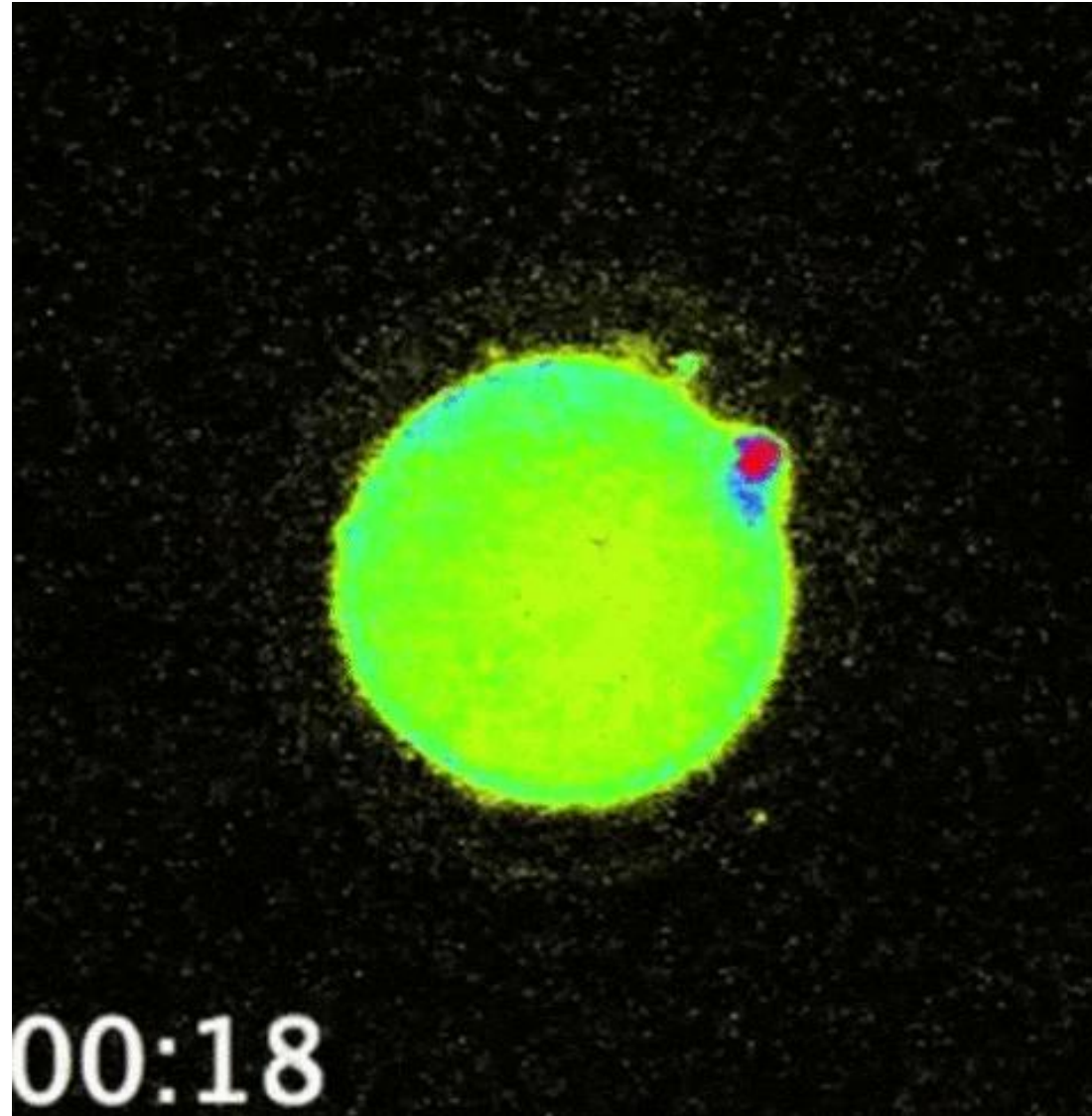


Circulation



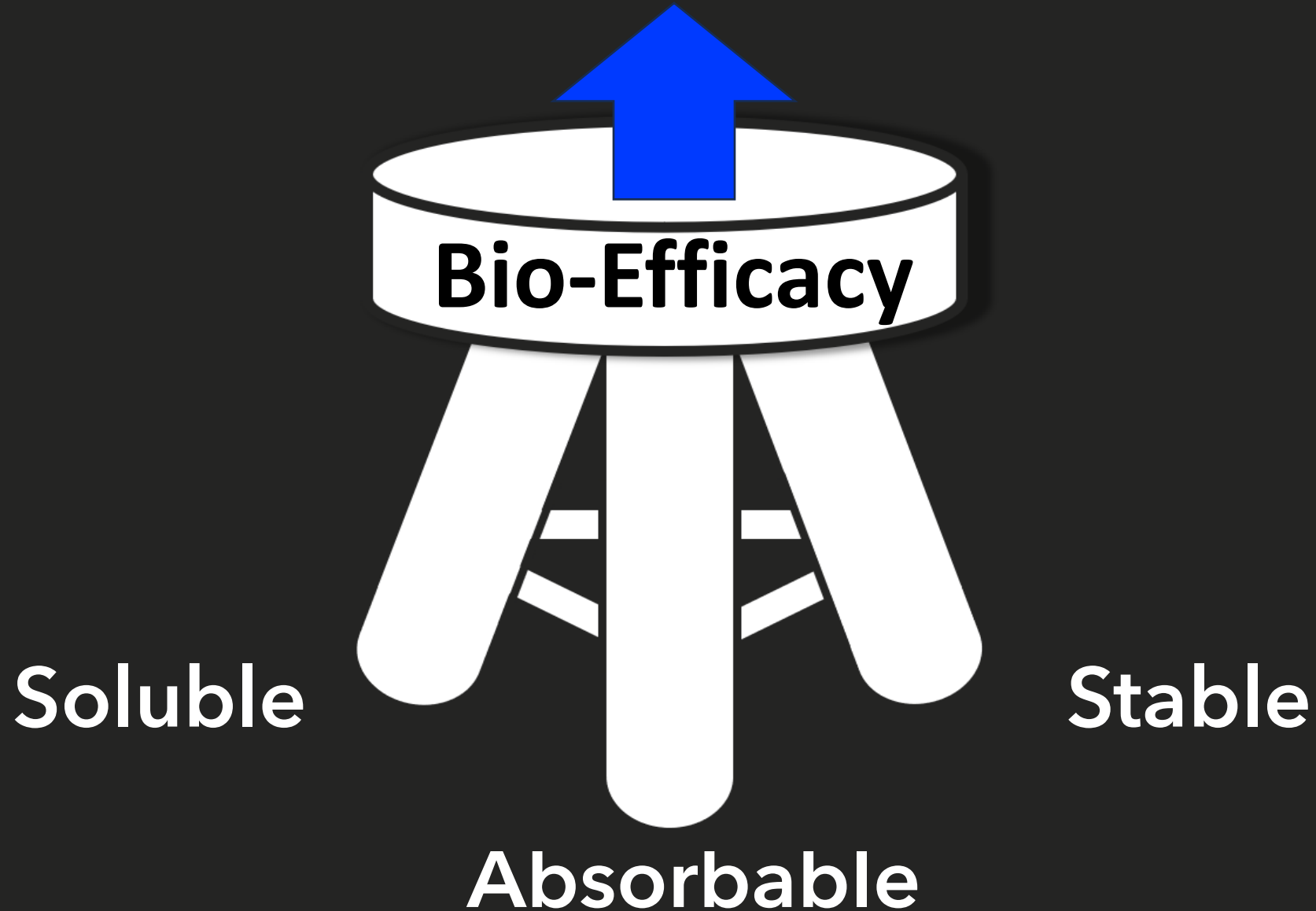


DELIVER THE MINERAL TO THE CELL WHERE IT IS NEEDED!



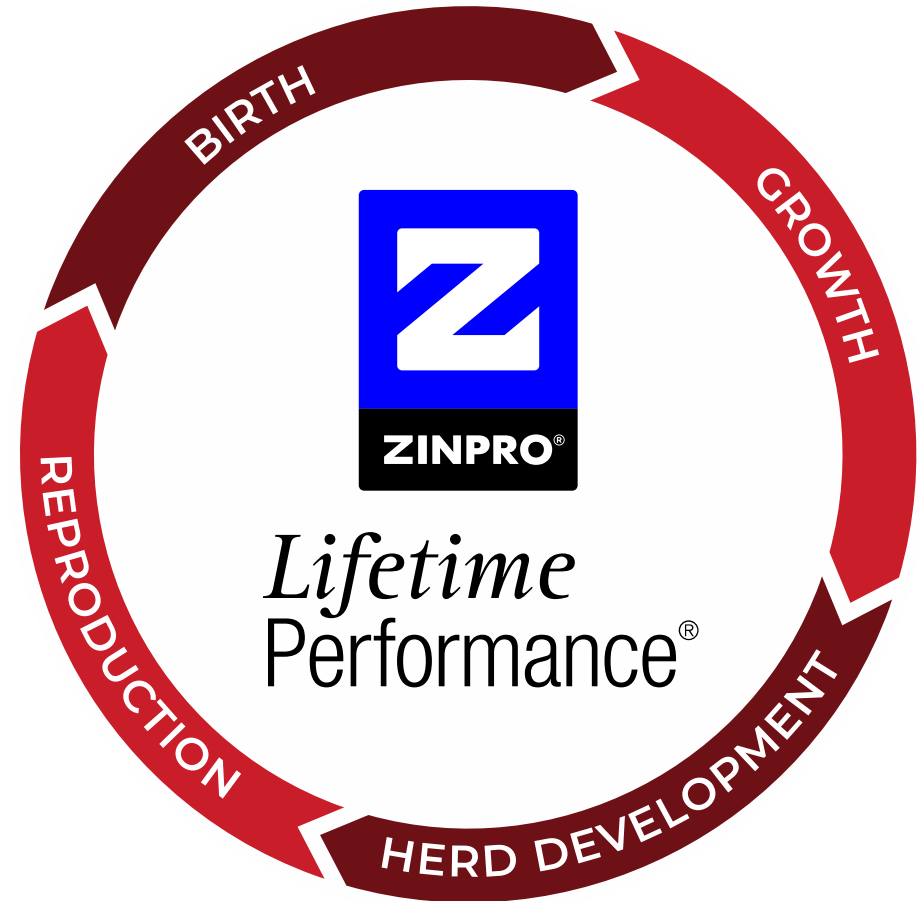


Cattle Health & Performance





LIFETIME PERFORMANCE





ZINPRO® AVAILA® IMPROVES CUMULUS-OOCYTE COMPLEXES MEETING MATURATION CRITERIA

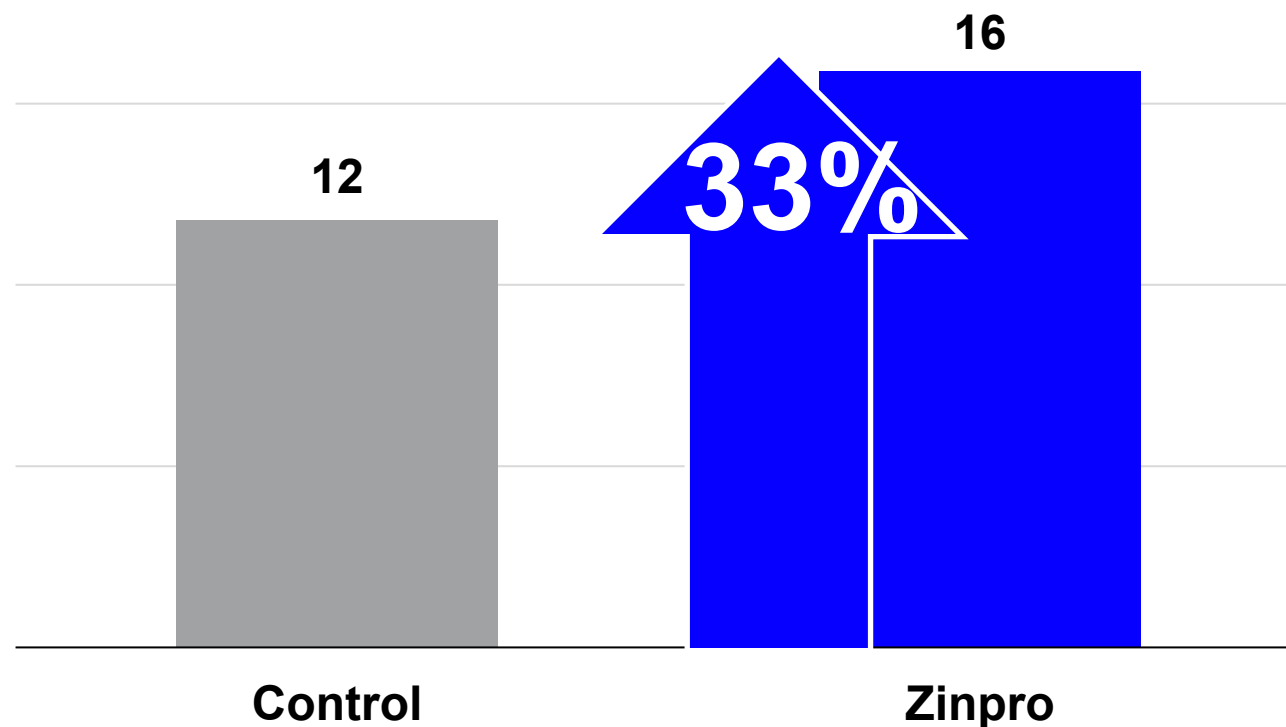
Better Eggs

✓ **Greater Yield**

✓ **Higher Quality**



Culturable Oocytes





ZINPRO® AVAILA® MINS INCREASES EMBRYO CONVERSION RATE

Better Eggs

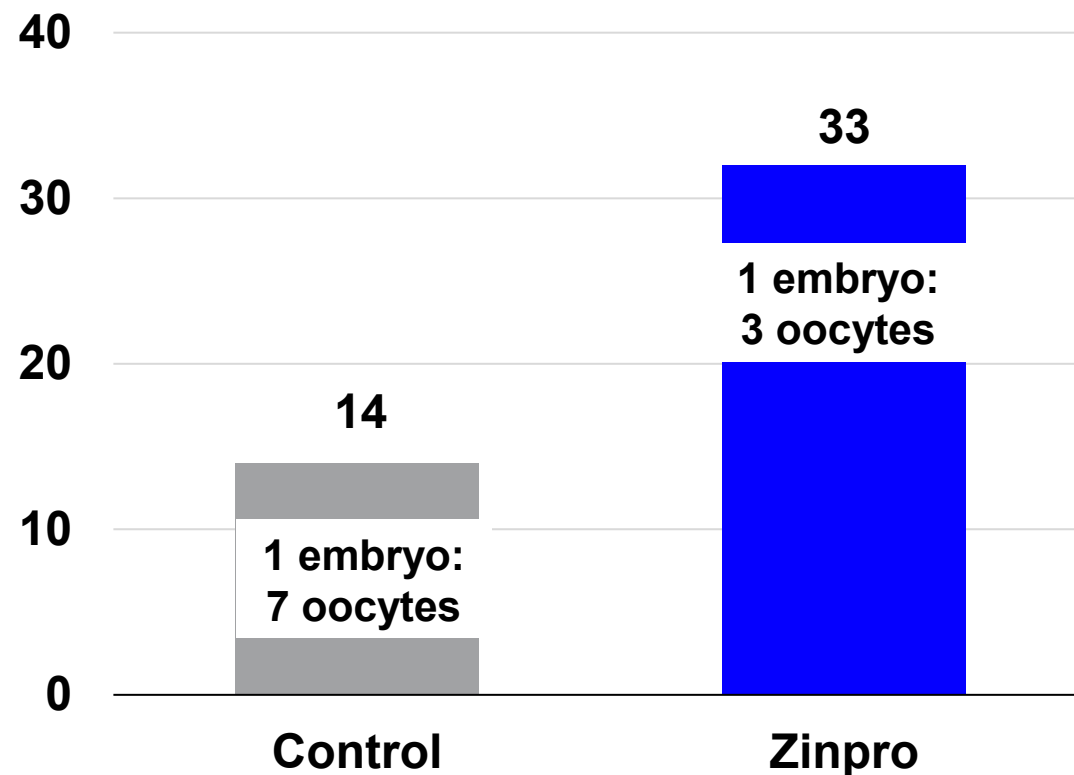


Transferable Embryos

- ✓ Higher Conversion Rate
- ✓ Higher quality Embryos

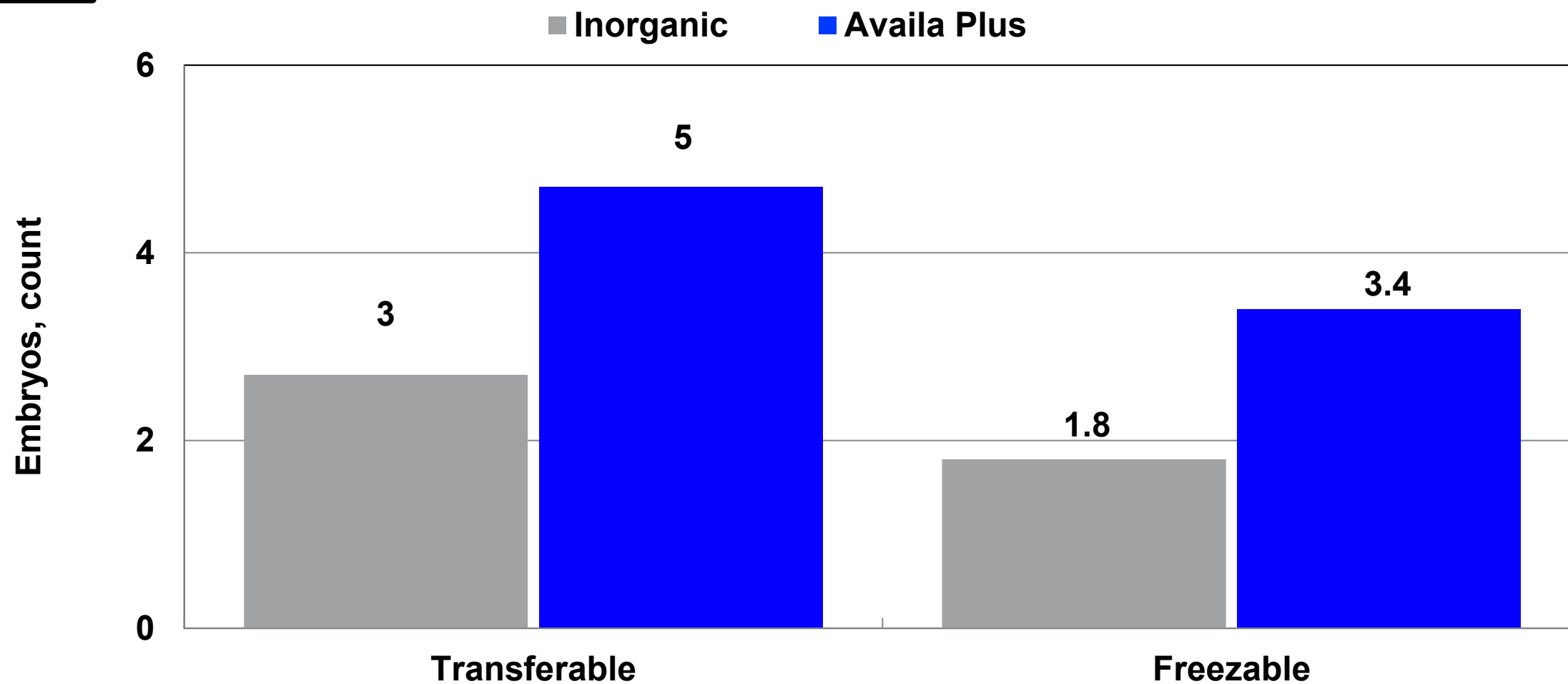


Embryos:Oocyte Conversion, %





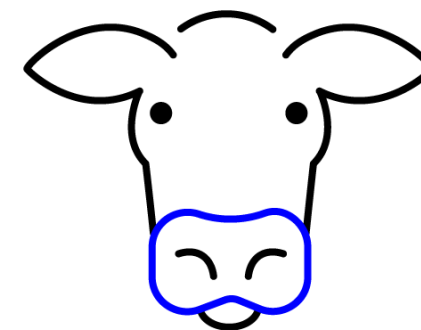
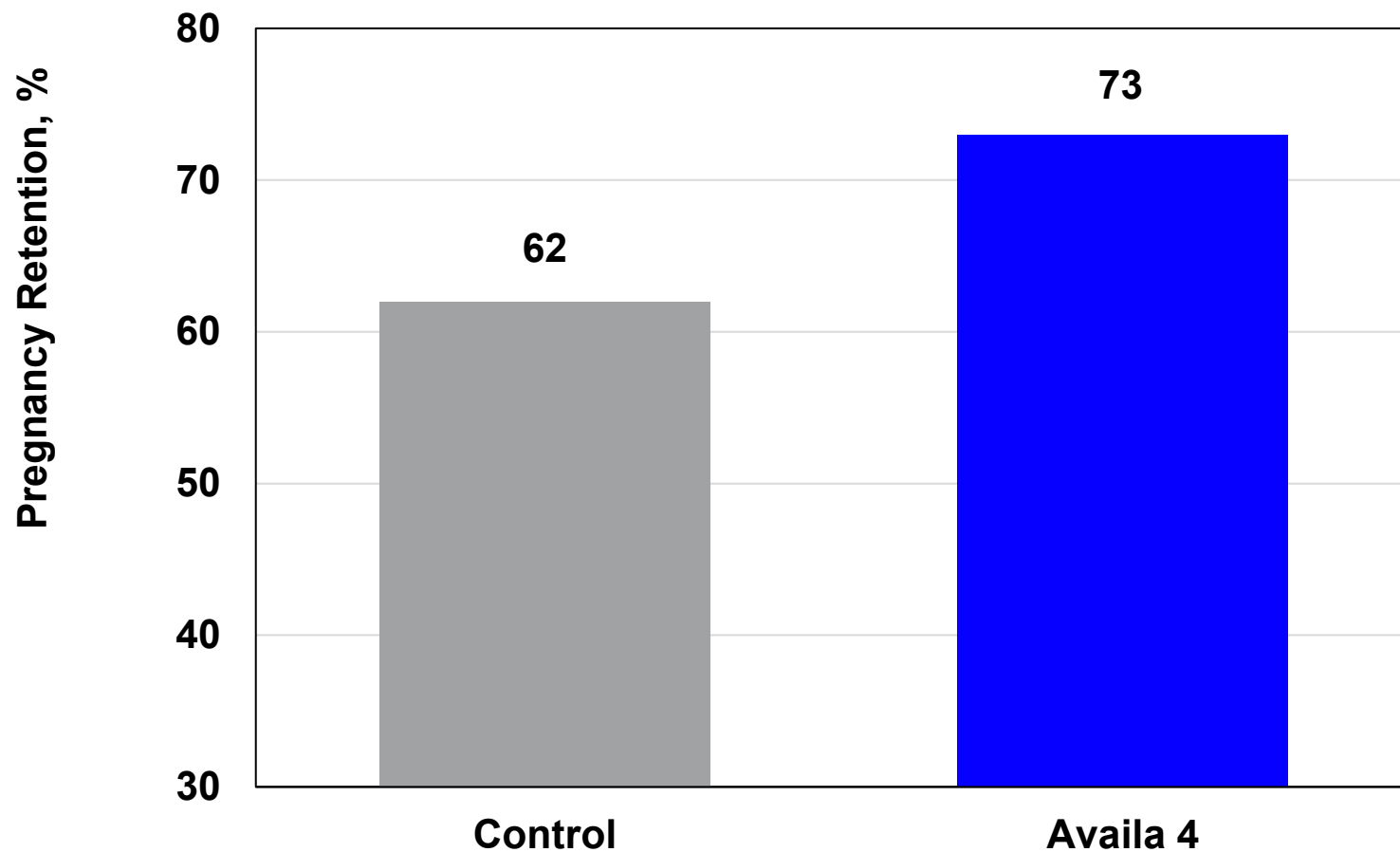
ZINPRO® INCREASES VIABLE EMBRYOS



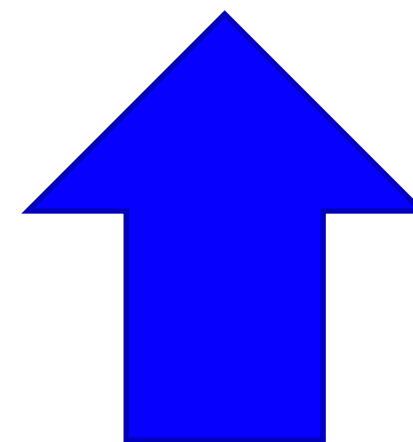


ZINPRO® AVAILA® 4 IMPROVES EMBRYO RETENTION

d 17 to 60



18% Increase



DAM NUTRITION IMPACTS CALF PERFORMANCE

Trimester 1 & 2



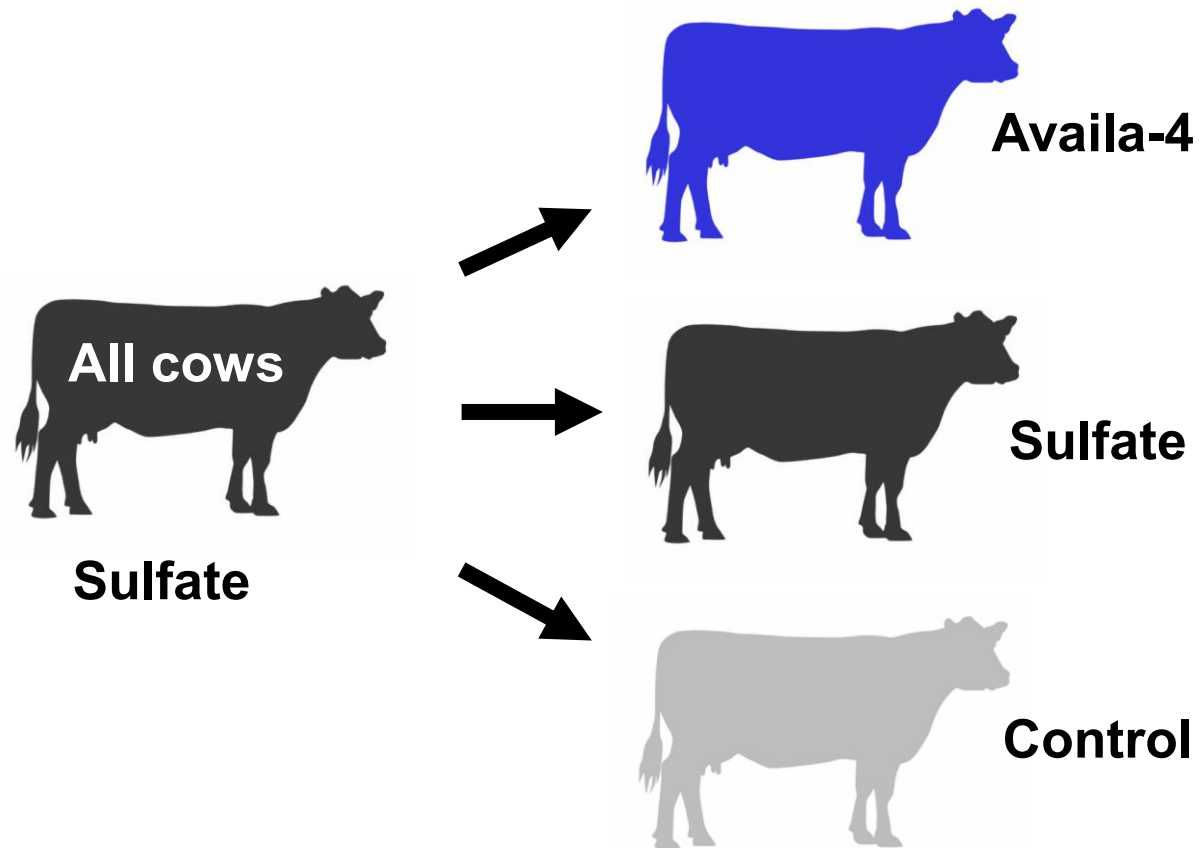
Sulfate



DAM NUTRITION IMPACTS CALF PERFORMANCE

Trimester 1 & 2

Trimester 3

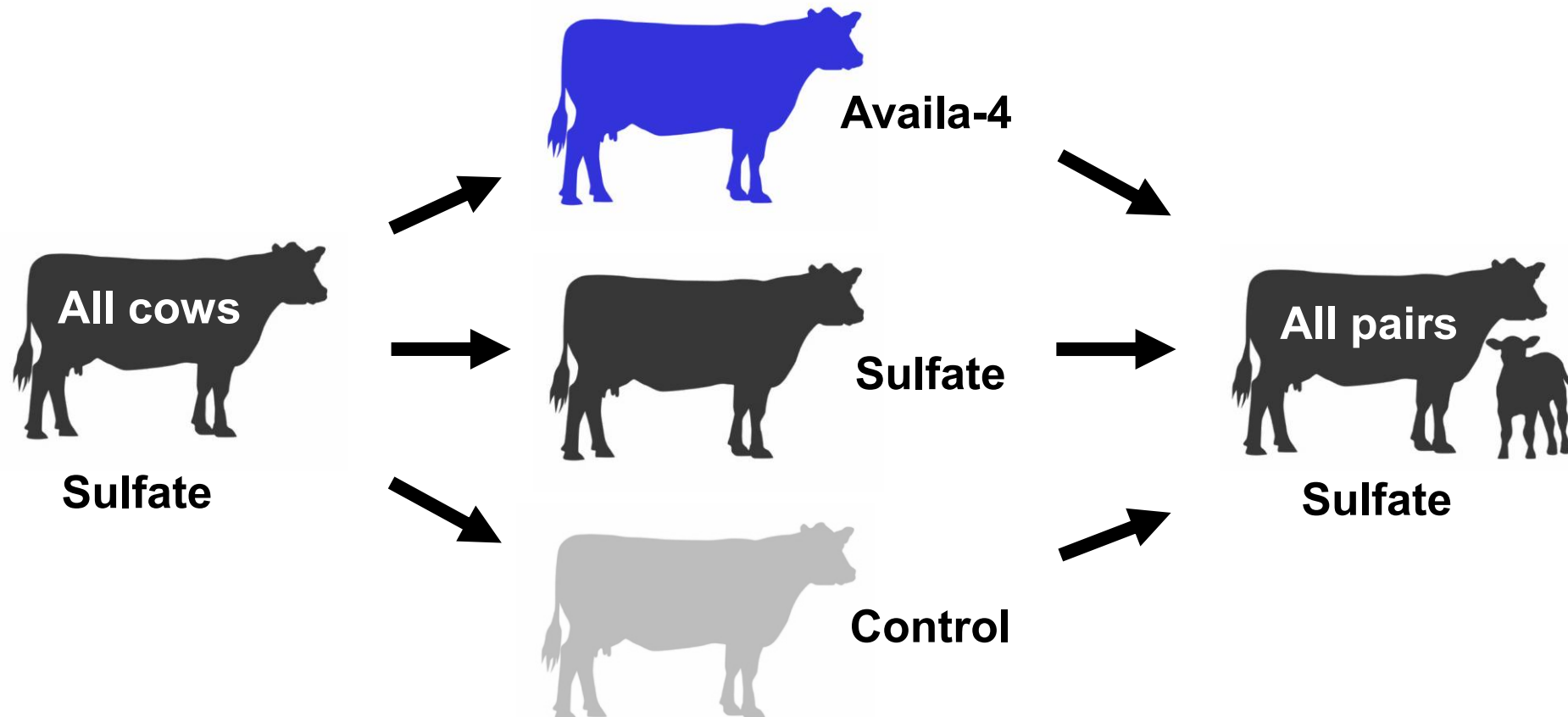


DAM NUTRITION IMPACTS CALF PERFORMANCE

Trimester 1 & 2

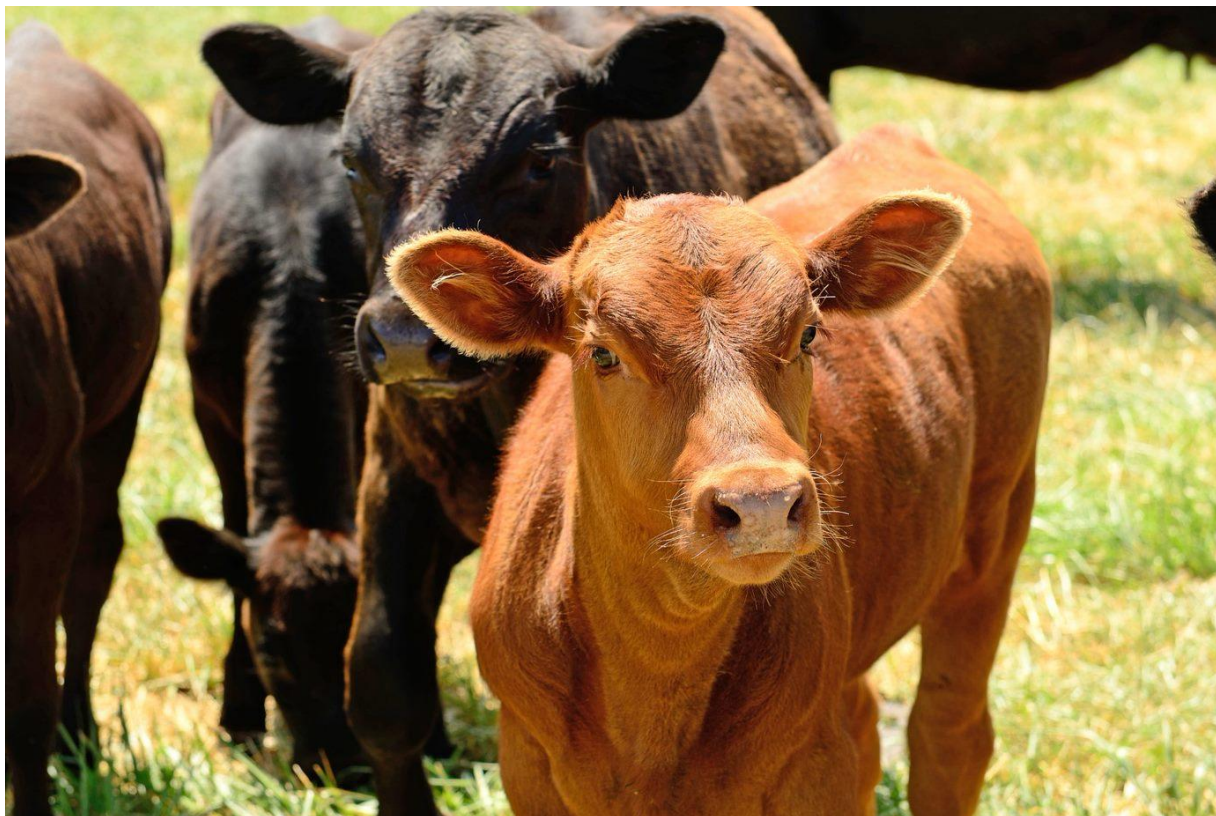
Trimester 3

Post-Calving





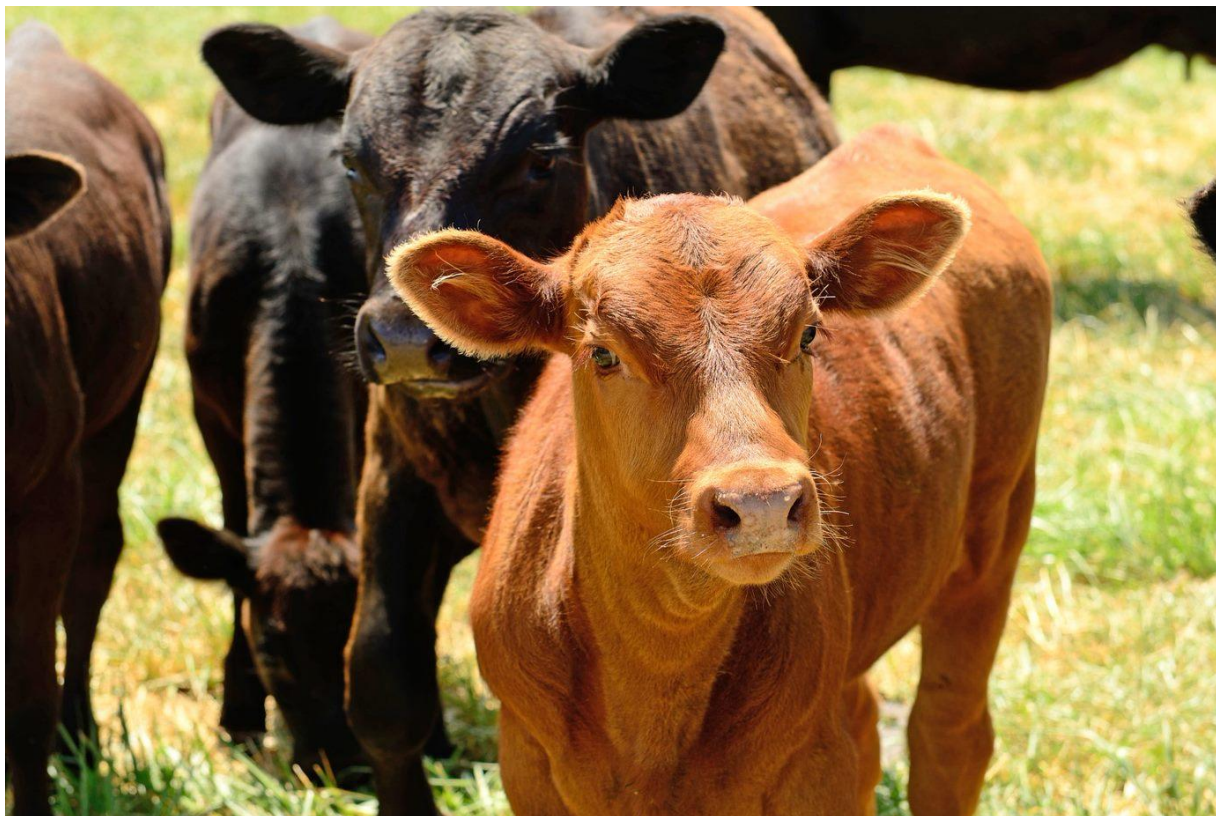
DAM NUTRITION IMPACTS CALF PERFORMANCE



(Over Control)	Sulfate Calves	Availa[®] Calves
Weaning Weight	+25 lb	+53 lb



DAM NUTRITION IMPACTS CALF PERFORMANCE



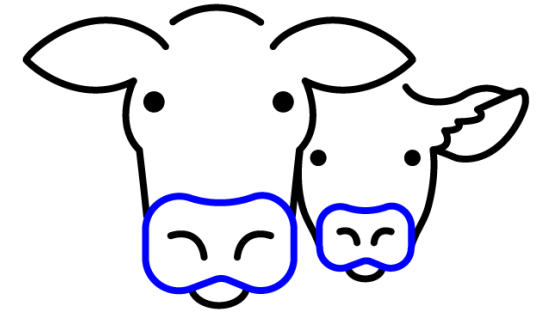
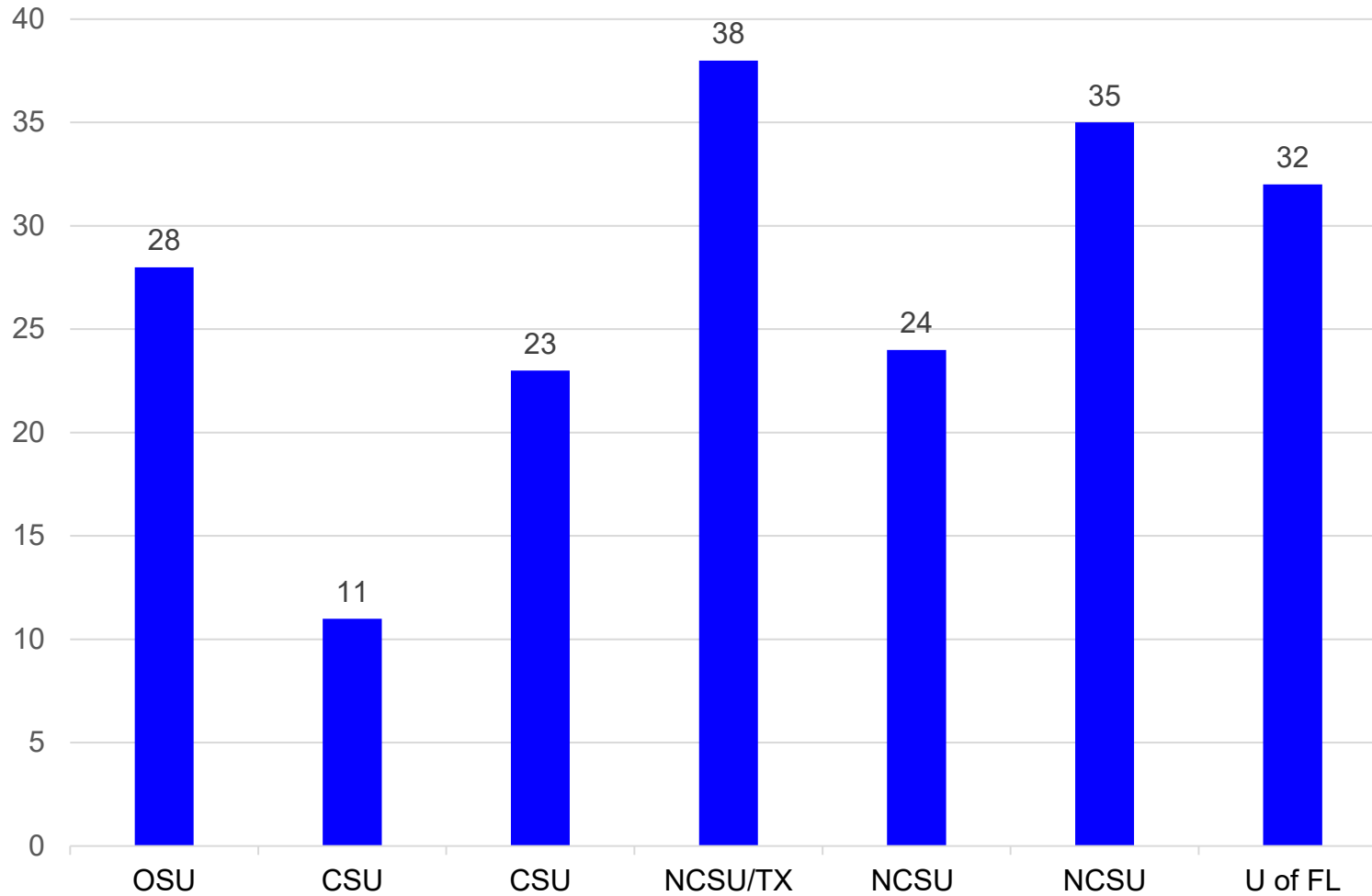
**50%
Reduction
in BRD**

(Over Control)	Sulfate TM Calves	Availa® Calves
Carcass Weight	+20 lb	+42 lb

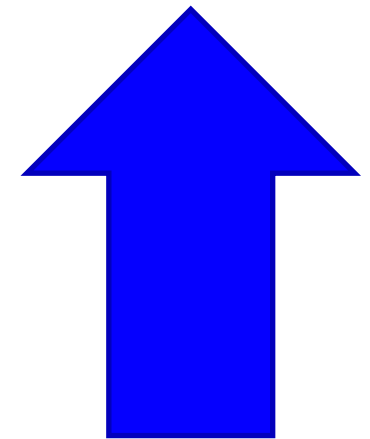


CALF WEANING WEIGHT

Pounds Above Control Mineral

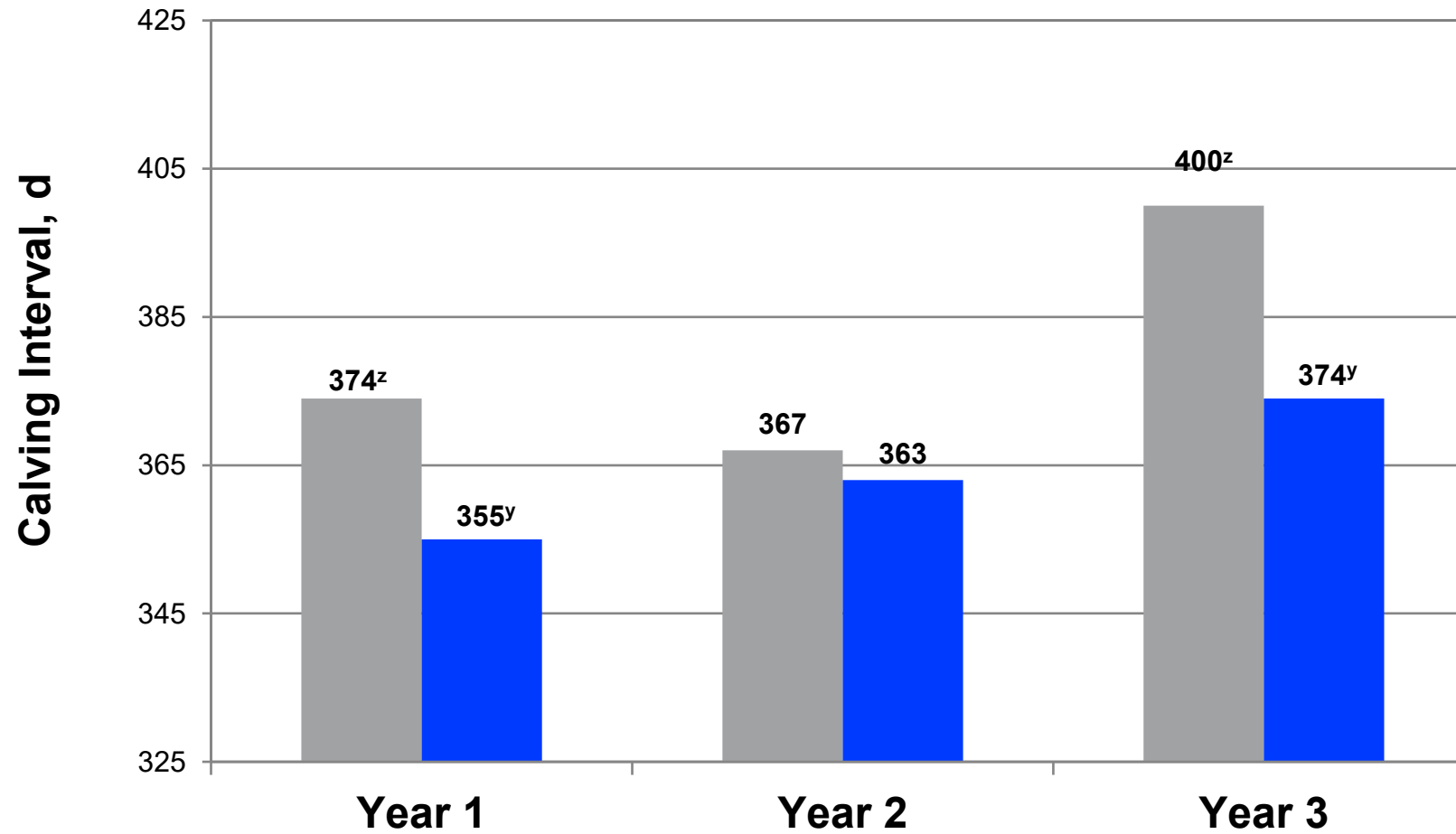


28 lbs Increase





CALVING INTERVAL RESPONSE



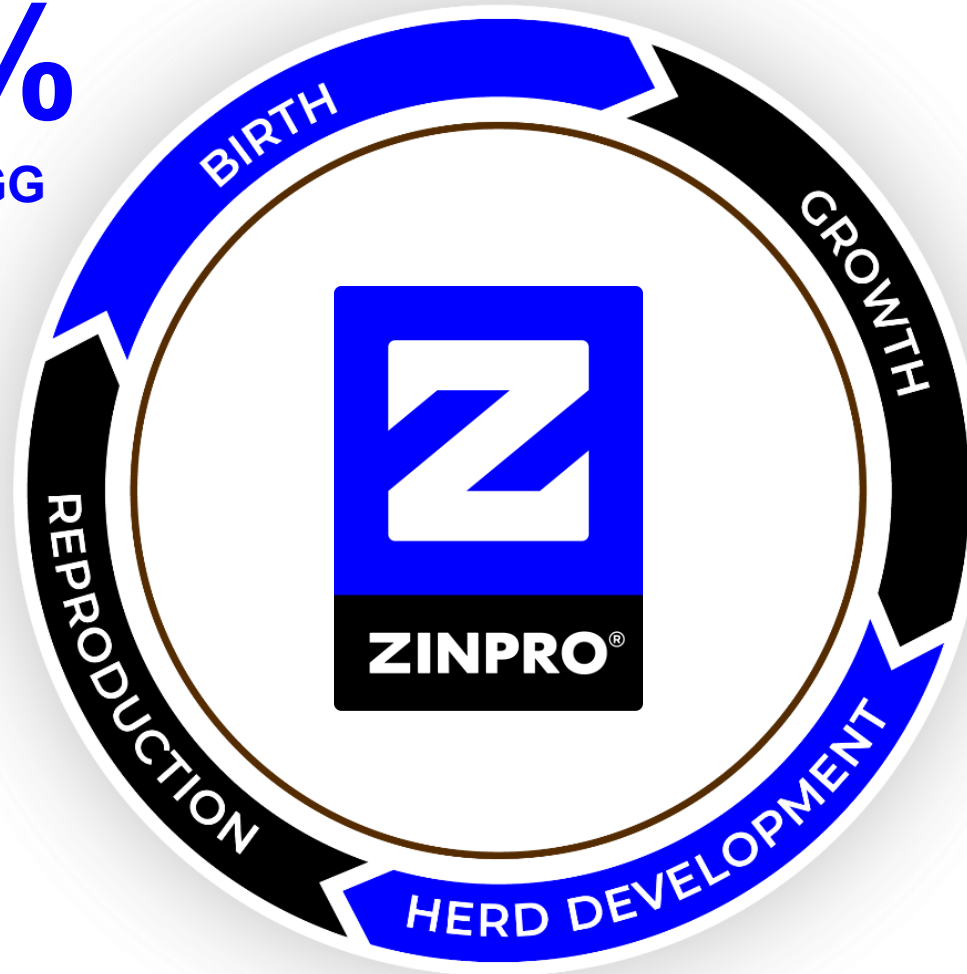


+28%
Colostrum IGG

+28 lbs
Weaning Weight

+20%
Early Reproductive
Performance

+22%
Semen Quality



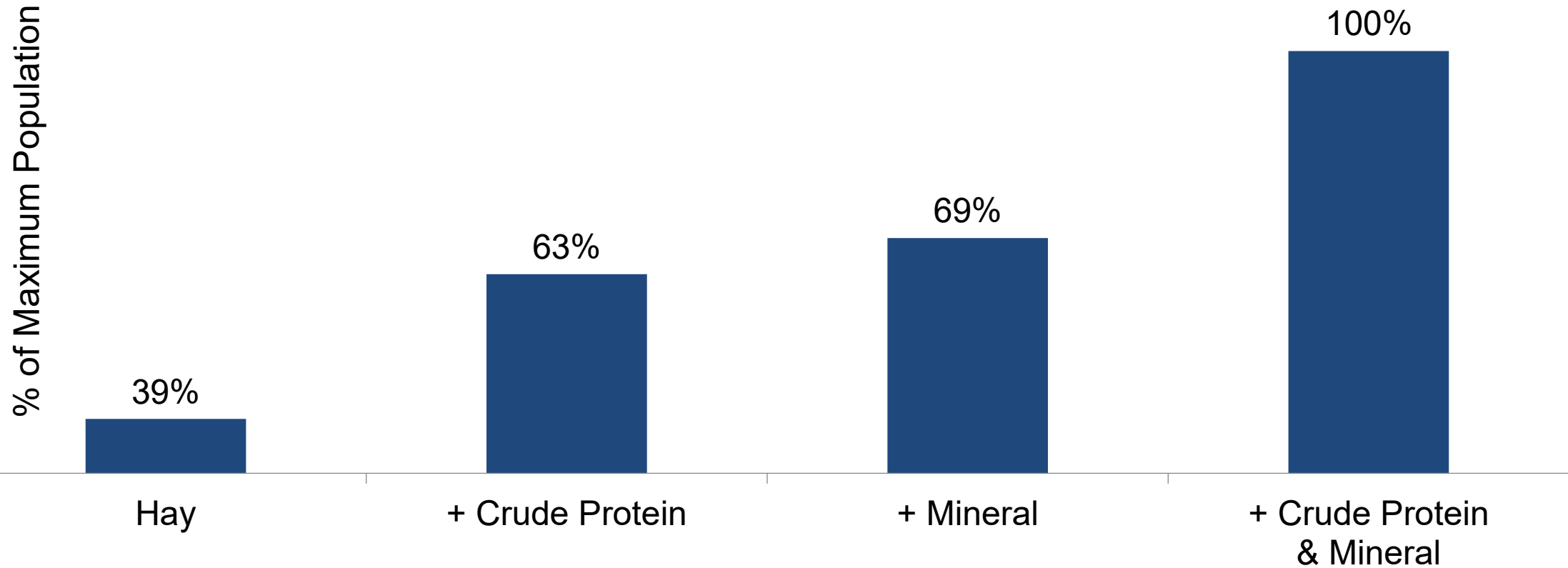
20%↓
Fewer Sick Calves

30%↓
Reduced Foot Rot



It's All About The Bugs

Rumen Microbe Population





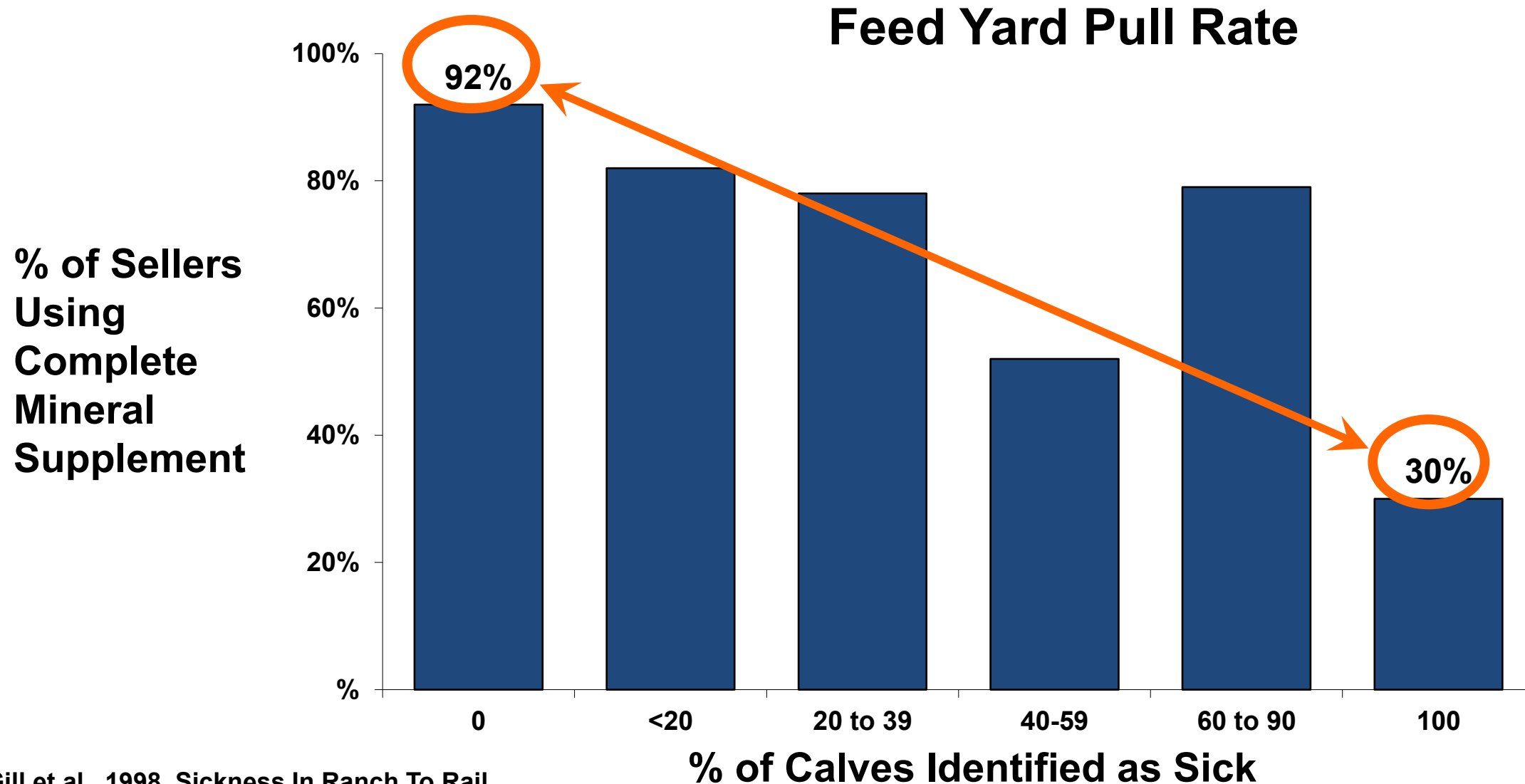
FEED GREATNESS™

Health Observation





Calves Pulled From Feed Yard Pens for Health Treatment





Consistent, Targeted Intake



Will They Eat It?

No Consumption

= No Nutritional Benefits

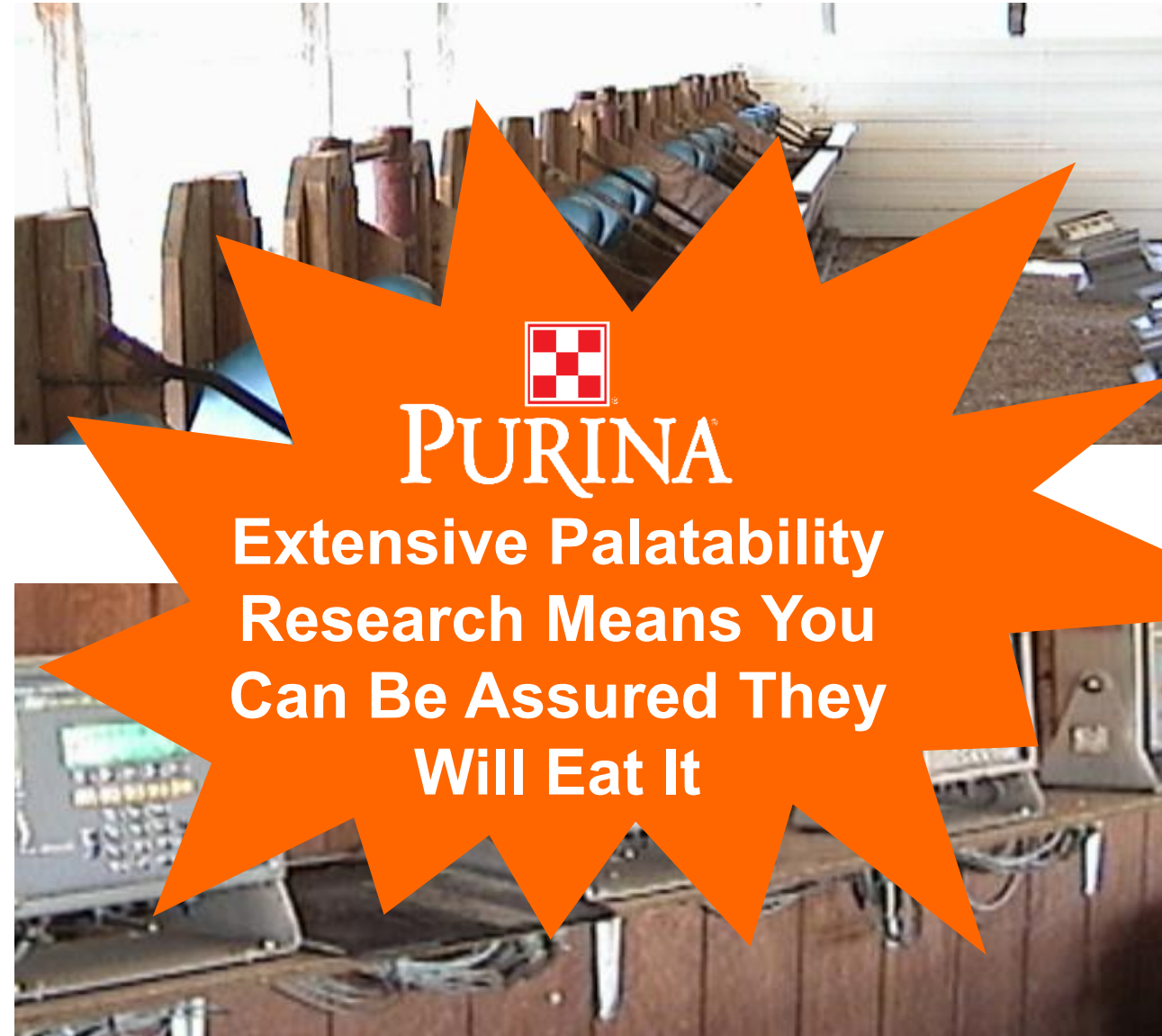
= Reduced Herd Health
& Reproduction



Consistent, Targeted Intake



Will They Eat It?



PURINA

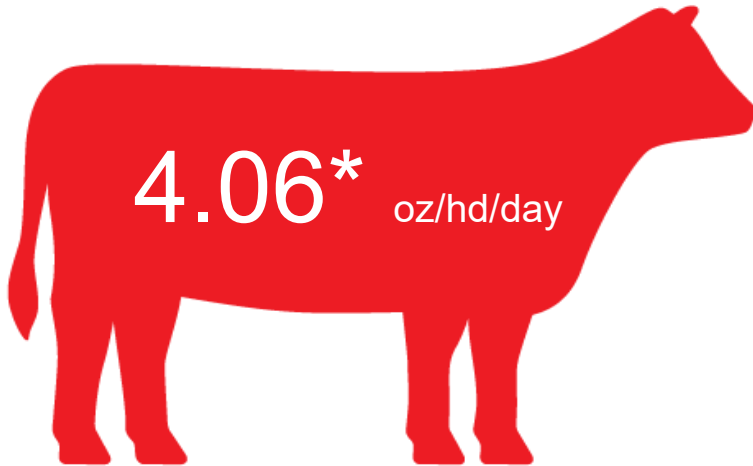
Extensive Palatability
Research Means You
Can Be Assured They
Will Eat It



Wind and Rain[®] Storm[®] is Readily Consumed by Cattle at Target Levels In Field Trials

367,914 cows

2. They 'Gotta' Eat It



Average Intake

With Purina Wind & Rain Storm
Mineral



Target Intake

* Purina Animal Nutrition Field trials, Collected from 367,914 cows on 2,277 operations, 2012-2024.



Consumption Problems??

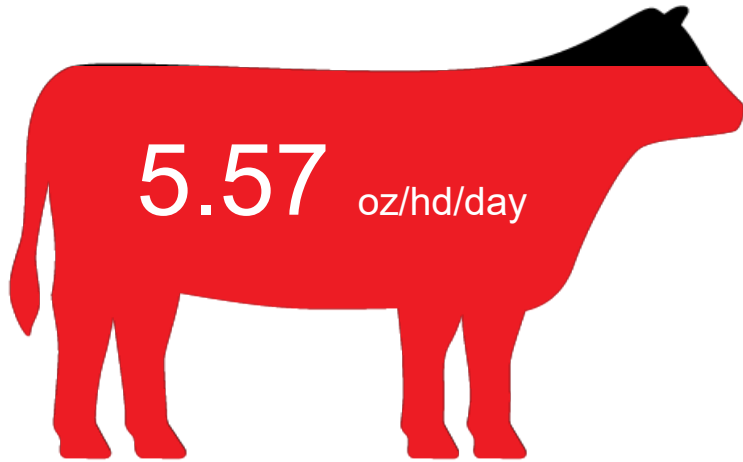
- Mineral Tubs
 - =
- Consistent Intake



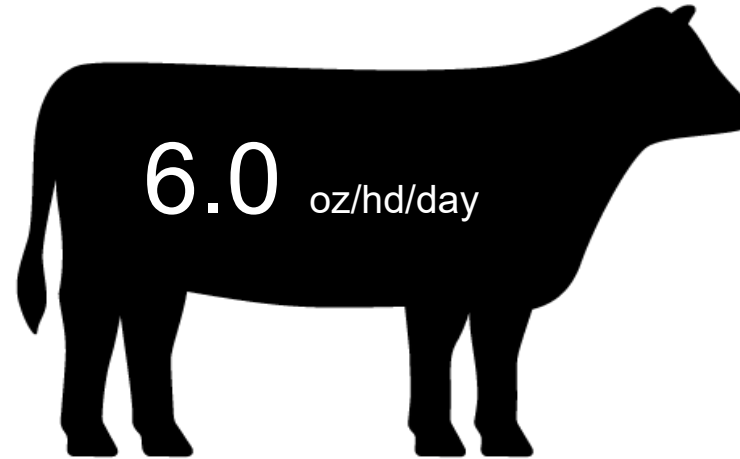


Wind and Rain[®] Storm[®] is Readily Consumed by Cattle at Target Levels In Field Trials

81,135 Cows Represented



Average Intake
Purina Wind & Rain Storm
Formula "Tub" Mineral



Target Intake
Overall

* Purina Animal Nutrition Field trials, Collected from 81,135 cows on 478 operations, 2012-2024.



Mineral Nutrition is Complicated

1. Mineral content is not the same as mineral availability (bioavailability).
2. Mineral content and availability of forages is constantly changing.
3. Mineral availability for forages is currently not completely understood.





What Are My Options?





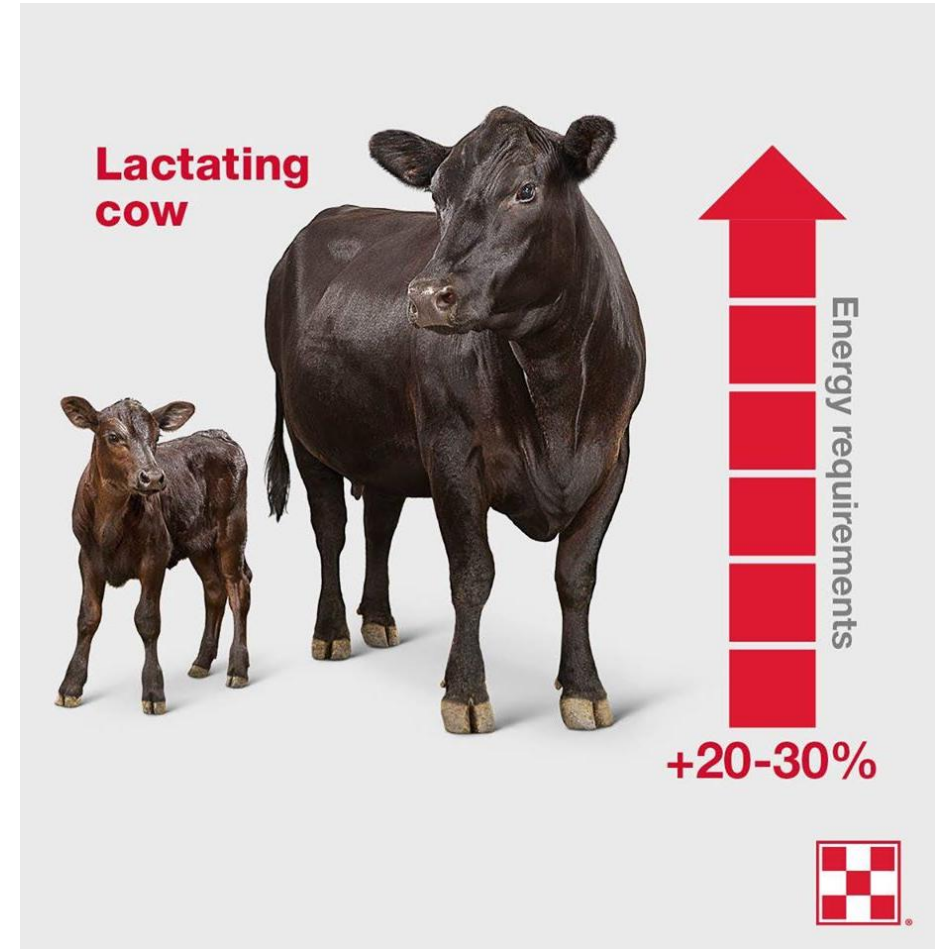
Protein & Energy Supplementation





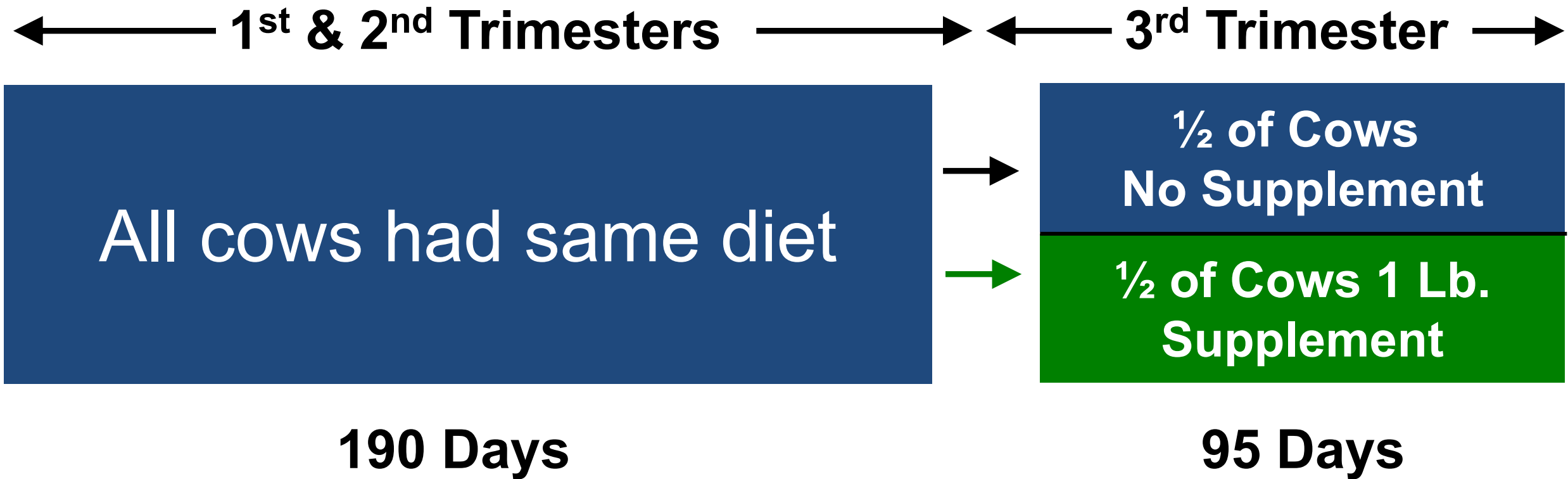
Purina has numerous products to accomplish your goals!

- Accuration Range Liquids
- Accuration Hi-Fat Blocks and Tubs
- Rangeland Tubs
- Accuration Cattle Limiters
- Accuration Forage Extenders





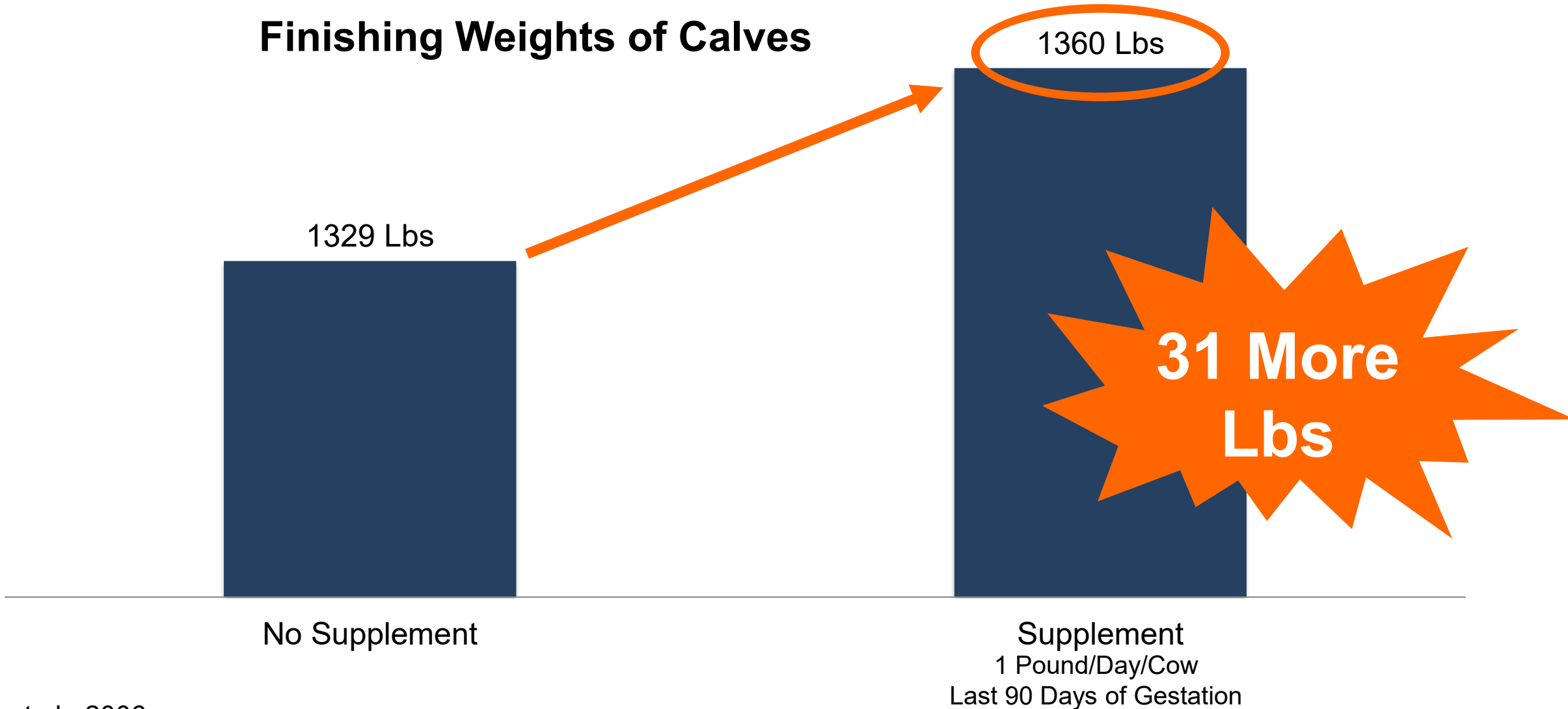
3 Year Study Examined Improved Nutrition For Last 90 Days of Gestation





Heavier Finishing Weights Due To 3rd Trimester Cow Supplementation

Finishing Weights of Calves





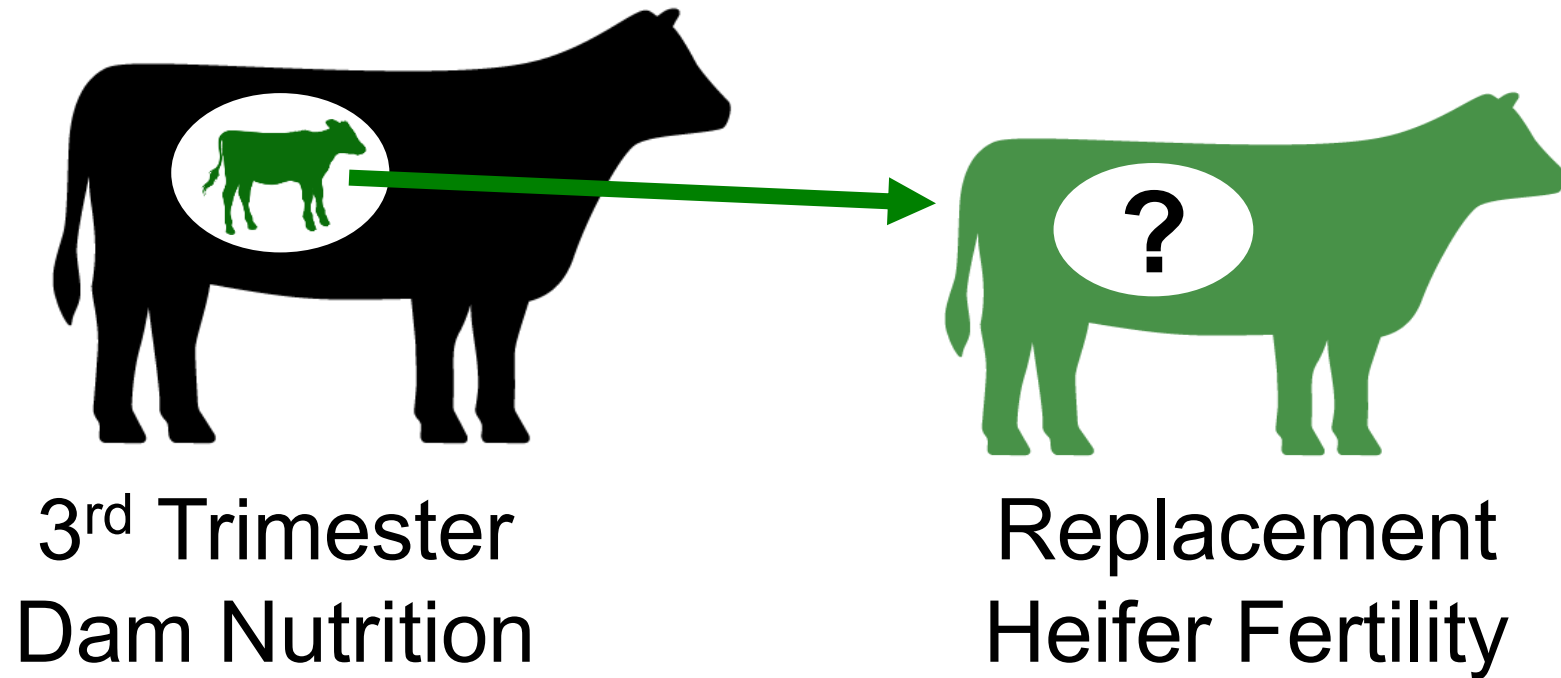
FEED GREATNESS™

What About Reproduction?





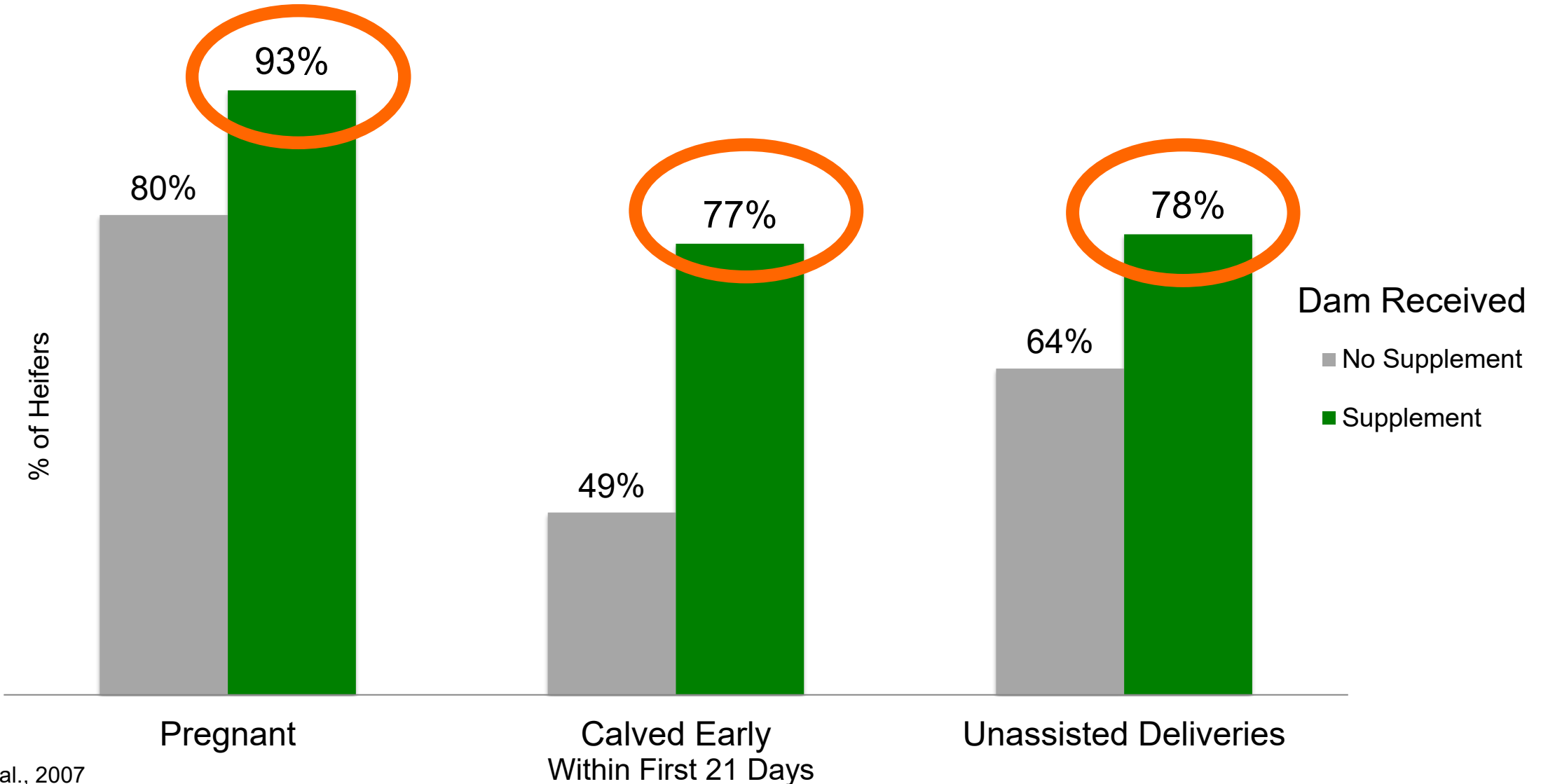
Replacement Heifer Fertility Effected By 3rd Trimester Nutrition of Her Dam



Next data set shows the heifer mates to the first set of data from Stalker et al., 2006



Reproduction Improved In Heifers With Dams' 3rd Trimester Supplementation





What if a Supplement Could...

- **Provide the missing nutrients?**
 - Protein
 - Energy
 - Vitamins & Minerals
- **Adjust Feeding Rate Automatically?**
 - Forage quality & quantity
 - Cow Requirements





Accuration Liquid

- Straight Molasses- No by products
- Low moisture
- High Quality Fat Source
 - Fat is huge or reproduction
- Intake that counters forage quality and quantity

Never Let your cows have a bad day



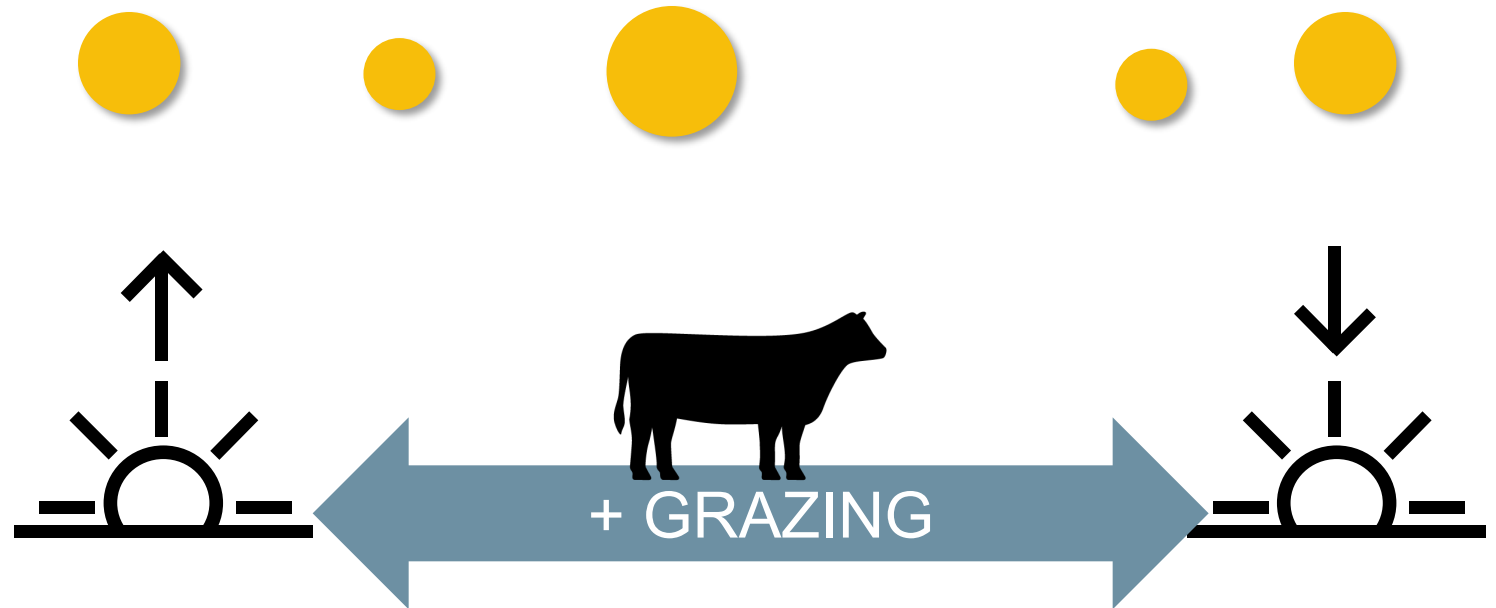


Improve grazing distribution and forage digestion with "Snack Eating"

1 Big Meal

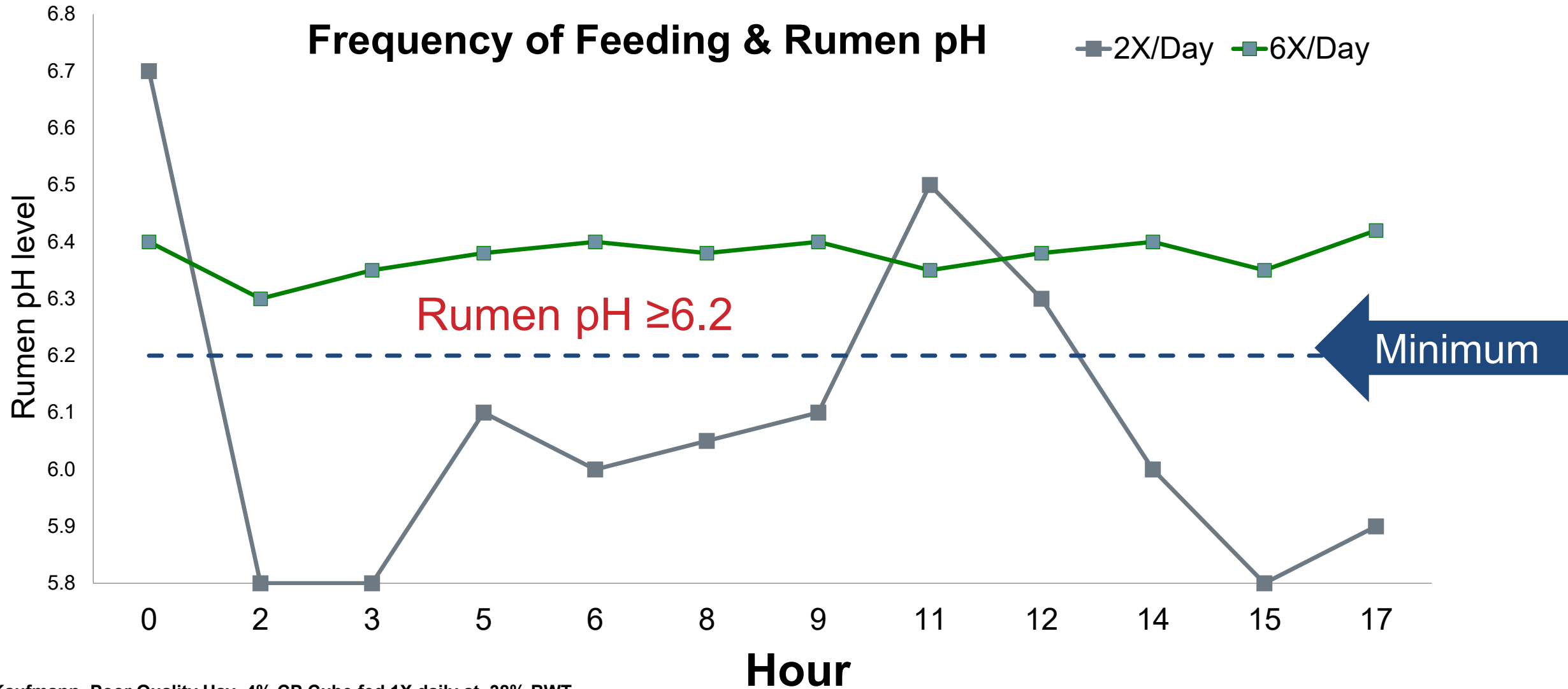


vs. Lots of Small Snacks Throughout Day





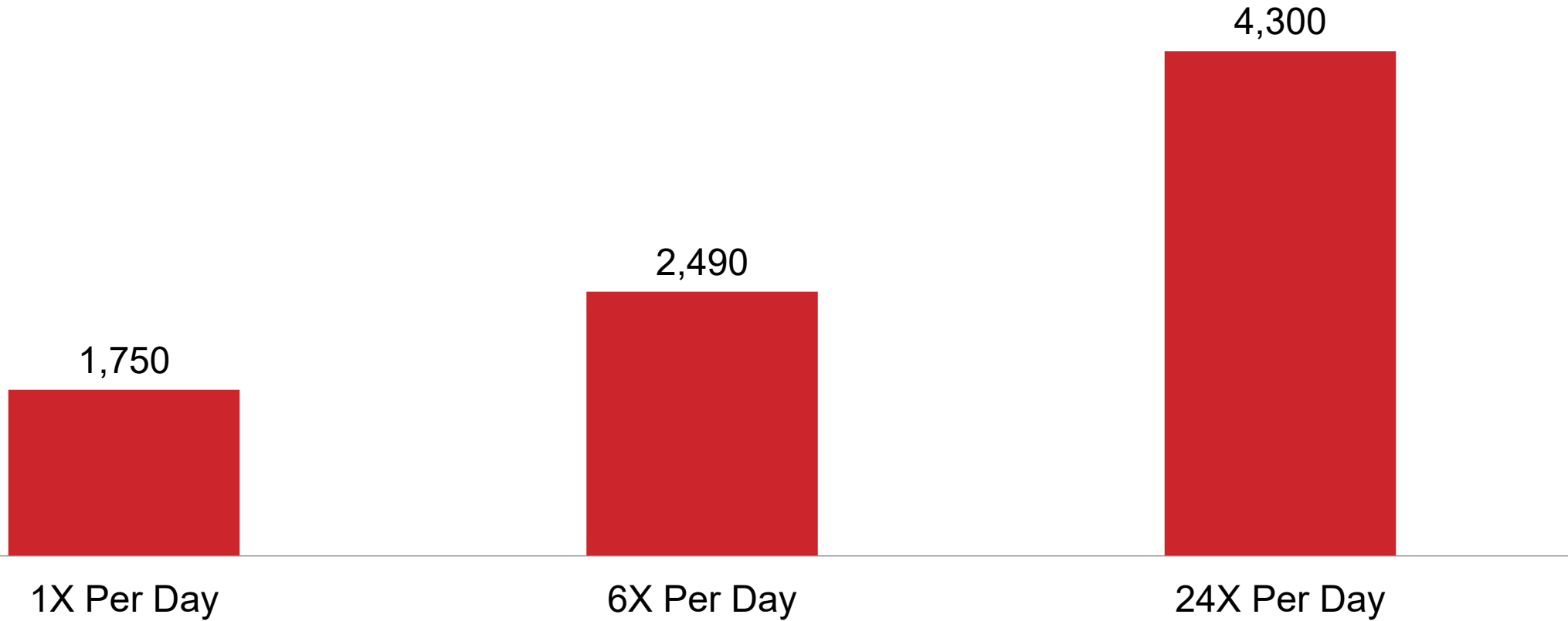
Increased Feeding Frequency





Feeding Frequency make a huge difference

Rumen Microbe Population
In Millions Per Gram of Rumen Fluid



It's all about the bugs!



Accuration Supplementation

- Hi-Fat Accuration Tub/Block
 - 25% Crude Protein
 - 10% Fat
- Accuration Liquid
 - Numerous Different Protein & Fat Products
 - Most Common:
 - 32% Crude Protein
 - 10% Fat





Rangeland Tubs

- Rangeland 30-10
 - NM Exclusive
 - All Sulfates Removed
 - Adjusted Hardness to Fit NM
- Rangeland 24-12
 - Hi-Fat Cooked Tub
 - All Natural Option
- MANY OTHER OPTIONS





Thank You! Questions?

WIND **AND** **RAIN**®
CATTLE MINERAL

