



**"Shucks! I filled the bleeding vial more than two-thirds full! I'll be getting nasty letters from the state laboratory!"**

# EARLY WEANING

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# THE QUESTIONS

EARLY WEANED CALVES

RETAIN  
OWNERSHIP

SELL

FACILITIES?

FEED?

PROFIT?





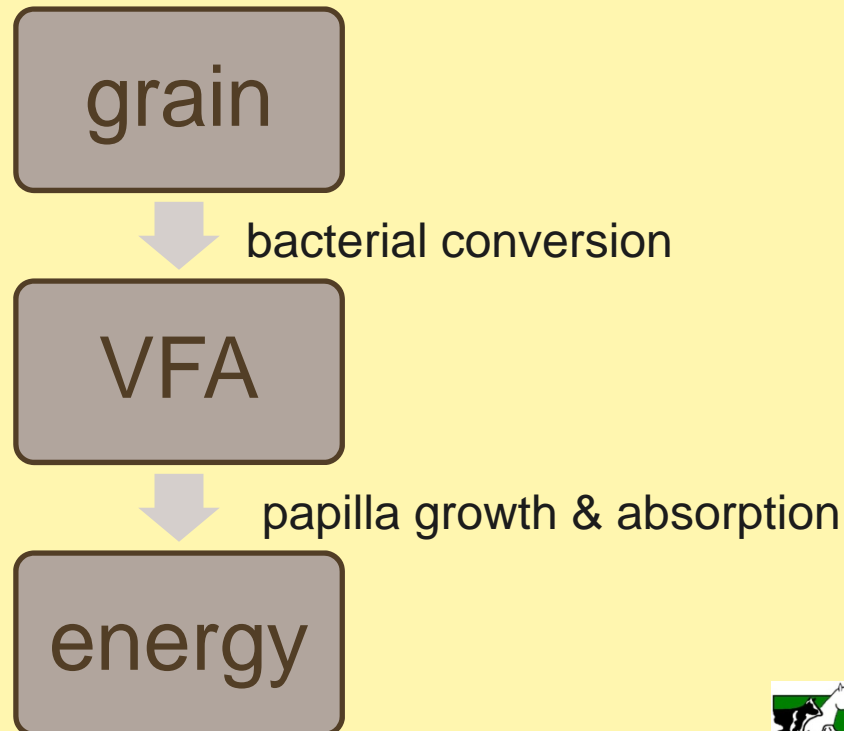
# TOPICS FOR TODAY

- HOW EARLY IS EARLY?
- IMPACTS OF EARLY WEANING
  - COWS
  - calves
- VARIOUS STRATEGIES
- CONSIDERATIONS FOR EARLY WEANING
- EXPECTED PERFORMANCE



# HOW EARLY IS EARLY?

- minimum age is 3-4 weeks (21-28 days)
  - think dairy calves!
  - takes 21 days for rumen papillae to change



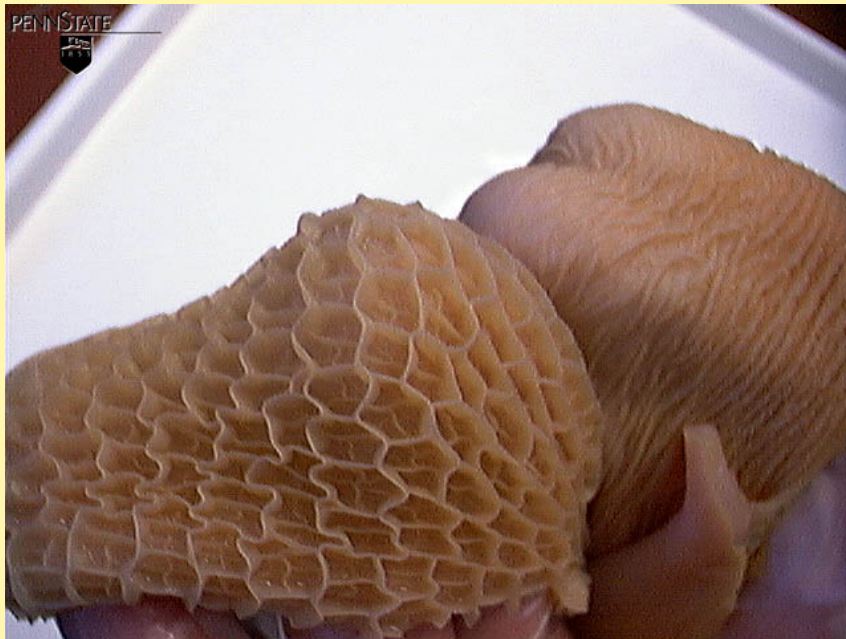



# RUMEN ADAPTATION

4 WEEK OLD DAIRY CALF RETICULUM & RUMEN

**DIET: milk and hay**

**DIET: milk, hay and grain**





# HOW EARLY IS EARLY?

- 8 weeks (56 days) is more realistic
- 45-150 days common in literature
- by 3-4 months of age calves consuming significant amounts of forage naturally
- by 6-7 months =  $\frac{1}{2}$  forage consumption of a cow





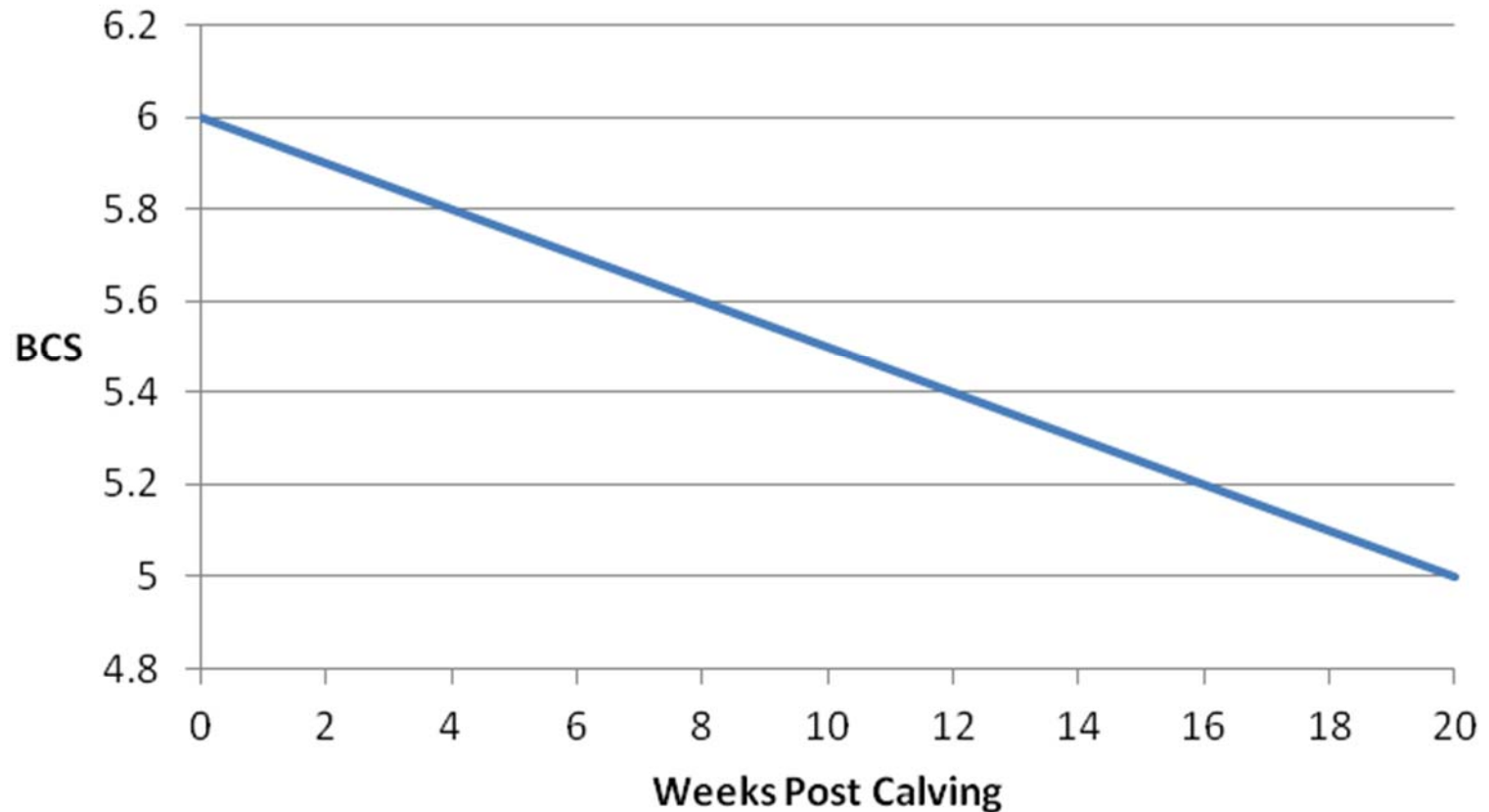
# COW IMPACTS

- **GOOD**
  - improves cow body condition score (BCS)
    - lactation is largest nutrient requirement
      - 1/3 to 1/2 of daily nutrient intake goes to making milk!
      - increases protein requirement by 100%
      - increases energy requirement by 60%
  - expensive to supplement cows during this time



# BODY CONDITION LOSS POST-CALVING

## CHANGE IN BCS AFTER CALVING



source: Univ. of Nebraska-Lincoln Extension

Mid-Valley Veterinary Hospital



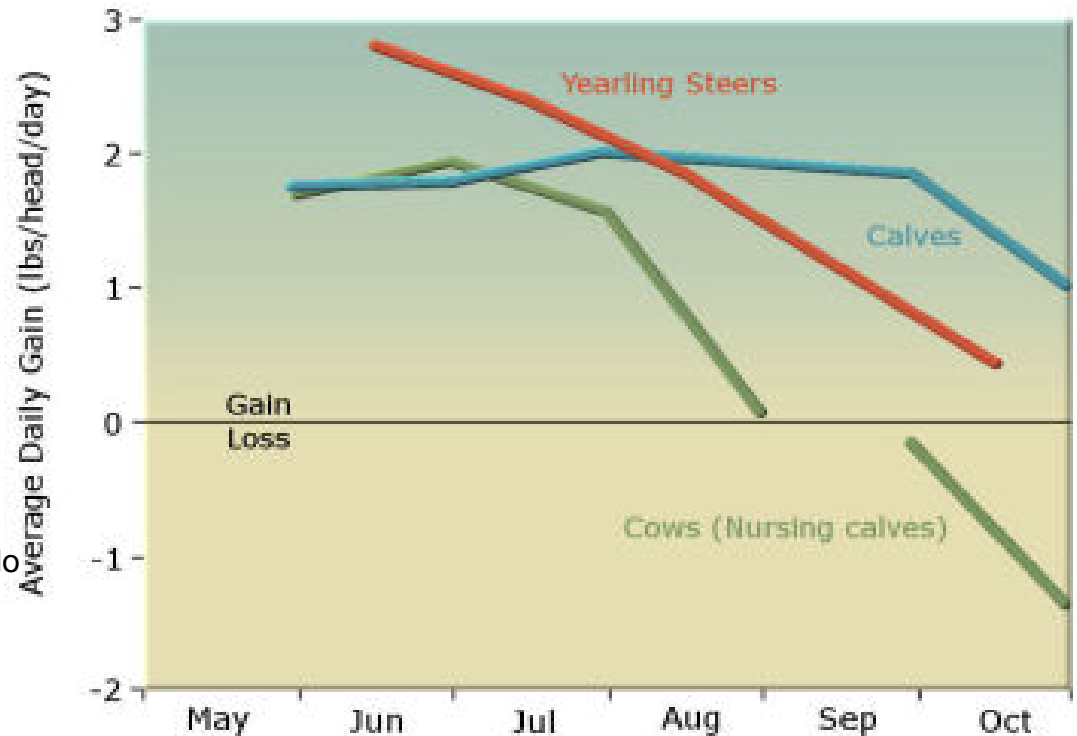


# Cow Management To Maintain BCS

Fertility decreases at **BCS of 4 or less** (Mississippi State says <5)

- **Energy**, key to maintaining BCS; Milk production drops with limited feed
  - Wean light calves from open cows

15 year time period in north central Colorado  
(Klipple and Costello 1960)

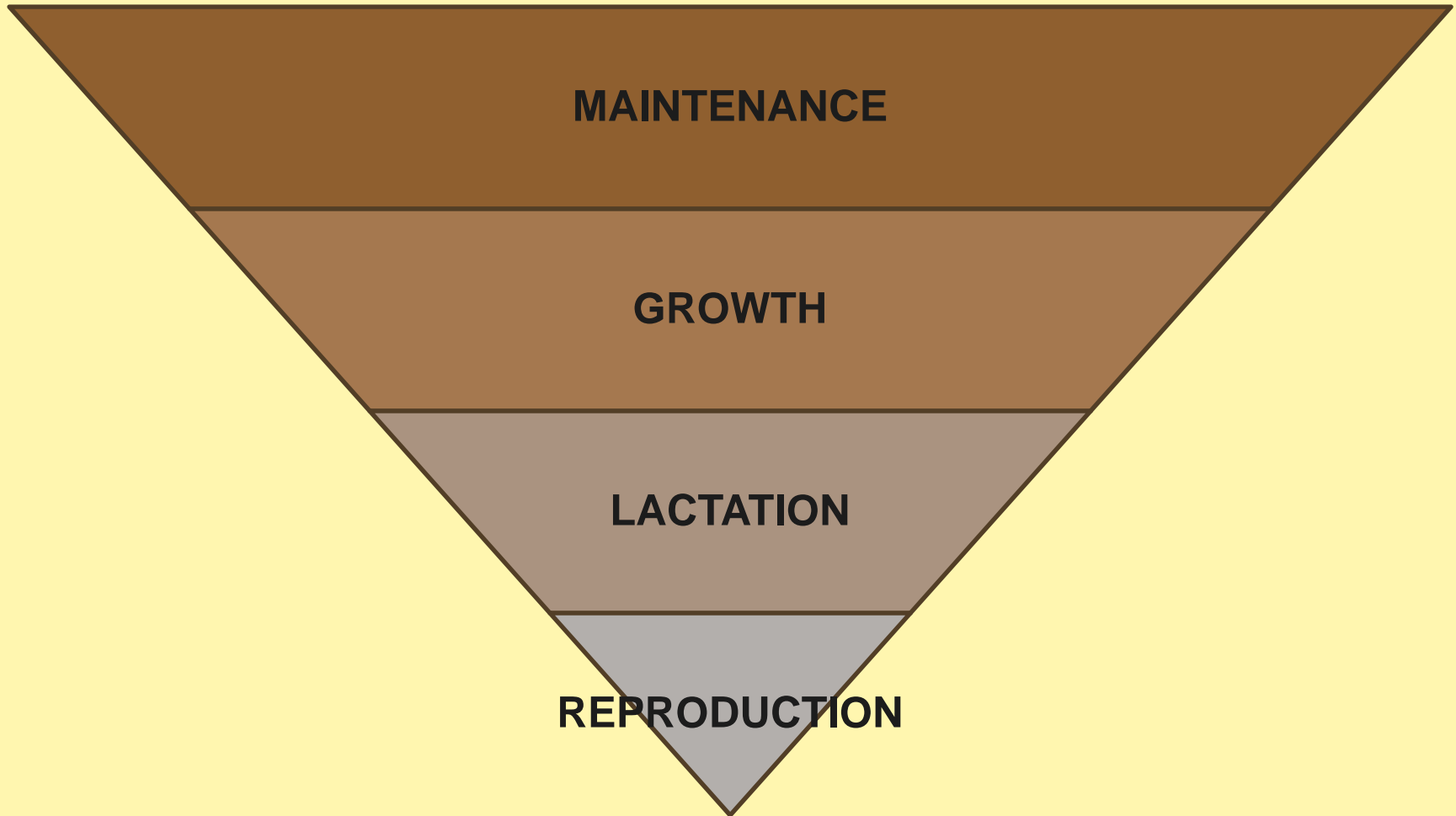


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PREVENTION WORKS.



# ENERGY PRIORITIES



# Recommendations For Timing Of Best Feed

Feed good quality feed just before and after calving

If fed poorly, these cows may have:

- Colostrum issues, then scours/summer pneumonia
  - Want BCS 5.5 pre calving
- dystocia, retained afterbirth
- uterine prolapse and immunosuppression
- Low *fertility*, low milk, abortion
- Expect much lower conception rates
  - (Galen Weaver, personal contact Sept, 2012)
  - Heat/nutrition/stress/bulls

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PREVENTION WORKS.





# COW IMPACTS

- **GOOD**
  - improves cow conception rate
    - must be weaned at 45-60 days old to realize benefit
    - if weaned later, may see benefit in two seasons
    - removal of nursing calf causes hormonal changes in cows that stimulate estrus
      - even in thin cows



# ESTRUS & CR DATA

- WEANING 2 MO. OLD CALVES 8 DAYS PRIOR TO 42 DAY BREEDING SEASON

	2 YEAR OLD COWS	3 YEAR OLD COWS	MATURE COWS
INCREASED % OF COWS SHOWING ESTRUS	29%	27%	16%
INCREASED % PREGNANCY RATES	26%	16%	28%





# COW IMPACTS

- **BAD**
  - performance records in herds that keep them
  - high milk producing herds may have decreased weaning weights
  - fetal programming
    - VCNA: Food Animal Practice (29:3, 11/2013)





# CALF IMPACTS

- **GOOD**

- improved performance due to lack of competition with cows for forage
- leaving calf on starving cow decreases gain and efficiency of calf
- feeding calves concentrates longer allows a higher quality grade





# CALF IMPACTS

- **BAD**
  - higher feed costs
  - higher facility costs
  - higher health costs
  - higher labor costs
    - more intensive management





# STRATEGIES

- do nothing and cross fingers you have enough feed
- creep feed calves and wean at regular time
- early wean some calves
  - calves from cows in poor body condition
  - calves from 1<sup>st</sup> or 2<sup>nd</sup> lactation cows (growth!)
- early wean everything



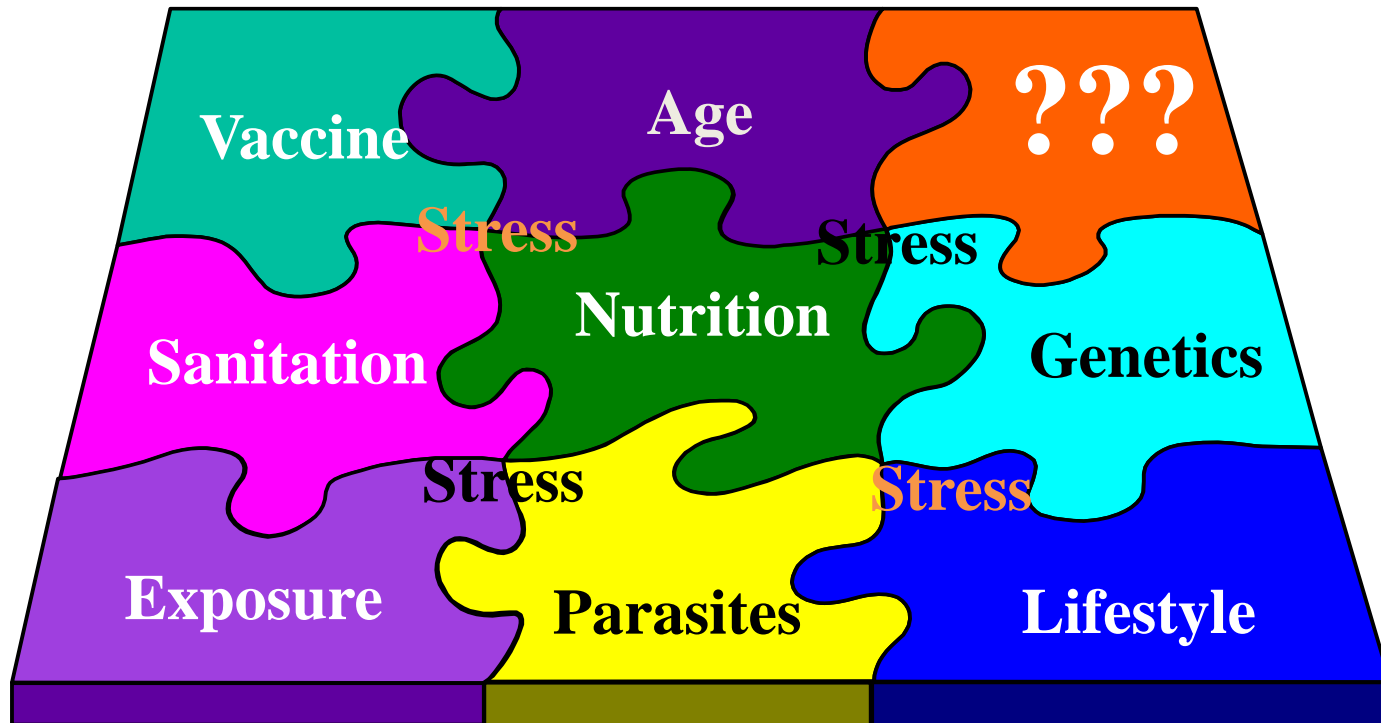


# CONSIDERATIONS

- HEALTH
- FEEDING
- WEANING STYLE
  
- *with Shane Strickler, BIVI*



# Preventive Medicine Is Much *More* Than Vaccination !!!!



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**PREVENTION WORKS.**





# HEALTH CONSIDERATIONS

- **THINK AHEAD!**
- the body needs to be healthy and well-fed in order to respond to any treatments
  - protein
  - energy
  - vitamins & minerals
- **DO NOT** do anything to calves within 2 weeks of weaning



# VITAMINS IN CATTLE

	SOURCE	FUNCTION	SIGNS OF DEFICIENCY	THINGS THAT SLOW ABSORP.
A	green & yellow plants, liver stores	epithelial, bone & nerve tissue, eye, kidney	night blindness, poor doer, swelling	heat, stress, silage, nitrates, low Vit. E
D	sunlight on skin	absorption of Ca and P, bone devel.	rickets (soft bones), poor doer	no sun, lack of sun-cured forages
E	green leafy forages, whole grains	antioxidant, immune function	white muscle disease, poor doer	high fat diet

VITAMINS K AND B ARE SYNTHESIZED BY BACTERIA IN THE RUMEN





# HEALTH CONSIDERATIONS

- vitamins & minerals
  - Vitamin E-AD (5cc SQ @ \$0.68/calf)
  - Selenium
    - BO-SE (3cc/100 lbs. SQ @ \$0.17/cc)
      - \$1.02/200 pound calf
    - Multimin 90 (1cc/100 lbs. SQ @ \$0.35/cc)
      - \$0.70/200 pound calf
  - feed supplement
    - block
    - liquid



# HEALTH CONSIDERATIONS

- vaccination
  - respiratory (BVD, BRSV, IBR, PI<sub>3</sub>)
    - MLV- one dose?
    - killed- must booster
  - +/- Clostridial
  - must be done at least 2 weeks prior to weaning, preferably 3-4 weeks prior
  - intranasal at weaning?
- worm after weaning if retaining





# FEEDING CONSIDERATIONS

- provide trace mineral access
- need consistent particle size to avoid sorting- no fines!
- need to have high quality feed
- limit dust in feed
- do not feed silages to just-weaned calves
- allow 1 ft bunk space/calf







# WEANING CONSIDERATIONS

- keep calves in same location and move COWS
- feed and water should be along fence line
- calves should be eating 1-1.5% of their body weight in starter ration before weaning
  - start 3-4 weeks prior to weaning
  - consider top dressing with hay



# PERFORMANCE & GAIN

	NURSING CALVES	WEANED CALVES FIRST 1-2 WEEKS	WEANED CALVES AFTER 2 WEEKS
DMI OF DRY FEED (% BW)	1-1.5%	1-1.5%	2-2.5%
GAIN	2.1-2.3 lbs./day	How good is your weaning program?	1.5-2 lbs./day

source: VCNA Food Animal Clinics 23 (2007) 29-40

