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Vaccine Management
Setting your Livestock up for Success from Birth to Weaning and Beyond

NSAP Workshop – 2/16/22

Marcy Ward, PhD
Extension Livestock Specialist

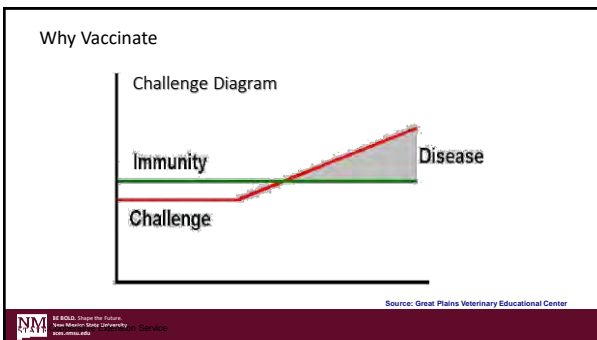
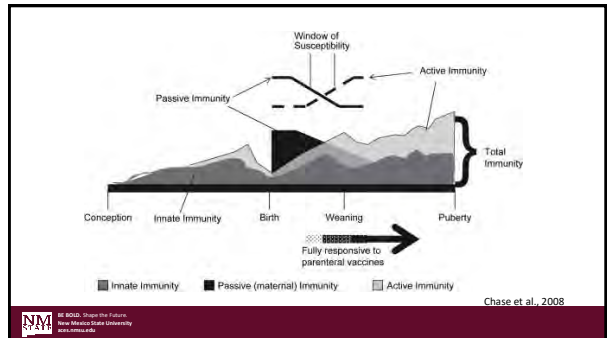
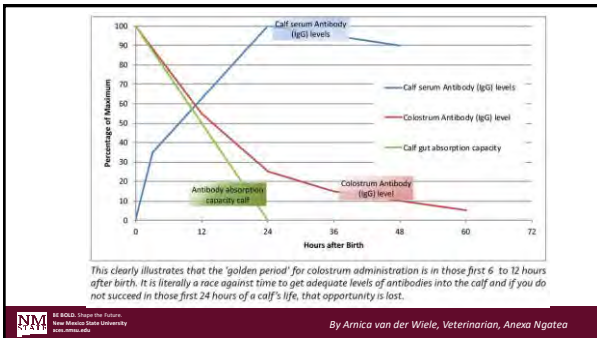
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Health Starts at Birth

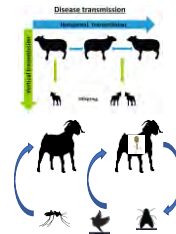


- Colostrum is the first immune defense for new born animals.
- Must be ingested within the first 24 hours of life.
- If calves/lambs do not receive adequate levels of colostrum, survival is unlikely.
- A dam's nutritional status is directly correlated to colostrum quality and quantity.
 - Thin animals produce less and lower quality colostrum

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WHY VACCINATE?



- Viral Disease:
 - Caused by protein based structure.
 - Typically caused due to aerosol exposure, in utero, blood transfer, or in soil.
 - "Foreign" body.
 - Only replicates WITHIN a cell
 - Takes 7-10 days to create external signs of sickness

WHY VACCINATE?

Microbial Disease:

- ✓ Caused by a cell based organism
 - Bacteria
 - Fungus
 - Protozoa
- ✓ Opportunistic
 - When immunity is suppressed due to stress or viral infection
- ✓ Can be fast acting (death within 24 hours of outbreak)
- ✓ Can enter body through ingestion, aerosol, or open wounds.

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Step 1.

Consult with your veterinarian to see if new/better/more appropriate products are recommended at branding

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Lets talk cattle.....

- A good vaccine program results in healthier calves overall.
- Good health reputation brings higher demand in your calves
- You are also investing in the health and longevity of your replacement heifers.

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Which group is a lower risk investment to a cattle buyer?

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Chase et al., 2008

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Boost Immunity at the First Opportunity

- A consistent and effective health management program starts when calves are first handled.

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Viral protection




Respiratory Disease

- ✓ Typically caused by viruses
- ✓ Calves – Modified live vaccine (labeled safe for cows) for respiratory disease.



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- **Modified Live** = A genetically altered version of the live virus. Offers best antibody response for VIRAL infections.
 - Sensitive to heat
 - Cannot be stored once mixed
 - Some vaccines affect pregnancy in cows
 - **READ LABELS**



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Clostridial Diseases



- ✓ Caused by bacteria infection
- ✓ Very difficult to treat if infected
- ✓ Vaccines labeled for cattle and sheep.
- ✓ “Spur” indicates an additional disease covered by the vaccine.
 - ✓ ie. tetanus
- ✓ Can be stored after opened
 - ✓ Provided handled appropriately

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Stressors calves face at branding

- Stress is very high
 - Stress can reduce a vaccine's effectiveness



- ✓ Separation
- ✓ Crowding
- ✓ Roped/chute work
- ✓ Castration/dehorning
- ✓ Vaccination
- ✓ Heat

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Animal Handling



- Quiet
- Slow
- Less people
- Facilities
- Less “tools”

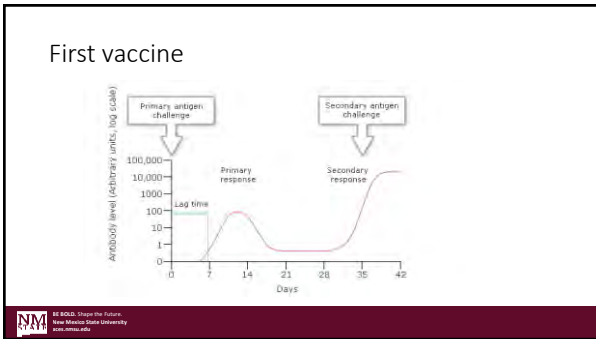
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Weaning



- Most stressful time for a calf
- Increased risk of sickness
- Best opportunity to boost immunity
- Pay day (?)

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Don't Forget the Cows and Bulls!

- Booster annually with BOTH clostridials and viral vaccines to cows and bulls.
- Establishing immunity in heifers is the first step.
- More and more products are labeled safe for pregnant cows.
- The immune health of the cow can be transferred to the fetus.

Vaccinated at branding

<https://nmbef.nmsu.edu>

- Initial introduction to the antigen.
 - Offers some protection up to weaning time
- Protocols should contain BOTH clostridial AND viral vaccines
- Viral vaccines should be offered to calves in the Modified Live form.
- Consult with a veterinarian to find out the most relevant and recommended vaccines for your area.

Sheep vaccine management

- Different than cattle.
 - Different diseases
 - Different stages of production
 - Different timing
- Reasons are the same...

Q: Why Vaccinate?

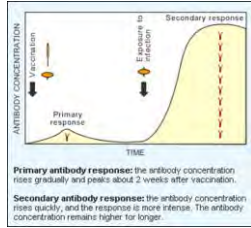
- Colostrum quality and quantity
- Prevention of disease
- Improve immunity

A: Optimize Health

WHAT TO VACCINATE FOR

- Consult with your local veterinarian before establishing a vaccination protocol.

Q: Why is a booster needed?



WHAT TO VACCINATE FOR



Clostridial Diseases

- Enterotoxemia
 - (Type C & D)
- Tetanus

Other Bacterial Diseases

- Coccidiosis
- Caseous Lymphadenitis (CLA)
- Ovine Progressive Pneumonia



WHAT TO VACCINATE FOR

Reproductive Diseases

- Leptospirosis
- Vibriosis
- Chlamydia
- Q Fever



WHAT TO VACCINATE FOR

Viral Diseases

- Sore Mouth
- Blue Tongue



HOW TO VACCINATE



Scrapie Disease

- Prion Disease
- Affects both sheep and goats
- No vaccine
- Testing mandates
 - Veterinary issued
- Fatal degenerative neurological disease



Health MANAGEMENT



Calendar Based on Stage of Production

- Pre Breeding (45 Days)
- Breeding (60 Days)
- Pre Lambing (Day 90)
- Lambing (60 Days)
- Lactation/Weaning (60-80 Days)
- Post Weaning (30-50 Days)




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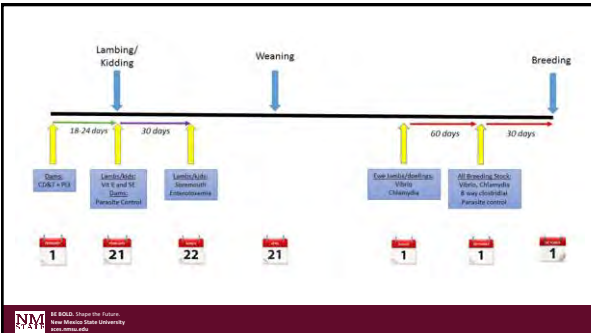
Health calendar

	Pre Breeding (Aug-Sept)	Breeding (Oct – Nov)	Pre Lambing (Jan-Feb)	Lambing (Feb-Mar)	Lact/Wean (Apr-May)	Post Wean (May-July)
Nutrition	Increase Nutrition		Grain ewes (1-2 lbs/1,000 lbs BW)	Grain ewes (1-2 lbs/1,000 lbs BW)	Creep Feed Lambs Grain ewes as needed	BCS Ewes Feed lambs for market
Wormer	Deworm			Deworm	Deworm Lambs	
Vaccine	Ewes/Rams - Vibrio		Ewes/Rams – Enterotoxaemia, Clostridium Perfringens C&D, Tetanus (8 Way)		Lambs – Enterotoxaemia, Clostridium Perfringens C&D, Tetanus (8 Way)	
Reproduction	Breed Soundness of Rams	Breed Ewe Lambs AFTER ewes				

Wormer Tip: Avoid Ivermectin based products or rotate regularly with other products, to reduce the incidence of product resistance.



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Vaccination 101

- DO
 - Keep Vaccines Cold & In The Dark
 - Read all labels before use
 - LABEL each vaccine gun clearly
 - Change needles frequently




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VACCINATION 101

Tips of the trade...

1. The higher the gauge no. the "lighter" the needle.
2. Higher gauge/shorter needles more appropriate for young animals.
3. Most vaccines can be administered with an 18 gauge needle.
 1. 18g x 3/4" for calves
 2. 20g x 3/4" for lambs/kids
 3. 18g x 1" for mature animals.
4. Many antibiotics require 16 gauge.







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Vaccination 101

- DON'T
 - Disinfect needles between injections
 - Only at the end of the day
 - Only implant needles
 - MIX Different Medications/Vaccines
 - Store mixed modified live vaccines for later use
 - Don't mix too much modified live in advance






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BQA Approved

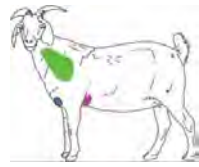


Locate the triangle region in front of slope of shoulder

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HOW TO VACCINATE


- Subcutaneous (SQ)
- Intranasal (IN)
- Intermuscular (IM)
- Intravenous (IV)
- Intraperitoneally (IP)



Follow all label instructions for dose and administration

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HOW TO VACCINATE



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In Summary


- Immunity starts in utero – keep dams current on their vaccinations
- Boosted at birth
 - Calves/lambs can't survive without colostrum
 - Dam's body condition impact both colostrum quality and quantity
- Modified live vaccines should be used for calves (at branding) for optimal protection against viral disease.
- The boosters given at weaning further the immune response for the calf.
- Stress can have a negative impact on health and vaccine effectiveness

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In Summary

- Sheep are susceptible to other diseases not covered by tradition cattle vaccines.
- Sheep vaccine protocols are tied to stage of production.
- All vaccines must be managed properly in order to be effective.
 - Consistent cool temperatures, darkness
- Smallest dose vaccine options and smaller gauge needle to reduce injection site blemishes.
- Consult with your veterinarian at least once a year to get the most up to date information on vaccine protocols.

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THANK YOU!
 Marcy Ward, Extension Livestock Specialist
mward@nmsu.edu
 575-644-3379

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