**Vaccine Basics**

**Needle and Syringe Selection**

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**Can Cause Reproductive Loss**

- *L. hardjo-bovis* (listed as HB on most vaccines)  
- *Leptospira sp.*, 5 traditional strains (lepto)  
- *Campylobacter fetus* (vibrio)  
- Brucellosis  
- IBR (bovine herpesvirus 1)  
- BVD  
- Trich

**Bacterial Diseases**

clostridial diseases
- *Clostridium chauvoei* (black leg)  
- *Clostridium septicum* (malignant edema)  
- *Clostridium novyi* (black disease)  
- *Clostridium sordellii* (gas-gangrene)  
- *Clostridium perfringens type C&D* (enterotoxemia & enteritis)  
- *Clostridium haemolyticum* (red water)  
- *Clostridium tetani* (tetanus)

* most clostridial vaccines do not contain tetanus, but a few do

**Diseases Routinely Vaccinated For**

calves
- clostridial diseases  
- IBR, BVD, PI-3, BRSV  
- lepto

replacement heifers & cows
- clostridial diseases  
- IBR, BVD  
- lepto & vibrio

consult your cattle veterinarian!!!!!

**Vaccine Terminology**

- 7-way vs 8-way
  - *C. haemolyticum* (i.e. red water)

- L5  
- L5 HB  
- VL5 HB
Vaccine Terminology

- killed vs modified live
- with modified live mainly think about
  - IBR (bovine herpesvirus 1)
  - BVD
  - PI3
  - BRSV
- modified live may have restrictions for breeding animals
- safe for pregnant cows*

Modified Live Virus

- stockers and feeder cattle vs breeding animals
- modified live IBR and BVD use in breeding age females
  - opinions vary (visit with your veterinarian)
  - appears to be growing amount of concern
  - big studied show numerical reductions even when used according to label directions
- what is level of risk in your herd

Examples of Basic Vaccine Programs with killed virus components

*these examples would cover the "diseases routinely vaccinate for" with the exception of vibrio; there may be other diseases that are important in your operation so consult with a cattle veterinarian in your area
**these are just a few basic examples to illustrate a vaccine program, there are numerous other products and strategies that could be used in a well-designed vaccination program

Elanco

Vira Shield 6 + L5 HB
does not offer a clostridial vaccine

BI

Alpha 7 Triangle 10 HB
Examples of Basic Vaccine Programs with modified live virus components

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**Vet drinks**

- Zoetis Ultrabac 7
- CattleMaster Gold FPS
- Spirovac L5
- Modified live (temperature sensitive) IBR & PI3
- Killed BVD

**Vet products**

- Modified live BRSV

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**Zoetis**

- Zoetis Ultrabac 7
- CattleMaster Gold FPS
- Spirovac L5

**Merck**

- Vision 7
- Vista 5 LS

**Vaccine Timing: Calves**

*initial vaccination: 2-3 months*
  - clostridial
  - IBR, BVD, PI3, BRSV
  - lepto

*booster vaccination: preweaning or postweaning?*
  - clostridial
  - IBR, BVD, PI3, BRSV
  - lepto

**Vaccine Timing: Cows**

*pre-calving preferred*
  - clostridial
*pre-breeding preferred*
  - IBR, BVD
  - lepto
  - vibrio

*often all are given when cows are palpated*

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**Vaccines programs need to be re-assessed yearly**

- new research
- changes in available vaccines
- changes in risk level
- label changes
- new products

**consult with a cattle veterinarian**
**Vaccine Storage**

Does Your Refrigerator Keep Vaccines at the Proper Temperature?
- 239 refrigerators surveyed
- Data every 10 min for 48 hrs
- Total of 68,832 data points
- Where?
  - Retail Store/Co-ops = 18%
  - Producer/farm = 75%
  - Vet Clinics = 7%

<table>
<thead>
<tr>
<th>Temp. between 35-45° F</th>
<th>Of the 68,832 data points</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 95% of time = 26%</td>
<td>Above 45°</td>
</tr>
<tr>
<td>95-66% of time = 21%</td>
<td>Below 35°</td>
</tr>
<tr>
<td>65-36% of time = 16%</td>
<td>Bet. 35-45°</td>
</tr>
<tr>
<td>35-5% of time = 13%</td>
<td>Av. = 51.5°</td>
</tr>
<tr>
<td>&lt; 5% of time = 24%</td>
<td>Av. = 31.5°</td>
</tr>
<tr>
<td>Av. = 38.6°</td>
<td>Av. = 31.5°</td>
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</tbody>
</table>

When health products are stored improperly, the effectiveness is compromised.

Keeping track of your refrigerator temperature

Vaccine Handling
purchase vaccines from sources that understand the importance of proper handling
– store 35° to 45° F
– avoid direct sunlight

Proper Mixing of Vaccines

components
• diluent
• dehydrated portion

add diluent to dehydrated portion
swirl until completely dissolved
• do not shake
use within 1 hr

Killed Product that Requires Mixing

Needles & Syringes for Vaccine Use
label syringes to avoid mixing products
  - colored markers
  - tape

Giving Injections
Tented Technique
Must use both hands

http://beef.tamu.edu

http://beeffax.tamu.edu

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