

Vaccine Basics

Needle and Syringe Selection

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1

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

2

Can Cause BRD

- IBR
- BVD
- PI-3
- BRSV
- *Mannheimia hemolytica* (*Pasteurella hemolytica*)
- *Pasteurella multocida*
- *Histophilus somni* (*Haemophilus somnus*)

3

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

4

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!!!!

5

Vaccine Terminology

- 7-way vs 8-way
 - *C. haemolyticum* (i.e. red water)
- L5
- L5 HB
- VL5 HB

6

Vira Shield 6	Vira Shield 6 + Somnus
Vira Shield 6 + L5	Vira Shield 6 + L5 Somnus
Vira Shield 6 + L5 HB	Vira Shield 6 + L5 HB Somnus
Vira Shield 6 + VL5	Vira Shield 6 + VL5 Somnus
Vira Shield 6 + VL5 HB	Vira Shield 6 + VL5 HB Somnus
Vira Shield 4 + VL5	

7

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*

8

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
 - 1 big studied show numerical reductions even when used according to label directions
- what is level of risk in your herd

9

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

10

Elanco

Vira Shield 6 + L5 HB


does not offer a clostridial vaccine



11

BI

Alpha 7
Triangle 10 HB



12

Examples of Basic Vaccine Programs with modified live virus components

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13



14



15

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

16

Vaccine Timing: Cows

pre-calving preferred

- clostridial

pre-breeding preferred

- IBR, BVD
- lepto
- vibrio

often all are given when cows are palpated

17

vaccine 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

18

Vaccine Storage

19

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%



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20

Does Your Refrigerator Keep Vaccines at the Proper Temperature?

Temp. between 35-45° F

- ▶ > 95% of time = 26%
- ▶ 95-66% of time = 21%
- ▶ 65-36% of time = 16%
- ▶ 35-5% of time = 13%
- ▶ < 5% of time = 24%

Of the 68,832 data points

Above 45°	Below 35°	Bet. 35-45°
14%	33%	54%
Av.= 51.5°	Av.= 31.5°	Av.= 38.6°

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

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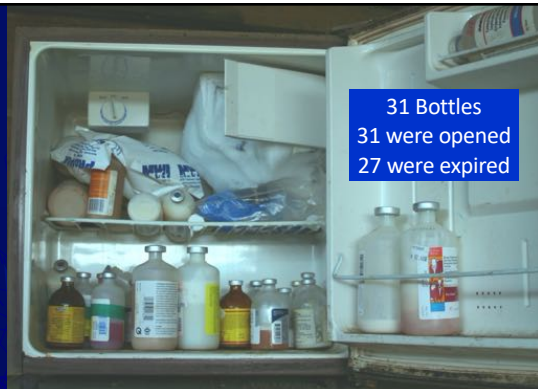
21

Keeping track of your refrigerator temperature



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22



31 Bottles
31 were opened
27 were expired

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Vaccine Handling

25



purchase vaccines from sources that understand the importance of proper handling

- store 35° to 45° F
- avoid direct sunlight

26



27



28

Proper Mixing of Vaccines

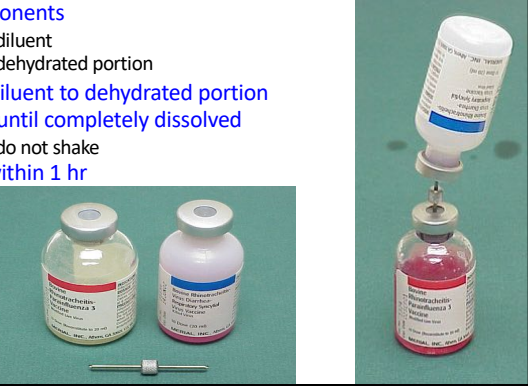
components

- diluent
- dehydrated portion

add diluent to dehydrated portion swirl until completely dissolved

- do not shake

use within 1 hr



29

Killed Product that Requires Mixing



One Shot
 (Pfizer Animal Health) Single dose protection against pasteurized (respiratory infection, shipping fever) caused by Mannheimia haemolytica type A1 in cattle. Contains leukotoxin to neutralize lung-damaging leukotoxins. Give 2 ml SQ. A booster is recommended whenever subsequent stress or exposure is likely. Considered safe in cattle of all ages. Killed product, requires mixing.

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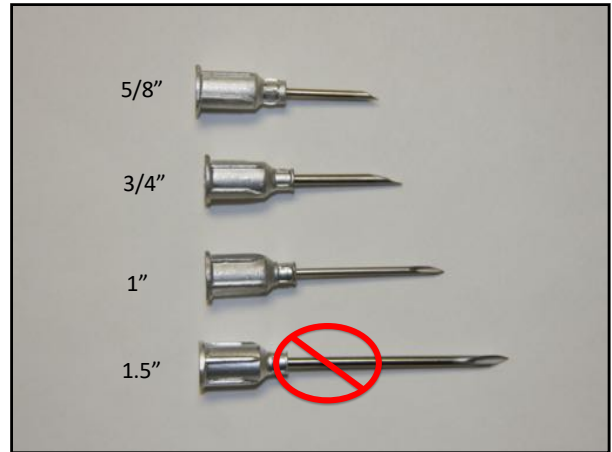
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Needles & Syringes for Vaccine Use

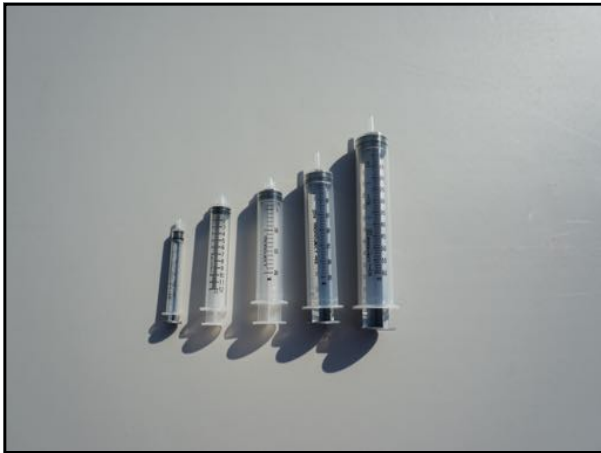
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41

Giving Injections

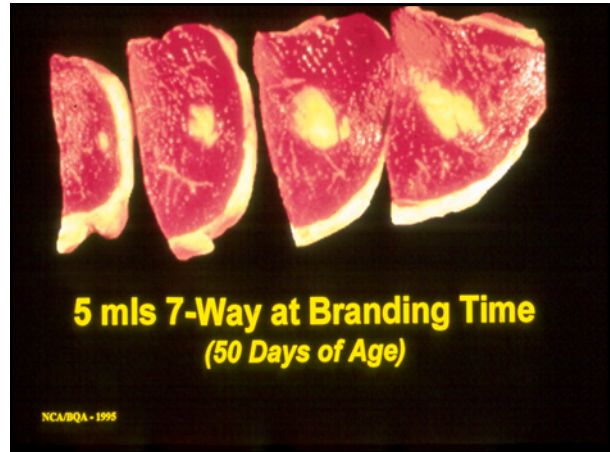
42



43



44



45

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46