

Calfhood Disease in California Dairies and Calf Ranches

Robert B. Moeller Jr. DVM, DACVP, DABT

Tulare Branch

California Animal Health and Food Safety Lab

UC Davis, School of Veterinary Medicine

559-688-7843

rbmoeller@ucdavis.edu

Diseases are age dependent

- 1-30 days of age
 - 30 days to group pens
 - Group pens
-
- Today: talk on important problems in 1-30 day old calves:
 - Diarrhea and dehydration
 - Bacteremia/septicemia
 - Respiratory disease

Diarrhea and Dehydration

Causes		Age (days)	
		Average	Range
Viral			
	Rotavirus	9	1-30
	Coronavirus	10	1-30
Parasitic			
	Cryptosporidium	10	2-30*
Bacterial			
	K99 E. coli	3	1-7
	Attaching and Effacing E. coli	10	2-30
	Salmonella sp.	11	1-90

What Causes Diarrhea?

Hypersecretion

- K99 E. coli

Malabsorption

- Rota/Corona Virus
- Cryptosporidium
- Attaching Effacing E. coli

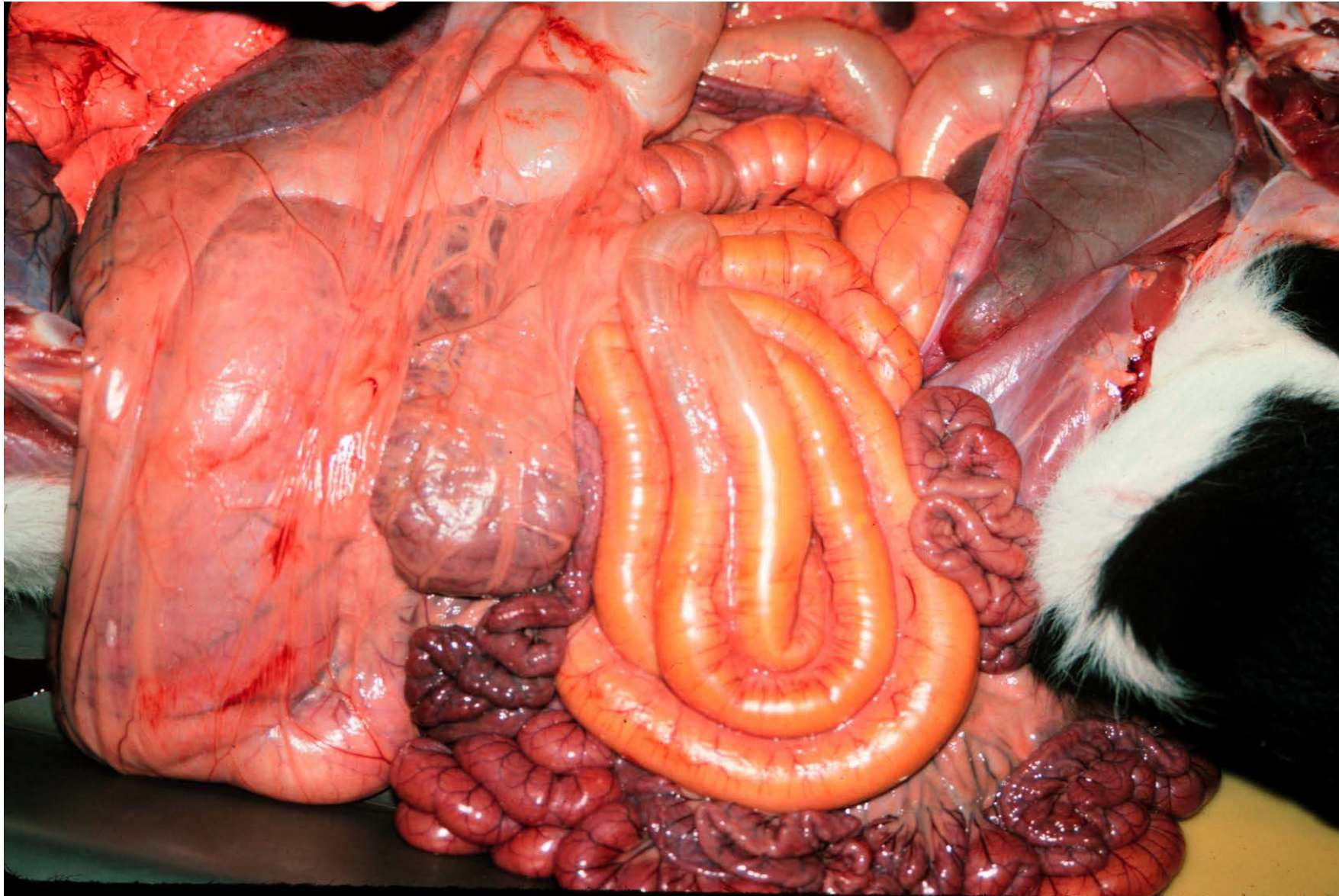


Rotavirus/Coronavirus/Cryptosporidium

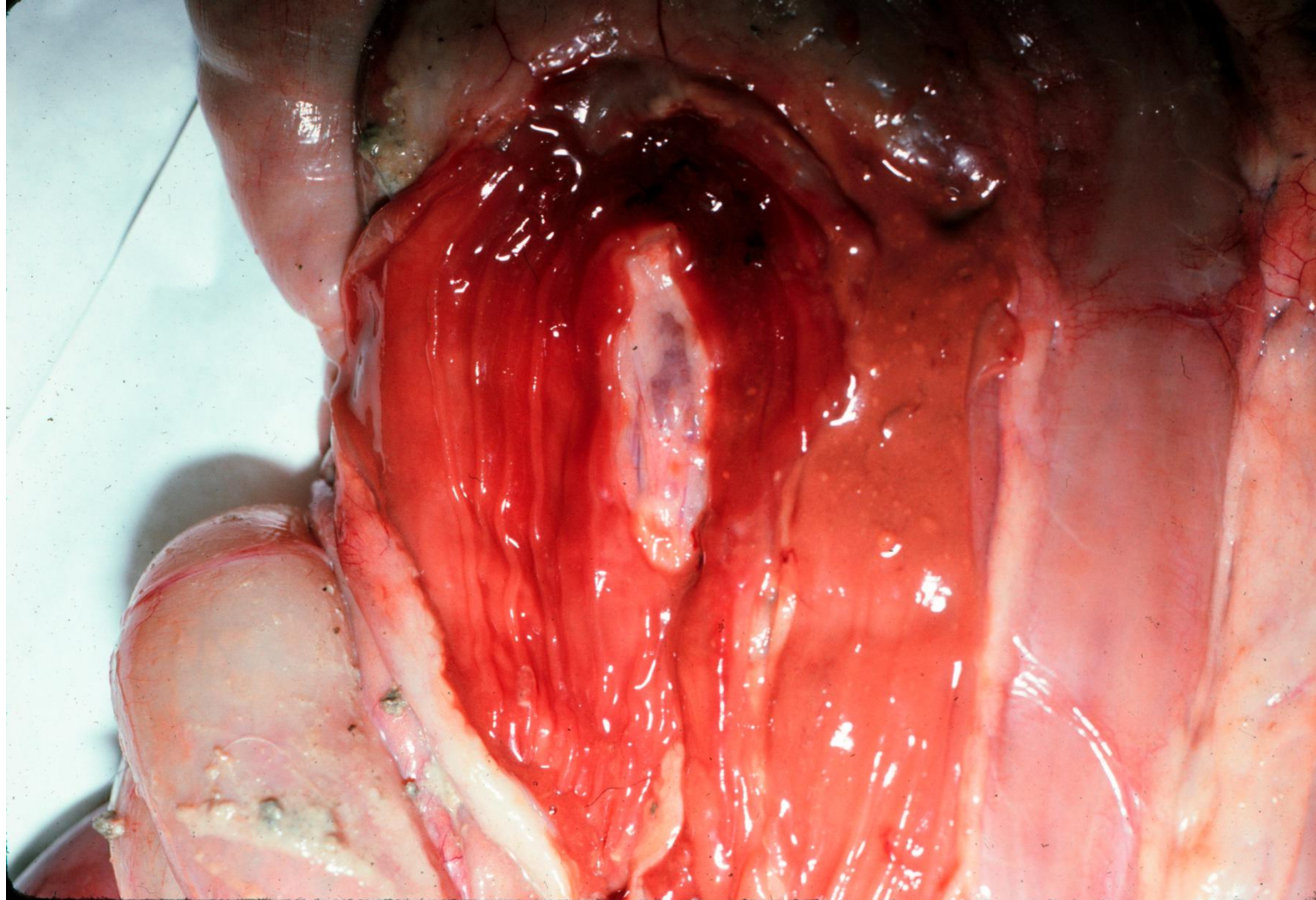
- Watery diarrhea
- Fibrin ???
- Blood ???
- Severe dehydration
- Often seen with multiple viral pathogens and bacterial pathogens together



K-99 *E. coli*: Watery diarrhea

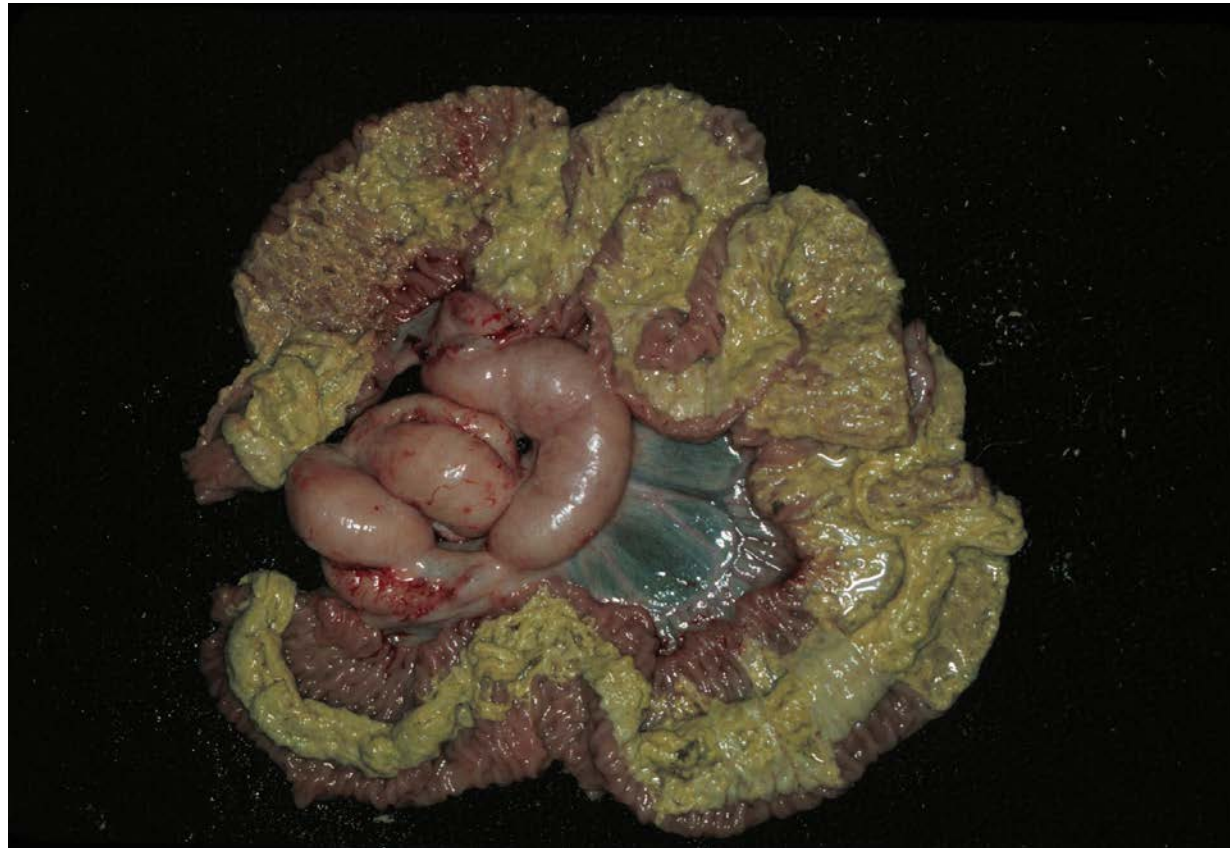


Attaching and Effacing *E. coli*:
Watery diarrhea, occasionally fibrin

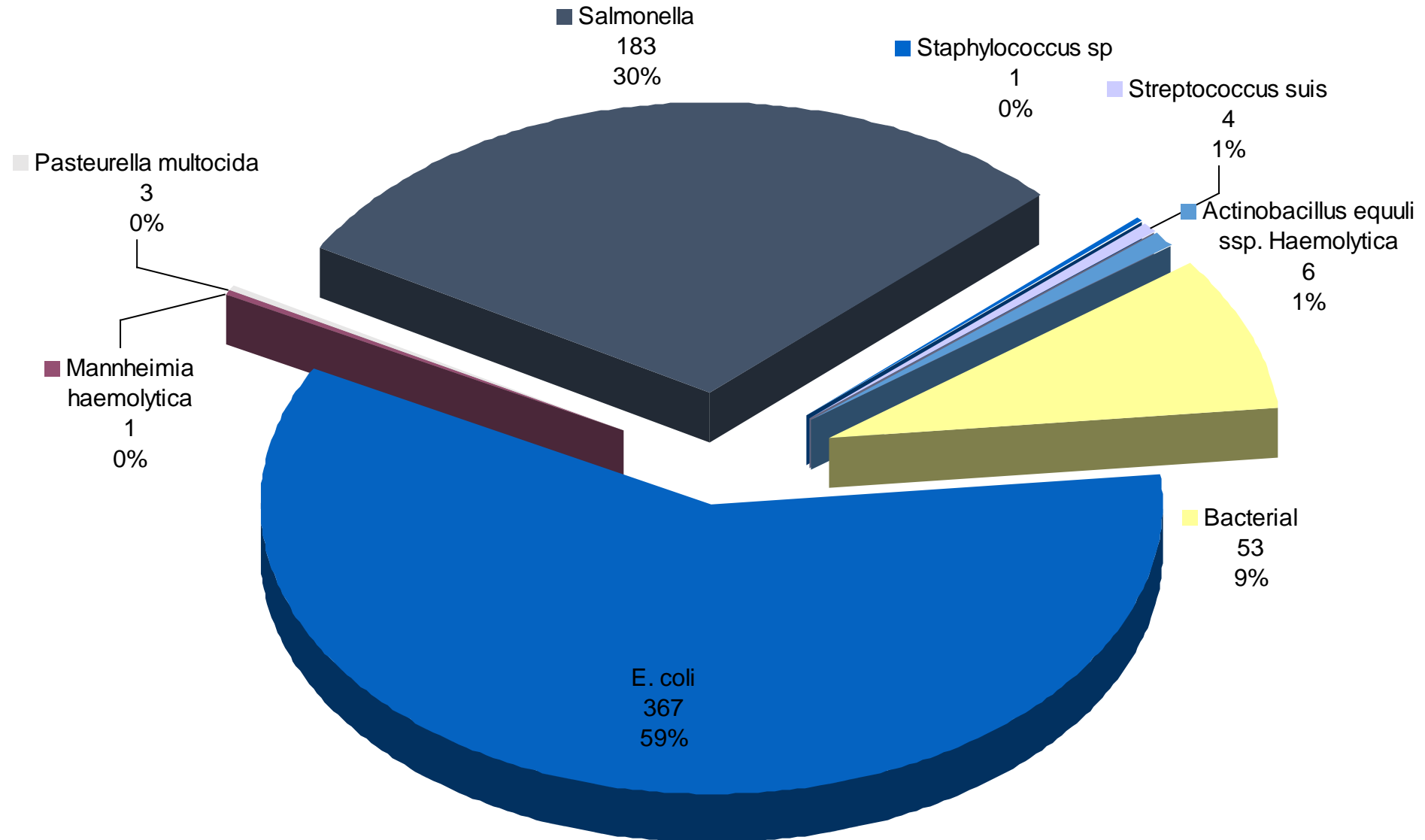


Salmonella sp.

- *Salmonella Typhimurium* and *S. Newport*: Affects mostly 5 to 20 days of age.
- Drinking unpasteurized milk
- *Salmonella Dublin*: most common in 30 to 90 days of age

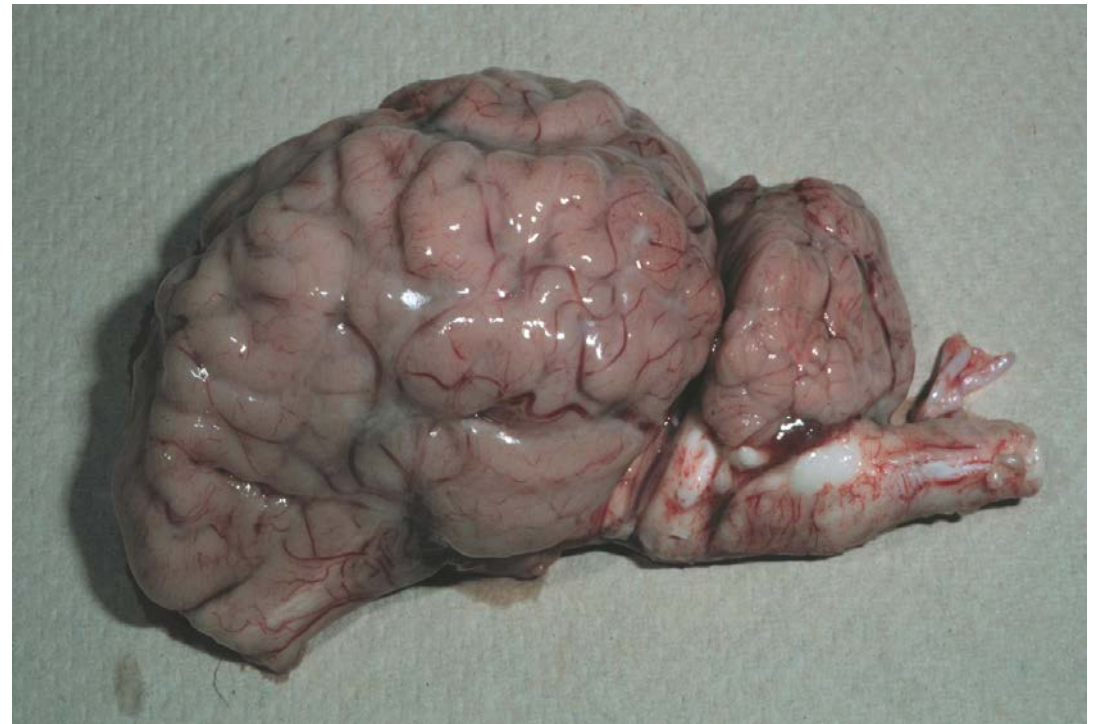


The Agents of Bacterial Septicemia

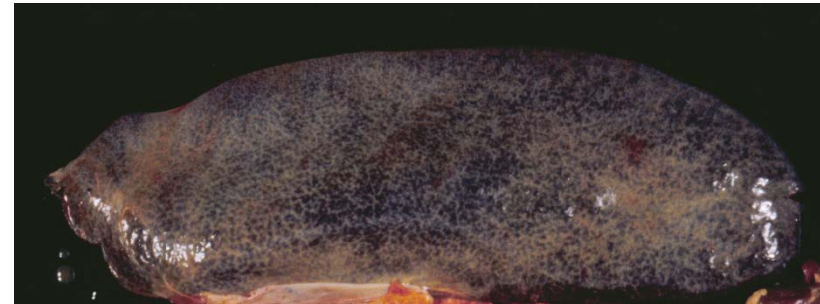
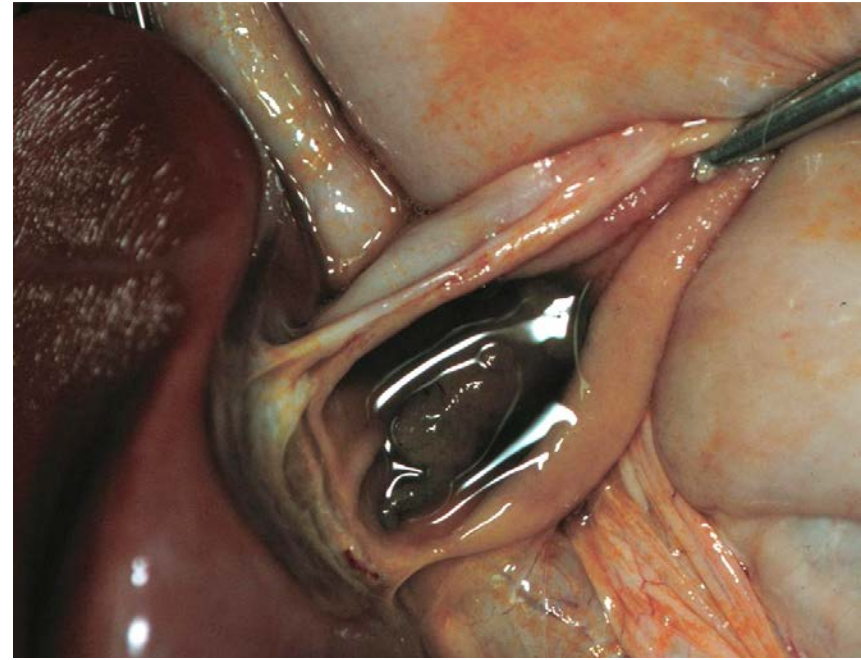


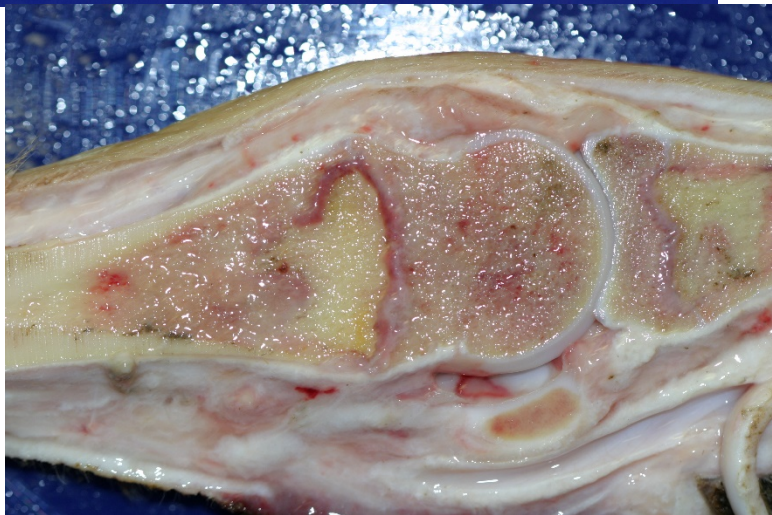
Bacterial Septicemia:

E. coli most common in calves
less than 15 days of age



Salmonella Dublin septicemia: most common after 30 days of age





Respiratory disease

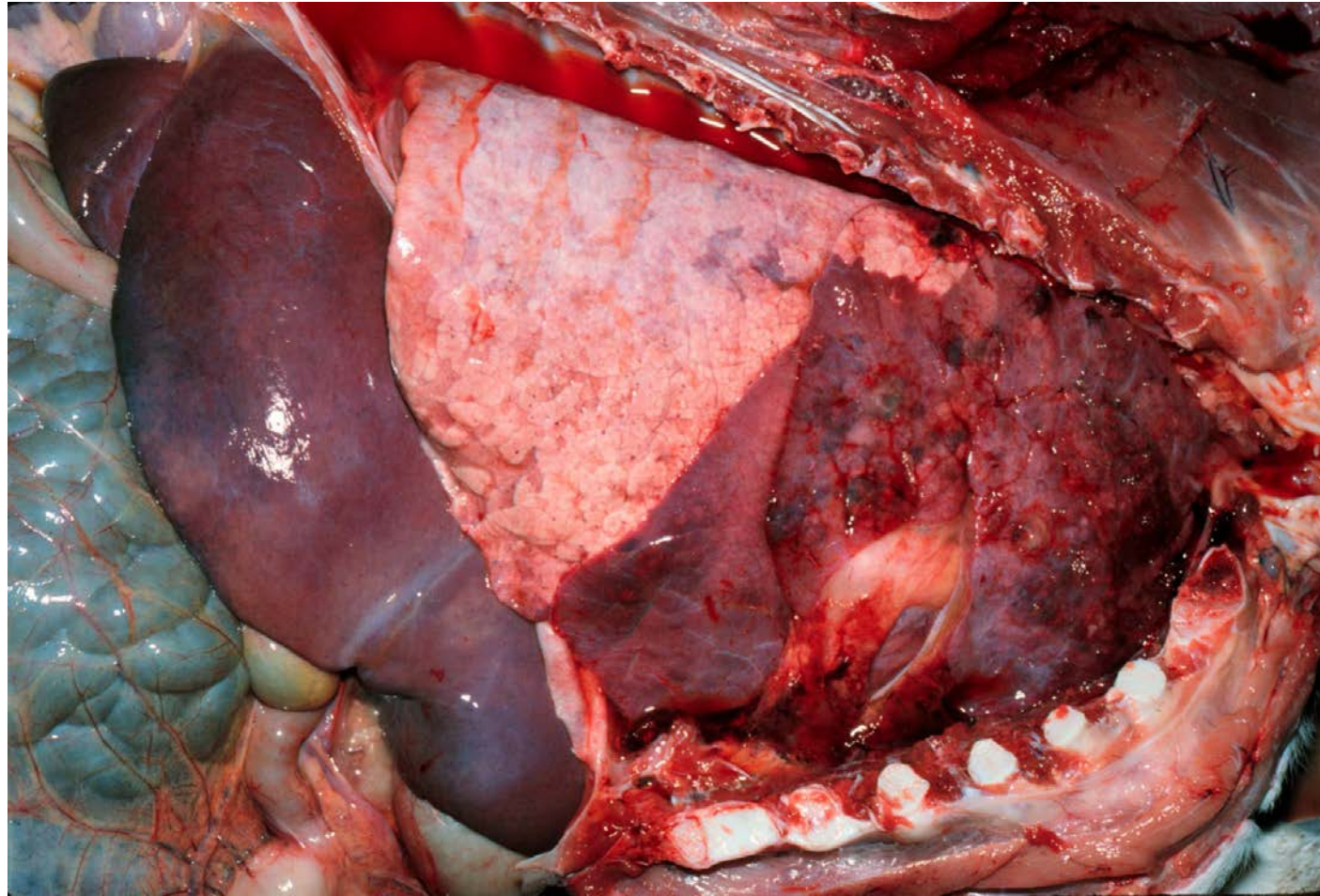
- **Bacterial:**

- *Pasteurella multocida*
- *Mannheimia haemolytica*
- *Bibersteinia trehalosi*
- *Histophilus somni*
- *Mycoplasma bovis*
- *Arcanobacterium pyogenes*
- *E.coli*, *Salmonella* sp, and other bacteria due to improper intubation or aspiration
- *Streptococcus suis*

- **Viral:**

- Bovine respiratory syncytial virus (BRSV)
- Bovine Viral Diarrhea Virus (BVDv)
- Infectious bovine rhinotracheitis virus (IBR)

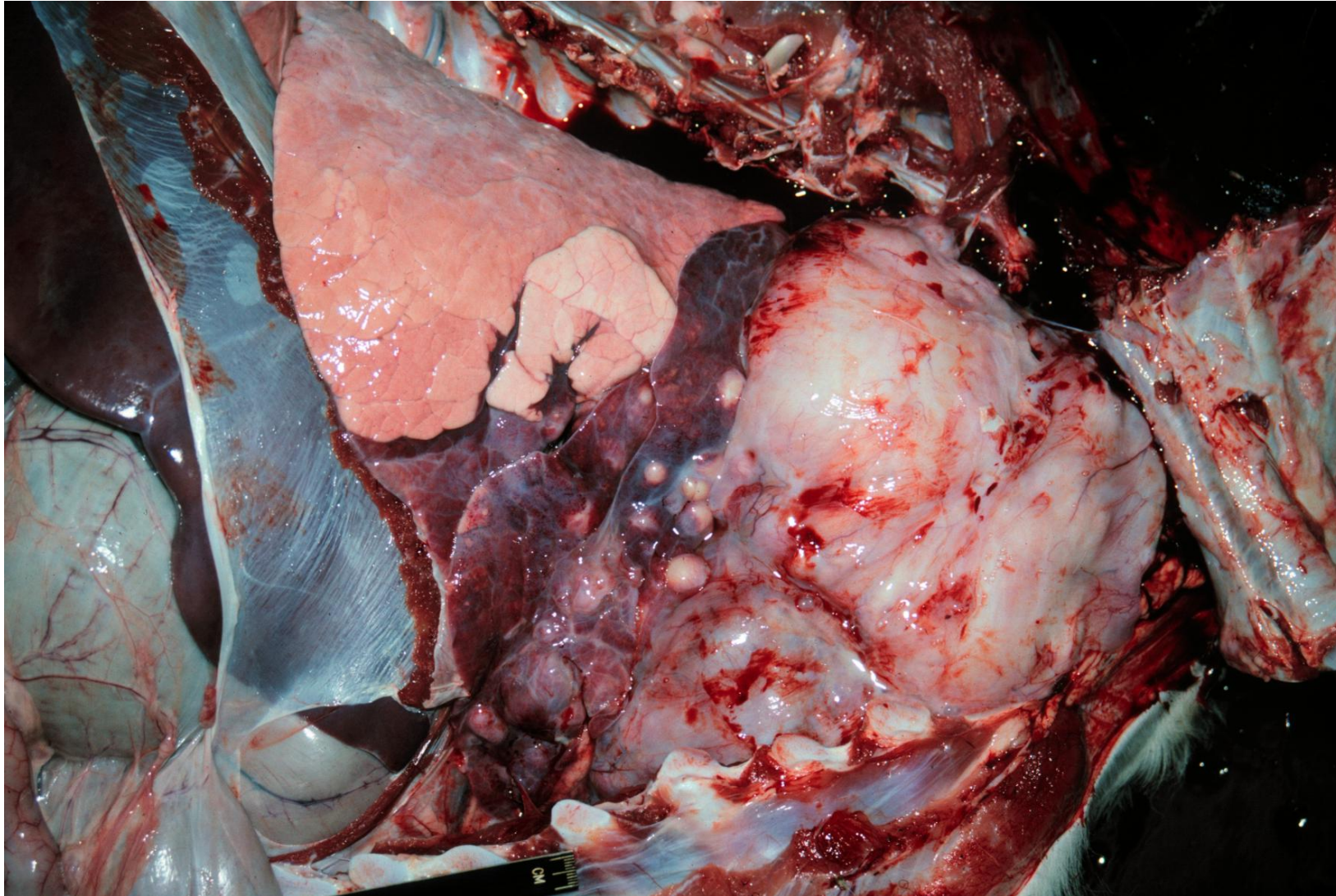
Pasteurella multocida, *Bibersteinia trehalosi* and *Histophilus somni*



Mannheimia haemolytica



Chronic Respiratory Disease:
Mycoplasma sp., *Trueperella pyogenes*



Pneumonia and Septicemia can look very similar clinically

Clinical signs: depressed, fever, breathing fast

- Calves with pneumonia breath fast because they have reduced lung capacity
- Calves with septicemia breath fast because they tend to have acidosis
- Calves with septicemia often develop secondary pneumonia

Pathogens are everywhere and therefore prevention of infection and having a healthy calf capable of fighting infection are the keys to success. No magic bullets to prevent disease

- Good start to life - maternity pen, calving, colostrum(TP>5.6mg/dL)
- Environment – clean and dry
- Nutrition – digestible, metabolizable energy with few bacteria/fungi
- Sanitation – buckets, bottles, nipples, people
- Appropriate use and care of medications
- Appropriate use and care of vaccinations



Thanks to:

- Drs. John Adaska; Pat Blanchard and Guillermo Rimoldi (CAHFS-Tulare)
- Dr. John Champagne VMTRC-Tulare
- Dr. Jim Reynolds (Praedium Inc)