



Herd Health Management

Small Ruminant Management and Fiber Conference

9 November 2019

Mary C. Smith

All contribute to a healthy herd

- Identification and records
- Nutritional systems and requirements
- Feed evaluation
- Vaccination programs
- Monitoring and controlling internal and external parasites
- Care and fertility evaluation of the male

All contribute to a healthy herd

- Pregnancy diagnosis
- Planning for parturition
- Care of the neonate
- Culling criteria
- Monitoring mortality
- Biosecurity
- NYSSGHAP if in New York

Identification and Record Keeping



Every animal needs tag or tattoo

or RFID implant

Scrapie tag if leaves farm (except slaughter < 18 months)



What to record

- birth date
- breeding dates
- parturition dates
- lambs/kids born alive
- alive at weaning



More to record

- shearing dates
- weight of fleece
- foot trimming dates
- FAMACHA scores
- dewormers given, WDI
- vaccines given, WDI
- drugs given, WDI



Keep a treatment list

- must know what drugs were given and when, to avoid residues
- keep track of needed repeat treatments on paper or computer
- keep track of treatments given with marks on the sheep



Still more to record

- weights or body condition scores
- when and why left herd
- cause of death if died



You treasure

what

you measure

Determine flock production

- % ewes lambing
- lambing percentage
- lambs alive 24 hr
- lambs/kids alive at weaning
- lambs/kids and culls sold, value
- fiber or cheese sold



Some possible targets

- Lambing/kidding rate $>95\%$
- Abortion rate $<5\%$
- Stillbirth rate $<2\%$
- Perinatal lamb/kid mortality rate $<5\%$
- Weaning rate 1.5-1.7
- Ewe/doe death rate $<5\%$
- Culling rate 20%

Nutritional Systems and Requirements





Pasture problems



- gastrointestinal worms
- meningeal worm (from deer)
- predators
- gathering the animals for regular exams or individual treatments

May need a livestock guardian dog or llama AND a sheep dog (or bucket of grain).

Will need portable fences.

Coyote kill – neck torn and udder eaten





Who likes to work the sheep?

Barn problems

- coccidiosis
- pneumonia – need ventilation
- listeriosis from baylage if holes in bales
- urolithiasis, grain overload if feeding grain
- adequate feed and water trough space
- social hierarchy in goats





Building floor space (solid floor)

- Rams (180-300 lb) – 20-31 sq ft/hd
- Dry ewes (150-200 lb) – 12-16 sq ft/hd
- Ewes & lambs – 15-21 sq ft/hd
- Prewean lambs – 1.3-2.1 sq ft creep/lamb
- Feeder lambs (30-110 lb) – 8.6-11 sq ft/hd

Sheep Housing and Equipment Handbook –
Available from Premier



Feeder Space (if limit fed)

- Rams (180-300 lb) – 12 in/hd
- Dry ewes (150-200 lb) – 16-20 in/hd
- Ewes & lambs – 16-20 in/hd
- Prewean lambs – 1.3-2.1 sq ft creep/lamb
- Feeder lambs (30-110 lb) – 9-12 in/hd



Late cut and weathered hays are poor feed



Big Bale Math

- outer 4 inches is 25% of the volume
- outer 6 inches is 33% of the volume
- the outer 4 inches is always rotten if the bale has been left outside, uncovered.
- water seeping through the bale leaches out the soluble sugars and proteins.
- store under cover!

Silage and TMR feeding

- tempting but often listeriosis
- abortions, septicemia, circling disease



Feed Evaluation



Know what you are feeding

- core 20 bales, send to Dairy One
- goats will eat better than the forage test if allowed to sort
- date and save every feed tag
- date and save every mineral tag or sticker – be sure enough selenium and iodine





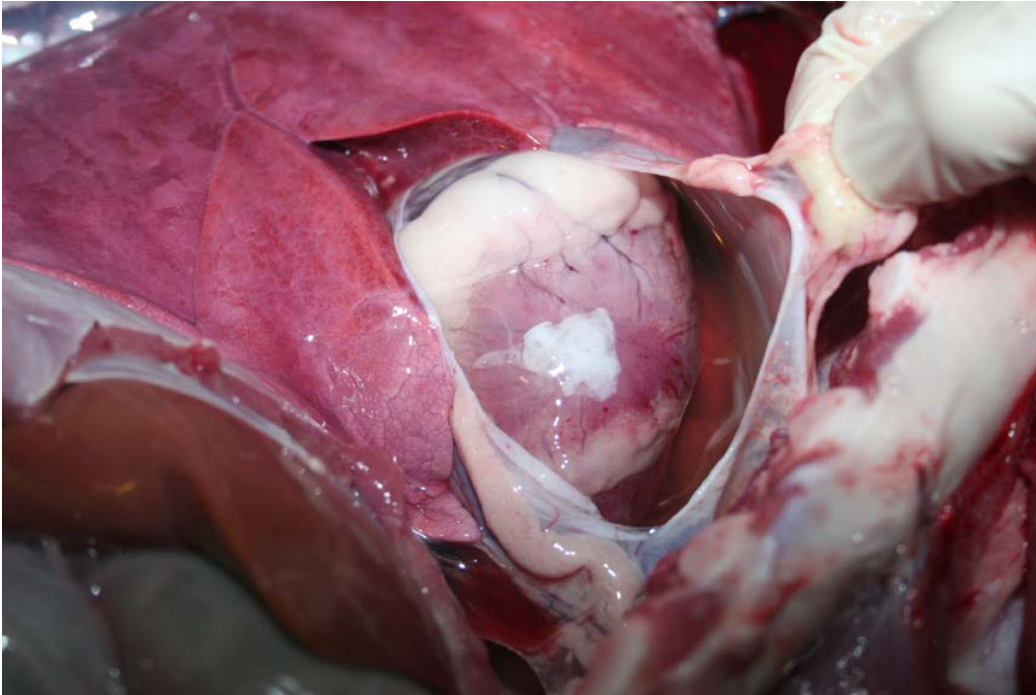
Computer programs

- Mike Thonney's program at Cornell sheep site
- goat feeding program and nutrition lessons at Langston University
- links in notes

Tetanus and Enterotoxemia

- the simplest vaccination program
- two or three doses, then boosters at least once a year
- CD ever 4 mo - goats
- booster before kidding/lambing

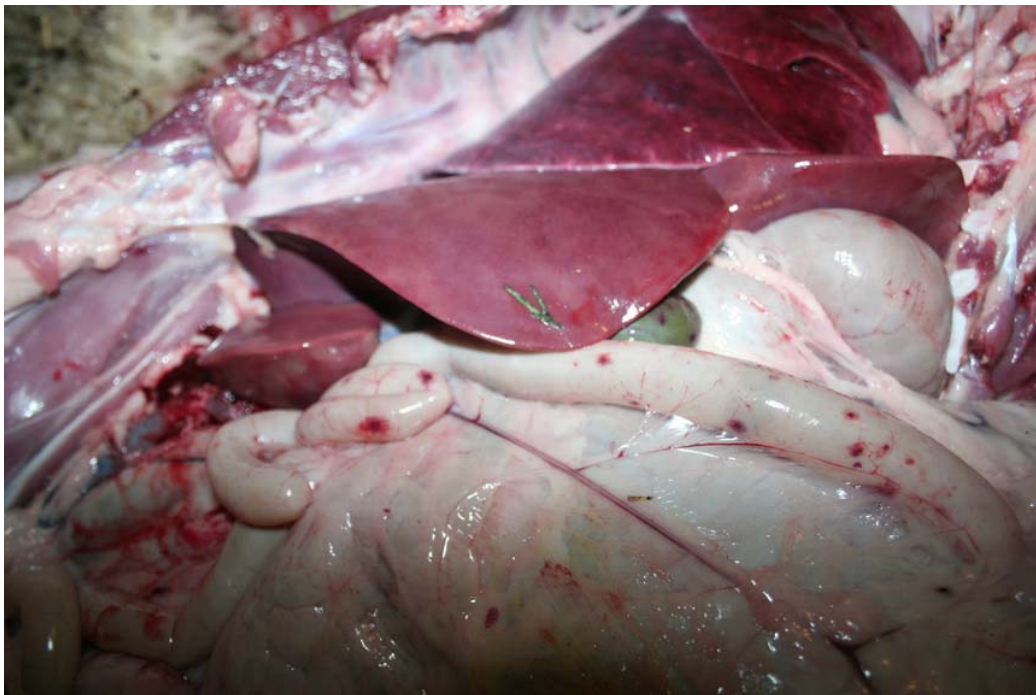




If don't
vaccinate

Enterotoxemia

- sudden death
- fluid & fibrin
in heart sac
- hemorrhages
on intestine



Tetanus antitoxin

- at docking, castration, disbudding if no colostrum protection
- 250 IU adequate for lamb or kid
- 500 IU for adult (dog attack, dystocia)
- can start permanent vaccination series at same time in older animal

Rabies vaccine – endemic areas

- show animals, pets
- several brands for sheep
- none approved for goats
- Imrab 2 ml subcutaneously
- annual boosters in goats
- conservative recommendation for goats:
2 initial doses one month apart



Other possible vaccines

- Orf (soremouth) – introduces disease
- CLA (contagious abscesses) – will test positive
- Campylobacter (sheep abortions)
- Chlamydial abortion

NEW NEEDLE EACH ANIMAL AND IN BOTTLE! REFRIGERATE!

Prevention of sore mouth (orf)



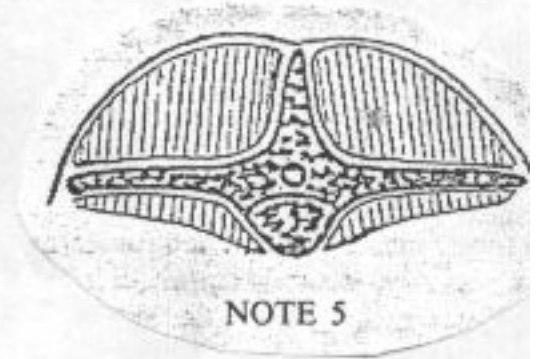
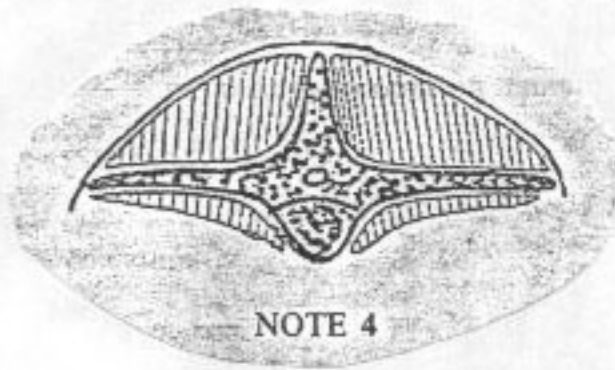
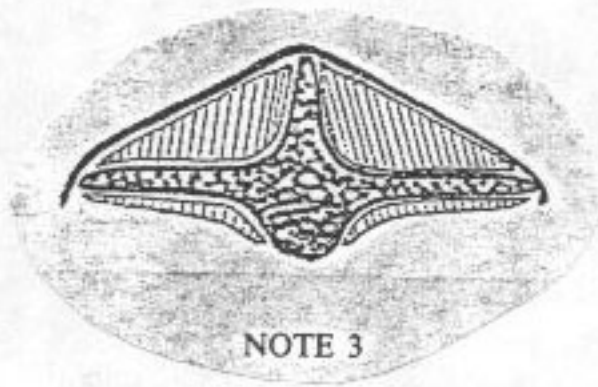
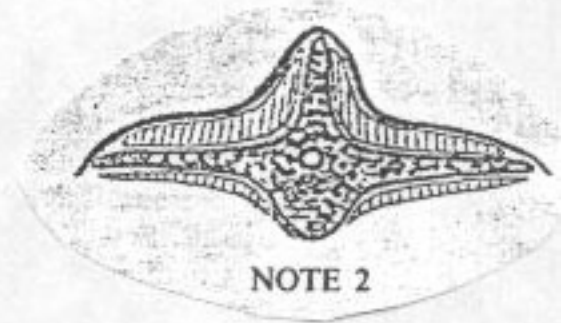
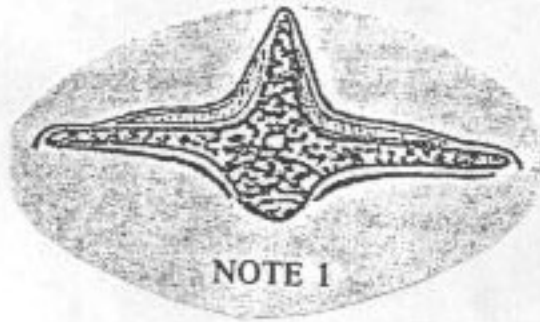
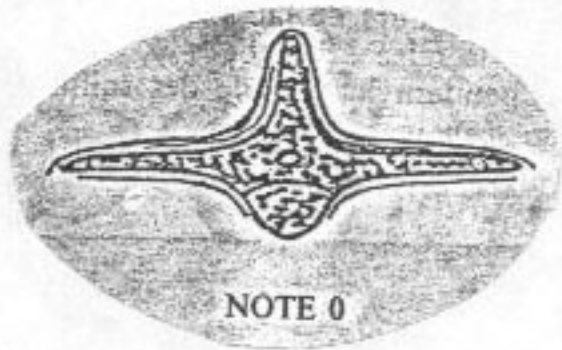
Monitoring and control of internal parasites

- check body condition
- check for diarrhea (“mucky butt”, dag score)
- check FAMACHA scores and record!
- do quantitative fecal exams

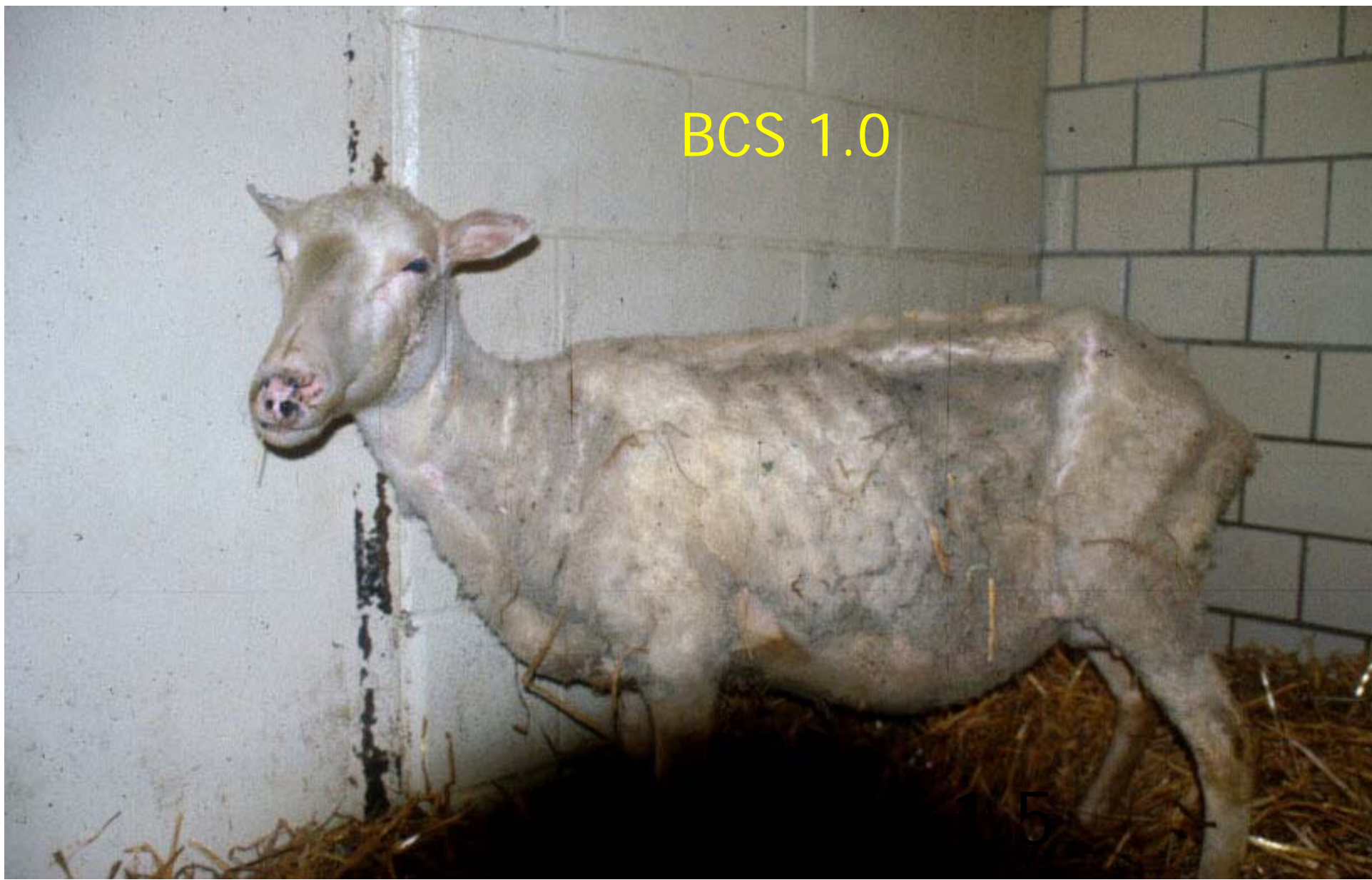
Body Condition Scoring

- must palpate the loin area unless recently shorn
- amount of muscle and fat along vertebrae
- 1 to 5 scale
- 5's are obese (fat!)
- 1's are skin and bones, have chronic problem (nutrition, parasites, infection), usually need trailermycin

BCS: cross section of lumbar vertebrae




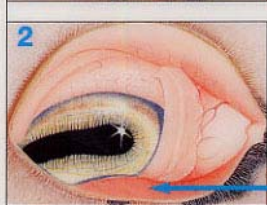

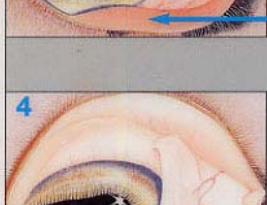
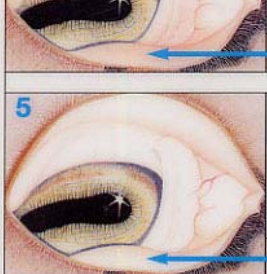
BCS 1.0



BCS 4.5



FAMACHA[®] ANAEMIA GUIDE

| | |
|--|--|
| <p>1</p>  | <p>✓</p> <p>OPTIMAL - (NO DOSE)</p> |
| <p>2</p>  | <p>✓</p> <p>ACCEPTABLE - (NO DOSE)</p> |
| <p>3</p>  | <p>?</p> <p>BORDERLINE - DOSE?</p> |
| <p>4</p>  | <p>!</p> <p>DANGEROUS - DOSE!</p> |
| <p>5</p>  | <p>☠</p> <p>FATAL - DOSE!!!</p> |

DEVELOPED AND SUPPORTED BY:



Monitoring and control of internal parasites



- check body condition
- check for diarrhea (“mucky butt”)
- check FAMACHA scores
- do quantitative fecal exams
- determine if the dewormer works with fecal egg count reduction test – before and 10 to 14 days after

Fecal exams for parasite eggs



Monitoring and control of internal parasites

- use correct dose
- double Safeguard bottle dose for goats
- 1.5X sheep dose of ivermectin for goats
- 1.5X sheep dose of levamisole for goats
- check with veterinarian if dairy animals



Monitoring and control of internal parasites

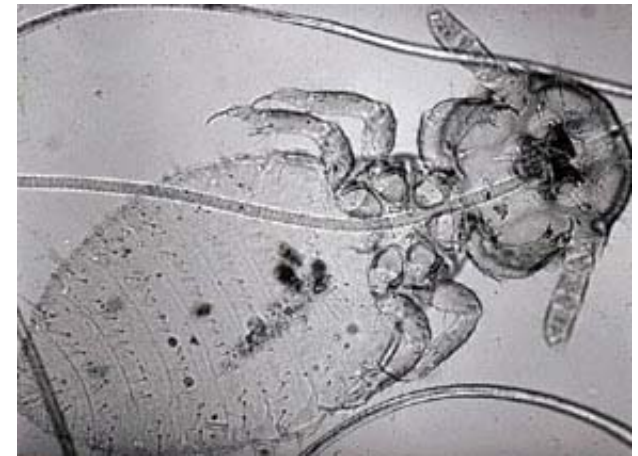
- feed well, including selenium, copper
- cull chronic offenders
- avoid barnyards
- larger pasture, move every few days
- 60 day+ rotation before return to graze
- COWP if liver copper not high
- www.wormx.info

Harvest hay, then graze regrowth



Monitoring and control of external parasites

- sucking lice and keds
- biting lice
- treat off shears, 2X
- permethrin (Ultraboss®)



Angoras – can die from sucking lice



Diagnosis

- fleece parting
- flea comb and dissecting scope
- skin scrapings for mites



Bucks and rams

- foot trim, vaccinate,
- good fences
- monitor for parasites – don't keep if repeated heavy infections
- clean water, salt, limited grain



Breeding soundness exams

- before each breeding season
- have your vet examine scrotum, penis, and semen sample



Breeding soundness exam

- examine penis and prepuce – on rump
- shearing injuries
- balanoposthitis = pizzle rot from high protein diets
- calculi





BSE mantra

Big is beautiful

Mobility is meaningful

Resilience is respectable

Softness is suspicious



Minimum scrotal circumference:

30 cm for ram lambs > 150#

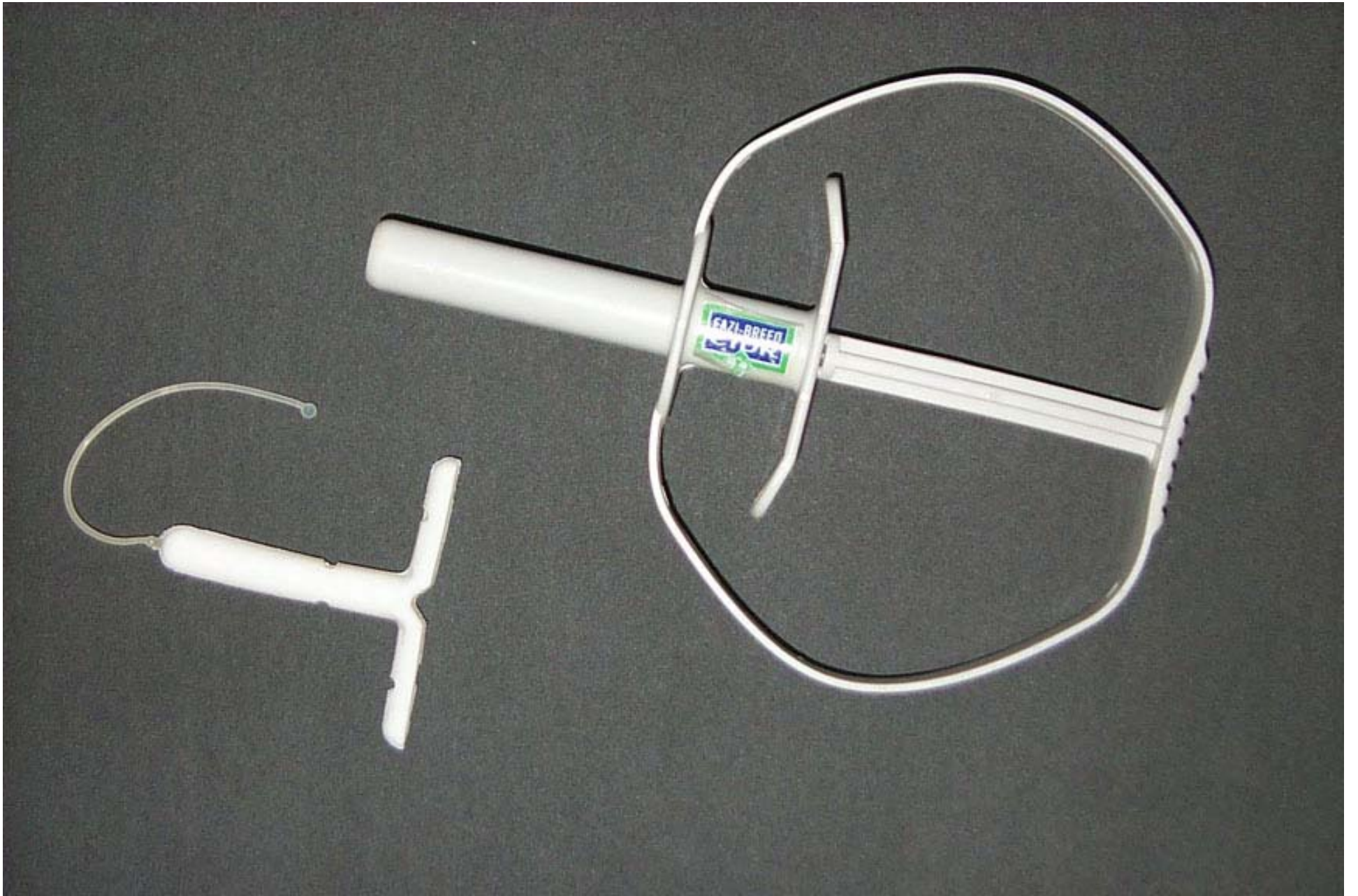
33 cm for 12- to 18 mo ram

36 cm for adults > 250#



Ram or teaser with marking grease on brisket





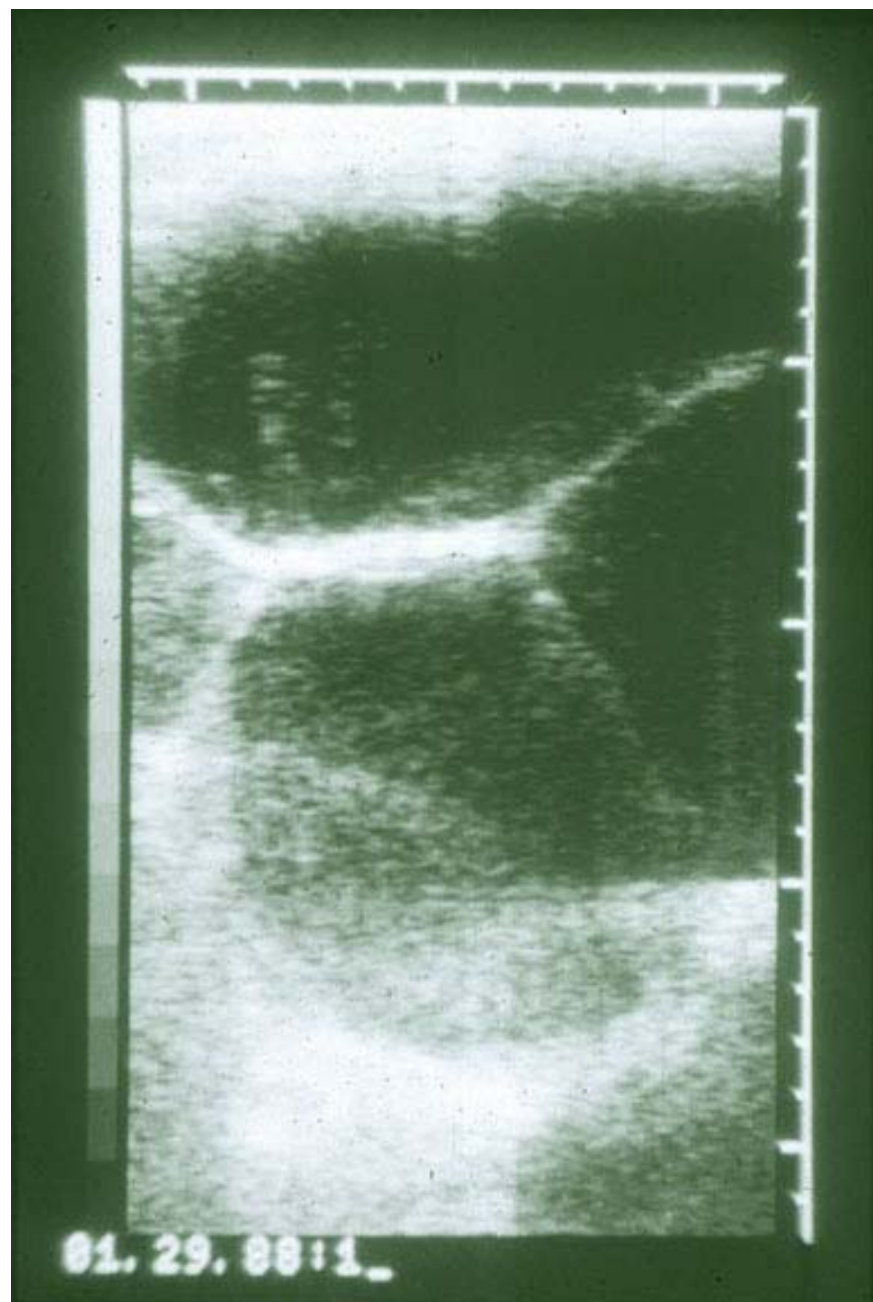
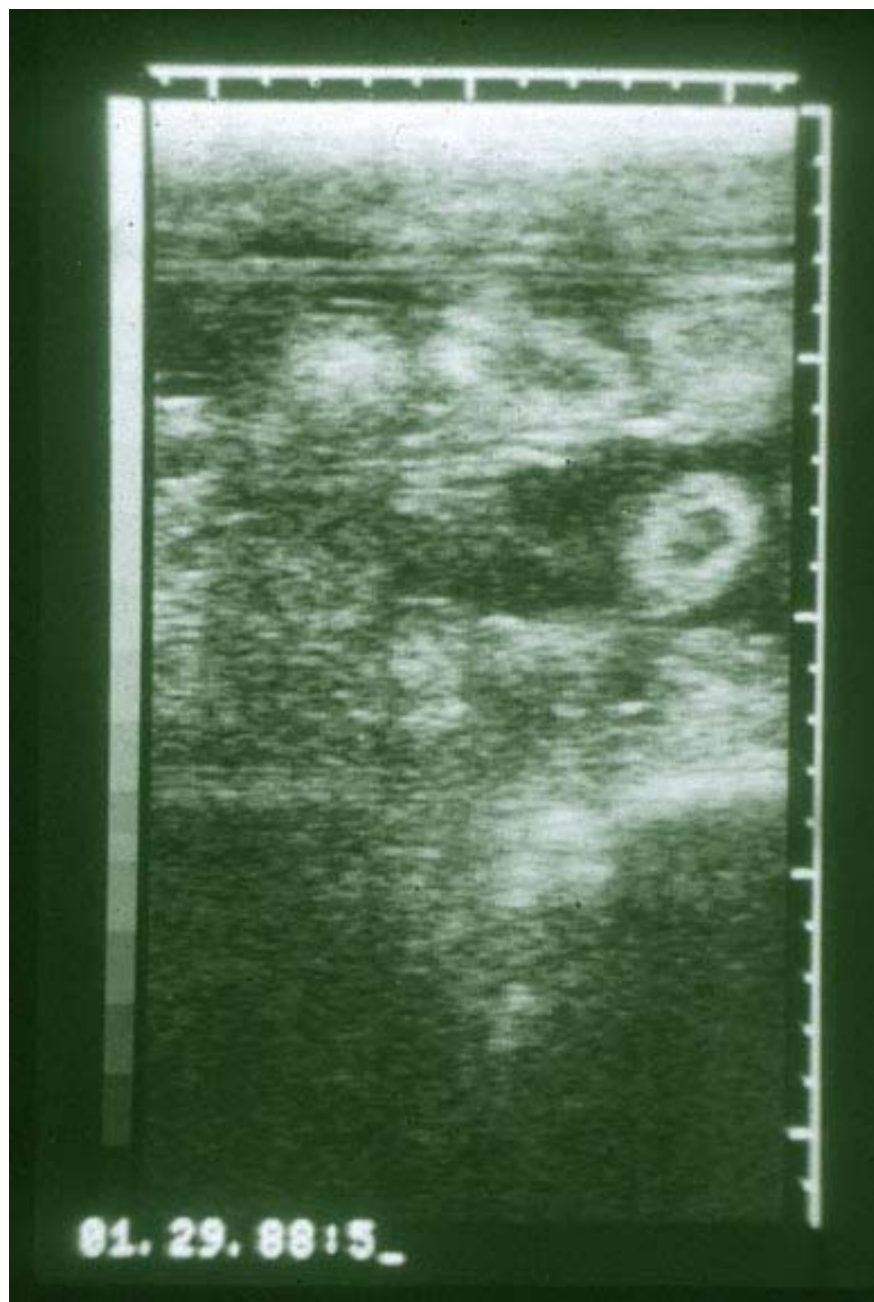
Pregnancy diagnosis

- ultrasound best – can cull early
- blood test (Biopryn) possible > 30d
- need handling facilities or lots of helpers, as vet will charge by the hour









Planning for parturition

- control dates by controlling males
- record dates of buck escapes
- gestation 146 d sheep, 150 d goats
- need disinfectant soap, sterile sleeves, lubricant, head snare, towels, tags
- set up barn monitor (Wansview security)
- do internal exam if labor >30 min or fetus/fluids yellow

Assisting parturition

- wash vulva
- sterile glove
- lubricant

**Be clean, be gentle,
and use lots of lube**



Meconium
stained

=

Help now!







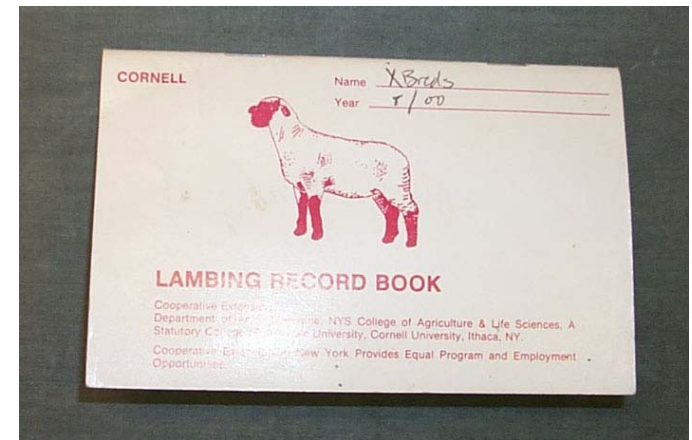
Record Keeping

Search "My 4-H Sheep Project Record Book"

| LAMBING AND WEANING RECORD | | | | | | | | | |
|----------------------------|----------|----------------|------|-----|---------|----|---------|----|----------|
| Ewe No. | Ram No. | Lambing Record | | | | | Weaning | | Comments |
| | | No. | Date | Sex | S or Tw | Wt | Date | Wt | |
| XY460 | ✓ CB 385 | 8/15 | E | S | | | | | |
| XG 82 | ✓ CB 388 | 8/16 | R | S | | | | | |
| XB227 | ✓ CB 389 | 8/17 | R | Tw | | | | | |
| | ✓ CB 390 | 8/17 | E | Tw | | | | | |
| X 2185 | ✓ CB 391 | 8/17 | R | Tw | | | | | |
| | ✓ CB 392 | | E | Tw | | | | | |
| | ✓ CB 393 | | E | Tw | | | | | |
| 10034 | ✓ CB 396 | 8/18 | E | Tw | 34/100 | | | | |
| | ✓ CB 397 | | E | Tw | | | | | |

↳ 387 is wrong

| LAMBING AND WEANING RECORD | | | | | | | | | |
|----------------------------|----------|----------------|------|-----|---------|----|---------|----|---------------------------------|
| Ewe No. | Ram No. | Lambing Record | | | | | Weaning | | Comments |
| | | No. | Date | Sex | S or Tw | Wt | Date | Wt | |
| XW 119 | ✓ CB 398 | 8/18 | E | Tw | | | | | |
| | ✓ CB 399 | | E | Tw | | | | | head & body small lamb |
| XO 155 | ✓ CB 400 | 8/18 | R | Tw | | | | | head 9/19 Big head - dist. |
| | ✓ CB 401 | | R | Tw | | | | | |
| XY 349 | ✓ CB 402 | 8/18 | R | Tw | | | | | { one had prolapse 2 days dist. |
| | ✓ CB 403 | | E | Tw | | | | | |
| XR 348 | ✓ CB 407 | 8/19 | E | Tw | | | | | |
| | ✓ CB 408 | | E | Tw | | | | | |
| XY 407 | ✓ CB 410 | 8/20 | R | S | | | | | |



Care of the neonate

- dry with towels if mother not licking
- dip navel in iodine
- pen with mother until bonded if in barn
- mark ewe and lamb
- check for full belly –
- tube feed 1 ounce/pound colostrum 3X

Care of the neonate

Clip, dip, strip, sip

- claiming pen if multiples – 1 day per lamb
- sanitation, age separation

Tube feed if lamb or kid won't drink



18 French feeding tube to level of last rib

Inject slowly with syringe - lamb or kid must be able to hold its head up







Culling criteria

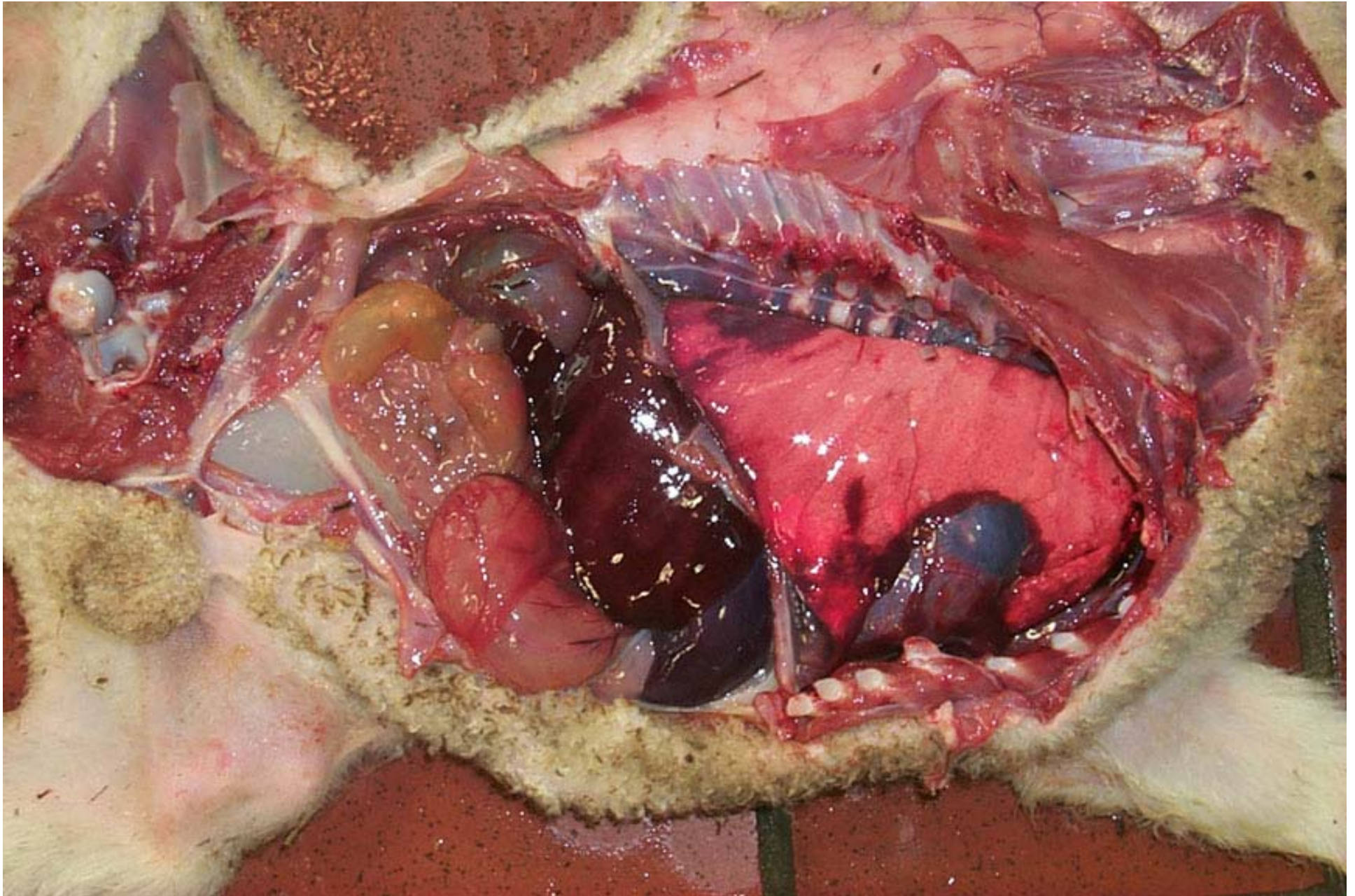
- doesn't meet farm goals
- doesn't produce good lambs or kids every year
- thin animals
- leg and udder conformation
- temperament/disposition

Monitoring mortality

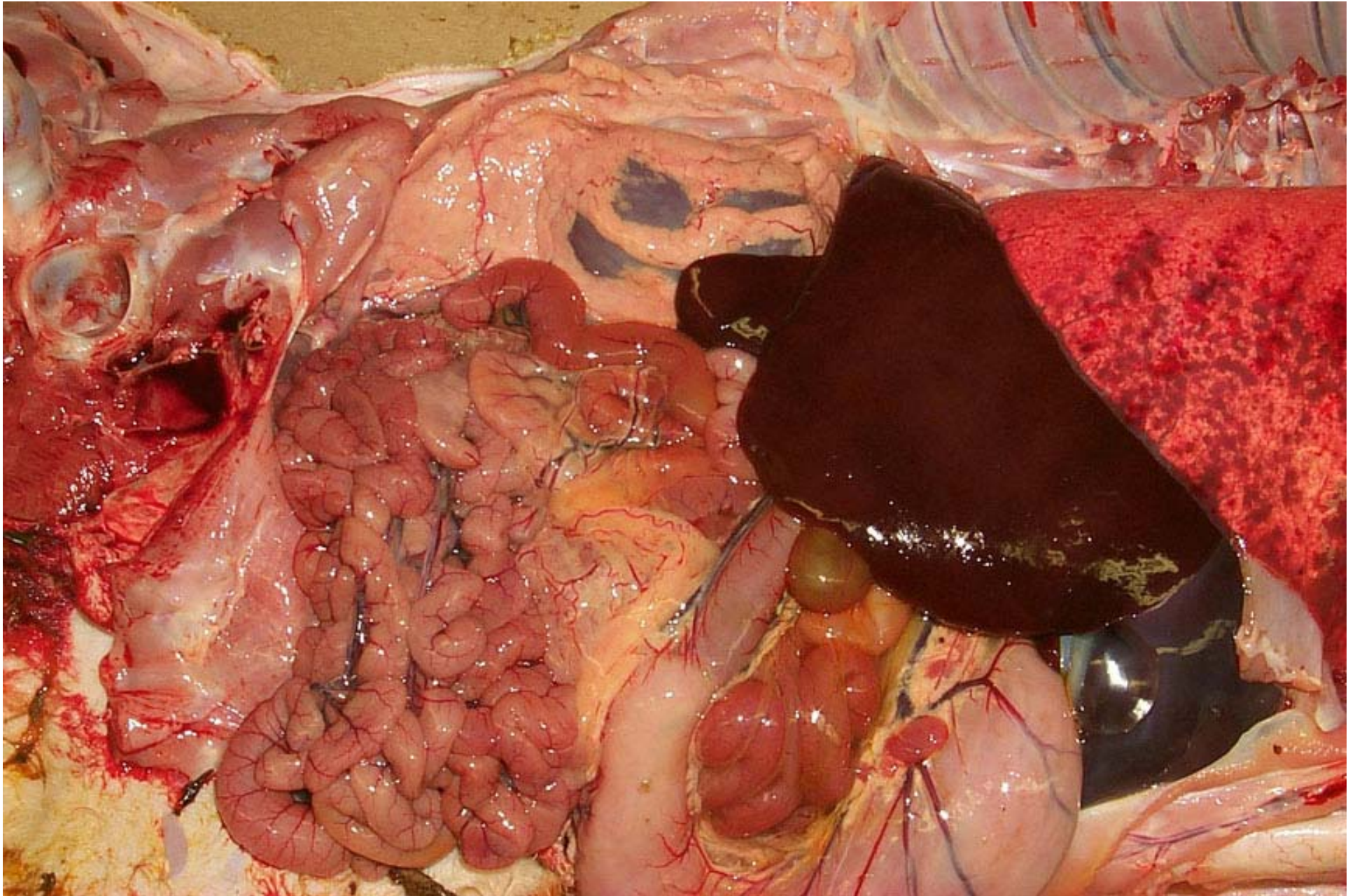
- veterinarian or trained owner does necropsy on every dead animal
- digital necropsy – link in handout



a starved lamb



a lamb with good fat



Keep a mortality list

- record ID, age, date, circumstances, necropsy results
- organize data by age of animal
- determine population at risk
- note seasonal and longer trends
- use information to decide when to do tests or change protocols

Sheep and goat farm biosecurity

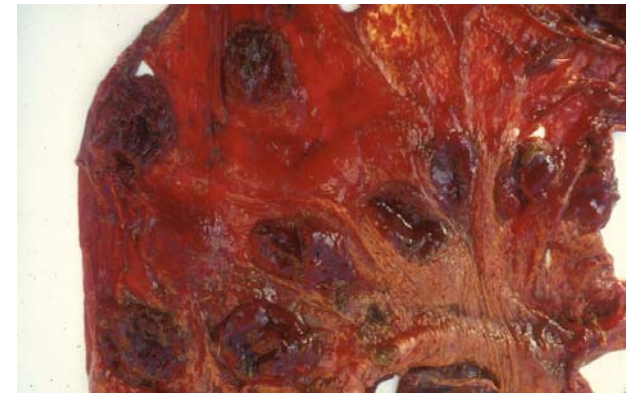
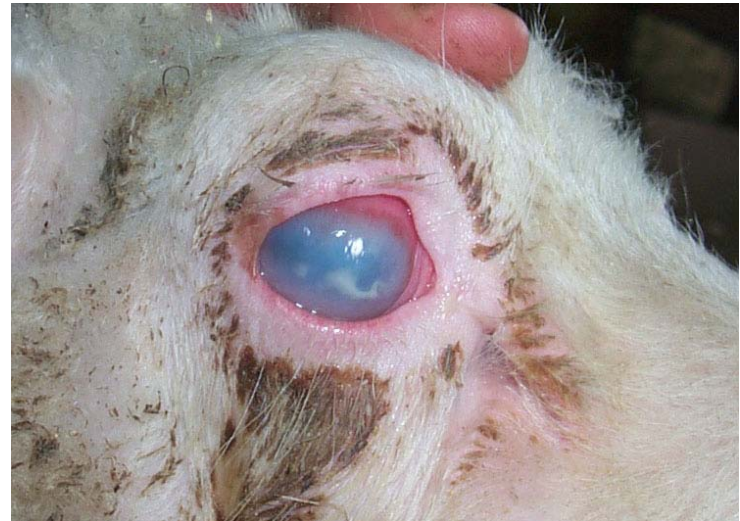
- buying
- borrowing
- showing
- showing off





Diseases bought and paid for

- footrot
- pinkeye
- soremouth
- Johne's disease
- chlamydial abortion
- campylobacter abortion
- ram epididymitis
- scrapie



NYSSGHAP – in NY

- sheep and goat health assurance program
- sponsored by Ag & Markets
- producer, herd vet, state vet get together once a year
- discuss performance, problems, goals
- VCPR and protocols
- free to the producer

Write down the protocols

- record keeping
- feeding
- lamb/kid processing
- vaccinations
- parasite control
- foot trimming
- shearing
- culling



Define your goals for the flock

- 180% lambing percentage (160% now)
- shorter lambing period
- wean all lambs alive at 24 hr (10% lost now)
- eradicate footrot
- cut pneumonia losses by half



Now you have performance records and goals for the future

- Starting with your current program and protocols, identify areas where improvements would increase flock health and profitability
- Use your resources to reach your goals

Quarterly veterinary visits will help you meet your goals

Advice on

- nutrition
- vaccinations
- parasite control program
- drug dosages



Quarterly veterinary visits will help you meet your goals

Training on

- reviving weak lambs
- prolapse repair
- doing necropsies
- fixing fractures
- doing fecals



Quarterly veterinary visits will help you meet your goals

Services

- necropsies and lab submissions
- breeding soundness exams for rams
- pregnancy ultrasounds
- teaser rams





SHEEP
XING

30
M.P.H.