Stock health in spring

Franz Brülisauer
SAC Inverness

SAC Consulting is a division of SRUC

Leading the way in Agriculture and Rural Research, Education and Consulting

Major causes of calf death

around birth are

trauma and oxygen deprivation

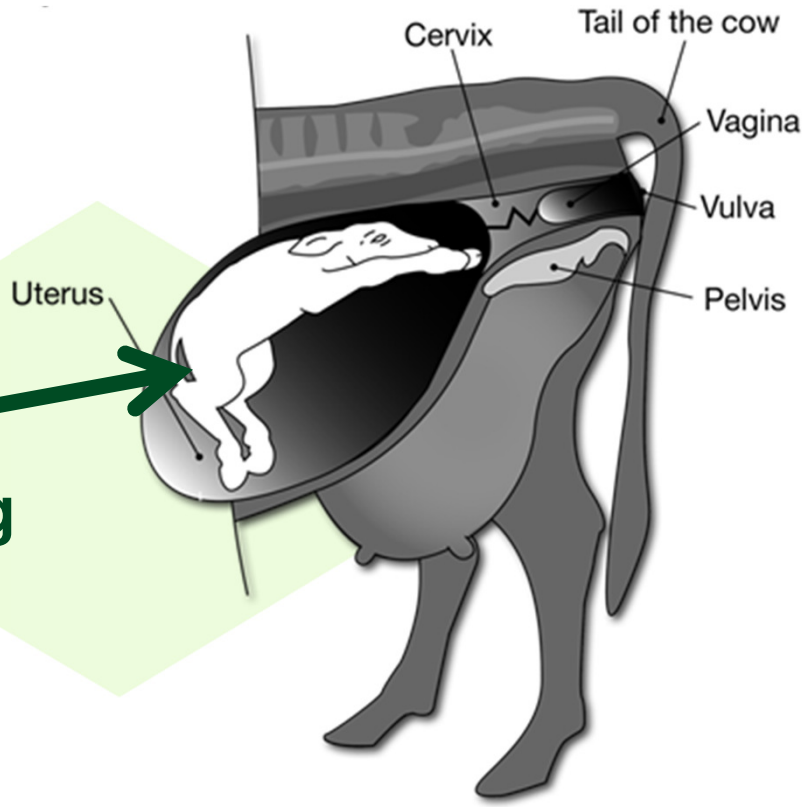
due to difficult calvings

Selection of parents

- Genetic improvement is mainly achieved through the bull

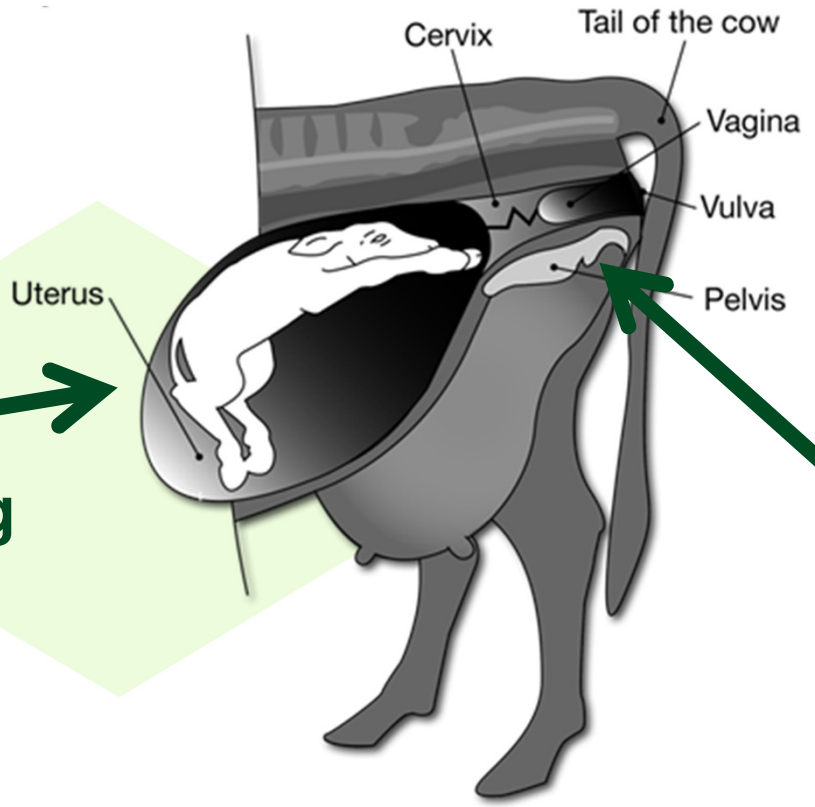
CALVING EASE EBVs
(Estimated Breeding Values)

Terminal sire



High Calving Ease Direct

Breeding for replacements



High Calving Ease Direct

High Calving Ease Maternal

Cow condition

Thin → Fat
More Difficult

Why more difficult?

Due to fat in
- pelvic canal
- muscle

Body condition score >3 →

Ideal calving body condition score

- Spring calving 2 ¼ - 2 ½
- Autumn calving 2 ¾ - 3

Feeding 2 weeks before calving

Extra magnesium

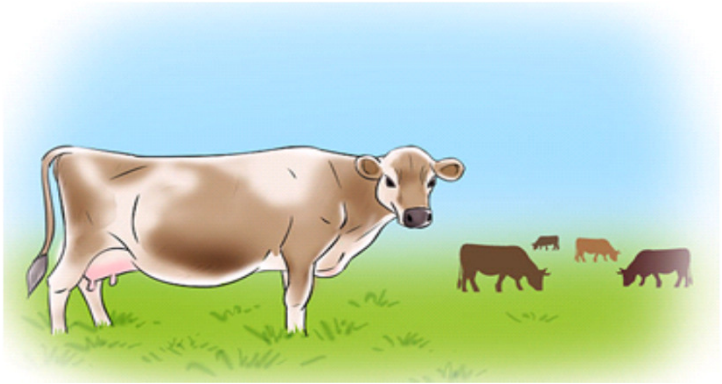
+ 30 g/day high magnesium mineral

Extra DUP (Digestible Undegradable **Protein**)
To ensure **colostrum** quality/quantity

+0.5 kg soya bean meal/day

Calving - Stage 1

– Lasts 2 – 6 hours



– Signs:
  - Seek isolation
  - Signs of pain
  - Restlessness
  - Discharges become more liquid
  - Cervical plug is released

Calving - Stage 2

- Lasts 0.5 – 4 hours
- Cervix is fully open
- Signs
  - Water sac plus calf enters the birth canal
  - Forceful contractions

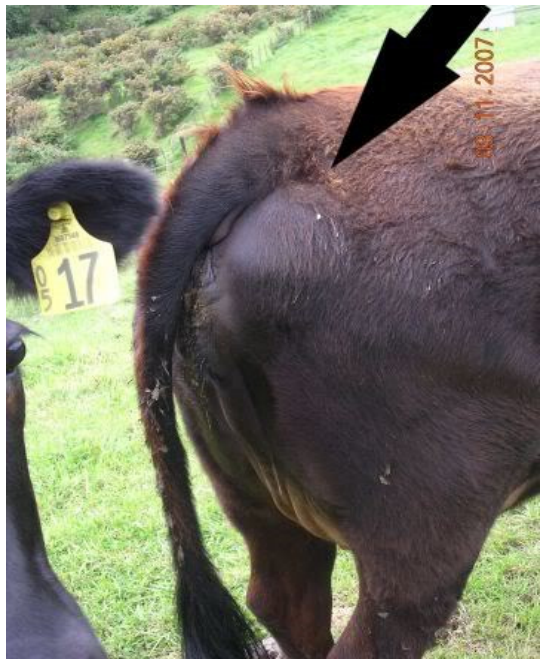
Calving - Stage 3

– Expulsion of the afterbirth

– Occurs within 12 hours

Calving

- Determining when a cow will calve…
  - Dilation of the cervix – expected to calve within 24 hours
  - Relaxation and enlargement of the vulva
  - Tenseness and filling of the teats



When to intervene at calving?

SAC CONSULTING

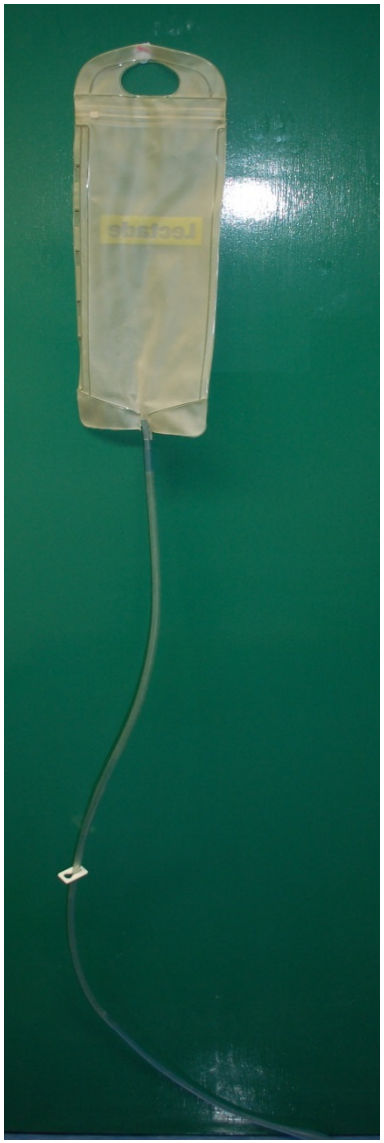
- First stage labour for over **8 hours**
- Water sac visible for **2 hours** but cow not trying
- Straining for over **30 mins** but making no progress
- Stopped trying for **15 - 20 mins** after a period of progress
- Signs of excessive fatigue, swollen tongue in the calf, severe bleeding in the cow

Intervention

- To prevent uterine infections
  - Tie the tail to the side
  - Clean around the anus and vulva
  - Wash calf parts outside the vulva
  - Gloves
  - Clean and dry bedding

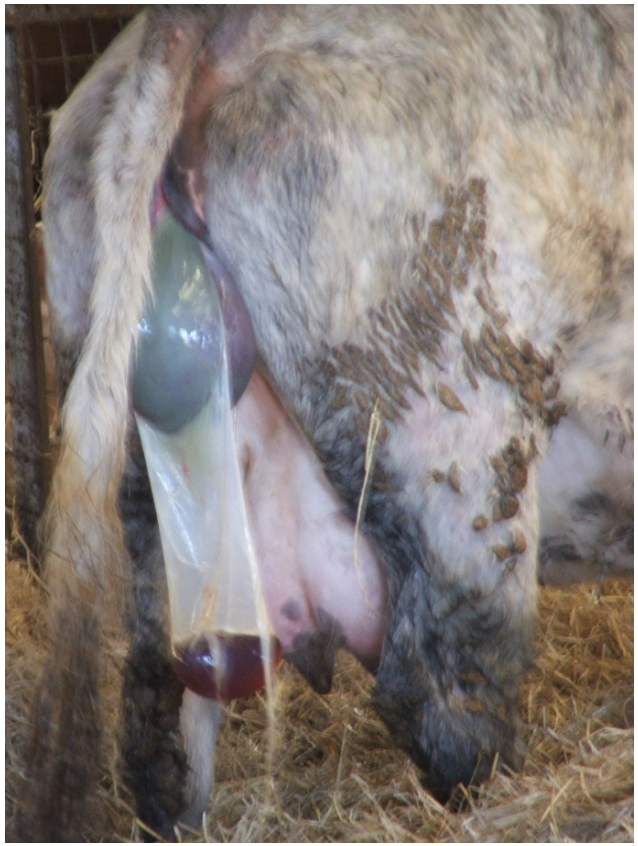
Intervention

- Lubrication
  - Lots of it
  - Not harmful
  - Use from the start



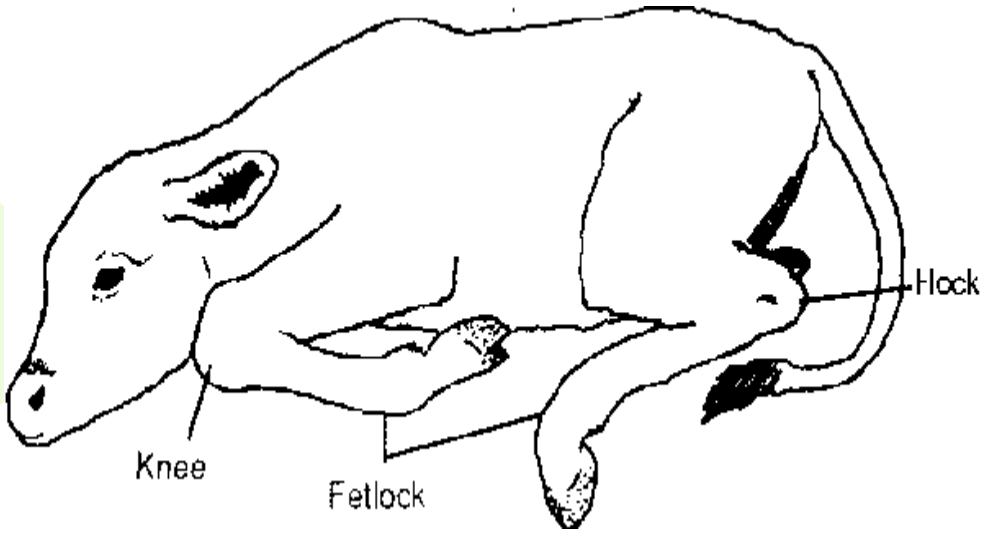
Intervention

- **Do not** burst the second water sac
  - Fluid around the calf helps to keep things lubricated
  - Water sac helps widening the birth canal



Assessing the situation

- Birth canal
- Cervix
- Position of calf
- Dead or alive
- Estimate the size



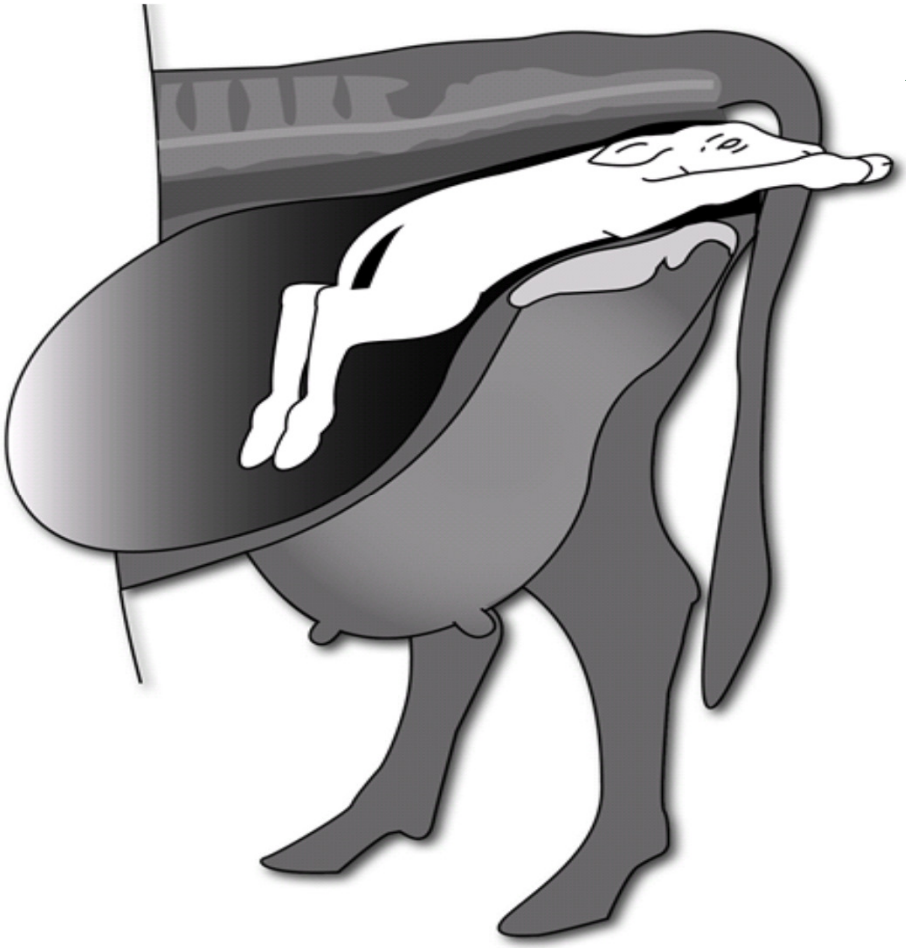
How to deliver a calf in forward presentation

Predictors of successful delivery

SAC CONSULTING

Calf is probably **not too big** if:

- **Hooves** are seen to **glide back and forth** out of the canal during straining
- The head has been brought into the birth canal and the **fetlocks** have been brought **beyond the vulva without assistance**
- The **head and shoulders are in the pelvic canal** and you can fit your hand above the head.



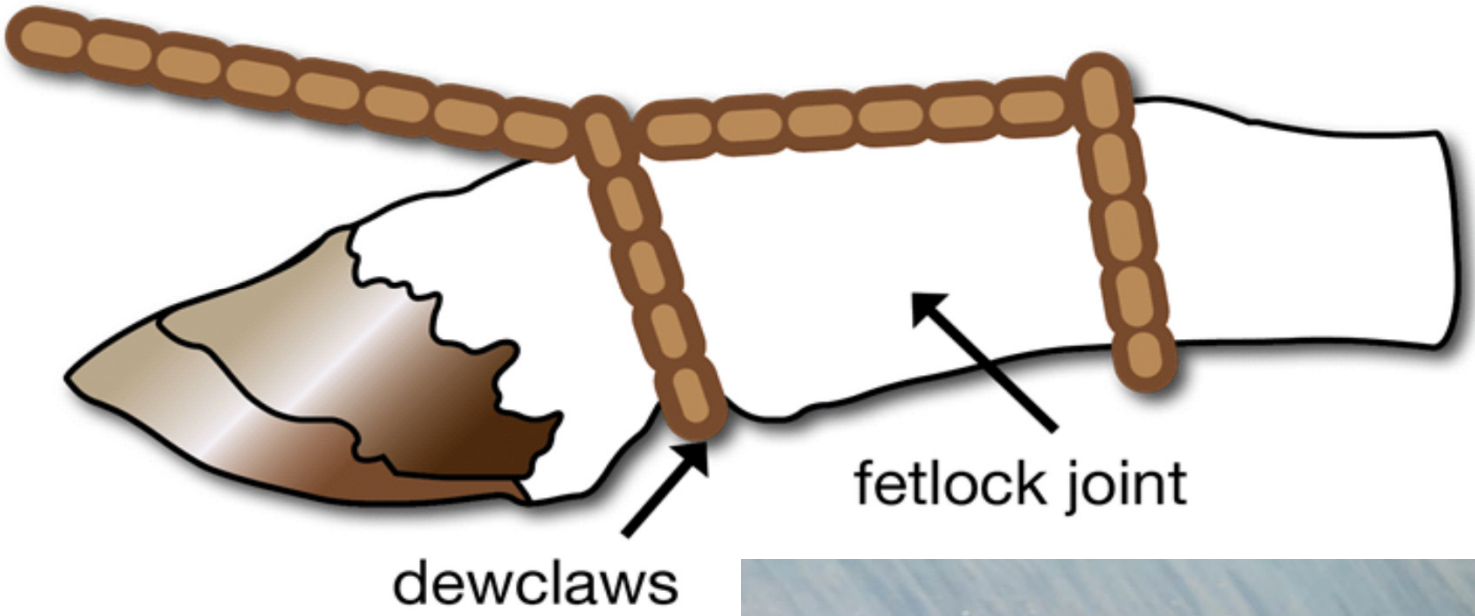
Hooves glide

Head and shoulders are in the birth canal when the fetlocks of the calf is one hands breadth outside the vulva.

Predictors of unsuccessful delivery

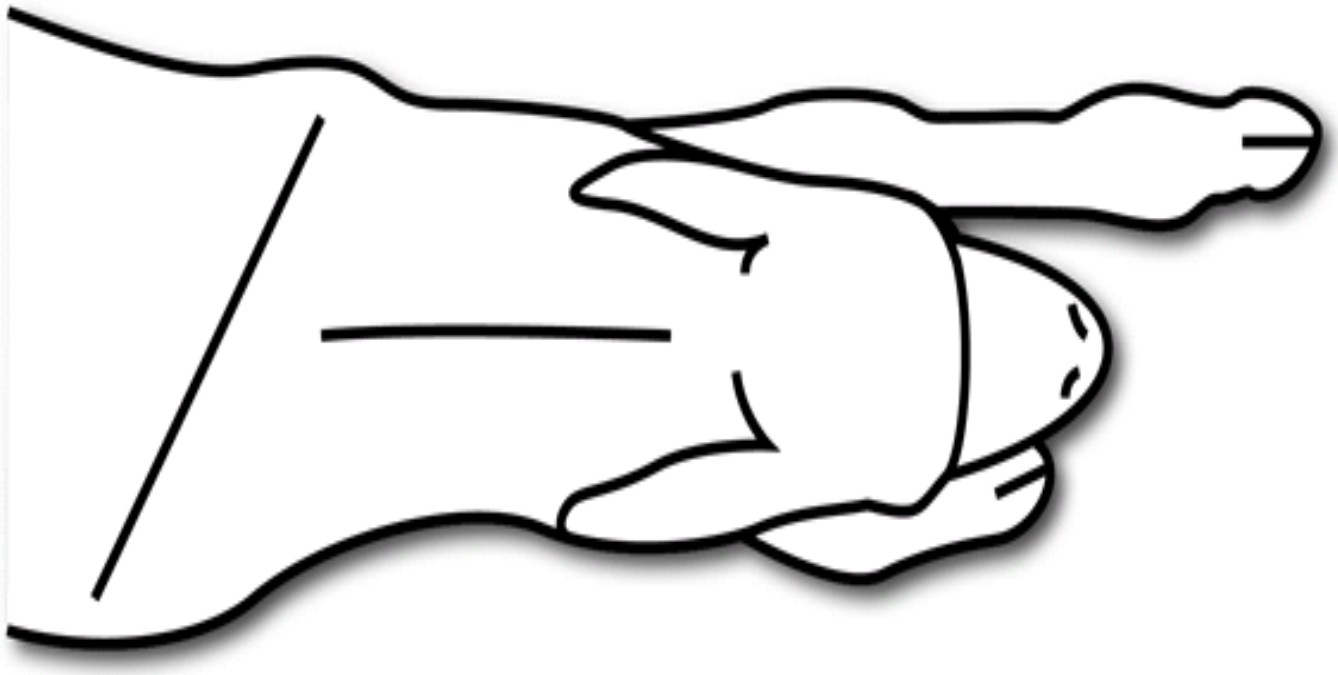
- Calf is probably **too big** if:
  - The **head is not in birth canal** after the cow has been straining for over 30 minutes
  - The **front legs are crossed** in the birth canal
  - The **calf does not move back and forth** in the birth canal when the cow strains

Placement of calving rope



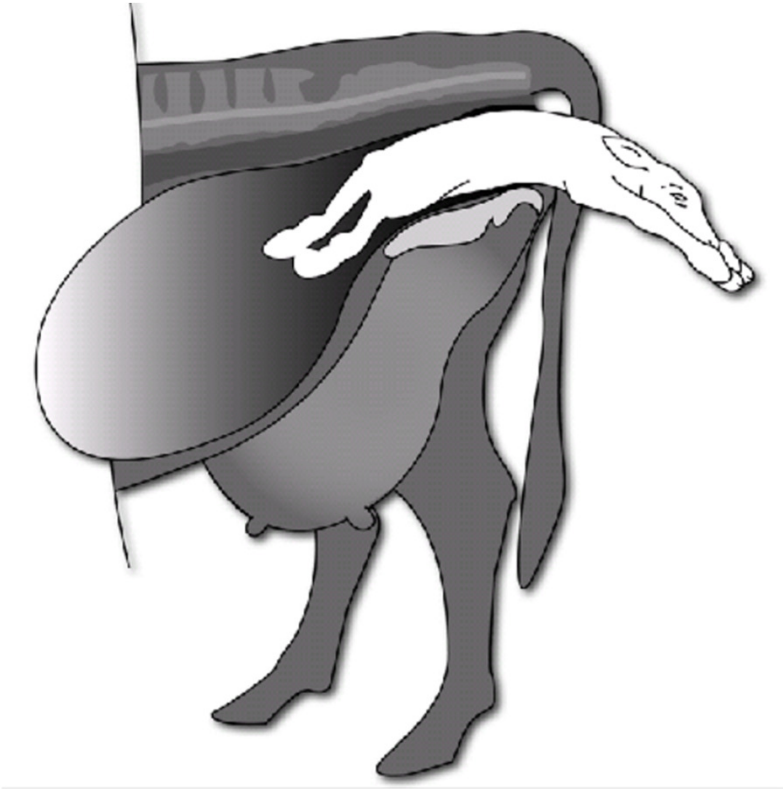
One leg at a time

SAC CONSULTING



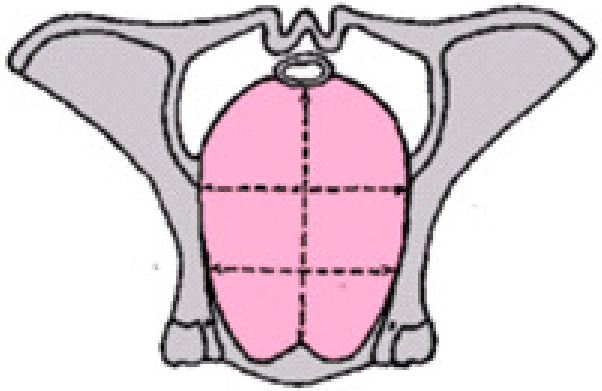
Umbilical cord compression

- When pelvis of calf enters pelvis of the cow.
- **Reduced oxygen delivery** to the calf
- Brief pause
- **Allow calf to breathe**

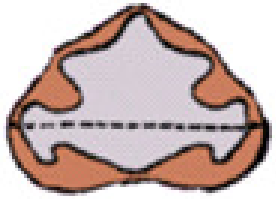


The twist

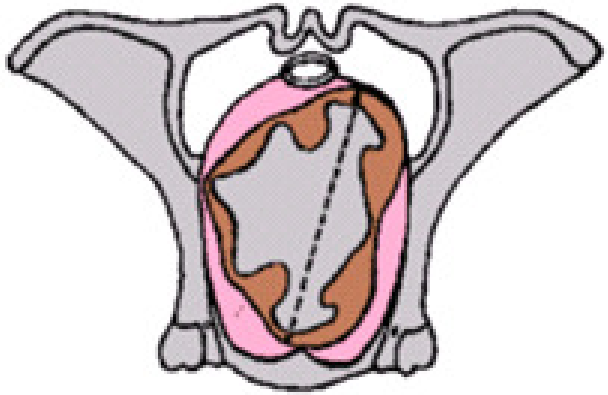
- Twist or rotate the calf 60-90 degrees before the hips come through the pelvis



Cow pelvis

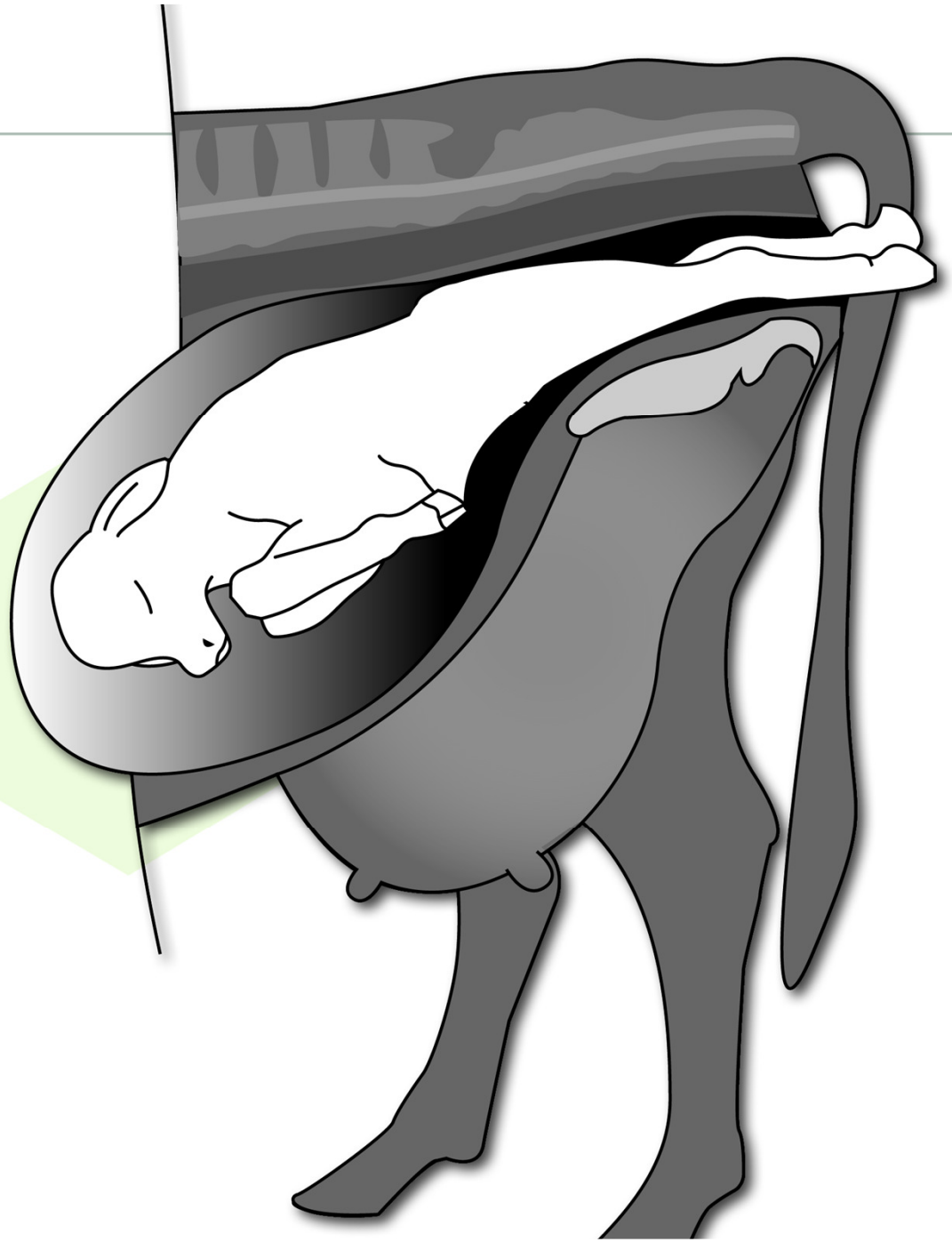


Calf pelvis



Rotation of calf pelvis to fit through widest part of cow pelvis

How to deliver a calf in backward presentation



SAC
CONSULTING

Can it be delivered by traction?

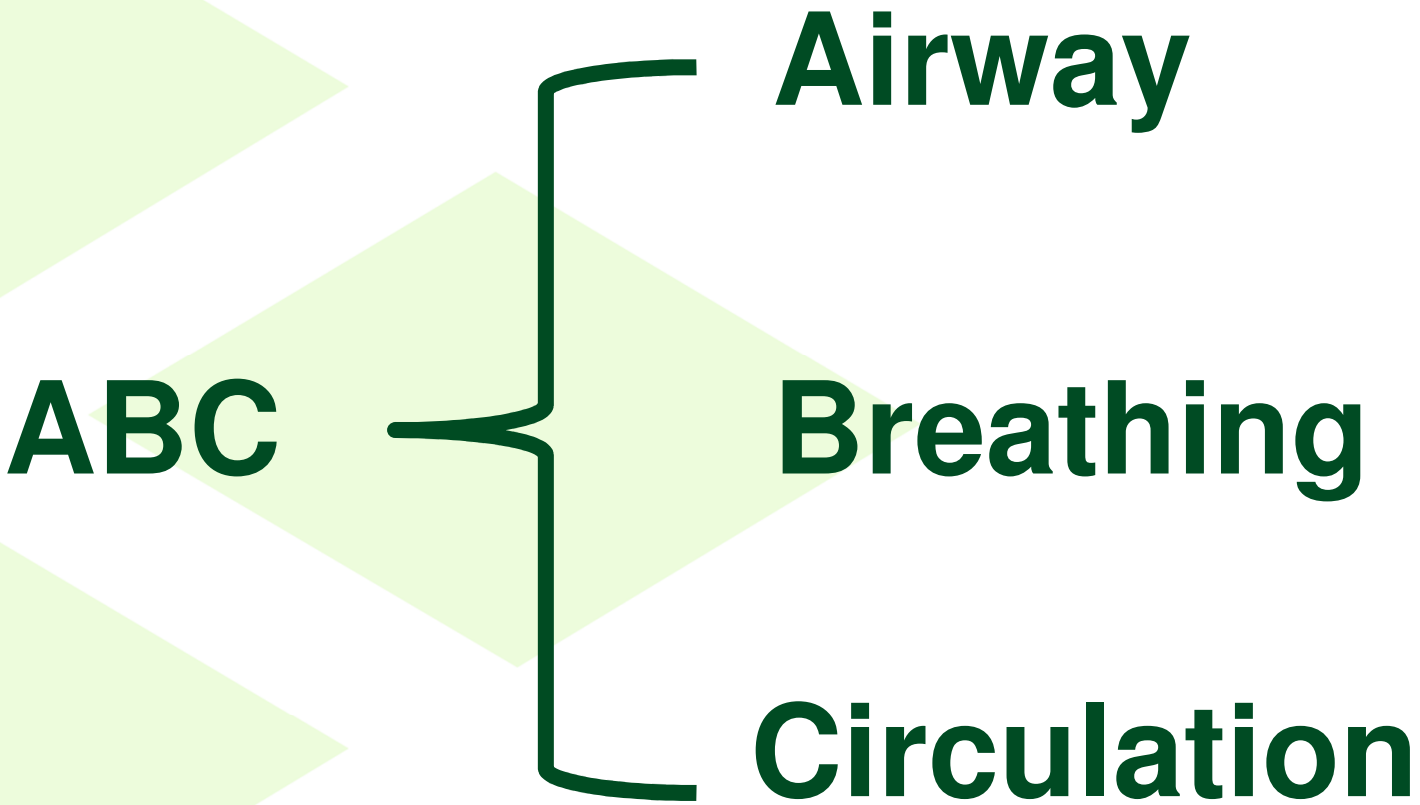
- Hips must be able to pass the pelvic canal

- Hips in canal when hocks are outside the vulva.

Backward extraction

- Twist 60 – 90 degrees first
- Pull slightly up from horizontal
- **Slow** and controlled until **calf's tail head and anus are out of the vulva**
- **Avoid delay after this point**
- Pull in a downward direction

Calf resuscitation



Airway

- **Establish airway**
- Clear nose and mouth
- Calf resuscitator/aspirator may be useful
- Avoid holding calf over a gate

Breathing

- Normal calf will be breathing regularly within 30 seconds of delivery
- Stimulating breathing:
  - Straw/finger up the nose
  - Vigorously rubbing chest with straw
  - Massage chest with forelimb
  - Cold water therapy – ears/over head

Newborn calf

- In **first 5 minutes:**
  - Breathing regularly
  - Holding its head up
  - **Sitting upright**

Absence of above may be due to lack of oxygen and acidic blood (acidosis)

Acidosis

- Lack of oxygen → Build up of carbon dioxide and lactic acid in the blood
- **Signs of acidosis:**
  - Erratic/kicking movement in uterus
  - Irregular breathing
  - Delay of over 5 minutes in lifting head and lying up
  - Lack of muscle tone
  - Lack of foot withdrawal reflex

Acidosis

- Reduced calf vigour – **'dopey' calves**
- Reduced strength or **absence of suck reflex**
- **Reduced absorption of colostrum** → reduce chance of long term survival

Treatment of acidosis

- Correct the acidity of the blood
- **Bicarbonate** solution into the vein
- Administer ASAP after birth
- **Vet** to administer

Glucose

- Glucose into the vein may also be beneficial

Post-calving care

- Check **uterus** for tears and **udder** for mastitis
- Treat **navel**
- Consider pain relief for dam
- **Minimise rejection**
  - Return newborn calf to the birth site
  - Presence of birth fluids aids calf acceptance by the mother.

SAC CONSULTING

Effects of difficult calvings

- Calf:
  - Risk of trauma
  - Risk of acidosis
    - reduced colostral antibody absorption
    - greater risk of disease
- Dam
  - Increased fertility losses

SAC CONSULTING

Targets

• Assisted calving	None
• Calf starts standing	<5 mins
• Calf starts suckling	< 15 mins

Lamb loss targets

EBLEX National Lamb Loss Recording Standards			
	Lowland	Upland	Hill
A: Ewes tupped	100	100	100
B: Lambs scanned	195	175	116
C: Lambs born live	183	166	112
D: Lambs turned out	172	156	104
E: Lambs sold or retained	168	151	100
Lamb losses: scanning to birth (B-C)	12 (7%)	9 (5%)	4 (4%)
Lamb losses: birth to turn out (C-D)	11 (6%)	10 (6%)	8 (7%)
Lamb losses: turn out to sale (D-E)	4 (2%)	5 (3%)	4 (4%)
Lamb losses: birth to sale (C-E)	15 (8%)	15 (9%)	12 (11%)
Lamb losses; scanning to sale (B-E)	27 (14%)	24 (14%)	16 (14%)

Causes of perinatal lamb mortality

- Accident/predation – 5%
- Congenital defects – 5%
- Infectious disease – 20%
- **Starvation/hypothermia – 30%**
- **Dystocia – 40%**

Lamb postmortem

- Easy
- Fast
- Not too messy
- Carcases will stay fairly fresh for a couple of days
- Do on farm or SAC Vet Centre
- One may not be representative
  several can highlight a pattern

External examination

Bodyweight

Has it walked?

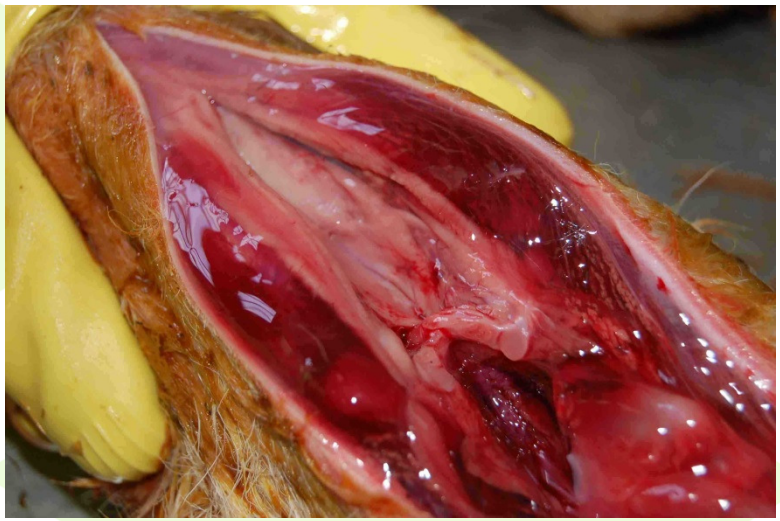
Injuries, bloating, anaemia

Normal fleece, ticks

Meconium/faecal staining

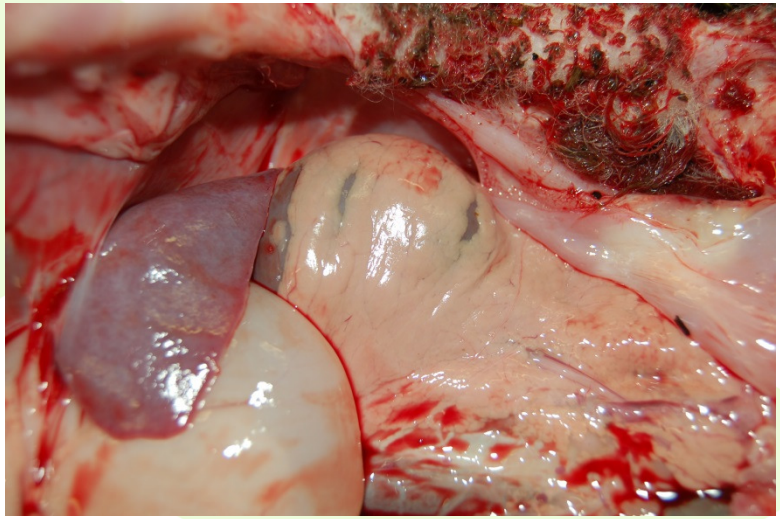
Check for deformity e.g. cleft palate, undershot jaw, imperforate anus, frozen joints

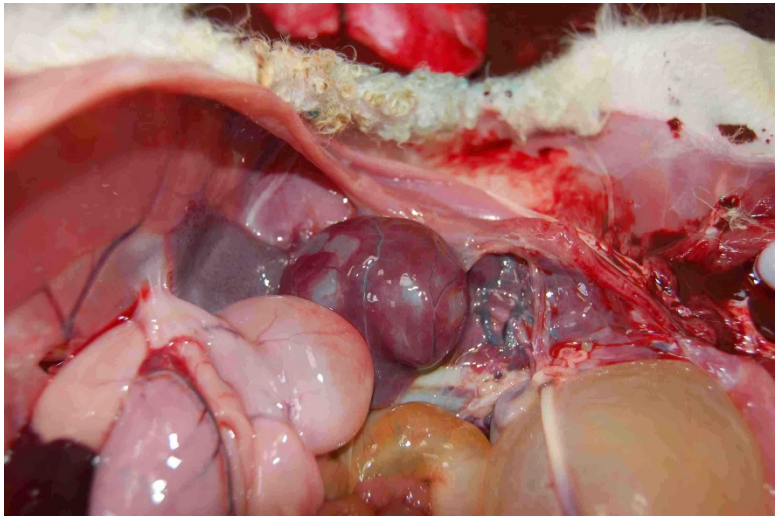
Signs of dystocia/trauma?



Swollen head/tongue, meconium staining
Subcutaneous oedema head, shoulders, hind quarters
Fractured ribs, limbs
Free blood in abdomen from ruptured liver/navel

Has the lamb sucked?

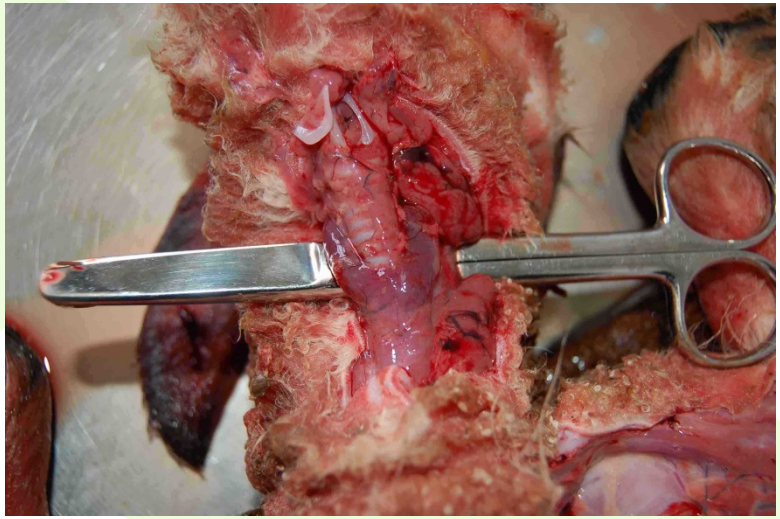




Starvation/hypothermia - Metabolised brown fat, no milk in abomasum

If fed by stomach tube before death then milk may not be clotted and often in rumen as well as abomasum

Evidence of iodine deficiency?

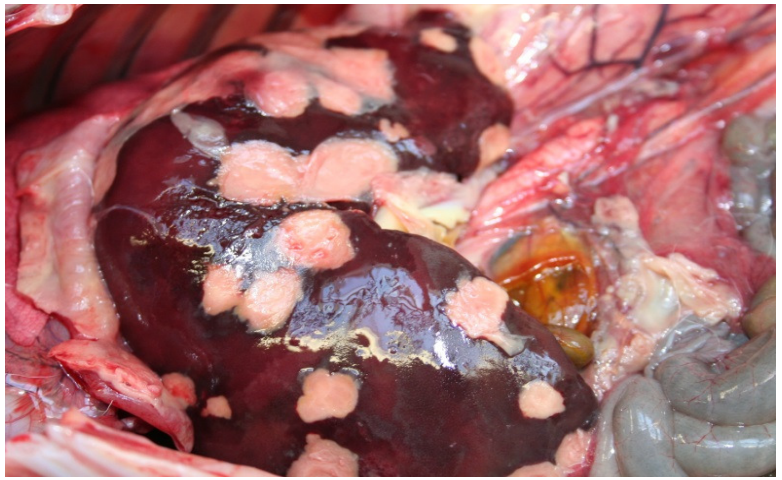


Normal fleece?

Lamb thyroid should weigh <1.3g (1.3-2.8g)

Is There Evidence Of Disease?

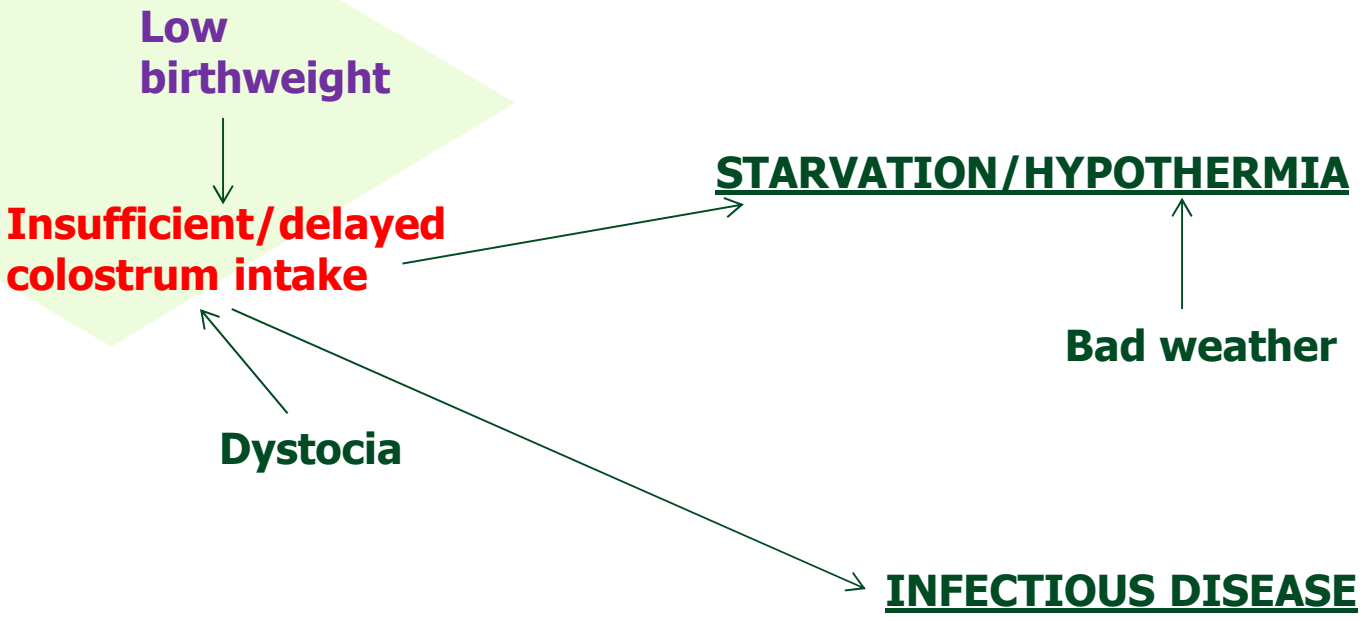
SAC CONSULTING



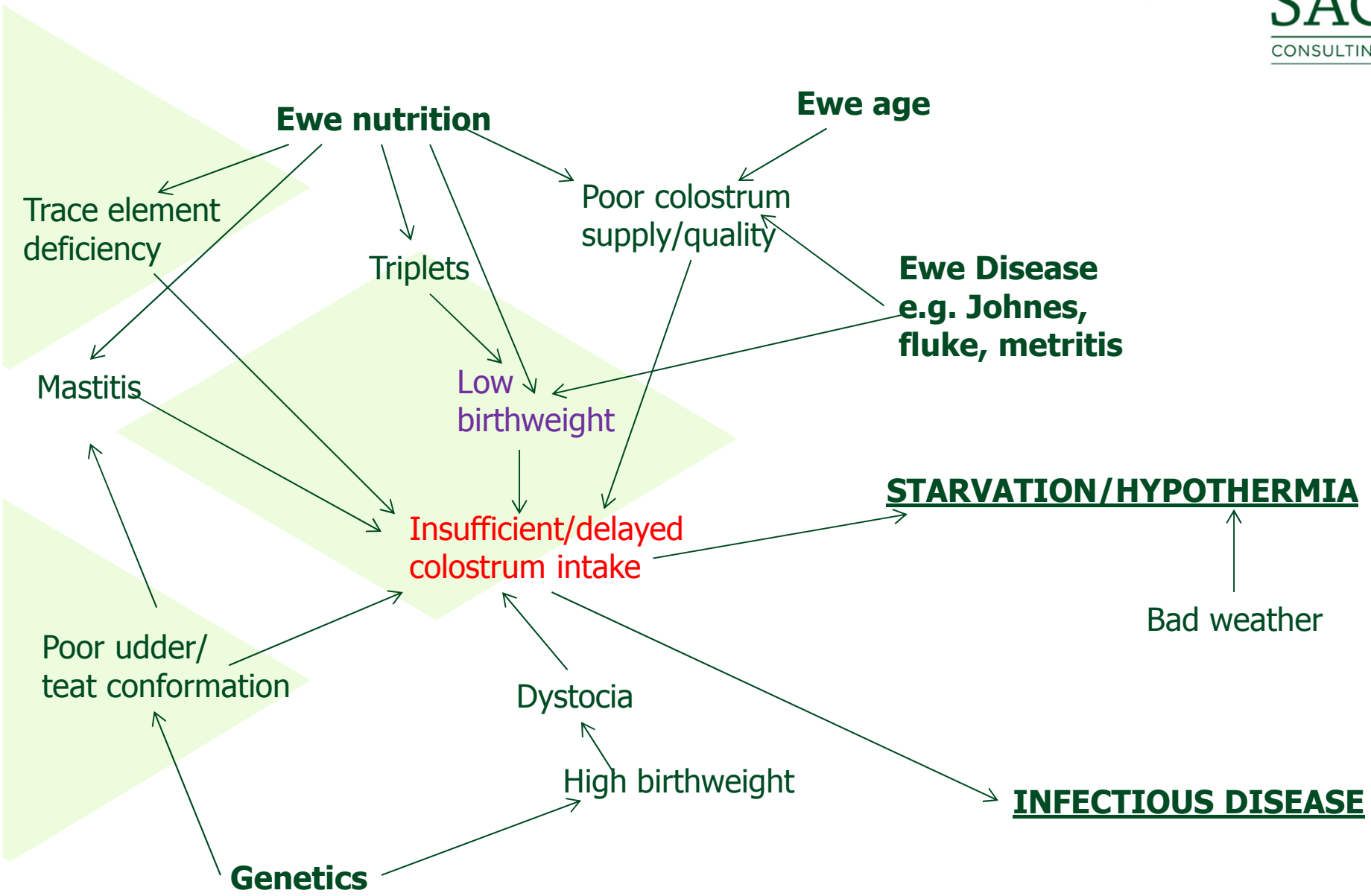
Underlying problem(s)?

- Study of a commercial flock with **18% neonatal mortality** concluded that **pre-natal factors** contributed to **71%** of deaths
- Underlying problem could have occurred **weeks/months** ago
- Consider **pre-tupping and/or pre-lambing** checks for routine monitoring

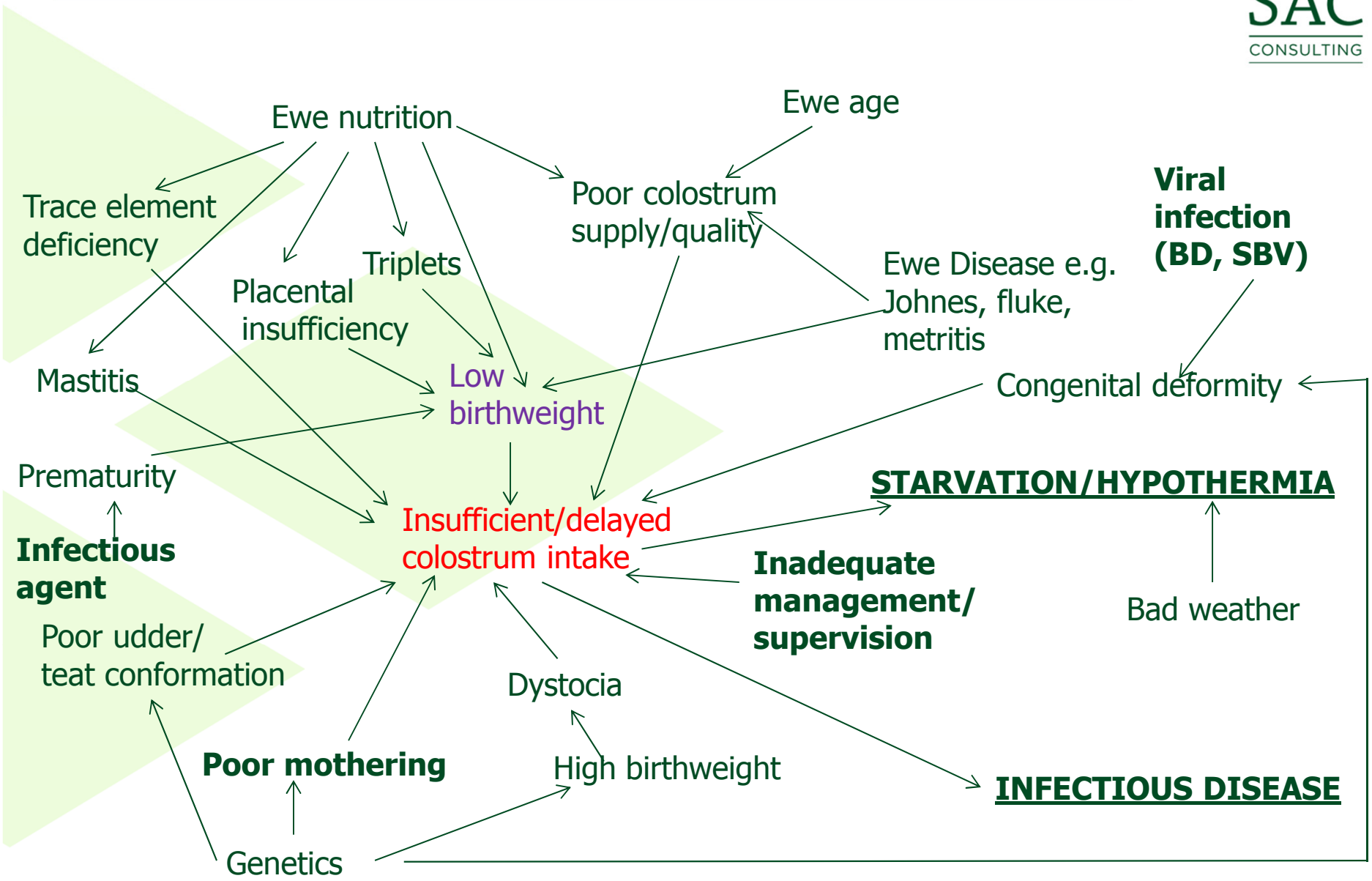
Bad lambing


Low birthweight
Insufficient/delayed colostrum intake
STARVATION/HYPOTHERMIA
Bad weather
Dystocia
INFECTIOUS DISEASE

Bad lambing


Ewe nutrition
Ewe age
Trace element deficiency
Poor colostrum supply/quality
Triplets
Ewe Disease e.g. Johnes, fluke, metritis
Mastitis
Low birthweight
STARVATION/HYPOTHERMIA
Insufficient/delayed colostrum intake
Bad weather
Poor udder/ teat conformation
Dystocia
High birthweight
INFECTIOUS DISEASE
Genetics

Where to start?



Cost effective nutrition monitoring

- **Forage** analysis
- **Body condition** scoring: weaning, pre-tupping, scanning, pre-lambing
- Check **trace elements** pre-tupping +/or scanning
- Check ewe **energy and protein status** 4 to 6 weeks pre lambing
  - Collect 10 red top bloods from twin and triplet bearing ewes due to lamb in the first group

Colostral antibody

Passive transfer of immunoglobulins is vital

- Mean ZST of **lambs dying at < 2 weeks – 5.7 units**
- Mean ZST of **lambs surviving > 2 weeks – 43.4 units**

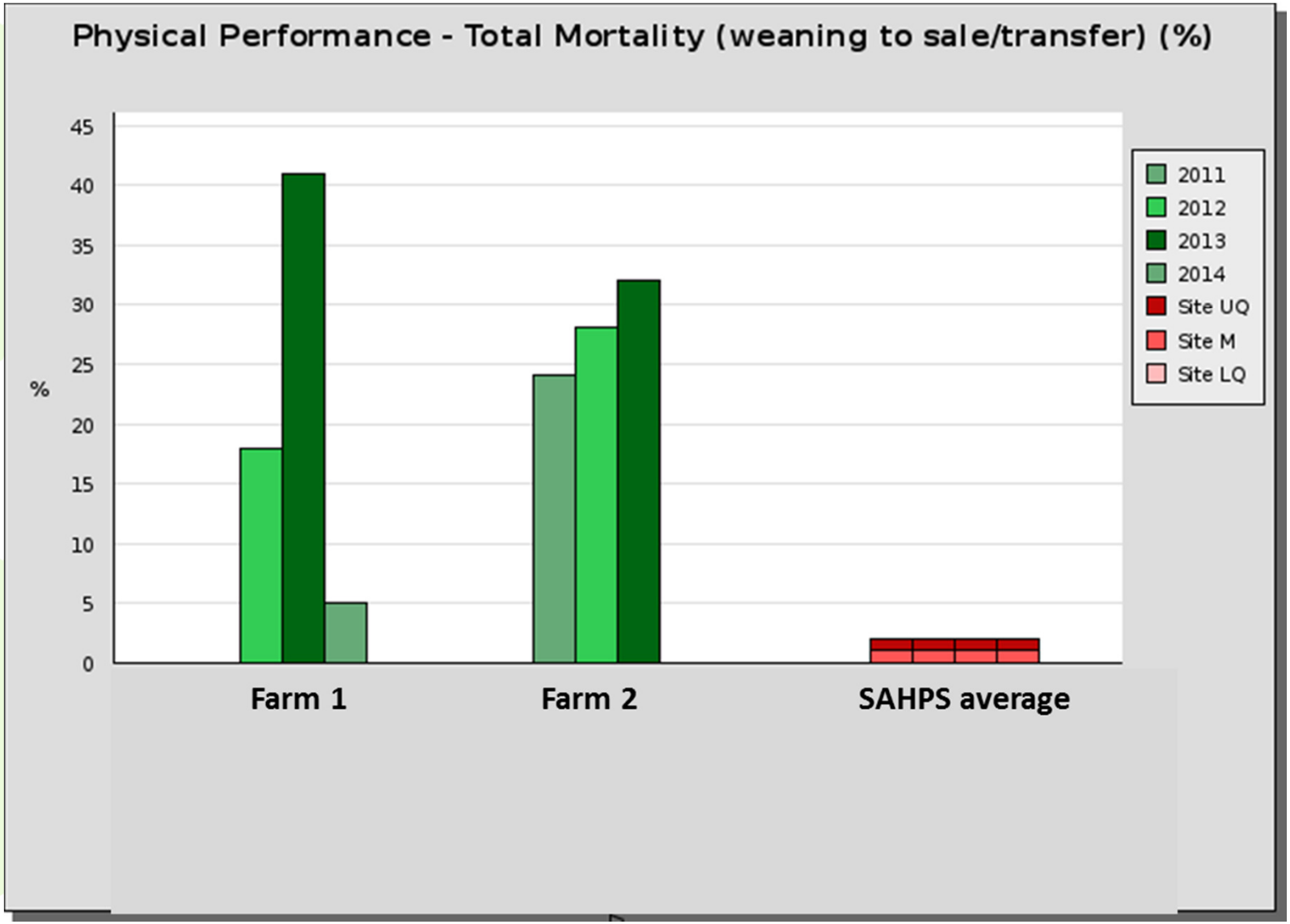
Powdered colostrum

- Sold as a supplement **not a substitute**
- Fine as a source of energy for heat production
- Don’t rely on it as a source of immunoglobulins

Cow colostrum

- Nutritious and **effective** against many agents
- **Anti-sheep** red blood cell activity

SAHPS flocks (West Coast)



For further information

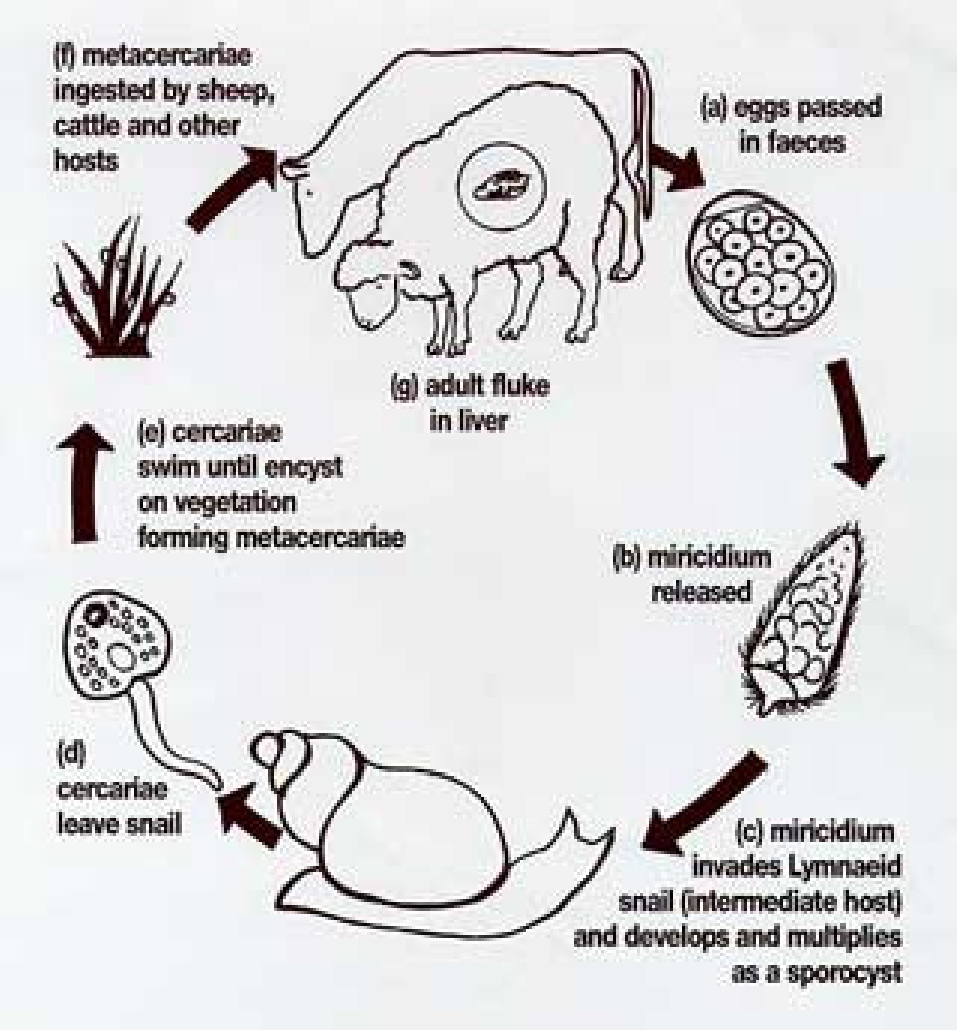
- visit our site: **www.sahps.co.uk**
- or contact: **Dr Foteini Manolaraki** (foteini.manolaraki@sac.co.uk)

All the data used were created for this purpose only

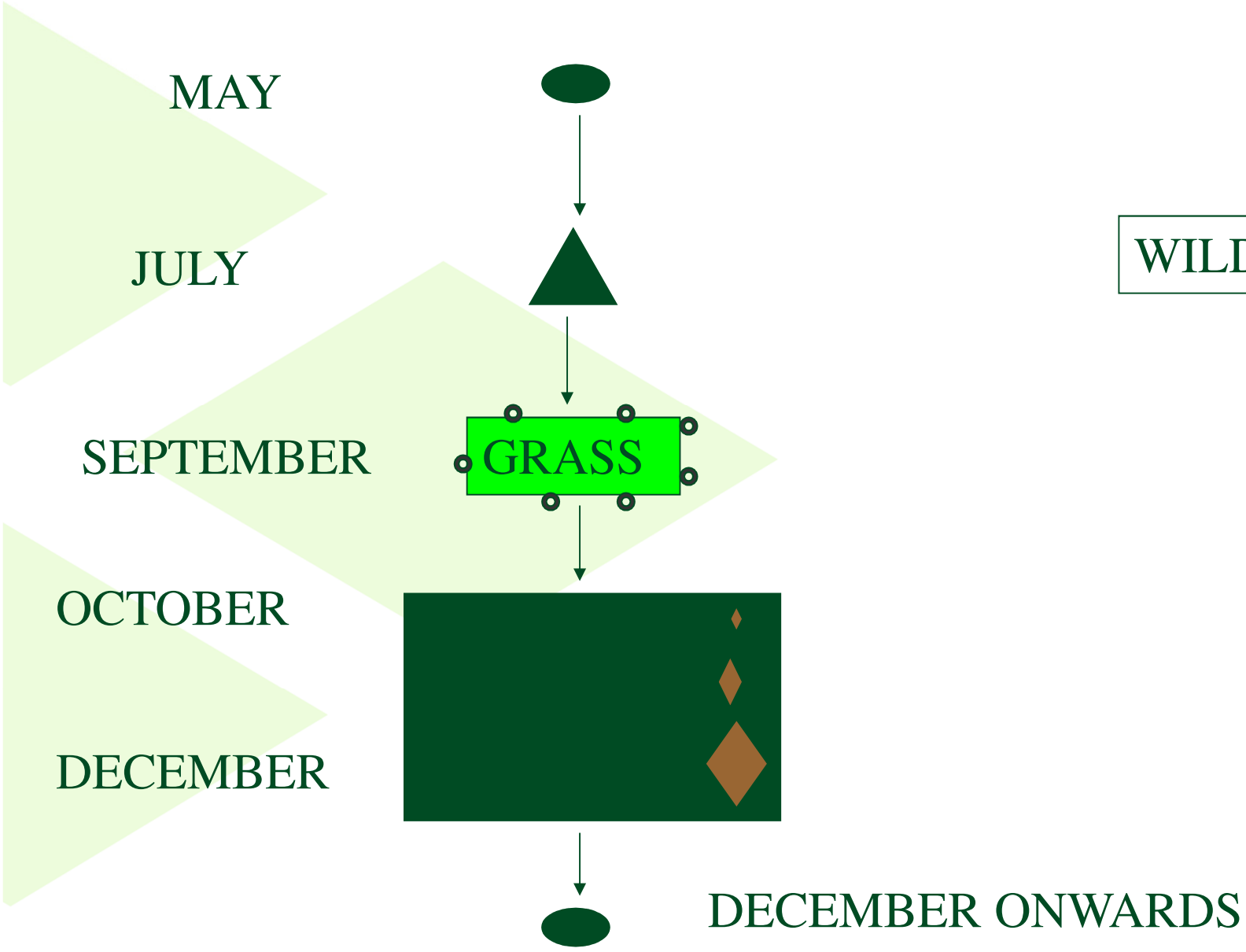
Fluke requirements

- Snails
- Water
- Temperatures >10ºC
- Sheep, cattle, deer, rabbits, horses, man

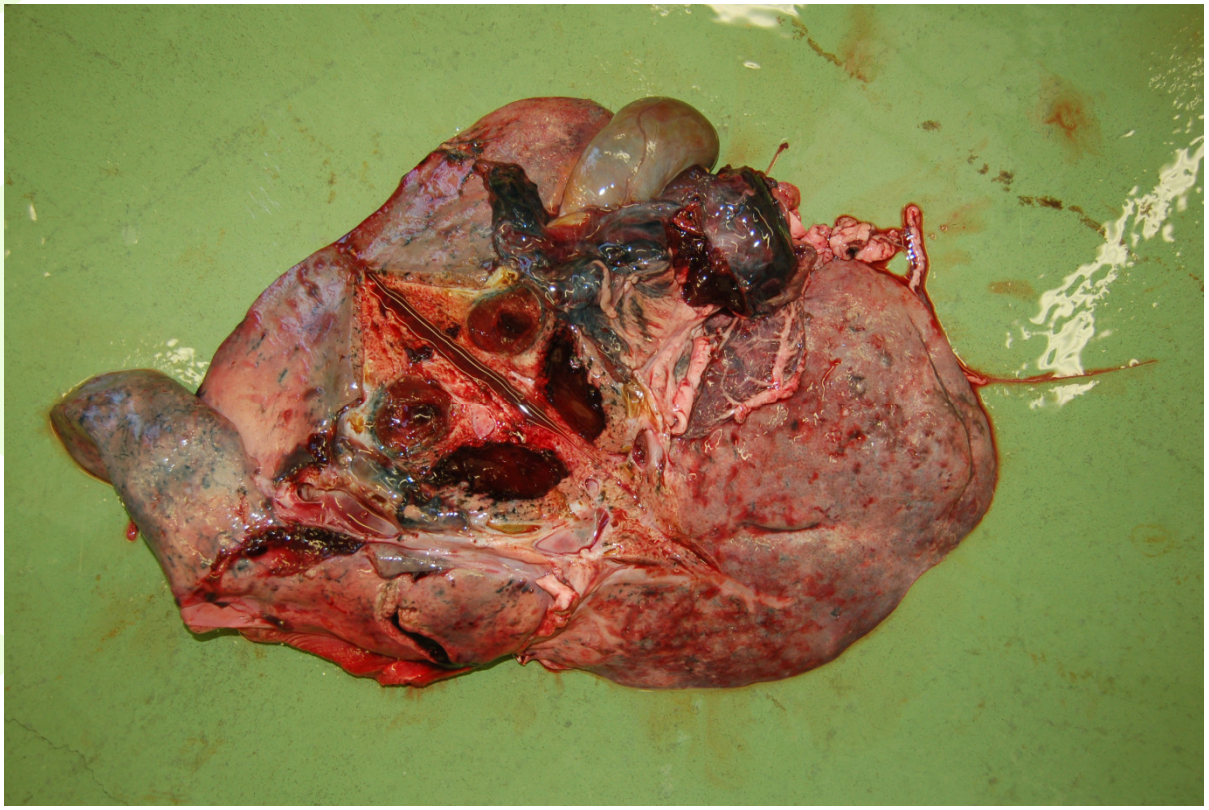
Liver fluke lifecycle



Fluke Lifecycle

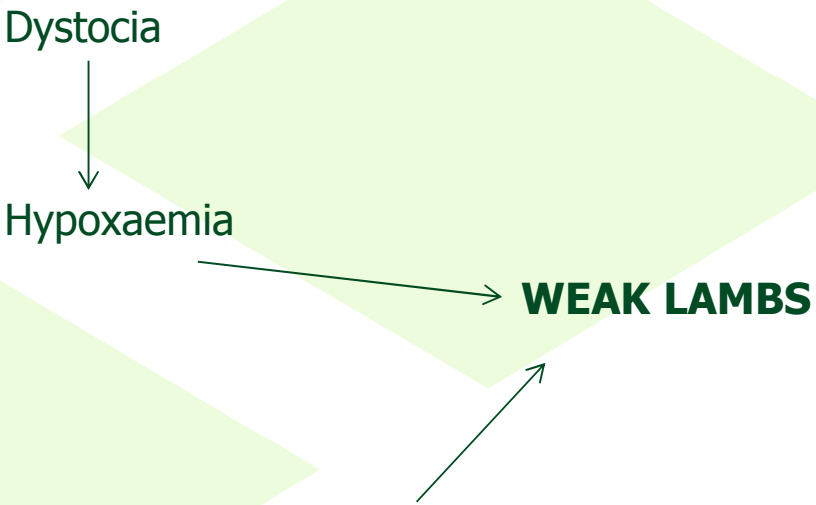


Acute Fluke

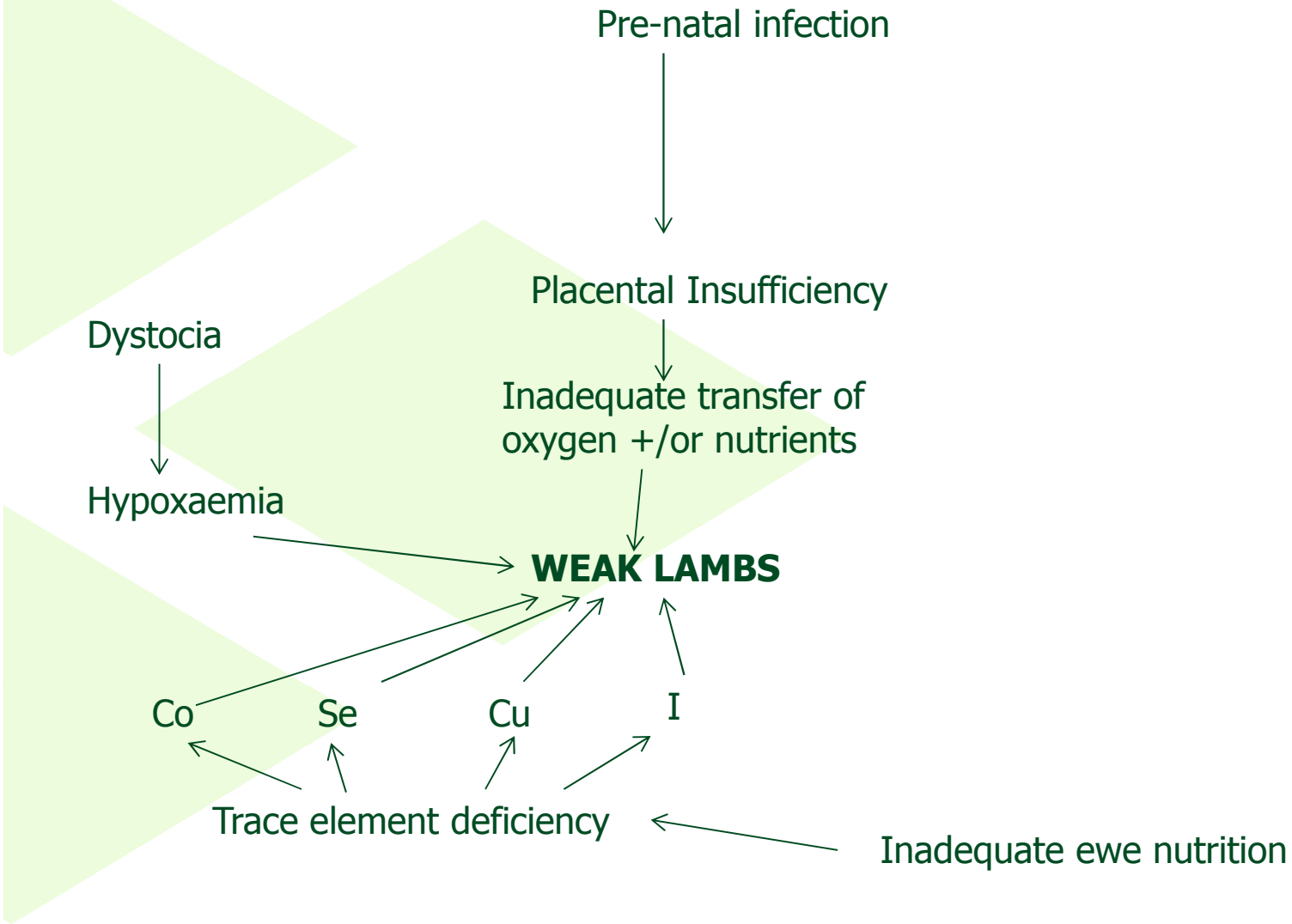


Anaemia

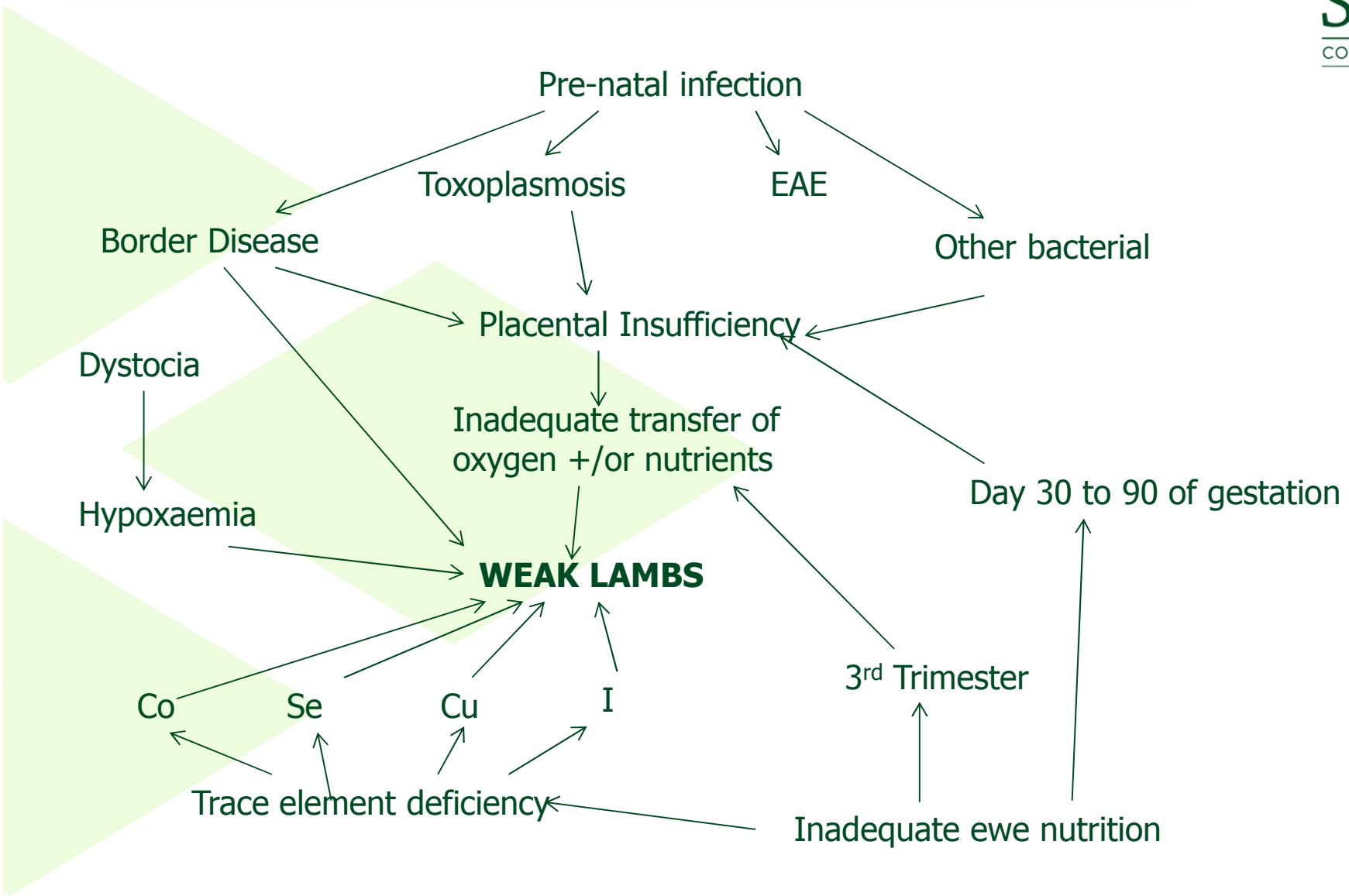
Weak lambs – Where to start?



Weak lambs – Where to start?



Weak lambs – Where to start?



- Thank you for listening

SRUC

Leading the way in Agriculture and Rural Research, Education and Consulting