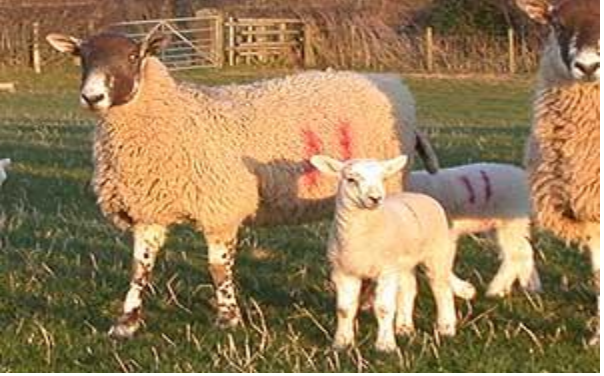
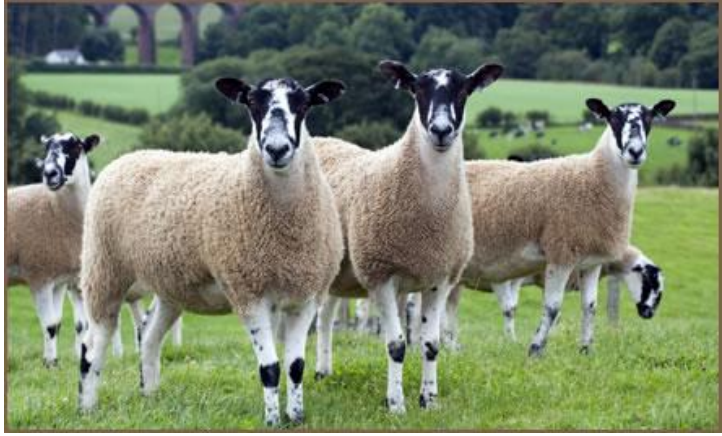




Sheep production.

Introduction to Farm Animal Production

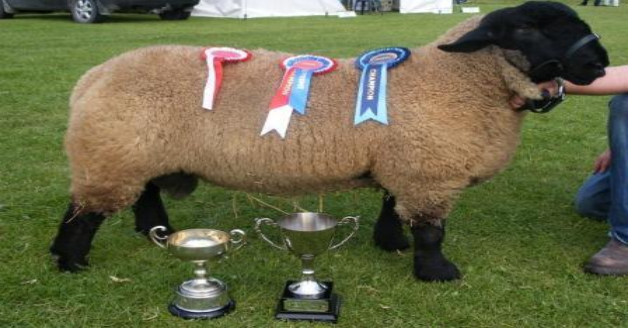
Learning Outcomes:

1. Know the common production systems used in livestock farming
2. Know the principles of livestock enterprise management
3. Be able to carry out routine husbandry and animal health duties on common farm livestock

Starter

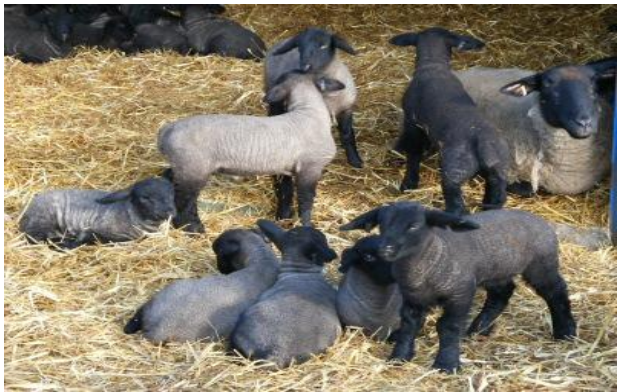
- In pairs list down **10** sheep breeds you are familiar with.

- Discuss the production systems that are suited to these breeds.



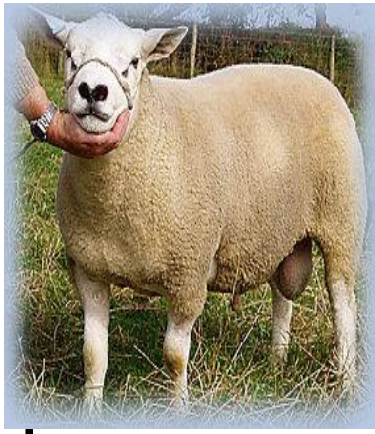
Suffolk:

- The Suffolk is a polled breed.
- a distinctive all-black head and legs, and single colour and white wool.
- Suffolk's have the fastest growth rate of the terminal sire breeds.
- Average mature ewe weighs 84kg, rams 130kg.

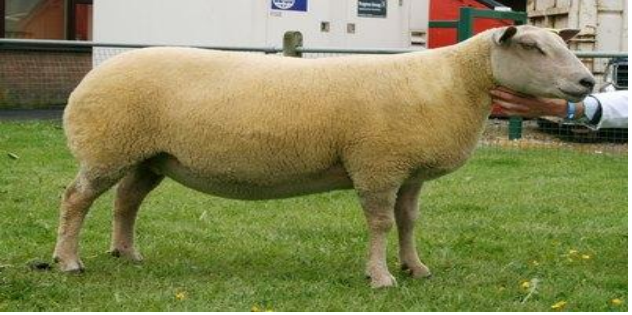


Texel:

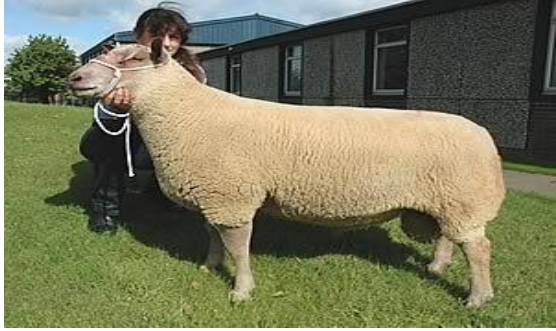
- Long wool breed.
- The white head with only the occasional black spot on the ears.
- The nose should be black.
- Good quality wool with heavy fleece weight.



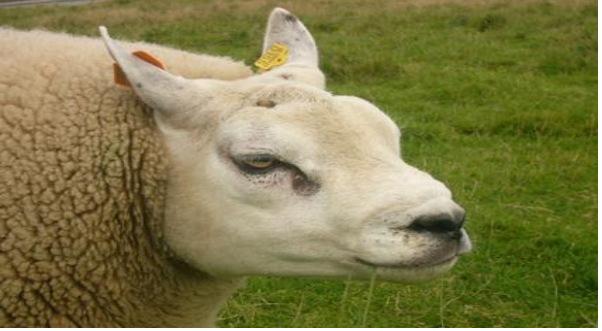
- Terminal sire for finished market lamb.
- Average mature ewe weighs 85kg, rams 120kg.



Charollais



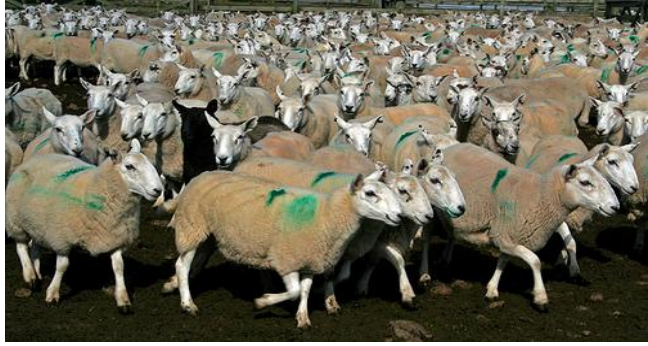
- The Charollais is a medium to large sized sheep.
- long, well muscled with thick, good lamb steaks (gigots).
- The body is long with a well muscled broad loin and wide deep chest.
- The head is free from wool, pinkish/grey in colour sometimes with spots.
- The line of the shoulders should retain a wedge shape which is important for ease of lambing.
- The legs are clean, quite short, coloured but never very dark.
- The breed is mainly a terminal sire and the fleshing quality is of high importance.
- The fleece is white, fine and dense, with pure bred lambs been born without any wool.
- Average mature ewe weighs 80-100kg, rams 100-150kg.



Beltex.

- Beltex is a medium sized sheep, long in the body.
- It is wedge-shaped from a narrow shoulder to a distinctive large, double-muscled hindquarter.
- The head is generally white in colour but may have black, blue or brown shadings or patches.
- The face is short and thick.
- The fleece is tight and dense.
- Average male bodyweight 95kg.

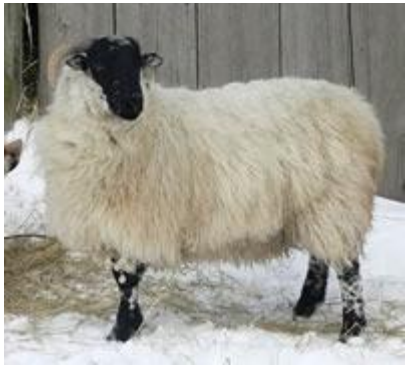
Cheviot!

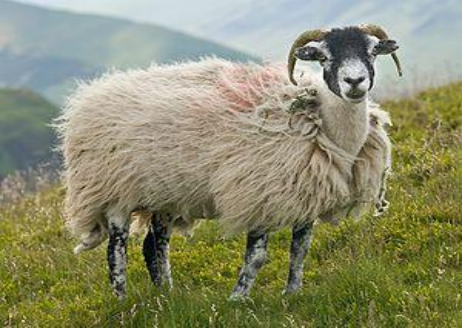


- A white faced Hill sheep from the Scottish Borders.
- The ewe has fine hard white hair on her face over the crown and on her legs which should have a fine, flat quality bone.
- Excellent mothers.
- Long wool breed.
- The rams can have horns.
- Mature ewe weight approx 60kgs.

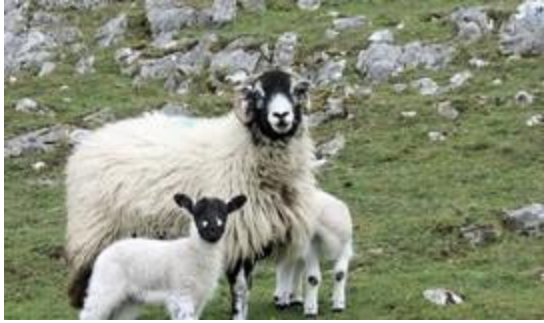
Blackface Mountain/ Scottish Blackface.

- Black and white speckled face and black legs.
- Mature body weight 40-50kg.
- Very active and hardy breed.
- Bred to suit difficult mountain harsh conditions.
- Horned both ewes and rams.
- Excellent mothers.
- Used to produce mountain lamb.



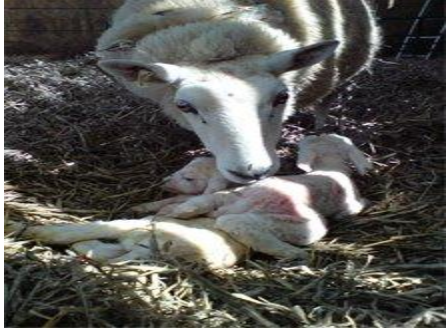


Swaledale



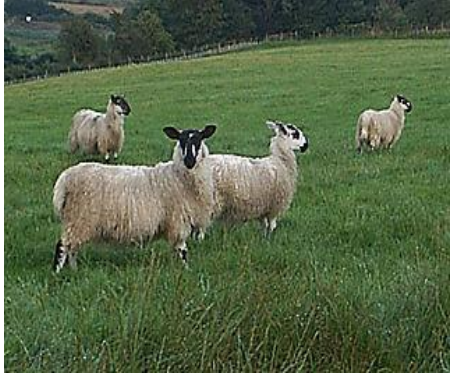
- The face is of medium length with strong features.
- The upper part of the face is dark complexioned, the lower part grey or mealy.
- Eyes are quick and bright, the hair on the face short and strong, a deep jaw and short broad teeth.
- This type of sheep grows greyer with age.
- Horns set low, round and rather wide. Ears of medium length.
- The wool is white except at the back of the head where it is mixed with part black.
- Good mothers and lamb rearers.
- Suited to harsh mountain conditions.

Welsh Half-bred

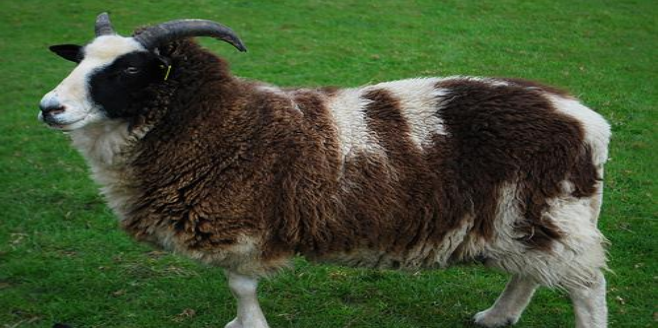


- The ewe is a medium sized, white faced, polled.
- First cross between a Welsh ewe and Border Leicester ram.
- Average mature ewe weighs 55-61kg.

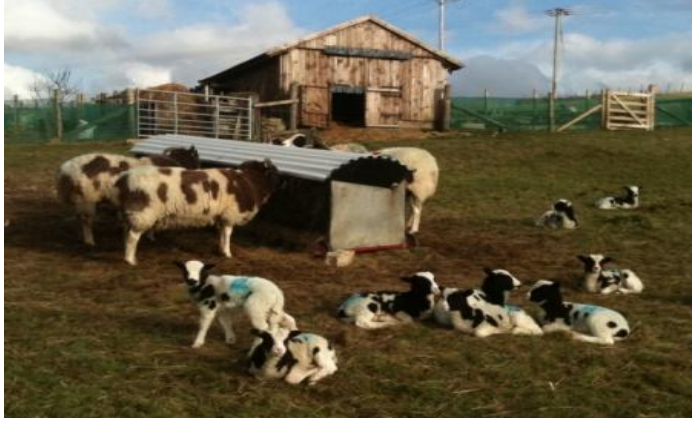
North country mule.



- Most popular lowland ewe in Britain
- Hornless with brown/white face, clear of wool with a tendency towards a 'Roman' nose.
- Ears and legs white with brown markings.
- Average mature ewe weighs 80kg.
- When crossed with quality terminal sires she has the ability to produce large crops of the quality fat lamb.
- Great mothering ability, hardiness and general ease of management



Jacob



- Deep bodied sheep.
- Basically white with black patches.
- Head and neck black with a white blaze on the face extending down the chest.
- Both sexes are horned, with two or four and very occasionally six.
- Average mature ewe weighs 60-65kg, rams 80-100kg

Lleyn

- A medium sized lowland sheep weighing up to 70kg at maturity.
- known for their hardiness, prolificacy, easy lambing, strong mothering instinct, milk quantity and easy handling.
- The wool is white

Sheep production cycle

- In groups of 3 produce a sheep production cycle of a flock you are familiar with.

- Use the flip chart for this task!

Sheep production cycle!

Ewe lambs in February/March time, Out to grass and rears the lambs.

Lambs all weaned at 12-16 weeks old. Ewes dried off.

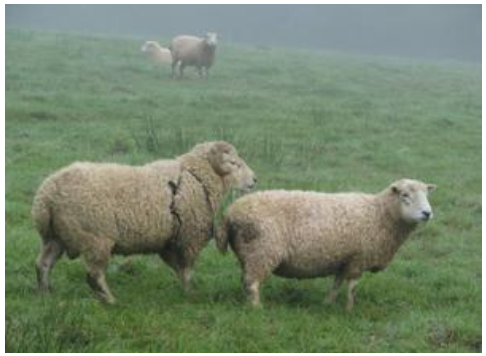
Ewe's graze as followers Cleaning out paddocks after lambs.

Ewe's flushed in Preparation for breeding in October.

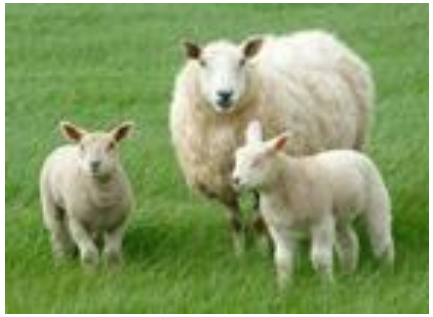
Rams let to the ewe's In October and raddled coloured.

Ewes scanned and. Housed for the winter.

Main stages in a mid season lambing flock.



- Breeding
- Pregnancy
- Lactation
- Dry period.



Breeding season!

- Sheep are seasonal breeders.
- They only come into heat at particular times of the year.
- Known as short day breeders as they only come into heat when the day length is shortening.
- Ewes naturally come into heat from August onwards.

Cycle length

Length of Oestrous (Heat)	36-48 hours
Length of Oestrous cycle.	16-18 days
Length of pregnancy.	144-150 days

Selecting ewes for breeding!

- Assemble flock 8-10 weeks before breeding.
- Select ewes on:
  - Past performance: prolificacy (how many lambs she give birth to), ease of lambing, mothering ability, hardiness, prolapsing.
  - General health of the ewe,
  - Breed,
  - Age,
  - Udder,
  - Mouth,
  - Feet,
  - Disease
  - Ewes that are doubles or triplets themselves.

Selecting the ram!

- The ram is ½ the mating procedure. Consider:
  - Breed,
  - Health,
  - Age,
  - Conformation,
  - Mouth,
  - Feet, legs & chest.
  - Scrotum.
- Suffolk and Texel are the most popular terminal sires with Charollais probably the next.

- Body condition score your ewes pre flushing.
- Require a condition score of 3-3.5 at mating.
- Feed thin ewes separate on good grass to push them on and increase condition.
- Keep ideal ewes on a maintenance ration.

- Flush ewes 3-4 weeks before mating. That’s is feeding ewes well to increase the amount of eggs released by the ewe at mating.

Quiz (10 mins)

1. Draw a diagram of a sheep production cycle and label the main stages and dates.

2. Explain and show how you calculate the following:

-Litter size, Lambing % and Weaning %.

3. What is the average length of the oestrous cycle of a ewe.

4. What is the length of the gestation period of sheep.

5. What is the ram:ewe ratio for the Moulton College flock.

Mating the ewe.

- 1 ram per 40 ewes.
- Rams should all know each other to prevent fighting.
- Mating period should be confined to 6 weeks. This gives the ewe 3 chances to fall pregnant.
- Use harness & raddled colours on the rams and change every 14 days as this allows you to identify repeat breeders.

Taking care of the ewe during pregnancy!

- Ewes are pregnant for approx 21 weeks.
- Generally three stages of pregnancy,
    1. Early pregnancy – first 8 weeks.
    2. Mid pregnancy – 8-14 weeks
    3. Late pregnancy – 14-21weeks.

- Nutrition, care and management of the ewe is critical.

Early pregnancy!

- Avoid all stressfull conditions on the ewe during the first 8 weeks to avoid any embryo deaths. Avoid handling, movement by dogs or diet changes.
- When an egg is fertilised it takes about 3 weeks to implant or attach to the uterine wall inside in the ewe.

Feeding & managing the ewe in mid pregnancy!

- Weeks 8-14 in the pregnancy.
- Most of the required handling of the ewe should be carried out in this period as the ewe is not heavily pregnant yet and the embryo is well attached by now.
- Housing, winter shearing, scanning, vaccinations and parasite drenching along with foot trimming if required can be safely carried out.

- Housing should generally be carried out by week 12 to avoid any unneccessary stress and helps avoid disease such as twin lamb.
- Winter shearing not very popular but increases space availabilty in the shed and increases birth weight of the lambs.
- Scanning determines how many lambs a ewe is carrying or barren ewes and should be done between days 45-90 of pregnancy.

- Vaccination should be done at least 8 weeks before lambing for orf.
- Fluke and worm drenching will depend on the farm but generally carried out just after housing. For ewes outside this is carried out during mid pregnancy as well generally at change of pasture.

Feeding in late pregnancy!

- Final 7 weeks of pregnancy.
- Feeding and management of ewes at this period is essential to ensure high numbers of lambs born alive.
- 75% of the lamb growth is in the final 7 weeks.
- The ewe requires extra nutrients and energy in this period.

- Feeds like hay and silage require supplementation in the form of concentrate to give the ewe energy.
- Why?
  - Silage and hay are bulk feeds while concentrates are small amounts with lots of energy.
  - Need to avoid Twin lamb disease. Caused by the ewe using her own body reserves to help grow the lambs.

	Ewe requirements	Lamb requirements	Total energy require in the feed.
Ewe with a single lamb	Ewe requires 10MJ of energy for body maintenance	A lamb requires 1MJ for every 1kg in weight	**So a single bearing ewe carrying 5kg lamb need 15MJ of energy a day**
Ewe carry twins	Ewe requires 10MJ of energy for body maintenance	A lamb requires 1MJ for every 1kg in weight	**So a twin bearing ewe carrying twin 4kg lambs requires 18MJ of energy a day.**

Feeding management

- A ewe requires concetrates to ensure a balanced diet of nutrients necessary to produce healthy lambs and have a good supply of milk.
- Silage and hay can’t do this alone.
- Too much hay and silage can increase cases of prolapsing due to them being bulk feeds.
- As the lambs get bigger inside the ewe her stomach space gets smaller but she needs more energy. This is why concentrates have to be fed.

Concentrate feed levels for ewes in good condition carrying twin lambs.

Amount of concentrates to be fed in the different weeks pre lambing.

Weeks before lambing	7	6	5	4	3	2	1
Good silage	0.1kg	0.2kg	0.3kg	0.4kg	0.5kg	0.6kg	0.7kg

Lactation and care after birth.

- The ewes appetite increases in early lactation as her stomach has more room as it is not competing with the lambs.
- Requires more energy now than ever because of producing milk to feed the lambs.
- Ewes peak milk production at 3 weeks after lambing.
- Get ewes out to grass for high energy and cheap feed. Must be of good quality.

Lambing!

- Ensure the ewe lick her lambs after lambing and bonds with them.
- Ensure lambs receive colostrum during the first hour of life.
- Ensure ewe has milk and teats are clean.
- Make sure the lamb is able to suck if not bottle fed.
- Lamb relies on ewes milk totally for 1st 2 weeks.
- From week 10 onwards less dependent on milk and more on solid food.

- Dock lambs tails and castrate male lambs in the first week.
- Ewes are mainly sheared in early may to prevent the fly strike and maggots. Dirty ewes in clammy weather more at risk.
- Dose lambs against worms at 4-6 weeks old and then at 3 weekly intervals.

Weaning!

- Wean lambs at 12-14 weeks depending on size and weight.
- Lambs are usually selected for sale at body weight of 38-44kg depending on the market.
- Some lambs will be fit before weaning so just draft directly off the ewe.
- Increase the stocking rate of dry ewes to encourage them to dry off and stop producing milk.
- Don’t allow ewes to become over fat during the dry period.
- Sell off cull ewes mid season before flushing time to free up grazing for breeding ewes and lambs.

Important factors of sheep production!

- Litter size
  - Number of lambs reared per ewe.
  - 170 lambs born alive and 10 born dead to 95 ewes.
  - 170+10/95 = 1.89 average litter size.

- Lambing %
  - No of lambs born alive/ No of ewes put to the ram. X 100
  - 170lambs/100 ewes X 100 = 170%

- Weaning % or lambs reared per ewe:
  - No of lambs weaned/ No of ewes put to the ram X 100
  - 165/100 X 100% = 165% weaning rate.

- Growth rate:
  - In early lambing you need fast growing terminal sires like the Suffolk.
  - Faster growing lambs are fit for slaughter quicker.
  - Singles will be faster than twins, and twins will be a lot faster than triplets and multiples.

- Carcase Conformation:
  - Carcase quality is highly important to price paid for lambs. Breeds determine this. Kill out % and conformation.
  - Some breeds have better conformation than others.
  - Lowland breeds better conformation than mountain.
  - Charollais better conformation than Suffolk.