VACCINATIONS

These can be a relatively low cost but highly effective way of controlling disease within your flock no matter how many animals you have. But it can be confusing to know which vaccines are suitable for you to be using in the right way. There are lots of options with some vaccines commercially available over the counter in places such as CLB, and others only via prescription at the vets. Some diseases have only one vaccine and others have many different vaccines commercially available, and they can vary in the protection they provide. It is difficult to know what to go for.

Know your farm, know your risks and know when to dose.

How do vaccines work?

They challenge the immune system of the animal to produce a response which will act as a protection the next time the animal is exposed to the disease.

A flock that is naive (has never encountered a disease before) is most at risk as all the animals are susceptible should they come into contact with the disease. A closed flock (no replacements brought on to the farm, only homebred animals) is the most susceptible to any type of disease outbreak.

ABORTION VACCINES

These are commercially available in the UK and can be used to protect our flocks from some of the main risks of infectious abortion.

There are many causes of abortion in sheep; 5 most common infectious causes:

- Enzootic Abortion of Ewes (EAE)
- Toxoplasmosis (Toxo)
- Campylobacter
- Salmonella
- Listeria

EAE

Enzootic Abortion of Ewes

This is an extremely common cause of abortion and can account for 50% of all abortions in sheep.

WHERE DOES IT COME FROM? – Infected replacements to the flock. Secondary, possible wildlife can take aborted material between farms. The disease is shed in placental material, vaginal discharges and over the stillborn lambs – it can hang around in the environment for 2wks.

WHAT ARE THE SIGNS? – The danger is there are NO SIGNS in a ewe that has EAE BEFORE it aborts. Usually the first sign is the abortion in late pregnancy (around 3wks premature). As a result of this, the disease may have already been passed to several other ewes in the flock before you have detected you have the disease on the farm. This can result in what is referred to as an ABORTION STORM which can result in losses of up to a QUARTER of all lambs. In a flock which has a grumbling problem with EAE and a large proportion of the flock is already infected, it can result in ongoing losses of 5% per year.

HOW CAN I CONTROL IT? –

1. Control:

- Keep good hygiene – separate any ewes that abort, keep bedding clean and remove any aborted material or lambs asap.
- Cull any ewes that have aborted – A ewe can have an abortion one year and then the next few years have healthy lambs so you would not detect any problems – but they are carrying the disease and shedding it.
- Try and buy from accredited flocks so not buying in any infected replacements.
- VACCINATE

2. In the face of an outbreak:

Vaccinate!!!

- There is no way to tell which ewes are carrying it and which are not, so vaccinate the whole flock and any replacements. There will still be some ewes who will still abort as already carrying the disease, but it can lower the incidence of abortion.

- Sheep can be treated with LA Oxytet (Alamycin, Terramycin) - this will not stop other ewes from becoming infected but will reduce losses in the current lambing year.

VACCINTATION FOR EAE

- ENZOVAX – Live vaccine so should never be given in combination with antibiotics
- Combo with Toxovax – only combination licensed to do so (different sites, not mixed)
- Requires one dose only in the lifetime of the ewe to provide ongoing protection.
- Vaccinate less than 4wks pre-tupping

ACCREDITATAION

You will have seen this at shows and at the mart – some flocks can gain an accredited status by undertaking yearly blood sampling to prove there is no EAE in the flock. This makes these flocks a good option for buying in replacements. Hovewer; there is no way to tell between a ewe that has been vaccinated with EAE and that has been exposed to it, so if you vaccinate you cannot be accredited, its one or the other.

PLEASE NOTE THAT THIS IS A ZOONOTIC DISEASE WHICH MEANS IT CAN PASS FROM ANIMALS TO HUMANS. PLEASE BE AWARE OF THIS WHEN LAMBING AND TAKE GOOD HYGIENE MEASURES. CAN RESULT IN ABORTION IN PREGNANT FEMALES (AND FLU LIKE SYMPTOMS IN ADULTS AND CHILDREN)

COST BENEFIT ANALYSIS - does the cost of the vaccine outweigh the risk of losses if you have an abortion storm?

TOXOPLASMOSIS

WHERE DOES IT COME FROM? – This disease is spread from cat faeces. Cats are ubiquitous around farm yards, it is very difficult to control stray cats, and one faeces can infect as many as 100 sheep. It gets on to the pasture, bedding and sometimes in the feed.

WHAT ARE THE SIGNS? – losses during pregnancy, still births, mummified foetuses, reabsorptions. Often see white spots on the placentas. Toxo also can result in bareness in future

years of the ewe and can be a grumbling problem resulting in lamb reductions of up to 6%. This is often not thought about.

HOW CAN I CONTROL IT? – Vaccination of the whole flock and any replacements. Again, one vaccination is required for the life of the ewe. Older ewes will have acquired immunity and are less at risk than young stock. Should be administered 3-4 weeks prior to tupping

VACCINTATION FOR TOXOPLASMOSIS

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NO OTHER VACCINE SHOULD BE ADMINISTERED WITHIN 14 DAYS OF GIVING TOXOVAX AND ENZOVAX.

THERE IS A 6WK MEAT AND MILK WITHDRAWAL TIME

OTHER VACCINES FOR ABORTION

Cevac Chlamydia is a live vaccine for EAE

Mydiavac is an inactivated vaccines against EAE which can be used for both prevention and in the face of an outbreak to reduce the number of abortions

MSD Drug company have a vaccing for Campylobacter which is commonly used in NZ but not currently commercially available in the UK.

TAKE HOME MESSAGES

VACCINATE BEFORE YOU HAVE A PROBLEM

IF YOU HAVE AN ABORTION, MARK AND ISOLATE THE EWE, OBSERVE GOOD HYGIENE AND COLLECT FRESHLY ABORTED MATERIAL TO TAKE TO THE VET LAB FOR ANALYSIS

CLOSTRIDIAL AND PASTURELLA VACCINES

This can be a very CONFUSING subject as there are a large number of vaccines available and each protects against a different combination of clostridial diseases.

WHAT IS CLOSTRIDIAL DISEASE? – a type of bacterial infection that can infect the animal in different areas of the body and progresses very quickly. The animal is often found dead or dying – often the cause of an "unknown sudden death". There are many different strains of clostridia and hence the vaccines available try to cover as many of these as possible:

WHAT ARE THE SIGNS? – Often sudden death

WHERE DOES IT COME FROM? - These diseases are all caused by SPORES of the bacteria which live in the soil at pasture – EVERYONE IS AT RISK FROM THIS BACTERIA. The bacteria rapidly multiply and produce deadly ENDOTOXINS which will usually result in death of the animal.

There is normally a trigger factor which allows the bacteria in for example a cut on the leg can allow the clostridia bacteria to enter where is can rapidly progress to Black Leg and result in death.

DISEASES:

Lamb Dysentry	Struck
Pulpy Kidney	Braxy
Blacks Disease	Black Leg
Bacterial redwater	Abomasitis & Toxaemia
Ganrenous Metririts & Navel Ill	Tetanus
Botulism	FSE

HOW CAN I CONTROL IT? – This group of diseases are perfect candidates for control by vaccination as treatment is not an option due to the rapid course of disease. The only cure is prevention.

VACCINATION

A recent study revealed that despite the known risks to sheep through these diseases, 20% of all sheep farmers in the UK fail to vaccinate properly.

- Inactivated components
- 2 doses given 4-6 wks apart - this is ALWAYS required to give animals suitable protection. This is often referred to as a primary course; after one year the immunity will wane and require boosting. Should the booster not be given after the first year then the initial course should be repeated to ensure protection from disease. On a farm that is known to have a particular problem, a further booster may be given 4wks prior to the risk period e.g for lambs in Autumn for Pulpy Kidney Disease.
- BREEDING EWES AND EWE REPLACEMENTS – should be vaccinated 2-4wks pre-lambing to maximise the level of antibodies passed to the lamb via colostrum. If large flocks, separate in to early lambers and late lambers to maximise the effect of the vaccine in the lambs.
- TUPS – for best practice,should also be vaccinated though not vital for them to receive the "lamb disease" components as not passing on to the lambs.
- LAMBS – maternal antibodies will provide protection for the first 3 months of life provided that lambs take sufficient colostrum. Primary vaccination should be given at 2-3 months of age and the second 4-6 wks later.
- PURCHASED STOCK – should be a standard part of the quarantine management process – give a full primary vaccination.

VACCINES DO NOT WORK WELL IN ANIMALS THAT ARE STRESSED AND GIVEN THE NATURE OF THE VACCINE HAVING TO BE GIVEN CLOSE TO LAMBING, TRY AND KEEP THE SHEEP AS CALM AS POSSIBLE, BE QUICK AND MINIMISE THE USE OF DOGS.

COMMERCIALLY AVAILABLE VACCINES (Ref: Moredun Foundation)

Lambivac	Provides minimal protection against the 3 major lamb killers
Ovivac	Gives protection to ewes and lambs against the 4 most common types of clostridial disease
Ovivac P Plus	Good for use when Pasturellosis is a known problem
Heptavac and Covexin 7	Comprehensive 7 in 1 vaccines for immunisation of ewes and lambs against the major clostridial diseases. More expensive than Lambivac and Ovivac
Heptavac P Plus	Good for use when Pasturellosis is a known problem
Covexin 8	Protects against one further bacterial strain than Covexin 7 that affects the liver – good to use in areas where fluke may damage the liver and allow the bacteria in

PASTURELLOSIS

A RESPIRATORY DISEASE OF SHEEP

WHERE DOES IT COME FROM? –

1. Stress is a known contributing factor to animals contracting this disease – movement, weaning, castration etc
2. Infectious agents – Pasturella Multocida, Mannheimia Heamolytica frequently isolated from ill sheep. These are normal residents of the respiratory system but in a stressed animal with a low immune system can take over and result in disease

WHAT ARE THE SIGNS?

- Pneumonia – fever, depression, loss of appetite, cough, nasal discharge
- Septicaemia – often found dead or dying (sudden death)

Often affecting lambs past the 3 month mark where protection from the mothers colostrum is declining and the animal is under stress eg transport, weaning etc.

HOW CAN I CONTROL IT?

Vaccination! In combination with the clostridial disease vaccines can be very effective

PRACTICAL SKILLS

- Best Practice Dosing
- Drawing up and injection of vaccinations