



EWWE *first*

**Protection begins with prevention.
Prevention begins with vaccination***

*Vaccination should be used as part of an integrated approach to disease prevention including colostrum management, hygiene and biosecurity.

www.msd-animal-health-hub.co.uk

 **MSD**
Animal Health

EWWE *first*

The health of an adult ewe is critical to maintaining her production and fertility, both now and in the future. Not only for herself but for her future lambs too.

A healthy ewe helps to ensure the production of a healthy lamb. This aids in helping to create a healthy and sustainable farm.



EWWE *first* protection

By adopting a vaccination strategy, alongside an integrated approach to disease prevention, you can help to protect the health of the sheep on your farm, you are providing protection for now **and** for future generations.*

*Vaccination should be used as part of an integrated approach to disease prevention including colostrum management, hygiene and biosecurity.

NOAH Initiative Livestock Vaccination Guideline

The NOAH Livestock Vaccination Guidelines¹ sets out a detailed background and rationale for vaccination strategies to reduce, prevent and control disease on farm.

Through this we will preserve high standards of sheep and welfare performance and productivity.



To access your copy please scan this code



NOAH
CATEGORY
1
VACCINATION

**Highest
priority
vaccinations.**

All flocks should be vaccinated as default.

NOAH
CATEGORY
2
VACCINATION

**Vaccinations
that are usually
recommended as
best practice.**

Farm level dependent.

Vaccination calendar*

NOAH CATEGORY 1

Heptavac P plus

Ovivac P plus

Ovipast plus

Footvax For Footrot

Do not vaccinate ewes in the period of 4 weeks before lambing to 4 weeks after lambing.

toxovax enzovax

LAMBS

Heptavac P plus

Footvax For Footrot

3 weeks	7 weeks	16 weeks ^A
1 st dose	2 nd dose	
		1 st dose

BREEDING UNDER A YEAR OLD

Heptavac P plus

Footvax IN SEVERE DISEASE CHALLENGE

Footvax IN FAVOURABLE CONDITIONS

enzovax

toxovax

20 weeks	22 weeks	38 weeks	4-6 weeks prior to lambing	18 months old	
			Booster dose		Booster to be given annually
	2 nd Dose	Booster dose ^B			Booster to be given every 4-5 months
	2 nd Dose			Booster dose ^B	Booster to be given every year
Single dose ^C					Booster to be given every 3-4 years
Single dose ^D					Booster to be given every 2 years

BREEDING OVER A YEAR OLD

Heptavac P plus

Footvax IN SEVERE DISEASE CHALLENGE

Footvax IN FAVOURABLE CONDITIONS

enzovax

toxovax

38 weeks	1 year old	14 months	18 months	4 weeks prior to tugging	4-6 weeks prior to lambing	
	Booster dose				Booster dose	Booster to be given annually
Booster dose ^B		Booster dose ^B				Booster to be given every 4-5 months
			Booster dose ^B			Booster to be given every year
				Single dose ^C		Booster to be given every 3-4 years
				Single dose ^D		Booster to be given every 2 years

RAMS (BOTH HOME BRED & BOUGHT)

Heptavac P plus

Footvax IN SEVERE DISEASE CHALLENGE

Footvax IN FAVOURABLE CONDITIONS

3 weeks	7 weeks	16 weeks	22 weeks	38 weeks	
1 st dose	2 nd dose				Booster to be given annually
		1 st dose	2 nd Dose	Booster dose ^B	Booster to be given every 4-5 months
		1 st dose	2 nd Dose		Booster to be given every year

A. There is no minimum age for administration of Footvax. However, foot problems prior to 4 months of age are usually caused by scald rather than footrot and there are other treatment methods for managing this condition

B. With Footvax[®] subsequent doses should be administered according to prevailing conditions, with severe disease challenge, this may be at 4-5 monthly intervals, conversely under favourable conditions, re-vaccination can be delayed up to 1 year. Do not vaccinate sheep within 6-8 weeks before shearing. Do not give within 2 weeks of any other vaccines.

C. Ewe lambs, where it is intended to breed from them, may be vaccinated from 5 months old. Shearlings and older breeding ewes should be vaccinated within the 4 month to 4 week period prior to mating. Re-vaccination is recommended every 3-4 years depending on farm management/conditions. Can be given at the same time (but not mixed with) Toxovax[®]. Do not give during pregnancy.

D. Ewe lambs, where it is intended to breed from them, may be vaccinated from 5 months of age. Shearlings and older breeding ewes should be vaccinated within the 4 month to 3 week period prior to mating. A single re-vaccination dose may be given after 2 years, at least 3 weeks prior to mating. Can be given at the same time (but not mixed with) as Enzovax[®]. Do not give during pregnancy.

Clostridials and *Pasteurella*

Clostridials

- Key clostridial pathogenic species have been identified in farm soils² and are part of the normal bacteria flora of healthy animals.
- Clostridial bacteria become pathogenic when the bacteria rapidly multiply and release toxins³.
- This is commonly caused by changes in the bacteria's habitat which create the ideal environment for their fastidious growth requirements.
- Different clostridial diseases threaten lambs and ewes at different ages.

Pasteurella

- Pasteurellosis is a common bacterial disease and a key cause of pneumonia and death.
- The bacteria (*Bibersteinia (Pasteurella) trehalosi* and *Mannheimia (Pasteurella) haemolytica*) are commonly found in the lungs and tonsils and stress factors (such as lambing, housing, weaning, weather changes, changes in nutrition, movement, handling) can lead to disease in two main presentations (pneumonic and systemic):

Clinical signs

- Sudden death⁴
- Scouring
- Abdominal pain
- Collapse
- Hind limb stiffness
- Convulsions
- High temperatures
- Enterotoxaemia⁵
- Pulpy kidney⁶
- Neurotoxic disease⁷

Clinical signs

Pneumonic

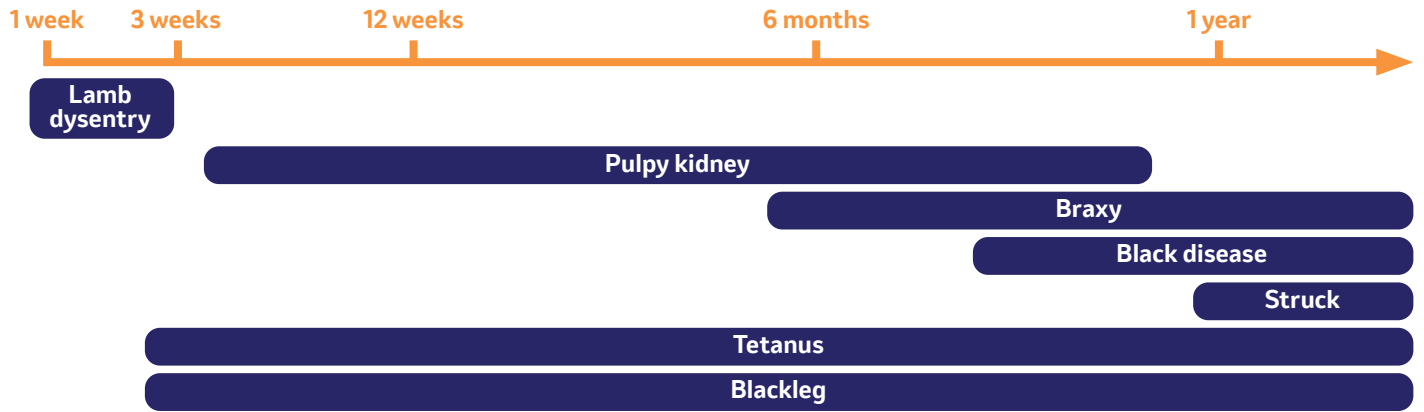
- Caused by *M. haemolytica*
- Coughing, high temperature, dull, heavy breathing
- Sudden death
- Young lambs but can affect older animals

Systemic

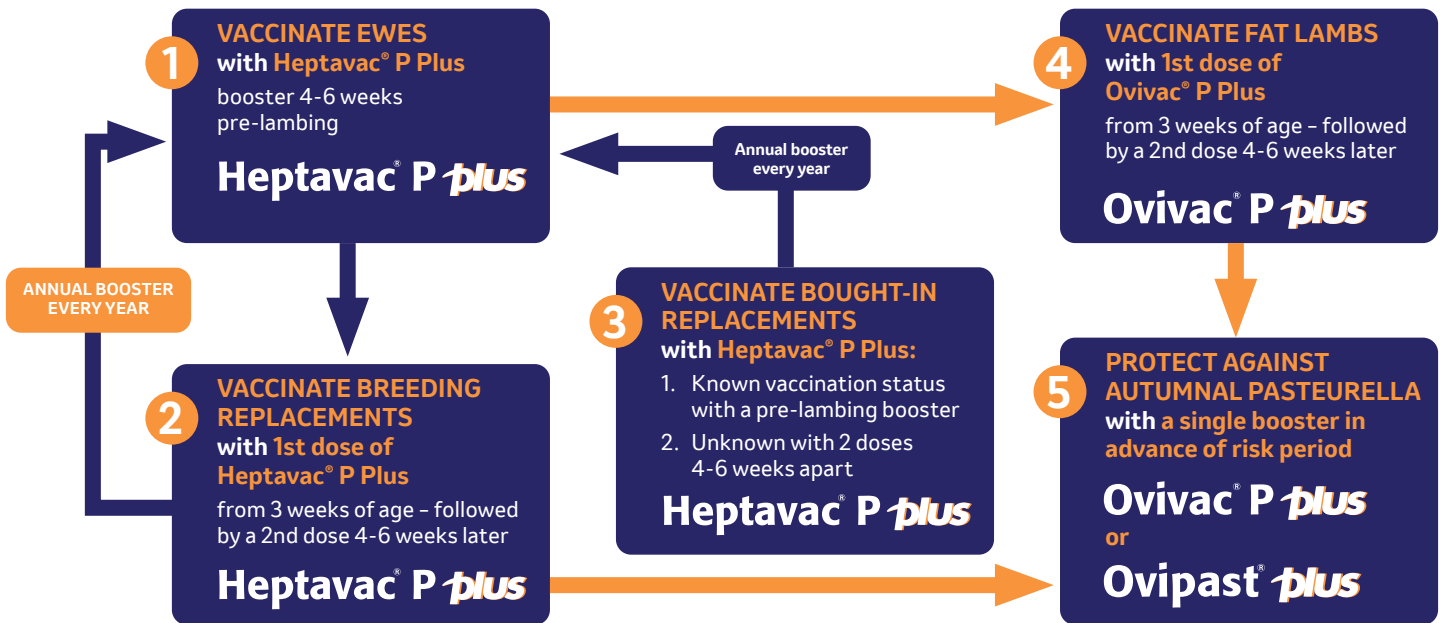
- Caused by *M. haemolytica* or *B. trehalosi*
- Triggered to move into bloodstream
- Sudden onset
- Rarely seen alive
- Younger lambs (6-12 weeks) or older lambs in autumn



Vaccination is the single most effective way to prevent disease caused by clostridials and pasteurellosis¹.



Protect newborn lambs against clostridia and pasteurella



	<i>Clostridium perfringens</i> type C: Struck	<i>Clostridium perfringens</i> type D: Pulpy kidney	<i>Clostridium septicum</i> : Braxy	<i>Clostridium chauvoei</i> : Blackleg, metritis	<i>Clostridium novyi</i> type B: Black disease	<i>Clostridium haemolyticum</i> : Bacterial red water	<i>Clostridium tetani</i> : Tetanus	<i>Clostridium perfringens</i> type B: Lamb dysentery	<i>Clostridium sordellii</i> : Abomasitis, toxæmia malignant oedema, metritis	<i>Clostridium perfringens</i> type A: Enterotoxaemia	<i>Mannheimia haemolytica</i> , <i>Pasteurella trehalosi</i> : Pasteurellosis
BRAVOXIN®	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Heptavac® P plus	✓	✓	✓	✓	✓		✓	✓			✓
Ovivac® P plus		✓	✓	✓			✓				✓
Ovipast® plus											✓

In addition Zoetis also produce clostridial vaccine: Covexin™ 10

Heptavac[®] P plus



- Contains 7 Clostridial strains and 2 Pasteurella (*Clostridium perfringens* types B, C and D, *Cl. septicum*, *Cl. novyi*, *Cl. chauvoei* and *Cl. tetani*).
- For the active immunisation of sheep as an aid in the control of lamb dysentery, pulpy kidney, struck, tetanus, braxy, blackleg, black disease and clostridial metritis.
- The vaccine may be used as an aid in the control of pneumonic pasteurellosis in sheep of all ages from a minimum age of 3 weeks and in the control of systemic pasteurellosis in weaned fattening and breeding sheep.
- The vaccine may be used in pregnant ewes as an aid in the control of lamb dysentery, pulpy kidney, tetanus and pasteurellosis in their lambs provided that the lambs receive sufficient immune colostrum during the first 1-2 days of life. If given as an annual booster 4-6 weeks before lambing, after completion of the primary course.
- Once opened the vaccine must be used within 10 hours.
- Supplementary boosters should be given within three weeks of expected seasonal outbreaks, which occur in Autumn in the UK.

Recommended from
3 WEEKS OF AGE

1ST DOSE

4-6 WEEKS

2ND DOSE



Vaccination
is a key tool
in disease
prevention



Ovivac[®] P *plus*

NOAH
CATEGORY
1
VACCINATION

- Contains 4 clostridial strains and 2 Pasteurella (*Mannheimia haemolytica* and *Pasteurella trehalosi*).
- Given to lambs - especially those destined to become fattening lambs.
- Any ewes kept for breeding will need to be revaccinated with a full primary course of Heptavac[®] P Plus at least 6 weeks prior to lambing.



Recommended from
3 WEEKS OF AGE



Clostridium species are fairly ubiquitous environmental bacteria⁸.

Ovipast[®] *plus*

NOAH
CATEGORY
1
VACCINATION

- Provides protection against *Mannheimia haemolytica* and *Pasteurella trehalosi*.
- No clostridial cover.
- Recommended as additional booster to Heptavac[®] P Plus/ Ovivac[®] P Plus for farms where environmental challenge may be particularly high.



Recommended from
3 WEEKS OF AGE



Mannheimia haemolytica and *Pasteurella multocida* are the most common commensal organism of the tonsils and nasopharynx of healthy sheep⁹.

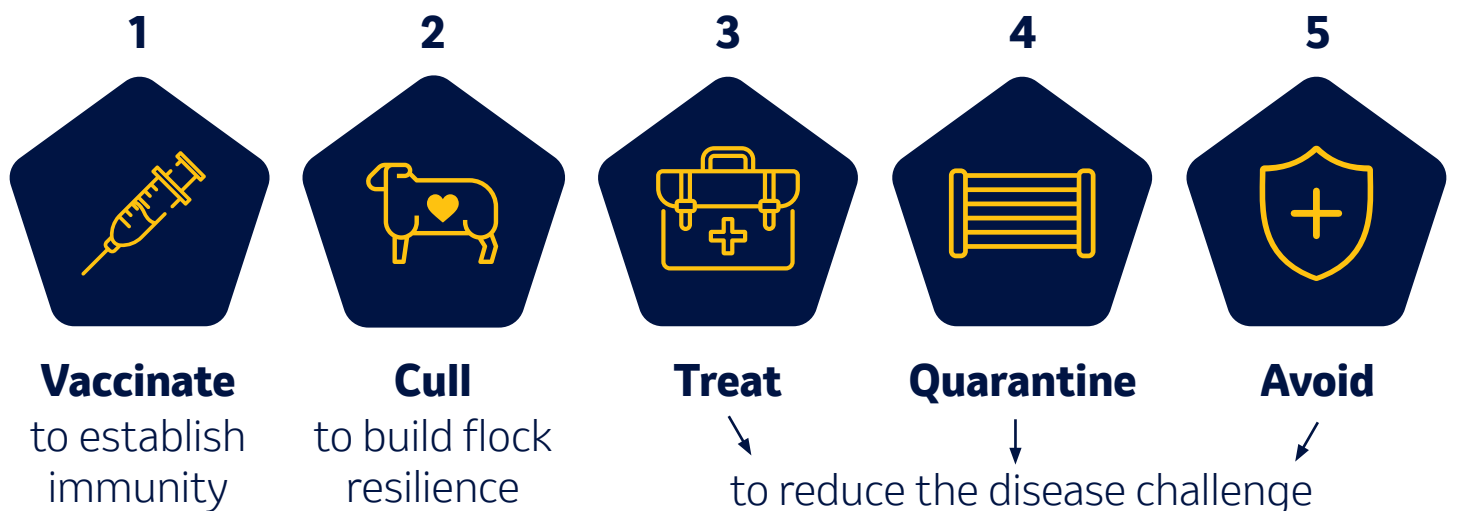
Lameness

- Lameness in sheep presents a significant welfare issue on UK farms, with at least 3% of ewes lame at any one time¹⁰.
- The predominant causes of lameness in ewes in the UK are footrot, caused by the bacteria *Dichelobacter nodosus* and contagious ovine digital dermatitis (CODD)¹¹, caused by a *spirochaete* bacteria.
- Scald can also be seen, which is an earlier form of footrot caused by the same bacteria *Dichelobacter nodosus*.
- Footrot vaccination (Footvax[®]) has been associated with a reduction in prevalence of lameness between 20 and 70%¹².

Clinical signs¹⁴

- Inflamed, red and moist skin between the digits
- Lifting of the skin horn junction between digits
- Under-running of sole and hoof wall
- Characteristic smell

For practical and clinical control of lameness the Five Point Plan¹³, should be adopted to achieve better management of lameness alongside vaccination.





Footvax[®]

For Footrot

Please visit page 16
for guidance on optimal
vaccination practices.

NOAH
CATEGORY
1
VACCINATION

- For the active immunisation of sheep as an aid to the prevention of footrot and reduction of lesions of footrot caused by serotypes of *Dichelobacter nodosus*.
- Covers all 10 UK Strains of *Dichelobacter nodosus*.
- Can be used as both prevention and a treatment.
- Do not vaccinate sheep within 6-8 weeks of shearing.
- Do not vaccinate ewes in the period of 4 weeks before to 4 weeks after lambing.

Recommended from
16 WEEKS OF AGE*

1ST DOSE

6 WEEKS

2ND DOSE



Vaccination for up
to and over
5 years results
in a maintained
significant
reduction in lameness
prevalence¹⁵.



*There is no minimum age for administration of Footvax. However, foot problems prior to 4 months of age are usually caused by scald rather than footrot and there are other treatment methods for managing this condition.

Toxoplasmosis

- *Toxoplasma gondii* is a common parasite to which over 90% of sheep flocks in GB have been estimated to have been exposed¹⁶ with each of abortion caused by *T. gondii* estimated to cost the farmer £127.96/ewe¹⁷.
- Data collected from the MSD Animal Health FlockCheck scheme in 2022 showed 74.1% of farms were seropositive for (had been exposed to) *T. gondii*.

Clinical signs¹⁸

- No symptoms in non-pregnant ewes
- Effect in pregnant animals depends on the pregnancy stage
- 1st trimester: foetal death, mummification and resorption
- Later stages: abortion, weak lambs, sub-clinically infected lambs, stillborn lambs (often with live littermates)

toxovax[®]



- For active immunisation of susceptible breeding female sheep to reduce the effects of infection by *T. gondii*, namely early embryonic death, barren ewes and abortion.
- Every ewe should be vaccinated prior to their first breeding.
- Can be administered the same day but not mixed with Enzovax[®].

Recommended
FROM 5 MONTHS OF AGE

1 DOSE

GIVE FROM 4 MONTHS TO 3 WEEKS PRIOR TO MATING.

After two years, a single repeat dose can be given



Vaccination is the most effective practical solution for developing immunity to toxoplasmosis²⁰.



Enzovax (EAE)

- EAE is caused by the bacteria *Chlamydomphila abortus* and is transmitted from sheep to sheep at lambing time.
- From data collected from the MSD Animal Health FlockCheck scheme in 2022, 17.9% of farms were seropositive for *C. abortus*.
- Widespread economic losses can be associated with EAE¹⁹ so all flocks bringing in replacements should be vaccinating these for EAE and ideally source replacements from EAE accredited flocks²⁰.

Clinical signs²¹

- Small poorly formed lambs
- Abortion 3 weeks prior to full-term
- Placentitis

enzovax[®]

NOAH
CATEGORY
1
VACCINATION

- For the active immunisation of susceptible female breeding sheep to reduce abortion caused by *C. abortus* infection.
- Active immunisation of susceptible female breeding sheep to reduce abortion caused by *Chlamydomphila abortus* infection²².
- Re-vaccination is recommended every 3-4 years depending on management practices and conditions.
- Can be administered the same day but not mixed with Toxovax[®].

Recommended
FROM 5 MONTHS OF AGE

1 DOSE

**GIVE FROM 4 MONTHS
TO 4 WEEKS PRIOR
TO MATING.**



Chlamydomphila abortus is the number one cause of sheep abortion²³.

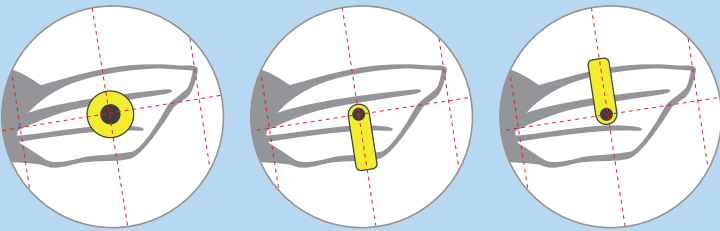




Identification tags

- Developed in close cooperation with the relevant authorities, breeding associations and farmers to support country specific identification and traceability requirements
- Made of high-quality durable materials for maximum retention, easy application and readability
- Lightweight and flexible identification tags
- EID tags suitable for all ages

Suggested optimum tag positions.



Tagging Tips

- When tagging, ensure on both male and female tags, that the numbers match on both the EID tag and the visual tag.
- Ensure the correct applicator is selected and read the instructions carefully
- Make sure both the tag and the applicator have been disinfected with a 'non-oil' based disinfectant ie. surgical spirits as some oil-based products may inhibit initial healing.
- Ensure there is no damage to guide pin.
- Ensure the animal is restrained whilst tagging.
- Ensure the male and female parts of the tag are positioned correctly in the applicator.
- The female part of the tag should always be applied on the inside of the ear.
- The male part of the tag should always enter the back of the ear as centrally as possible between the cartilage of the ear.
- Tags should be applied two-thirds from the tip of the ear or one-third from the head.
- Store unused tags in a clean dry container away from extremes in temperature and humidity.
- When tagging lambs with loop tags, always allow room for growth.
- Apply tags where possible in cooler weather to reduce the risk of infection.
- If possible monitor animals for infection following tagging for signs of swelling and discharge (if the tag is removed antibiotics may need to be prescribed prior to re-tagging - consult with your local vet practice for advice).



Keeping your flock on track with EID

Tagging lambs with an EID (electronic identification) ear tag within the first few days of birth enables farmers to build a greater understanding of their flock's performance, especially when used in combination with a digital stick reader and electronic weigh cell.

Whether finishing lambs for slaughter, breeding stock for sale or selecting ewes for breeding, the extra precision offered by using EID to gather critical data points enables the flock to be managed more accurately, more efficiently and more profitably.

Lifetime gains and saving money

- Tagging and weighing lambs from birth allows for the accurate assessment of daily live weight gains and for the farm's resources to be used more efficiently by fine-tuning the grazing and feeding of each age group.
- The same data can also be used to calculate weight-based medicine doses more accurately, and to highlight potential health issues at an earlier stage, thereby ensuring the flock remains healthy and productive.
- This not only improves the efficacy of vaccines, drenches and pour-on medicines by eliminating under-application, but also saves money by reducing the over-application of these products. Eliminating over-application also reduces the risk of resistance to susceptible medicines.

Better breeding, healthier lambs

- Using EID in conjunction with a flock management app to register births, liveweight gains, medicine usage, breeding records and slaughter weights also helps to evaluate the genetic merit of breeding stock and to select the flock's next generation of breeding ewes.
- Regular weighing and accurate recording keeping also ensure finished lambs are produced to the correct weight and specification, thereby helping to avoid contract penalties for under or overweight animals.

Eliminate errors

- Using EID to gather and log data reduces the potential for human error to creep into record-keeping. Animal movements are therefore easier and quicker to log, as is the ability to scrutinise the performance of animals throughout their entire lifetime and to identify where improvements can be made.

The Benefits Of Using EID From Birth

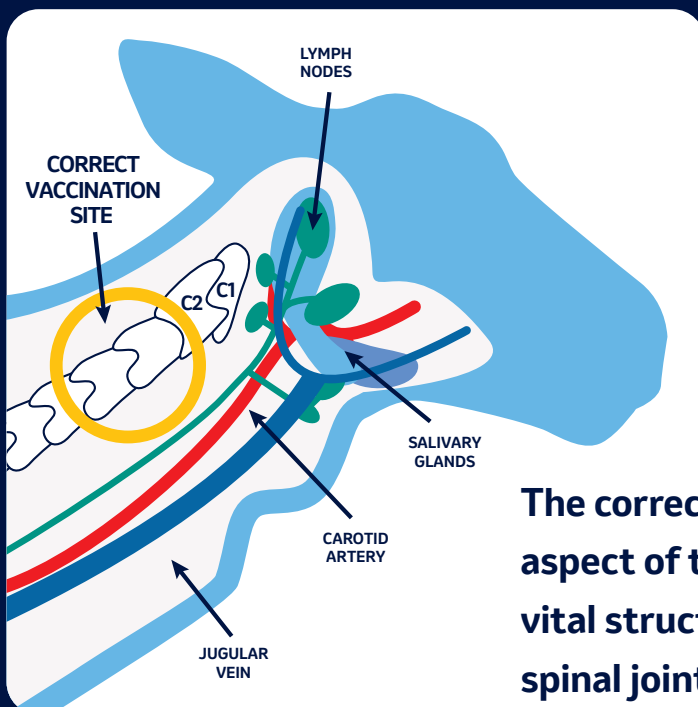
- Reduce guesswork: faster, more accurate, more reliable record-keeping.
- Genetic gains: track the lineage of lambs and select the best ewes for breeding.
- Improved flock performance: monitor daily live weight gains to fine-tune feeding.
- Healthier animals: highlight performance anomalies and ensure accurate medicine usage.



Vaccination Best Practice

- Ensure the multi-dose syringe is clean prior to use.
- Remove the cap from the vaccine bottle and place the rubber bung of the bottle firmly onto the broaching spike.
- Calibrate and prime the syringe to the correct dose for the route of injection, species and animal weight.
- Place a new, sterile needle suitable for the injection site onto the syringe.
- To change the vaccine bottle, remove the empty bottle from the spike, taking care to avoid contamination of the spike with your hands or from the environment, and place the next bottle onto the spike.
- If you are concerned that the spike may have been contaminated you can wipe with an alcohol impregnated wipe before placing the next bottle.

- Following use, the multi-dose syringe should be cleaned on the same day.
- Flush the system with warm soapy water by operating the gun when immersed to ensure any remaining vaccine is removed.
- Then use cold water sterilising tablets (e.g. Milton® tablets) where the device is immersed and flushed through as above, then left to soak for at least 15 minutes.
- Flush through with cooled boiled water.
- Lubricate the plunger O-ring with a couple of drops of vegetable oil after cleaning or if the device becomes sluggish during use.
- Following cleaning, store in a sealed bag (such as a zip-lock freezer bag) to reduce contamination during storage. The bag can be left open in a clean environment while the syringe dries, prior to sealing and storing.
- If you have any concerns about the cleanliness or function prior to vaccination you should not use it.



The correct location for vaccination is on the lateral aspect of the neck. It's important to steer clear of vital structures close to the ear's base and the spinal joints (C1 & C2).

Efficient sheep handling for effective farm management

- Mobile sheep handling systems make handling sheep more practical – meaning it can be done more often, improving stock management and productivity.
- The Alligator sheep handling system, makes it not just possible but practical to carry out a raft of management tasks including reading, dosing, drenching, dagging, foot bathing, shearing, tagging or weighing in the field.
- Alligator can efficiently save time on farm, reduce the stress to your livestock, help improve biosecurity and reduce the risk of developing footrot.
- When used together with compatible weighing equipment, such as Gallagher, Alligator systems provide a simple and efficient way of monitoring and managing the weight of stock. This concise monitoring of weight can have a further impact on the efficiency, and ultimate profitability, of the farm.



Marking

- By using different colours or patterns of paint, farmers can easily identify their sheep from a distance.
- This is especially useful during times like feeding, health checks, or when moving sheep between different areas.
- A specific colour of paint might indicate that a sheep has received a certain medication or treatment.
- This helps to avoid accidentally administering the same treatment multiple times or missing out on necessary care.
- Paint marks can aid in managing breeding programs. When farmers want to keep track of which sheep have been bred or are pregnant, they can use paint markings to quickly identify these individuals and monitor their progress.
- Paint markings provide a temporary and visible way to organize sheep into different groups, which can help with proper feeding, care, and management.
- When sheep are being prepared for market, paint markings can help distinguish between those that are ready for sale and those that still need to reach a certain condition or weight.



FLEXMARK MARKER-SPRAY

- Flexmark is a high quality, longer lasting sheep marker spray, suitable for use on wet or dry fleeces.
- The unique formulation minimises residue for a fully emptying can.
- The Flexmark sheep marker spray is fitted with a No Clog Valve to ensure a continuous flow.



FLEXMARK MARKER STICKS

- Wax marker sticks with twist-up action.
- Ideal for temporary identification.
- Reliable and economical method of identification.
- Handy pocket-sized marker.

EWEE first

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Protection begins with prevention.

Prevention begins with vaccination*

FOR MORE INFORMATION PLEASE CONTACT YOUR MSD ANIMAL HEALTH REPRESENTATIVE TODAY

*Vaccination should be used as part of an integrated approach to disease prevention including colostrum management, hygiene and biosecurity.

Heptavac® P plus contains antigens from 7 clostridial species and antigens from the most important serotypes of *Mannheimia* (*Pasteurella*) *haemolytica* and *Bibersteinia* (*Pasteurella*) *trehalosi* and is indicated for the active immunisation of sheep against disease associated with infections caused by these bacteria. **POM-VPS.** Ovivac® P Plus contains antigens from 4 clostridial species and antigens from the most important serotypes of *Mannheimia* (*Pasteurella*) *haemolytica* and *Bibersteinia* (*Pasteurella*) *trehalosi* and is indicated for the active immunisation of sheep against disease associated with infections caused by these bacteria. **POM-VPS.** Ovipast® Plus contains antigens from the most important serotypes of *Mannheimia* (*Pasteurella*) *haemolytica* and *Bibersteinia* (*Pasteurella*) *trehalosi* and is indicated for the active immunisation of sheep against disease associated with infections caused by these bacteria. **POM-VPS.** Bravoxin® Suspension for Injection contains toxoids of *C. perfringens* type A, B, C and D, *C. chauvoei* whole culture, *C. septicum*, *C. haemolyticum*, *C. novyi* type B, *C. sordellii* and *C. tetani*. **POM-VPS.** Footvax® contains antigens from 10 serotypes of *Dichelobacter nodosus* and is indicated for active immunisation of sheep as an aid for prevention of footrot and reduction of lesions of footrot. **POM-VPS.** Toxovax® contains *Toxoplasma gondii* tachyzoites. **POM-V.** Enzovax® contains live attenuated *Chlamydia abortus* strain ts1B. **POM-V.**



Further information is available from the SPC, datasheet or package leaflets.
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Advice should be sought from the medicine prescriber.

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