ADVICE FOR SHEEP FARMERS IN THE EVENT OF LIMITED OR UNAVAILABLE STOCK OF OVIVAC® P PLUS

This document is intended for flocks, which due to a limited stock situation, are not able to use Ovivac P Plus.

The table below details the available MSD Animal Health Clostridial and Pasteurella vaccines for sheep in the UK. Sheep farmers may be able to utilise these alternative vaccines after a discussion with their veterinary surgeon.

	Clostridium perfringens type C: Struck	*Clostridium perfringens type D:* Pulpy kidney	*Clostridium septicum:* Braxy	*Clostridium chauvoei:* Blackleg, metritis	*Clostridium novyi type B:* Black disease	*Clostridium haemolyticum:* Bacterial red water	*Clostridium tetani:* Tetanus	*Clostridium perfringens type B:* Lamb dysentery	*Clostridium sordellii:* Abomasitis, toxaemia, malignant oedema, metritis	*Clostridium perfringens type A:* Enterotoxaemia	*Mannheimia haemolytica, Pasteurella trehalosi:* Pasteurellosis
Bravoxin® sheep & cattle	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Heptavac® P *plus* sheep	✓	✓	✓	✓	✓		✓	✓			✓
Ovivac® P *plus* sheep		✓	✓	✓			✓				✓
Ovipast® *plus* sheep											✓

In addition to the above and for cattle herds, Zoetis also produce clostridial vaccines: Covexin® 8 and Covexin® 10.

In the event of limited stock availability, sheep youngstock should be prioritised for vaccination due to their higher risk to succumb to clostridial diseases because of their reduced immunity and the husbandry procedures typically performed in their first weeks of life.

Clostridial bacteria are ubiquitous in ruminants and are part of the normal bacterial flora of healthy animals. These bacteria can also be found in soil, rotting vegetation, decomposing animal matter, surface water and spoiled animal feed. Clostridial bacteria become pathogenic when the bacteria rapidly multiply and release toxins.[1] This is commonly caused by changes in the bacteria's habitat which create the ideal environment for their fastidious growth requirements.

DISEASE? NOT ON MY FARM!

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Therefore, management changes can be utilised to reduce the risk:

- **Avoid sudden changes in diet** particularly increases in starch.
- **Reduce stress when handling** to help reduce the risk of insult inducing tissue damage through accidental injuries.
- **Prevent contamination of feed and water by rodents or birds.**
- **Avoid pastures where there have been historic cases of sudden death.** Clostridial bacteria can live in the soil and so can be associated with certain fields.
- **Graze animals on pasture of a good standard** to ensure grass is not being eaten down to bare soil. Supplementary nutrition should always be provided if required.
- **Reduce overcrowding in sheds and at pasture.**
- **Ensure adequate colostrum through good ewe nutrition and body condition score.** Lambs must receive good quality (Brix refractometer value: 26.5%[2] and above) colostrum of 50 ml/kg in the first 2-4 hours of life. Within the first 24 hours of life a newborn lamb must receive the equivalent of 200 ml/kg colostrum. Inadequate pre-lambing nutrition (protein and energy) and ewes not being at target body condition score for lambing can result in reduced colostrum yield and quality alongside reduced mothering ability of the ewe.[3]
- **Reducing the risk of clostridial disease in newborn lambs can be done through improved husbandry and hygiene in the lambing pens.** All equipment and personnel should be scrupulously clean. Lamb navels should be dipped at least twice at an interval of 2-4 hours with 10% iodine, and then daily until the navel is dry. Tagging, docking, dehorning and castration should be undertaken to the highest hygiene standards.
- **Ensure animals are fit and healthy** by making sure they are worm-free, lameness is under control, fluke is managed where this is a risk and that they are not suffering from other diseases which can bring down their immune resilience (e.g. MV, Johnes, CLA, Orf, OPA).
- **Manage trace elements.** Blood testing can be undertaken to identify deficiencies and supplements can be provided.

Vaccination is the single most effective way to prevent disease. Ovivac P Plus is recommended for lambs being sold or reared for meat, whereas Heptavac® P Plus is recommended for lambs being kept as breeding replacements. Therefore, any sheep which are kept and used for breeding in subsequent years will need a full primary course of Heptavac P Plus in pregnancy if this has not been given previously.

Rams should be fully vaccinated including yearly boosters due to the higher cost of these animals; Heptavac P Plus or Bravoxin® can be used in the absence of Ovivac P Plus. Animals which are not able to be vaccinated will be at risk. Older animals are likely to have increased natural immunity compared to younger animals.

Things you should not do:

- **Use half a dose of vaccine;** this will not provide protection.
- **Miss the second dose of the primary course;** the animal will not be protected.

Once vaccines become available again, sheep which have not received a primary course of 2 doses 4-6 weeks apart or those which had an interval of >12 months between booster doses should be restarted on the primary course for full protection.

References: 1. Pathogenesis and pathology of blackleg in ruminants: The role of toxins and neuraminidase. A short review. Useh, N.M., Nok, A.J., Esievo, K.A.N. Pages 155-159. Published online: 01 November 2011. Veterinary Quarterly Volume 25, 2003 Issue 4. 2. Kessler EC, Bruckmaier RM, Gross JJ. Short communication: Comparative estimation of colostrum quality by Brix refractometry in bovine, caprine, and ovine colostrum. J Dairy Sci. 2021 Feb;104(2):2438-2444. doi: 10.3168/jds.2020-19020. Epub 2020 Nov 25. PMID: 33246611. 3. Page *et al.*, Ewe colostrum quality on commercial Welsh sheep farms. Livestock, 2022, 27(1).

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**. 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**.

Further information is available from the SPC, datasheet or package leaflets. Advice should be sought from the medicine prescriber.
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Covexin® 8 contains antigens against *C. perfringens* Type B, *C. perfringens* Type C, *C. perfringens* Type D, *C. chauvoei, C. novyi* Type B, *C. septicum, C. haemolyticum* and against tetanus caused by *C. tetani* and is indicated for use for the active immunisation of sheep against disease associated with infections caused by these bacteria. **POM-VPS**. Covexin® 10 contains antigens for the active immunisation of sheep and cattle against diseases associated with infections caused by *Clostridium perfringens* type A, *C. perfringens* type B, *C. perfringens* type C, *C. perfringens* type D, *Clostridium chauvoei, Clostridium novyi* type B, *Clostridium septicum, Clostridium sordellii* and *Clostridium haemolyticum* and against tetanus caused by *Clostridium tetani* and is indicated for use for the active immunisation of sheep and cattle against disease associated with infections caused by these bacteria. **POM-VPS**.

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UK-OVL-230600001

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