



Farmnote

Vaccinating your beef enterprise

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Protecting your valuable stock against diseases maybe one of the most important tasks performed annually in your beef enterprise. There is a broad range of diseases that your cattle could potentially be at risk too, such as Clostridial diseases, infertility, pink eye, neonatal scours and common diseases found in feedlots such as Bovine Respiratory disease. If livestock are not protected then there is the potential for major economic losses due to ill-thrift, death, lowered conception and weaning rates etc.

This farmnote in conjunction with Farmnote 284 'Beef Cattle vaccinations,' detailing the importance of vaccines, major diseases threatening the health of your beef herd and principle vaccination technique goes on further to provide you with an easy to read guide of what

diseases could potentially affect the different classes of cattle in your herd, the vaccines available to protect your herd and when best to administer the vaccine and importantly how often.

Vaccinations can be split into 5 groups.

Group 1. Clostridial

Group 2. Infertility and abortion

Group 3. Feedlot

Group 4. Neonatal scours

Group 5. Pink eye

If a cow calf production system, forms the capacity of your herd then protecting the cow should be a priority especially if the cow is in calf

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or has a calf at foot as this calf is your main source of income. Additionally some vaccines when administered to cows before calving will pass on the immunity of certain diseases within the womb to the calf and the first six to eight weeks of the calves' life. Important diseases to protect your cows against are the Clostridial diseases, and infertility diseases such as leptosporosis, vibriosis, and pestivirus all which are further outlined in farmnote 284. A vibriosis infection outbreak in a herd can result in only about 10–30% of the females conceiving in the first 2–3 cycles, ultimately causing abortion and return to service and a longer calving period. Table 1 below lists the vaccines available for protecting your cows, the diseases you are potentially protecting them against, the best time to vaccinate and future applications. For vaccinating against Clostridial diseases there are two options available which is the 5 in 1 or the 7 in 1 vaccines, the only difference is that 5 in 1 only covers the Clostridial diseases where as 7 in 1 covers the Clostridial diseases plus leptosporosis.

Name of Vaccine	Disease caused	When to vaccinate	Future vaccination
5 in 1	Tetanus, Malignant oedema, Blackleg, Enterotoxaemia, Black disease	Prior to calving (3–4weeks), enabling immunity to be passed onto neonates. If previously unvaccinated 2 doses required 4–6 weeks apart	On an annual basis prior to calving
7 in 1	Same as 5 in 1 plus Leptosporosis	Prior to calving (3–4weeks), enabling immunity to be passed onto neonates. If previously unvaccinated 2 doses required 4–6 weeks apart	On an annual basis prior to calving
Vibrovax™	Vibriosis	Cows > 18 moths of age. Initial dose of 5 ml 4 weeks prior to joining. Then either annual dose of 2 ml or 5 ml every second year	Either annually or every two years
Pestigard™	Pestivirus	Unvaccinated cows initially 6–8 weeks prior to joining and then a second dose 2–4 weeks prior joining	Annually prior to calving

Not only should females be vaccinated in your herd, bulls are just as important and in some cases can be the carrier and transmitter of many infertility diseases refer to Farmnote 6/2004 Vibriosis—a real threat to productivity for further reading. It is therefore important to prepare bulls 2–3 months prior to joining to ensure the highest possible pregnancy rate is achieved whilst minimising return to service and abortions, which ultimately leads to more cows in calf by the first two to three heat cycles, allowing calves optimum time to reach target weaning weights. Research to date has also concluded that bulls are more susceptible to diseases and parasites than cows. Listed below are the common Clostridial diseases that bulls should be protected against along with the infertility diseases leptosporosis, vibriosis and pestivirus.

Name of Vaccine	Disease caused	When to vaccinate	Future vaccination
5 in 1	Tetanus, Malignant oedema, Blackleg, Enterotoxaemia, Black disease	Two initial doses 4–6 weeks apart, 2–4 weeks prior to joining.	One dose 2–4 weeks prior to joining, annually
7 in 1	Same as 5 in 1 plus Leptosporosis	Two initial doses 4–6 weeks apart, 2–4 weeks prior to joining.	One dose 2–4 weeks prior to joining, annually
Vibrovax™	Vibriosis	Initial vaccination gives 2 doses 4 weeks apart, 2–4 weeks prior to joining.	One dose 2–4 weeks prior to joining, annually
Pestigard™	Pestivirus	Initial vaccination gives 2 doses 4 weeks apart, 2–4 weeks prior to joining.	One dose 2–4 weeks prior to joining, annually

Your calves are generally your main source of income so ensuring they are protected from common diseases is a must. The 5 in 1 or 7 in 1 vaccine will provide immunity for the calf up to 6–8 weeks after it is born if the mother was vaccinated prior to calving. After this time period the calf will lose the immunity and will need their own vaccine program. It is particularly important to protect your calves as they have a lowered immune system, which develops with age. Additionally the time period from when the calf was conceived up to weaning can be up to 18 months so it is important to cover your income just like an insurance program.

Depending on the market you are selling your calves too, it is important that calves are covered for diseases that they may be faced with before hand to build immunity, which will increase their productivity in that particular market and favour you as the breeder as your cattle will perform

at their optimum. One such market is weaner cattle being sold to intensive feedlots. As calves are generally mixed to fill the pen size, confined in small pens, stressed and exposed to new pathogens and infections it is best for the cattle, the feedlot manager, the beef industry and you as the producer to have prepared the cattle for this system to achieve optimum results all round saving the beef industry on losses from mortality and morbidity. If heifer calves are kept for breeding purposes it is important to vaccinate them against infertility to give them the best possible chance to conceive and fall pregnant in the first couple of heat cycles and reduce chances of abortion and return to service.

Table 3 Vaccination schedule for calves

Name of Vaccine	Disease caused	When to vaccinate	Future vaccination
5 in 1	Tetanus, Malignant oedema, Blackleg, Enterotoxaemia, Black disease	Vaccinate calves at 6 weeks of age. Two doses required 4–6 weeks apart.	Annual vaccination. Depending on level of risk, protection against enterotoxaemia may only last 90 days*
7 in 1	Same as 5 in 1 plus Leptosporosis	Vaccinate calves at 6 weeks of age. Two doses required 4–6 weeks apart.	Annual vaccination
Vibrovax™	Vibriosis	Only for replacement heifers if vibriosis is in your herd.	Thereafter only bulls need vaccinating.
Pestigard™	Pestivirus/ Bovine Respiratory Disease	1 st dose 6–8 weeks prior to joining then a 2 nd dose 2–4 weeks prior to joining for initial vaccination. For cattle entering feedlots one dose 4 weeks prior to entry.	N/A
Bovilis-MH™	Bovine Respiratory Disease	In background phase before entry into feedlot, 2 doses 3–4 weeks apart, with the 2 nd dose given 2–3 weeks	N/A
Rhinogard™	Infectious bovine rhinotracheitis	One dose given on arrival at feedlot	N/A

If scours in your calves is an annual occurrence and is affecting the productivity and health of your herd then investigating into the causative pathogen may be on the agenda. Vaccinating the calves with one of the vaccines listed below will only be effective if the causative pathogen is what the vaccine targets. To find out the causative agent it is best to talk to your DAFWA or local veterinarian to investigate, which is normally achieved through collecting manure samples from scouring calves. If the pathogen identified is covered by one of the below vaccines then a program can be developed and if a vaccine is not currently available then a management plan should be implemented with the help of your veterinarian.

Table 4 Neonatal calf scours

Name of Vaccine	Disease caused	When to vaccinate	Future vaccination
Bovac™	E.coli scours	Vaccinate cows and heifers initially with 2 doses 6–8 weeks prior to calving, with the second 2–3 weeks prior to calving	Annually, one dose 2–3 weeks prior to calving
Bovilis S™	Salmonella scours	Vaccinate and cows and heifers initially with two doses. First dose 7–12 weeks prior to calving with a second dose 3–4 weeks later.	Annually, one dose 3–4 weeks prior to calving. Calves from vaccinated dams can be vaccinated from 8 weeks for continued immunity.

If annual occurrences of pink eye occurs in your herd or you have an open herd where cattle from other properties are brought in and mixed with your own herd, then you may want to think about protecting your livestock. Signs of pink eye symptoms include watery eyes, blinking, with reddening of the eyes occurring and cloudiness of the cornea. The signs usually disappear in one

Table 5 Pink eye

Name of Vaccine	Disease caused	When to vaccinate	Future vaccination
Piliguard ^R	Infectious bovine keratoconjunctivitis (pink eye)	Single dose vaccine 3–4 weeks prior to onset of pink eye season. Calves can be vaccinated from 1 week.	Annual dose

***Booster vaccinations are required more frequently particularly for young stock up to two years old and especially if a sudden change in diet occurs such as grazing verdant, rapidly growing pastures, early cereal crops or gain feeding. Boosters in these instances are best given fourteen days prior to expected change.**

to two weeks however cloudiness can persist for several weeks.

Protecting your herd from many diseases is an important area of your enterprise that should be considered to ensure optimal performance is achieved. Adopting a program to suit your enterprise will hopefully be made simpler through the help of this easy to read guide for different classes of cattle. For further reading into the main diseases that may impact on your herd and how to properly administer the vaccines please read farmnote 284 'Beef Cattle vaccinations' and other farmnotes under the cattle diseases link of the Department of Agriculture and Food Western Australia website.