Beef Cattle Practice: 5 in 1 vaccinations

In October 2009 three beef producers in the Riverina were interviewed regarding their vaccination protocols with particular reference to ‘5 in 1’ vaccinations. The three protocols varied significantly which perhaps indicates the large degree of variation in vaccination protocols the Riverina area. The three producers all start calving on the first of August.

All three producers vaccinate using ‘5 in 1’ against clostridial diseases and none of them have ever experienced any sudden deaths as a result of known clostridial diseases. Two of the producers give only two vaccinations regardless of the season with the booster always four to eight weeks after the initial vaccination. The third producer however gives three to four vaccinations annually to the young stock with seasonal variations determining if three or four vaccinations are administered. If it is a good season then the weaners get a fourth vaccination in June when they go onto a grazing crop.

Two of the producers are using ‘5 in 1’ for a cost of $0.26 per dose, and the third producer is using ‘7 in 1’ for a cost of $1.30 per dose. For a 100 cow herd where all cows bulls and heifers are receiving one vaccination, and the calves are receiving two vaccinations, this equates to a total annual cost of $82.68 and $413.40 respectively.

Literature on the topic suggests that best practice is to vaccinate all stock with ‘7 in 1’ annually. Cows should be vaccinated one to two months pre calving so that they can confer immunity to their calves. Calves should have maternal immunity for the first few months of their life and should not be vaccinated before they are six weeks of age. It appears that the most practical approach to maintain best practice is to vaccinate calves initially with ‘7 in 1’ when they are a minimum of six weeks old, and then to administer the booster at marking four weeks later. While this will provide adequate immunity against tetanus, malignant oedema, black leg, and black disease, immunity against pulpy kidney will only last three months. Therefore if the season is such that the stock are particularly at risk of contracting pulpy kidney, then it is indicated to vaccinate the at risk yearling stock every three months using ‘5 in 1’ to prevent losses. Stock are particularly prone to pulpy kidney when there is a large volume of lush green feed. This is because engorgement causes gastrointestinal stasis which allows the resident Clostridium perfringens type D bacteria to multiply and release epsilon toxins subsequently causing the disease pulpy kidney.

Despite the above recommendations it is evident though discussion with local producers, that variations to best practice are likely to result in the same outcome of zero losses. Veterinarians in the Riverina area agree that best practice is not necessary. The veterinarians agree that ‘7 in 1’ should be recommended particularly because of the zoonotic implications, however they will not emphasise this in discussion with local producers due to the financial cost of the vaccine. The veterinarians also appreciate that marking is perhaps the time then animals are most at risk of contracting clostridial disease through a deep wound, however none of the veterinarians recommend giving the booster at marking. Rather, they recommend giving the initial vaccination at marking because there is not a convenient muster time previously. The veterinarians recommend administering multiple doses of ‘5 in 1’ in at risk seasons. While they do not emphasise vaccinating every three months, they do recommend producers vaccinate young stock every time they are run through the yards in a good lush season.
From the above discussion it is seen that the vaccination recommendations being provided by veterinarians varies significantly from best practice. The practice veterinarians justify this variation by emphasising that the most important aspect of ‘5 in 1’ vaccination is that the animal gets a booster. They feel that by creating a vaccination protocol which does not require any additional mustering, all animals in the area are more likely to receive their booster. Whilst this is correct, perhaps it is still the responsibility of veterinarians to be the advocate for optimal animal health which empasses the provision of recommendations for best practice in vaccinations.
Beef Cattle Practice case report: Downer cow

Clinical features of the case
On a Monday morning an empty five year old Angus cow with a young calf at foot presented as a downer cow. She had been purchased through yards on Saturday, transported for nine hours on Sunday and not found down until Monday morning. At the time the veterinarian arrived no treatments had been administered. The physical exam revealed a loud tachycardia and ruminal stasis. There was no discharge from the nose and no respiratory sounds. The gastrointestinal tract sounded normal with no pings or splashes. On rectal examination the faeces were of a good consistency with a little evidence of grain. There were no tears or adhesions that were identifiable. An attempt was made to collect urine for identification of ketones, however to no avail. The rectal temperature of the cow was normal at 38.5°C.

The musculoskeletal examination consisted of spinal palpation, pain reflexes, extension and flexion of the hindlimbs while palpating the hip simultaneously, and lateral abduction of the hock to identify if the stifles were intact. No abnormal findings were identified on the musculoskeletal examination.

At this stage one bag of ‘4 in 1’ was given subcutaneously (SC), and one bag was given intravenously (IV) while simultaneously listening to the heart. Additionally 35ml of magneside was given SC and a further 25 ml was given IV while simultaneously listening to the heart. While administering the magnesate IV bradycardia was noted and administration paused. When the heart rate increased additional magnesate was administered until all 25ml had been given. The cow also received 33ml of alamycin LA intramuscularly (IM), 20ml flunixil IM, and 120ml propylene glycol as ketol drench orally. It was recommended that the cow be regularly fed and watered and encouraged to stand by startling her.

This blanket ‘cover all bases’ approach was used as a definitive diagnosis had not yet been made. Transit tetany (hypomagnesaemia) and hypocalcaemia were high differentials hence the two bags of ‘4 in 1’ and magnesate. A musculoskeletal injury could not be ruled out hence the flunixil, and an infection is a likely sequelae in downer cows thus the alamycin. As a urine sample could not be sampled, ketosis could not be ruled out either so ketol was used as a precaution.

In retrospect the above treatments were justified however perhaps not essential. The magnesium content in the two ‘4 in 1’ bags (5.1%) should have been enough to negate any deficiencies. The recommendation for hypomagnesaemia is two 500ml bags of ‘4 in 1’ containing 5% magnesium hypohphosphite. As this had already been done the magnesate was perhaps unnecessary and dangerous, especially considering the cardiac effects.

The use of a corticosteroid rather than an NSAID was also discussed. Corticosteroid use was suggested because it has potent pain relief properties and also because it may incite a feeling of euphoria for the cow which combined could potentially encourage her to try to stand. After discussion it was decided that flunixil was a safer option because while it does provide pain relief, it does not cause immunosuppression which could potentially be fatal in a downer cow which is already predisposed to infection.
The use of hip lifters was also discussed with the veterinarian however it was not discussed with the client. This is because the veterinarian feels that hip lifters are frequently used inappropriately and that animals endure unnecessary musculoskeletal injuries. Bloods were not discussed as an option either. This is because the most likely differentials, hypomagnesaemia and hypocalcaemia, are more economically diagnosed through response to treatment rather than through blood pathology. Also, as the cow had a purchase value of $700 it was not thought that the owner would be interested. Perhaps in retrospect bloods should have been discussed and the decision then placed upon the owner of the animal rather than the attending veterinarian.

Economics in this case was not a significant issue. The cow had a purchase value of $700 and now has the potential to provide an annual income of $500 if she recovers. Additionally, the cow is currently worth $0 because she is a downer cow and there is no mobile bovine salvage service in the area. Therefore if the producer decided not to do anything then he would have risked losing $700 plus an annual income of $500. By treating the animal however for a total cost of $250 there is a chance that she will provide an annual return of $500 in addition to an end salvage value $600 (assume 500kg, current Wodonga light cow price is 120c/kg lwt). There is still a chance that she will not survive and the farmer with incur a total loss of $950, however the likelihood of this has been significantly decreased. It is also important to note that the travel and examination of the cow incurred a cost of $165 making the cost of the above treatment $85 only.
Beef Cattle Rotation - Herd Case Report

Viewpoints of Producers and Veterinarians in relation to the Management of Pestivirus in Beef Cattle Herds.

Bovine pestivirus (also known as Bovine Viral Diarrhoea Virus / BVDV) is well recognised as a significant disease in both beef and dairy herds in Australia. The virus is capable of causing production losses of up to 50% in recently infected herds and insidious losses in endemically infected herds through decreased weight gains, decreased milk production, reproductive losses, and death (Kirkland & MacKintosh, 2006).

In November of 2009, I spoke to several beef cattle producers in the Barraba Shire regarding their approach to pestivirus control. Pestivirus is an endemic problem in the region, and most producers seemed well informed about the animal health issues and potential production losses associated with the disease. As a result, most farms have a pestivirus management strategy in place; however based on the complexity of the disease and variance in management of beef cattle herds, there is no single approach that can be used to economically control pestivirus in all situations.

One producer I spoke to ran a self-replacing 600 cow herd with pestivirus endemic to the property. This producer had never found pestivirus to be a significant issue, since he consistently maintains weaning rates above 90% and has never experienced an "abortion storm". The current approach to pestivirus control on this property involves running the heifers with a PI animal prior to joining to achieve long lasting immunity (autovaccination). This is a relatively cheap yet effective method of minimising the losses associated with pestivirus, however it only provides a short-term solution. As the immunity of the herd increases, no PI animals will be born to replace the existing PI animals. At this point in time, the herd will become increasingly susceptible to pestivirus, and a decision will have to be made to vaccinate and/or increase biosecurity to prevent re-introduction of pestivirus onto the property.

Another producer ran a 400 cow herd that was partially self-replacing, and would buy in heifers and store cattle when market conditions were favourable. This farm has a positive pestivirus status, and has experienced abortion rates of 20% in the past. Because of the inconsistent management and health status of the herd, the producer chose to implement a partial vaccination program. This involves vaccinating the heifers on two occasions prior to joining, but not administering the annual vaccination to the cows. Although this management approach is relatively cheap as it saves on vaccine costs, pestivirus is likely to be maintained in the herd because of vaccine failure and waning immunity in older cows. Although the likelihood of exposure to BVDV is high in this situation, because only a low proportion of the herd are susceptible to infection, the impact of infection on the herd is likely to be low.

The third producer I interviewed ran a self-replacing 300 cow herd with an unknown pestivirus status. The producer had recently become aware of the disease, and although he had not experienced any reproductive loss, he still wanted to determine the prevalence in his herd. Blood was collected from 30 cows and submitted to the lab for AGID testing, with the results indicating negative seroprevalence in the herd. The implication of this finding is that the herd is highly susceptible to pestivirus, however there is low risk of infection based on the farms geographical isolation and biosecurity practices. The veterinarian warned the producer of the consequences of pestivirus being introduced to a naive herd, however the producer did not want to vaccinate as he has never had a problem with the disease. The producer agreed to maintain a high level of biosecurity in his herd, and perform regular serology to monitor for disease introduction.
I consulted Dr Ben Gardiner to determine his opinions regarding pestivirus management. He stated that there is no easy solution since each farm is different, so pestivirus recommendations need to be made on a farm-by-farm basis. When a producer comes to him asking for advice, his approach is to determine the level of reproductive loss on the property, and then perform serology to determine BVDV prevalence. Dr Gardiner does not usually advocate vaccination in commercial herds since the financial losses associated with endemic pestivirus are usually minimal. Vaccination is usually reserved for stud cattle, feedlots, feedlot backgrounders, or in high susceptibility / high risk herds.

In the beef cattle industry there are several approaches to the management of BVDV. The selection of an appropriate management practice depends on the susceptibility of the stock, and their risk of infection with the virus. In herds that are currently infected with pestivirus, the herd can be managed to maximise the likelihood of infection of young heifers well before mating by running the heifers with a PI (autovaccination). Alternatively management may focus on the removal of PIs to eradicate BVDV from the herd. In herds that are free of BVDV, disease control is centred on appropriate biosecurity to prevent the introduction of the virus. Pfizer Animal Health have released the Pestigard vaccine for the active immunisation of cattle against BVDV, which is recommended for use in cattle herds with high susceptibility to BVDV to minimise the losses should the herd be exposed to the disease (BVDV Technical Advisory Group, 2008).

References:


An Evaluation of the Veterinary Management in a Case of Testicular Injury in a Stud Hereford Bull

Case Overview:
A 3 year old stud Hereford bull presented with acute bilateral scrotal swelling on the 25\textsuperscript{th} of August 2009. A clinical examination was performed, and besides from the scrotal swelling, there were no other abnormalities detected. On palpation, the scrotum felt oedematous and contained free fluid. The testes were difficult to palpate, however there were no obvious testicular lesions. A fine needle aspirate was performed to obtain a sample of the scrotal fluid. The fluid had a serosanguinous appearance, and microscopic examination failed to identify bacteria or a significant inflammatory reaction. A provisional diagnosis of testicular trauma was made. The bull was treated with 30mL of Depocillin SID for 7 days, and 30mL of Tolfedine with a second dose in 48 hours.

A recheck was performed on the 2\textsuperscript{nd} of September 2009. The scrotal swelling had decreased and the testes felt satisfactory.

A crush-side semen evaluation was performed on the 16\textsuperscript{th} of September 2009. There was no sperm observed in the ejaculate, and lymphocytes and macrophages were present.

A follow-up semen test was performed on the 13\textsuperscript{th} of November 2009. There was 40\% motility, 2/5 density, and 2/5 mass activity. A sample of the semen was submitted to the laboratory for morphology testing. The results were as follows:

- Normal spermatozoa – 40\%
- Proximal Cytoplasmic Droplets – 18\%
- Mid Piece Abnormality – 5\%
- Abnormal tails / Loose heads – 7\%
- Pyriform heads – 0\%
- Knobbed acrosomes – 0\%
- Vacuoles / Teratoid – 43\%
- Swollen Acrosomes – 3\%
- Other comments – Diadems / SAVs

These morphological findings are indicative of severe disruption to spermatogenesis (Barth & Oko, 1989). It is evident that spermatogenesis has recommenced following the traumatic event, however further follow-up semen testing will be required before a prognosis for future fertility can be established.
**Discussion:**

Differential diagnoses for acute swelling of the scrotum include: trauma (of the pampiniform plexus, vas deferens, epididymis, testis, or scrotal blood vessels), testicular torsion, haematocele, spermatocele, scrotal abscess, brucellosis, hernia, or neoplasia (Youngquist & Threlfall, 2007). I support the presumptive diagnosis, that this was a case of testicular trauma. Clinical reasoning for reaching this diagnosis was based on the acute onset, identifying serosanguinous fluid in the scrotum, and that there was no evidence of infection (non-suppurative aseptic effusion, normal body temperature). It is however relatively uncommon to have bilateral swelling as a result of trauma, since the testes and their associated structures are encapsulated within the vaginal tunic. In this case it remains unknown whether the fluid was internal or external to (both) the vaginal tunics. Perhaps an ultrasound could have been used to identify the damaged components with the goal of reaching a more accurate diagnosis and establishing the extent of the injuries.

Treatment was aimed at reducing inflammation (using the NSAID tofenamic acid) and preventing infection or treating underlying infection (using procaine penicillin). Given the consequences of testicular injury to a stud bull, and financial implications thereof, perhaps more treatments could have been implemented since cost was not a limiting factor. Several alternate / additional treatment strategies include:

1. Cooling the testes to decrease testicular damage caused by local swelling and hyperthermia.
2. Aspirating and draining the free fluid from within the scrotum
3. Injecting a low dose of dexamethasone into the scrotum to minimise inflammation.

The prognosis for maintaining fertility following trauma is guarded because of the potential for irreversible damage to the germinal epithelium, tubular degeneration, development of immune-mediated orchitis, or obstruction of the duct system (Kahn, 2005). These sequelae may take months to occur.

As of the most recent semen examination, the bull’s fertility was starting to return. Whilst the bull would not pass a BBSE, the stud owner may now be in a position to produce some progeny from this bull of very high genetic merit. A simple economic analysis will be performed to determine if breeding from this bull in his current state will result in a profitable outcome.

Assuming a pregnancy rate of 40%, bull calf value of $10000, heifer calf value of $1500 from this bull, versus a pregnancy rate of 95%, bull calf value of $6000, heifer calf value of $1000 from another bull, and that both bulls will be joined with 30 cows; then using the following equation:

\[
\text{Progeny value} = \left( \frac{\text{cows joined} \times \text{pregnancy rate}}{2} \right) \times \text{bull calf value} + \left( \frac{\text{cows joined} \times \text{pregnancy rate}}{2} \right) \times \text{heifer calf value}
\]

The progeny value of this bull = $69,000
The progeny value of the other bull = $99,750

This economic analysis does not take into account the management of the empty cows at the end of the joining period. For example, the producer could extend the joining period to achieve marginally more pregnancies with the same bull, or instead he could use a mop-up bull to achieve a higher number of pregnancies in a shorter time period.
Reflection:
I spoke with Dr Ben Gardiner regarding the management of this case and proposed my alternative management regimen.

Dr agreed that an ultrasound would have been useful in establishing an accurate diagnosis, however he decided against performing an ultrasound at the time because he doubted his ability in interpreting the ultrasonographic appearance of normal versus abnormal testicular structures.

I support Dr treatment regimen in this case. The Tolfedine was successful at completely reducing the scrotal inflammation within 3 days, so given the outcome, there was probably no need to manage the case differently. Dr agreed that cooling the testes would have been beneficial, however we both failed to devise a practical method of achieving this. Dr thought that the value of draining the fluid from the scrotum was questionable and doing so may risk causing infection, however the locally acting corticosteroid would likely have been beneficial in further reducing the scrotal swelling. Long-term glucocorticoid therapy is known to suppress testosterone production, which results in hypogonadism and decreased spermatogenesis (Yazawa, Sasagawa, Suzuki, & Nakada, 2001). Whether a once-off intra-scrotal dose would have this effect is unknown.

Dr appreciated my efforts in trying to determine the economic value of the bull's reduced fertility. The equation successfully highlights the effect of reduced fertility on profitability, however there are too many assumptions for the model to be used to make reliable management decisions. Dr recommended that the bull should not be used for joining this season. If the producer was insistent on using this bull, then it should be joined with a small group of cows where return to oestrus (reproductive failure) could be monitored.

References:


Neonatal Calf Scours

Veterinarians in southern NSW indicate that neonatal calf diarrhoea (NCD) occurs on almost all beef properties, however a published study (Gunn, 2005) suggested less than 50% of properties in south eastern Australia regarded NCD as a problem. Interestingly, after interviewing farmers in this region, only a small percentage of farmers regarded NCD as an issue.

One farmer identified that NCD was an issue in 2003 when he had 40% of the calf drop with scours, with higher incidence in heifer’s calves and calves from latter calving cows. At this time, the property ran a split calving system and heifers were not preferentially bred early. This farmer’s treatment protocol, independent of the season, was “if we could catch it, we would treat it”, treating cases with Vy’Trate® and Streptosulcin Forte®. No faecal culture or sensitivities were performed, however under the guidance of the local veterinarians, Rotavirus with secondary E.coli infection was diagnosed as the etiology. Bovac® vaccine (blanket prophylaxis, given 2 weeks prior to calving) was employed, to prevent Escherichia coli scours, and an autumn calving season was implemented. Presently, few cases of NCD are seen per calving season and if caught these calves are treated at three days of age with warm VyTrate®.

The farmer understands the economic cost of NCD, and supports the use of Bovac® vaccine; estimating losses of 10-15 calves per year at $1,000 (net loss) excluding labor and treatment costs and loss of genetics. Additional farmers in the region recognize the economical and welfare implications of NCD, however no other producer indicated such significant losses as they had management methods to combat the disease.

Treatment options are numerous; VyTrate® and Streptosulcin Forte® being the most common. Discussions with local veterinarians revealed the availability of superior treatment regimes. As NCD calves die of hypovolemic shock resulting from dehydration, fluid replacement is vital (Constable, 2005). Although superior, the use of intravenous fluids is dependent on the value of the calf. Anecdotally, one veterinarian found in dairy calves giving 200mL IV bolus of hypertonic saline at 8.4% bicarbonate and 2L PO of isotonic saline, dramatically improved the calves condition. However, oral fluid therapy is more practical for beef producers and when combined with electrolytes are effective. Current data indicates Bovelyte Plus® as the most effective treatment option (Manning, 2005).

Antibiotics are best administered parenterally, but use in beef production systems is limited (Manning, 2005). It was discussed that the benefit of oral antibiotics is that they are given daily, thus the calf’s condition is regularly monitored. Therefore it is recommended to administer a combination of injectable and oral antibiotics, ensuring not to mix bacteriostatic and bacteriocidal drugs. Amoxicillin, amoxicillin-clavulanic acid and potentiated sulfonamides are the best antibiotics at treating NCD (Jague, 2009). No matter the causative agent practitioners noted that calves should be kept warm, away from stressors and not separated from mother – for risk of mis-mothering.
The local veterinarians have applauded the use of Bovac® vaccine on beef properties and had good results. The efficacy of enterotoxigenic E. coli bacterins is well documented, thus its use in beef production is warranted, in combination with sound maternal management to ensure the calf receives colostrum (House & Gunn, 2005).

Sound management practices can negate the need for vaccination programs. Heifer and dystocia born calves are at higher risk of NCD, thus ensuring adequate heifer reproductive management and calving heifers prior to cows will reduce cases of NCD due to less pathogens in the environment at calving time (Manning, 2005). Options to reduce the likelihood of infection on calves could be to calve in paddocks of low stocking densities, without areas for consolidation or that have not been previously used as calving paddocks. Veterinarians indicated that although paddocks may have enough shelter, nursery mobs still preferentially confine to shelters. After discussions it was decided that although autumn calving may reduce environmental pathogens, cows are likely to be in negative energy balance and subsequently produce less colostrum.

Removal of calved cows from the calving paddock was a debated topic with practitioners. Best practice indicates removing cows within 24 hours of calving (Manning, 2005), however this is not feasible for beef producers, instead removing all calved cows after three weeks of calving is recommended.

In my opinion, and based on available evidence, preventing NCD is the best practice in reducing the incidence of the disease. Unfortunately, on modern beef properties many ideal prevention and treatment protocols are not viable and hence some fail. It is recommended that farmers identify the causative agent and manage appropriately. Considering that the most common pathogens in beef NCD in the last 15 years has been Cryptosporidium and Rotavirus with secondary E.coli infections (House, K & Gunn, A, 2005), vaccinating prior to calving with Bovac® and treating NCD calves with electrolytes, appropriate antibiotics and fluid therapy is recommended.
References:


House, K & Gunn, A (2005), “Update on vaccination”, from *Proceedings of Australian Cattle Vets Conference 2005*


Bovine Rectal Prolapse

Clinical features:

Presenting complaint is obvious rectal prolapse. Prolapse can be incomplete, only rectal mucosa is everted, or complete where all rectal layers are protruding. At first the prolapse appears bright red but later becomes ulcerated and necrotic.

Diagnosis is easily made on clinical examination. However one must differentiate from vaginal or uterine prolapse and from prolapsed ileocolic intussusception. The later can be differentiated by passing a probe between the prolapse and inner rectal wall; in rectal prolapse, the instrument cannot be inserted due to presence of a fornix (Kahn, 2005).

Treatment:

With incomplete and early complete cases, the organ can be returned after thoroughly cleaning with 1% iodine in cold water, excessive lubrication and an epidural. After replacement, a peri-anal subcutaneous purse-string suture is drawn tight to prevent re-eversion. Suture should permit adequate passage of faeces.

If prolapse is necrotic, surgical amputation of the appropriate part is relatively simple and highly satisfactory (Hungerford, 2005). After passing a suitable piece of plastic pipe up the rectum (diameter varies for the animal size), the surgeon puts two long needles (cruciate or Bunn needles or Steinmann pins) at right angles through both lots of intestinal walls and plastic pipe, avoiding necrotic rectum. The prolapse portion is excised 1cm proximal to healthy tissue, with inner mucosa longer than outer mucosa (Weaver, 1986). No.0 polyglycolic acid or chromic catgut is used to suture mucosa together in tight interrupted, overlapping, simple sutures, with suture needle passing from outside the rectum to inside (Anderson & Miesner, 2008).

This procedure can be time costly and hence uneconomical, however is necessary when materials are limited. A more appropriate method, which the Holbrook Veterinary Centre (HVC) employs, is extending piping internally for 10cm, and applying Bandar® elastic to compress the health tissue, cranial to necrotic prolapse. Sutures are placed through skin-rectal mucosal junction, the pipe and around elastic; securing elastic in position. Alternatively thick elastic tie, such as car tire inner tubing or circumferential monofilament nylon sutures can be used instead of Bandar® elastic (Weaver, 1986 & Reon Holmes 2009, pers. comm., 21st September). No matter the material, it is important to occlude blood flow to the tissue. The prolapse will slough in 10days, along with pipe.

Prognosis:

With prompt and effective treatment, prognosis for full recovery is greatly improved. However, it is noted that replacement of a prolapse that includes small colon followed by purse-string suture of the anus has poor prognosis (Kahn, 2005). If one delays intervention necrosis of the rectum may results; this may result in endotoxaemia, and hence death. Complete rectal amputation has higher incidence of rectal stricture due to
Bovine Rectal Prolapse

excessive fibrosis (Kahn, 2005). And clearly, if the causative event is not prevented, reoccurrence is assured.

Prevention:

Prevention is based on reducing the risk of persistent tenesmus.

Adequate nutrition to animals is vital. Lush spring grass and sudden high protein intake may cause excessive diarrhea, and thus excessive straining. In lush spring feed can not be avoided, one should offer high fiber straw or hay. Ensure animal diets are not deficient in selenium, copper, cobalt and vitamin A as this may contribute to the condition (Hungerford, 2005).

Ensure animals are free of disease. Severe enteritis involving passage of sloughed epithelial debris and blood, as in severe acute Salmonellosis or Coccidiosis, will contribute to prolapse occurrence (Weaver, 1986). Rarely prolapse results from uroliths or severe ruminal tympany (Weaver, 1986).

Occasionally excessive “riding” and associated traumatic injury may be causative in young bulls; hence steers should be removed at weaning and run in separate mobs. The use of oestrogens as growth promotants (in feedlots), cattle on pastures that can promote pyrllizine alkaloid poisoning (Wiltjer & Walker, 1974) or accidental exposure to oestrogenic fungal toxins (mouldy feed or estrogenic clovers), may also predispose animals to rectal prolapse and thus should be avoided (Kahn, 2005).

Reflection of feedback:

Most HVC veterinarians agree with the above treatment and prevention protocols. Rectal prolapse do not present common in the Holbrook region, but when seen occur due to cows being over served, mid gestation cows that had an associated vaginal prolapse, cows with associated uterine prolapse, steers or bulls over “riding”, or interestingly fat cows that are place on hilly country post-pregnancy testing. Embryo transfer (ET) cows receiving frequent oestrogenic hormones are noted to commonly prolapse the rectum (Anderson & Miesner, 2008); however such events are rarely seen at HVC who are involved with substantial ET work.

It was noted that causes such as lush spring grass and oestrogenic clovers more so occurred in northern NSW areas, and prolapse due to coccidiosis and over “riding” occurred commonly in northern Victoria dairy practices.

Veterinarians at HVC indicate that purse-string suture should remain for 5-7days, and suture should be tied in bow ventrally, to permit gradual controlled slackening. Extra large Vetafil® is most commonly used at the practice to suture elastic Bandar® in place.
Bovine Rectal Prolapse

References:


