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Animal Health Update

Local animal disease watch

Bill Johnson, Goulburn district vet

Pestivirus carriers are hard to pick

Every year when show season comes 'round we are reminded of the importance of identifying whether newly introduced cattle are pestivirus carriers, or 'PIs'.

Exhibitors of cattle at local shows are required to test each of their entries to ensure they are not pestivirus carriers.

Pestivirus is a highly contagious, widespread viral disease of cattle, which has proven detrimental effects on fertility and production. Abortions, stillbirths, weak calves, poor doers, and outbreaks of diarrhoea and/or pneumonia are often due to pestivirus. Pestivirus carriers readily transmit infection by close contact, through heavily virus-laden body secretions.

Surprisingly, two healthy looking young cattle selected and being prepared by their owners for shows this autumn have tested positive as pestivirus carriers. The same thing happens every year. So, if healthy, show-quality young cattle can be pestivirus carriers, what are the chances that the replacement cattle you buy, be that a single bull or a line of heifers, are not carriers too?

You may get some indication of the pestivirus risk of new cattle by asking the vendor for a National Cattle Health Declaration. Your veterinarian will also be able to assist your understanding of pestivirus tests and vaccination.

Safety first at feed time

Supplementary feeding of livestock is turning into full hand feeding as pastures continue to deteriorate in many parts of the region. Stock feed is expensive, and some types are in short supply. Some producers may not be familiar with a relative newcomer to the stock feed market, DDG (dried distillers grain) pellets.

These pellets are produced at Nowra following processing of cereal grains for starch and ethanol production, and are a highly palatable source of protein and energy for a wide variety of livestock. DDG pellets are safer to use than the grain-based pellets we've all been used to, offering a much lower risk of grain poisoning. But some producers have interpreted this "lower risk" as "no risk", and have allowed their hungry stock unlimited access to the DDG pellets from day one.

Recent deaths, particularly of sheep, have followed stock gorging on these pellets. Thousands of tonnes of DDG pellets are produced and fed to livestock each week without incident, and to good effect. But as one of our district vets warned, "these pellets are not completely safe during introduction, only safer". As with any supplement, limit the amount available to hungry stock initially and gradually increase their allowance over a couple of weeks to allow stock to adapt.

Sheep have died suddenly on two properties after feeding on lucerne hay – or so it seemed. In one case, a dozen crossbred lambs died overnight in one paddock, and a couple of ewes in another. In the second case, four merino weaners died. The cause of the deaths was suffocation from trampling, when the hungry sheep in the back rows surged forward to get their share of the hay. Hay racks were used on the first property, with only one rack provided for about 200 lambs. A round hay bale that was not fully unrolled drew a crowd on the second property.

Enterotoxaemia (pulpy kidney) caused the sudden deaths of sheep on two more properties when hand feeding commenced. The organism responsible for enterotoxaemia proliferates when the diet changes rapidly. Ensure vaccination boosters are up-to-date before ramping up hand feeding.

Take care with feeding garden waste to livestock. It is tempting to throw your stock a few green garden clippings when paddocks are brown. Some garden nasties are well known, like oleander and yew. But there are many other plants in the average country garden that can cause serious illness or death when fed to hungry stock. A recent case saw ten prime steers die after being fed garden prunings that included the innocently named Christmas rose. Stock may ignore a branch of a poisonous garden plant that grows over the fence, but when a pile of green clippings is all that is available in a dusty paddock they are not so discerning.

Botulism hits dairy herd

The devastating loss of a large number of dairy cows on a South Coast property stunned us all. The deaths were due to botulism. This paralysing toxin, one of the most potent known, is produced by bacteria in rotting organic matter. Previous cases have been blamed on something as small as a reptile or rodent body gathered up during hay or silage making. Modern dairy and feedlot ration mixers distribute minute but fatal quantities of the toxin throughout each animal's feed. Deaths of dairy cows due to botulism have been suspected occasionally in the past in Australia, including on the South Coast and Far South Coast. Fortunately, several effective vaccines are available to help prevent botulism, and livestock owners using higher-risk feeds should consider the insurance value of vaccination. Read on to learn more about when to suspect botulism and how to avoid outbreaks.

Sheep worms survive

Despite the dry conditions, tests on many sheep properties continue to show high worm levels. Barber's pole worms are still the main pest, with deaths occurring in some flocks. Hot, dry weather stops worm eggs from hatching, and takes a toll on worm larvae already hatched on pasture. Most of the worms showing up in sheep hatched from eggs in faeces in early summer. Left untreated, these worms will be pumping out eggs, ready to take advantage of autumn rainfall. There is an opportunity now to disrupt the worm life cycle, and reduce the level of pasture contamination this winter. A worm egg count and culture on your sheep will identify what worms are present, and help you avoid a rapid buildup when the season breaks.

New rules when selling or moving pigs

Recent changes bring pig sales into line with procedures for selling sheep, cattle and goats. Every pig, regardless of size, moving from one property to another, including to a sale or abattoir, must now be identified. Branding is still the preferred method of identifying heavier pigs, but ear tags are now available to identify pigs under 25kg.

All pig movements must be accompanied by a PigPass NVD (National Vendor Declaration), available from <http://www.pigpass.com.au/>

Pig owners are now also required to advise the PigPass database whenever pigs move from one property to another. Sale yards and abattoirs will ensure this notification happens for any pigs sent to them, but the person receiving pigs traded privately is responsible for the PigPass update. There is more information available on the DPI website

(https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0007/798136/new-nlis-pig-requirements.pdf) or call your South East Local Land Services office.

Botulism in the South East

Helen Schaefer, Far South Coast district vet and Steve Whittaker, South Coast district vet

A recent, particularly severe, outbreak of botulism on a Shoalhaven dairy highlights the fact that producers and veterinarians need to be aware of this potentially deadly disease. The risk of botulism occurring in intensive systems such as dairies has increased significantly over the last few years with the greater use of conserved fodder. Awareness of what can be done to prevent botulism is vital for at-risk enterprises.

Botulism is caused by the bacteria *Clostridium botulinum*, and affects animals, birds and humans. *Cl. botulinum* spores are present around the world in soil, water and marine sediments, and are resistant to destruction with the potential to survive in the environment for over 30 years. The bacteria can also be found as a normal inhabitant of the intestinal tracts of cattle, horses and poultry.

While bovine (cattle) botulism has long been known to occur in Australia, it has most often been associated with extensive enterprises in Queensland, Northern Territory and Western Australia where cattle eat substances that they would normally avoid in response to phosphorous and/or protein deficiency. In this

environment, cattle usually contract botulism from chewing bones or eating carrion.

Over the last decade, botulism has become more common in intensive systems with increased use of feedlots as part of beef production and increased use of conserved fodder, such as silage and hay, as part of total or partial mixed rations in dairy herds. Another risk factor is the use of poultry litter as fertiliser.

Botulism is a difficult diagnosis to make, particularly in geographical areas not recognised as having experienced botulism outbreaks previously. It becomes increasingly challenging in the absence of the classical signs associated with botulinum toxicity such as sudden death, tongue paralysis, tongue protrusion, difficulty eating, and drooling. Detection of clinical signs, ruling out other possible causes and detecting the toxin are all critical for making a diagnosis, however often the toxin can be difficult to detect.

Much has been learned from the cases in dairies in the South East region over the last few years.

1. If you are having a run of dying/sick cows, ask these questions:

Does the case involve...

“A cluster of seriously affected cattle within 1-2 weeks followed by fewer, less severe cases?”

A botulism outbreak in an intensive system generally involves the majority of deaths occurring within the first week, followed by a number of clinically affected animals who recover over the next couple of weeks, with intermittent deaths occurring for up to three weeks.

“No clinical signs apart from lying down/weakness?”

“No significant findings on blood tests?”

“No significant findings on post mortem examination?”

“Conserved fodder being used (e.g. silage or hay), particularly as part of a total or partial mixed ration?”

Silage can provide an ideal environment for botulism bacteria to grow if the silage is allowed to rot rather than ferment, or if a dead animal ends up being incorporated into it, such as a rodent, bird, snake or cat. Hay can also be contaminated by such carcasses. The risk of significant numbers of animals being affected with botulism, if such contamination exists, increases when the silage or hay is put through a mix-all type process and is evenly distributed through the ration. While this process can lead to a lower dose being consumed by

individuals, it does promote ingestion of the toxin by more of the herd.

“A change in the conserved fodder being used occurring in any way within the previous 2-3 weeks?”

The incubation period as stated in the literature, from ingestion of the botulinum toxin to cattle exhibiting clinical signs, varies from 12 hours (extreme event, massive dose of toxin) up to 17 days (low doses of toxin). It is recognised as being most commonly 2-7 days.

“Stock possibly having access to poultry litter?”

Please be aware that fertilised paddocks must not be grazed for at least three weeks, and stored piles must not be accessed by stock.

If you answer yes to a few of these questions, or as in our cases, most of them.... **THINK BOTULISM**

2. Vaccinate:

Cattle in a dairy system being fed a mixed ration or beef cattle in a feedlot should be vaccinated against botulism. The potential cost of an outbreak demands that the risk of botulism be minimised. Vaccination is the most important and reliable way to do that. It is vital that producers involved in such enterprises are aware of the risk of botulism, and are aware that there is the option to vaccinate against it.

For more information on botulism please contact your Local Land Services district vet, or your private vet.

For further information refer to the NSW DPI Primefact 596 titled Botulism in Cattle

(https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0003/139233/Botulism-in-cattle.pdf) and the NSW DPI

Primefact 534 titled Best practice guidelines for using poultry litter on pastures

(https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0004/140359/Best-practice-guidelines-for-using-poultry-litter-on-pastures.pdf).

Worm control in horses – it's all changed

Petrea Wait, Monaro district vet

Once upon a time, every horse owner was taught that all horses should be wormed every 6-8 weeks for the rest of their lives. This information was based on worm control programs designed over 40 years ago, when the most common and dangerous worm type in horses was the large strongyle. Many things have changed since then and this worming strategy is no longer recommended. In this day and age it is causing far more problems than it solves.

The advent of ivermectin-based drench has largely wiped out the large strongyle, but it has been replaced by the small strongyle as the worm type of greatest concern. Because the small strongyle has a different life cycle, frequent use of drenches has led to the development of drench resistance in small strongyles, as well as other worm species. Better strategies have now been developed.

The cornerstone of the new worm control method is performing a **worm egg count**, and from this determining if your horse has worms, how many worms and what type of worms. It is now recognized that in adult horses 80% of the worm burden is carried by 20% of the horses in a population. An adult horse's immune system keeps worm numbers in check, and a low worm burden is an advantage as it keeps the immune system primed to recognize and deal with worms as they are picked up from the pasture. Another advantage of not treating with drench when your horse has a low worm burden is that it means that there are worms in the horse's environment that have not been exposed to certain drenches, helping to prevent the development of drench resistance.

It is the 20% of horses that carry high worm burdens that need to be identified and targeted for worm treatment as they are responsible for contaminating the pasture with worm larvae. Many vet practices offer worm testing as part of their services. Horse worm test kits are also available from your Local Land Services office. Up to 10 horses can be tested, with a single sample costing \$15.60 and 4-10 horses costing \$58.27.

Worm egg counts should be undertaken 2-4 times per year, more frequently for juvenile, aged, unwell horses, or those kept in large herds, particularly where the horses in the mob change often, such as at agistment centres and studs. Horses can then be classified based on the result as low egg shedders (<200 eggs per gram

or egg), moderate egg shedders (200-500 egg) or high egg shedders (>500 egg). The test can also tell you the type of worms present, be they large strongyles, small strongyles and/or ascarids. Pin worms, tape worms and bots are not identified reliably by a worm test.

Once you know how many worms your horse has and what type of worms, a drench needs to be chosen.

There are four main categories of **active ingredients** in horse drenches:

- **Macrocyclic lactones – “Mectins” (Ivermectin, Abamectin, Moxidectin):** a widely used broad spectrum wormer, although there is known resistance to this class of drug in ascarids, and developing resistance in small strongyles. This chemical is not effective against tapeworms.
- **Benzimidazoles – “BZs” (Fenbendazole, Oxfendazole, Oxibendazole):** active against most worm types, but not tapeworm or bots. Small strongyles are widely resistant, but it is still mostly effective against ascarids.
- **Tetrahydropyrimidines – “THPs” (Pyrantel, Morantel):** used to treat most worm species, but not effective against bots.
- **Pyroxenes – Praziquantel:** highly effective against tapeworms, but not other worm species.

Due to the development of resistance in worms to individual active ingredients, it is now recommended that combination worming products are used that combine active ingredients from two or more of the above groups. As praziquantel is only effective against tapeworms, products which contain this should not be considered a combination, unless a third ingredient is present.

The **time of year** should also be considered when choosing a worming product. All horses should receive a broad-spectrum wormer that includes ivermectin and praziquantel in late autumn to ensure that tapeworm and bots are eliminated at a time when horses are unlikely to become re-infested. By contrast, a drench containing a “mectin” can be avoided in summer as bots are in the fly stage of their lifecycle and not present in the horse's gut to be susceptible to wormer.

The **age of the horse** also needs to be considered when deciding if worming is required. Young horses are far more susceptible to worms than adults and require more frequent treatment. They are also susceptible to different worm species, particularly the ascarid worms, and drenching programs need to address this. As foals and weanlings do not have fully developed immune systems the test and treat method of strategic worming

is not suitable for this group. In the first year of life it is recommended to treat at 10-12 weeks of age, 5-6 months of age and at 9-12 months of age. For yearlings, worm counts are recommended to be undertaken every 6-8 weeks and treatment given as indicated.

The last, but possibly most important part of a parasite reduction program, is management of pasture to ensure that horses are not becoming re-infested with worms.

Pasture management aims to reduce the amount of worm eggs in the environment and has been found to be up to five times more effective than worming alone. Practices may include:

- removal of manure from stables, yards and paddocks every 1-3 days and composting to kill worm eggs
- harrowing paddocks to break up manure piles at times when eggs and larvae will not survive (i.e. temperatures over 30 degrees), then spelling the paddock for 6-8 weeks
- grazing paddocks with another species such as cattle or sheep
- cropping paddocks
- following de-worming, place horses into a “clean” paddock
- feeding horses off the ground in feed bins or hay nets
- removing bot eggs from the legs and body of horses while horses are in an area they do not feed
- reducing the stocking rate of pastures to decrease parasite exposure as horses will be able to graze away from manure

New additions to the herd should be quarantined and given an effective drench with a combination product. A follow up worm test should be performed 14 days later to ensure the drench was effective prior to introducing the new horse to the herd. To prevent foals from becoming infected, treat mares immediately prior to foaling with an effective drench then move them to a clean paddock.

Hairy panic

Fiona Kelk, Yass district vet

Hairy panic (*Panicum effusum*) is a summer perennial grass that is generally short lived and rapidly becomes established after short periods of summer rainfall, allowing for larger quantities to be grazed (Fig 1 and 2). This establishment is associated with an increase in plant poisonings, especially in younger sheep (Fig 4). While Hairy panic does have moderate grazing value (12-20% crude protein when young and lush) it should **NOT** be grazed by younger sheep, especially lambs, which are highly susceptible to poisoning. When hairy panic is a dominant plant in the pasture making up a large part of the bulk of available feed (>50%) it should not be grazed by any class of sheep. Hairy panic can be sprayed with herbicide and grazed after it has browned off completely (Fig 3).



Figure 1: Hairy panic (*Panicum effusum*)



Figure 2: Hairy panic (*Panicum effusum*)

South East Local Land Services
District Veterinarians



Figure 3: Dried, brown hairy panic

Hairy panic toxicity presents as photosensitisation. The first signs in sheep are seen on areas exposed to direct sunlight. These areas include the ears (droopy ears occur), lips, eyelids, vulva and generally around the muzzle and nose. These areas lose skin and are reddened or blackened with crusty scabs (Fig 4). The eyes can become very swollen and weepy with a yellow fluid. The eyes and gums can become yellowed (jaundiced) due to the liver damage. When the head is severely affected it is commonly referred to as 'big head' or 'yellow big head' because of the weeping and jaundice. Sheep that recover may lose one or both ears or possibly have permanent eye damage. Recently shorn sheep can also be affected around the body.

Affected animals will become agitated and restless, shake their heads, seek shade and not want to eat.



Figure 4: Example of photosensitization around the eyes and muzzle of sheep

In all cases of photosensitisation the animal must be protected from direct sunlight and removed from the affected paddocks. There must be a good supply of fresh water and cereal hay or lower quality pasture hay provided. Avoid higher protein or green feeds as the animals have difficulty metabolising these due to liver damage.

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