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NSVETS TOTAL VET CARE

Introducing the 6 week in-calf challenge

Your 6 week in-calf rate is much more than a basic measure of fertility, it is the key to unlocking improved productivity and profitability. Improvements in farm management are at least as important as the genetics you use when it comes to improving fertility.
It would be great if you joined LIC's national dairy industry challenge to improve your farm's 6 week in-calf rate. The 6 week in-calf rate is critical to farming operation efficiency and is probably the biggest thing we can all do over the next few years to improve the productivity and fertility of the national herd.
The 6 Week Challenge is all about seeing an improvement in fertility , productivity and profitability.
Why 6 weeks?
It is the single most important figure for measuring your herd's reproductive performance on your farm.
The empty rate is a measure of the final outcome of the mating period, but the 6 week in-calf rate measures performance during the all-important first two rounds of mating – getting cows in calf quickly so that they calve down quickly is a foundational principle of seasonal dairy farming.
Your 6 week in-calf rate is the number one measure of herd reproductive performance.
Reaching the industry target 6 week in-calf rate will give you improved herd fertility and much more, including:

- Increased milk production: more days in milk as more cows calve in time to take advantage of peak seasonal grass growth.
- Fewer empties: a higher 6 week in-calf rate is well correlated to lower empty rates.
- Decreased matings: you have more choice about how long to leave the bull in for, less dependence on inductions.
- Sustainable herd fertility: Less need for intervention and a better chance for early calving cows, which have more time to recover after calving. Early calving cows get in calf earlier and better than late calving cows.
- Improved herd and milk quality with less cost through more culling options, less wastage, freedom to cull low producing or high cell count cows, and retain high genetic merit young cows into their peak productive years.
- Higher stock value: more quality surplus cows and calves to sell or keep for business growth.
- Improved profitability through all of the above.
- Easier management
  - more early calves - easier to rear.
  - shorter mating periods - easier to manage.
  - shorter calving periods - easier to focus on job at hand.

The race against time:

- Reproductive efficiency provides more days in milk, more replacement calves and the ability to match feed requirements of the herd with our seasonal pasture growth curve, therefore utilising the cheapest feed most efficiently.
- Because a cow spends 282 days out of her 365-day year pregnant, the interval between the planned start of calving and the subsequent mating start date is a mere 83 days (12 weeks).
- Cows which calve in the first 6 weeks of the calving period perform significantly better reproductively than cows which calve in the second 6 weeks. All cows are therefore in a 'Race against time' in the seasonal dairy system.
- Earlier calving = earlier recovery = earlier cycling = more chances to conceive = earlier in-calf AND more in-calf.
- High 6 week in-calf rate = high reproductive efficiency.
- But the cow is only one part of the equation for a high 6 week in-calf rate.
- Take the Challenge - it's all about the freedom to choose, it's all about opportunity.

What the 6 Week Challenge involves:
The 6 Week Challenge involves three basic steps:
1. Assess your current herd performance
2. Identify key areas to work on
3. Take a year-round planned approach to herd fertility

You can work alongside and benchmark yourself to your peers in the industry.
You should engage the services of a coach to help you, and of course you will want to use the resource kit.
We know that improving your 6 week in-calf rate isn't easy - you'll likely want some helpful tools.

- The 6 Week Resource Booklet – this easy to use guide looks at the important areas of focus in a seasonal format, making it easy to pinpoint the areas you want to work on at the right time
- The seasonal planning worksheet to get those plans out of your head and onto paper, so that you can review how things went afterwards
- Mating planner tool that can be customised to your own farm helping you to remember key tasks in the busyness of the season
- Scientific information and links via the website to keep you up to date with the latest information
- Stories from other farmers just like you to follow and learn from
- Quizzes and information to test and upskill yourself
- Questions and answers forum for farmers and their advisors
- NSVets is available to assist challenge participants with professional help.

Register at www.6weeks.co.nz

1.Situation comment, Staff comment and Pet profile
2.HAPPY horse weigh day and Red water
3.More than just mud fever and Body condition score
4.VET LSD drench and Salmonella still exists
5.Nitrate toxicity
6.Magnesium supplementation of dairy cows
7.Animal welfare-transportation of animals
8.Introducing the 6 week in-calf challenge

Situation Comment

Rain arrived at last and with it came a few problems, worms, ryegrass staggers and elsewhere in Southland, enteric Salmonella.
Winter feed is an area of real concern. Accurate measurements of crops and a realistic view on silage/balage quantity and quality are essential to budget accurately and when things may be tight this is more important than ever. Under feeding, especially in late pregnancy results in far reaching consequences. Poor production and metabolic disease are the most immediate problems.
Considerations for winter include Salmonella Brandenburg and minimising feed wastage. Wasted feed is difficult to account for but should be a part of any budget, as should a reserve for use in cold or wet weather. Brandenburg raised its ugly head again last year and with stress may be a problem in sheep and cattle again.
Quade Cooper has been left out of the Wallabies so victory over the Lions is assured—sorry Morgan. No one has been left out of the All Blacks so Paul is off to the next camp at Mt Manganui. He still has it in for the French.

Staff Comment

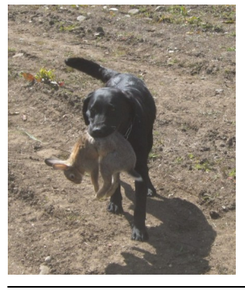
Hannah and Abbie have both taken maternity leave and so we have welcomed Tash in Te Anau and Michelle in Riversdale to our team. Both are settling in well. Abbie and Sam have had a son, Mason, and the whole family are doing well. Hannah and Mike are still awaiting their new arrival and are doing well.
Paul is looking forward to mid June, when he intends to join "Grey Power", vote New Zealand First, and support Winston Peters. After devoting his working life to the farming community of Northern Southland he will be slowing down—not retiring (Marie wont let him). His contribution to the clinic over the years has been immense and we would like to thank him for all he has done for us. He has a trip to Waiheke Island planned because he is determined to take full advantage of his "Gold Card". The free ferry ride far out weighs the cost of flights and accomodation.

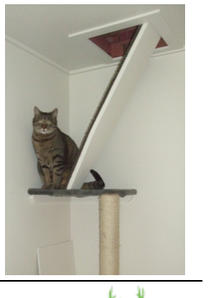
Pet Profile

Name: Poppy
Breed: Labrador
Age: 8years (mental age 8 months!)
Colour: Black (with a hint of 'silver' highlights around the muzzle)
Weight: 28Kg
Favourite food: Seafood (see food and eat it)
Likes: Eating, running, chasing rabbits & hares, jumping in water troughs and did I mention eating!
Dislikes: Getting less attention than the cats (I tend to get a little jealous)

Name: A'bunadh (pronounced a-boon-arh)
Breed: Domestic short haired
Age: 3 and ½ yrs
Colour: Black
Weight: 7.3Kg (and it's all muscle)
Favourite food: lambs heart
Likes: hunting and bringing trophies back for Mum and Dad
Dislikes: strangers in the house

Name: Uisge Beatha (pronounced ishker-vahr)
Breed: Domestic short haired
Age: 3 and ½ yrs
Colour: Tabby
Weight: 6.5Kg (got to have a little extra insulation for the winter)
Favourite food: Iams chicken biscuits
Likes: smooching up to Poppy and the cat pole that allows me to hide in the roof.
Dislikes: strangers in my house
Jill MacGibbon BVMs MRCVS





H.A.P.P.Y. Horse Weigh Day

On 16 March 2013 we hosted a very successful weigh day for our equine clients at the clinic. We also introduced our new equine area, situated to the right of the driveway of the new clinic. We used cattle scales in the horse crush, which worked very well. All horses, except two, stood on the platform to be weighed.

We took several measurements in the assessment of each horse. We first asked the owner to estimate what weight they thought their horse was and what weight they drenched it to. We then took a weight tape measurement and condition scored the horse on a scale of 0-5. Finally the reading off the scales was recorded.

The importance of knowing a horse's weight relates to correct dosing of both drench and other drugs. Body condition scoring a horse is important for assessing whether a horse is overweight or underweight.

As confirmed by our results, weights are not an accurate indicator of body condition score due to different breeds, sexes and heights. For example a standardbred and thoroughbred of the same height and condition score had a 50kg difference in weight with the standardbred being heavier.

As a general trend, owners underestimated what their horse's weight was. This may mean that owners are under-drenching by not giving the horse the right amount of drench for their actual weight. Under-drenching can lead to a small percentage of parasites surviving which can then lead to resistance to that drench.

Drenches are divided into families based on their active ingredient and it is essential to perform a faecal post drench check of a poo sample 7-10 days after drenching to ensure the drench has worked. There is known resistance of some horse parasites to certain drench families and assessing which ones work on your farm is vital to ensure optimal parasite management.

Condition scores of the horses assessed ranged from 3 (which is ideal) to 4.5 showing a tendency for our general horse population to be overweight. The quality of grass that horses presently live on compared to the rough, fibrous grass they would eat in the wild, could contribute to this. Condition scoring also allows us to gauge whether horses are getting enough feed for their level of work.

The weigh tape was also not an accurate method of estimating the horse's weight. As a general rule, we found that for horses a further 50kg needed to be added to the weigh tape's figure. The accurate weight for ponies was about 30kg less than the weigh tape figure. This is most likely due to differences in conformation.

Due to the success of the weigh day, this will now become an annual event.

Weigh day cont.

Assessing your horse's weight and body condition at this time of the year will keep you on track for planning your winter programme.

If you would like more information on body condition scoring and/or feeding your horse over winter, please contact the clinic for a chat with one of our vets.

Megan Reidie BVSc

Red-water

Occasionally (although perhaps not this year) we have leftover brassica crop late in the season (August/ September) that we would like to utilise, but it has gone to seed. Is this still safe to feed?

What we are concerned about is Red-water, a term to describe the colour of the urine. It is indicative of blood or damaged red blood cells in the urine. In many countries it is caused by a tick borne disease but the term in Southland more commonly refers to a problem associated with brassica crop, mostly Kale.

It is more correctly termed S-methyl-L-cysteine sulphoxide (SMCO) toxicity and occurs in cattle and more rarely sheep. It causes damage to red blood cells and results in anaemia, difficult breathing, collapse, redwater, and death. It can look like nitrate poisoning. Stock can adapt to SMCO but trouble occurs when they are put suddenly on crop, with little supplement. Signs of poisoning usually take about 1-3 weeks to show up.

Prevent SMCO poisoning by gradual introduction onto brassica, up to 50%-60% of the diet, over a 7-10 day period.

Risk factors for SMCO poisoning

- Older plants
- Secondary growth and flowering
- Short day and falling temperature
- Sulphate fertiliser increases SMCO especially if status was low. (Don't apply if the soil sulphate is ≥ 10mg/kg - unlikely to lift crop yield, could increase SMCO.)
- Frosts will increase SMCO
- Rain after a prolonged period of dry weather will increase SMCO
- Any factor that stresses the plant and causes a reduction in yield may lift SMCO
- Withdrawing nitrogen (N) supply to a growing Brassica crop reduces SMCO

Rochelle Smith BVSc MACVSc

The Receptionist

One day at the Vets office a man and the receptionist were verbally sparring. After a few minutes the Vet came to her coworkers defence.

"Sir… do you know what happens to aggressive males in this office???"

Animal Welfare—Transport of Animals

Transport of animals is governed by the Animal Welfare Code and as with all such legislation periodic reviews are conducted. The Animal Welfare Codes set out minimum standards and increasingly outline "Best Practice."

The responsibility for allowing animals to be transported rests with the farmer, the transport company and the person driving the vehicle. Once the transporter takes possession of animals he or she becomes responsible for them under the code. Truck drivers are therefore well within their right to refuse to transport animals. In fact they are obliged to refuse animals unfit for transport without a Veterinary Certificate.

These minimum standards are not negotiable. Best Practice recommendations are less prescriptive and in some cases unlikely to be achieved. It is worth some consideration by all parties to determine how close to Best Practice we can get. Comparing the minimum standards to the recommendations in informative.

Condition	Minimum Standard	Recommendation	Comment
Pregnancy	Animals should not be transported if likely to give birth or be affected by metabolic disease.	No transport in the last trimester of pregnancy.	The recommendation would be to stop all off farm wintering of dairy cows. It is a good idea to bring springing cows home early. Consideration should be given to transporting in lamb ewes, especially with twins, in July, August and September.
Pain and distress	Animals should not be transported unless they are able to withstand the entire journey without suffering unnecessary and unreasonable pain and distress.	A veterinarian should be consulted if there is any doubt of suitability – animals should arrive in a similar state as at the start of the journey.	The recommendations are not excessive or difficult to achieve. Lame stock are susceptible to injury, pain and distress and may be refused certificates for transport if they are unable to bear weight.
Lameness	Animals should not be transported if they are unable to stand and bear weight evenly on all limbs.	Penning, padding, pain relief are considered for the journey –length of journey minimised.	As above.
Painful husbandry procedures	Animals should not be transported If they have bleeding wounds from dehorning or develvetting, castrating, tail docking etc. or within 7 days of such procedures (excluding spiker deer velvetted with approved rings).	Not within 3 weeks of a painful husbandry procedure.	In most cases a minimum 3 weeks is a good idea to allow time for healing and to regain condition lost after these painful procedures.

This is by no means a complete list of the requirements for animal transport and each type of animal is governed by a separate Code of Welfare. If you require further information please contact the clinic. The Codes of Welfare are available on the internet from the Government Biosecurity website.

Michael Baer BVSc

Honda Motorcycle

A rabbit is riding a motorcycle on the highway. While passing a car, he knocks on the window. The driver of the car opens the window: 'Yes ?'

Rabbit: 'Ever driven a Honda motorcycle ?'

Driver: 'No I haven't'. The rabbit drives on, until he sees the next car. While passing it, he knocks on the window.

The driver of the car opens the window: 'Yes ?'

Rabbit: 'Ever driven a Honda motorcycle ?'

Driver: 'No I haven't' Then suddenly there is a curve, the rabbit sees it too late. He crashes off the road into a ditch.

A car stops and a man runs to the unlucky rabbit. Covered in blood and surely dying, the rabbit asks: 'Ever driven a Honda motorcycle ?' 'Yes I have. I had a Honda for twenty years' the man answers.

The rabbit asks: Where are the brakes??

Magnesium Supplementation of Dairy Cows

Magnesium is an essential nutrient in dairy cows and deficiency can manifest itself in multiple ways:

-Subclinical deficiency leads to an increase in the incidence of milk fever due to hypocalcaemia around calving, as well as a decrease in milk production.

-Chronic deficiency leads to anaemia, wasting and poor performance.

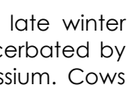
- Acute deficiency can either result in sudden death or grass staggers. Signs of grass staggers include hyperexcitability, staggering, aggressive behaviour, recumbency and seizures followed by death if left untreated.

Pasture is lowest in magnesium during late winter and early spring. This deficiency is exacerbated by fertilisers containing nitrogen and potassium. Cows are not capable of storing magnesium, so if magnesium output exceeds dietary uptake, deficiency results.

Supplementation should be started at least 4-6 weeks prior to calving and continued through until the end of November at the earliest. We strongly advise that a group of cows are tested around the start of calving to ensure adequate magnesium levels. It may also be beneficial to test cows again prior to mating.

It is advisable to give two forms of magnesium supplementation. $MgSO_4$ and $MgCl_2$ are better at preventing hypocalcaemia around calving by lowering DCAD, and can be supplied through the water. However, adequate levels of magnesium cannot generally be achieved with this method of supplementation alone due to these forms of magnesium being unpalatable and discouraging drinking if given in adequate amounts. Thus dusting MgO onto the pasture as well is generally a good method of achieving high enough supplementation rates. MgO should be dusted onto the pasture at levels of 100g/cow/day and should be done in the morning when the pasture is still wet to maximise adherence.

Induction cows are prone to magnesium deficiency and should receive additional supplementation. Magnesium bullets are a good way of ensuring that induction cows receive adequate magnesium whilst still remaining part of the main herd. These generally last a month and should be given at least 3 weeks prior to induction date.



Tash Leamy BVSc

Trace Elements

Trace elements are an integral part of a farm's animal health plan. We recommend that dairy farms check the trace element status of their herd at least three times a year (pre-drying off, pre-calving & pre-mating). Many of our dairy farms have taken pre-drying off blood tests to check selenium and magnesium, and had liver biopsies performed to check copper levels. There has been a wide range of results so far, especially for selenium. It is important to know what levels of selenium & copper an animal has prior to grazing crop. Once on crop, cows are often taken off the dositron (the method by which many trace elements are supplemented) & are in the latter stages of pregnancy (so requirements are high).

It is also important to check other classes of stock. We have had some extremely low selenium results for a number of dairy calves & heifers blood tested this autumn. Once animals become deficient it can be difficult to bring levels back up into the adequate range. It is worthwhile blood testing prior to supplementing as not only does it identify if the animals actually need supplementing but also gives us a baseline so the effectiveness of supplementation can be monitored. Please ring the clinic if you want to discuss trace element testing further.

Rebecca Morley BVSc BSc

Cattle Reminders

- Lice control
- Milking machine annual check
- Calf rearers, organise suitable housing and milk powder requirements
- Rotavirus vaccine
- Salmonella vaccine
- InCalf fertility focus review
- Preferentially feed light cows
- Teat seal heifers
- Pre-calving trace element testing
- Transition cow management
- First shot BVD vaccine to heifers
- Pre-calving seminar
- Order metabolic requirements
- Order calving supplies

Celebration

A husband took his wife to a disco and there was a guy on the dance floor break dancing, moon walking, back flips, the works.

The wife turns to her husband and says "see that guy? 25 years ago he proposed to me and I turned him down." Her husband says "Looks like he's still celebrating!!!"

More Than Just Mud Fever

Mud fever can be a frustrating condition to deal with over winter. It is usually seen as redness, swelling, crusting or scaling on the lower limbs, especially around the heel. If severe, your horse may become lame. Although the lesions are the same, mud fever or equine pastern dermatitis is actually a collective name for a variety of disorders affecting the lower limbs of horses. This article will discuss some of the common causes of mud fever.

1. Bacterial infection

This is usually predisposed by mud (hence the name!) or wet pasture as the water macerates the skin, enabling bacteria such as *Staphylococcus aureus* to colonise and cause infection and inflammation. Treatment for this type of mud fever involves clipping hair, removing scabs, applying an antibiotic wash and keeping the legs dry and out of mud.

2. Photosensitisation

Photosensitisation is when your horse's skin becomes more easily damaged by sunlight. Photosensitisation may be due to either ingestion of a toxic plant such as St John's Wort or due to liver damage. With photosensitisation, the lesion is usually confined to the white areas of the leg.

3. Chorioptic mange

This is mainly seen in horses with feathered legs such as Draught breeds. This form of equine pastern dermatitis is characterised by intense itching.

4. Pastern leukocytoclastic vasculitis

This is an immune-mediated disorder. With this form of equine pastern dermatitis, the lesions are usually circular and well-defined.

Mud fever cont.

They are also confined to the white areas of the leg. Immunosuppressive doses of steroids are used to treat this disorder.

Due to the variety of underlying causes, there are a variety of different treatments for mud fever. Determining the underlying cause of your horses' mud fever will ensure that your time (and patience!) is not wasted applying treatments that will not work. For the best treatment for your horse, please contact one of our veterinarians.

Shelly Hann BVSc

Horse Reminders

- Supplement winter feed
- Clip horses for hunting
- Lice treatment
- Check for cover sores
- Check for mud fever
- Annual dental check

Elderly Couple

An elderly couple go to church on Sunday. Halfway through the wife leans over and whispers in her husbands ear. "I've just let out a silent fart, what do you think I should do?

The husband replies, "Put a new battery in your hearing aid!!"

Body Condition Score

	June	September
Dairy Cow	•Aim to hit BCS 5.0 for cows at calving, 5.5 for heifers and R3s •No more than 15% of the herd less than BSC5.0 or more than 5.5	• Calving at BCS 5 or 5.5 for cows and heifers/ R3s 5.5 •Aim no to lose more than 1 BCS between calving and mating •Aim 85% ≥ 4 at mating
Dairy Heifer	**22 months** •90% of mature weight •360 -540kg for 400-600kg herds respectively	**12-13 months** •> 50% of mature weight at one year
Dairy calf	**9-10 months** •160-240kg for 400-600kg herd mature weight	**Birth**
Ewe	**Scanning** •May lose weight (5kg but gain foetus and fluid weight 8-12kg) •A 12% loss in weight over pregnancy decreases lamb survival by 10% •Don't lose more than half a BCS through pregnancy and aim to end at 3-4	**Lambing** •Regain BC for good milk and growth •Aim 3.5 BCS

NORTHERN SOUTHLAND'S VETS

VET LSD Drench

Vet LSD addresses the three cornerstones of sheep performance: fertility, lamb survival and animal performance through the supplementation of the minerals selenium, iodine, chromium and the fat soluble vitamins A D and E.

Vitamin E and Selenium

Vitamin E and Selenium are implicated in many cellular functions. One of the primary roles vitamin E has is as an antioxidant inside the cell wall to prevent damage from cellular metabolism. With a diet low in vitamin E , such as hay, silage, brassicas and cereals or rapidly growing spring pasture that can be high in polyunsaturated fatty acids, the requirement for vitamin E is likely to be much higher than can be supplied from the normal diet in late winter and early spring.

Trials have shown that low levels of vitamin E in late pregnancy results in an increase in neonatal deaths, and surviving new born lambs have been slower to get up and suckle.

Vitamin A and D

Vitamins A and D are required for lamb growth and survival. Vitamin A is present in green feed but is low in dry feeds such as hay. Vitamin D is produced in the body in the presence of sunlight so both vitamins will be deficient during the winter months when there is little fresh pasture and low sunlight hours.

Vitamin C

Vitamin C is an essential element for maintaining the effectiveness of vitamin E and regenerating vitamin E in the body.

Iodine

The need for iodine is well known, especially when brassicas are being fed in the winter or in areas that are iodine deficient. The use of potassium iodide or long acting iodine injection is a recognized treatment in these circumstances. Vet LSD contains sufficient iodine to cover ewe requirements when given.

Chromium

Chromium is a micro-nutrient that is involved in the metabolism of glucose which is the prime energy source for cells. It assists the uptake of glucose and the partitioning of glucose to fat or muscle. It has been used as a supplement to increase protein deposition and reduce fat in both humans and animals. It has also been shown to improve the immune response of animals.

Why and When to use Vet LSD

In late pregnancy administration is essential as diets are often low in essential fat soluble vitamins A D and E. Also blood tests on late pregnant ewes and blood tests and post mortems on newborn lambs have indicated that the benefits of supplementing vitamin E run out after about 40 days. However these benefits are almost immediate once a ewe is drenched so drenching as close to the start of lambing as possible is required. This can usually be achieved by drenching with Vet LSD when the ewes are pre-lamb vaccinated.

Vet LSD can also be used pre-tup as vitamins A and E, and selenium and Iodine have been shown to improve conception rates independently and in combination in sheep.

Vet LSD cont.

Also hoggets can be treated after weaning especially when they are grazing winter crops likely to be low in vitamin E and selenium.

Paul Langford BVSc

Sheep Reminders

- Vaccinate 2 tooths 2nd vaccine for Salmonella Brandenburg
- Re-evaluate winter feed budget
- FEC ewe lambs
- Introduce winter feeding
- Condition score hoggets and ewes
- Vaccinate mixed aged ewes for Salmonella Brandenburg
- Order pre-lamb drench and/or vaccine
- Vitamin E and selenium to brassica fed hoggets
- Drench ewes with iodine

Salmonella Still Exists!

Following outbreaks of the gut of enteric Salmonella in the **Autumn of 2011**, I wrote a newsletter article suggesting falling flock immunity due to reduced vaccination, and warned of an impending Brandenburg outbreak. However it wasn't until the **mild winter of 2012** that we saw the most devastation.

Salmonella is still a huge issue in Southland. While you can vaccinate in an outbreak of the gut form, this will not help with the abortion form.

We recommend two shots, a sensitiser and a booster, with the second (booster) given on or before day 80 of pregnancy (2-3 weeks before the risk period - with the first shot 4-6 weeks prior to this). Sheep are then boosted annually.

Rochelle Smith BVSc MACVSc

Nitrate Toxicity

Nitrate toxicity can appear suddenly and can kill a large number of animals. This winter may be more of a risk year for cattle, especially those on crop, because of dry conditions in late summer/early autumn, a lack of relative stored feed, and because of the wider application of inorganic nitrogenous fertilisers in quantities to stimulate late season growth.

Nitrates are absorbed from the soil (hence the more inorganic nitrogen fertiliser applied, the higher the risk) and are metabolised by all plants during protein synthesis, which requires energy. They are normally converted into harmless substances UNLESS something stresses the plant (ie, frost, wilting, stunting), or slows plant growth or (most importantly for Southland) interferes with photosynthesis, when nitrates accumulate because there isn't the energy base to convert them. They can also remain in the plant for long periods of time—even once cut (but are largely diminished by the ensiling process). The same accumulation can also happen out of the 'growth season' when plants simply don't have enough light to photosynthesise – increasing the risk on cold days where fog doesn't lift – or even when overcast. Some plant types have a real propensity to accumulate nitrates – these being ryegrasses, cereal grasses, all the brassicas (especially kale, chou, turnips) and crops heavily weeded. Concentrations in these can be higher still in young plants or those in regrowth phases rather than when mature.

Signs of nitrate toxicity include rapid or noisy breathing, salivation, muscle tremors, weakness, diarrhoea, and frequent urination. Severe nitrate poisoning may cause death within a few hours after symptoms appear. Pregnant animals are much more susceptible to nitrate poisoning than non-pregnant animals and cattle are most susceptible. In ruminants, nitrate is converted into the harmful nitrite form by bacteria in the rumen. It is rapidly absorbed and stops the blood's haemoglobin from carrying oxygen. It also causes severe and life threatening drops in blood pressure.

There are a few rules to mitigate risk:

1.Consider the risk factors before turning animals out onto new forage.

2.Test suspected forage to determine whether it is necessary to dilute the forage or completely avoid feeding it. We can test in-clinic for levels in forage samples and assess for risk of feeding. Provide a mixture of leaf, stem (usually the worst offender – and include nodes where appropriate) and bulb for testing as levels may vary within each.

3. Dilute high nitrate forages with a low nitrate feed source. Silage is useful in this regard as are sources of fibre.

Cont.

4. Adapt animals slowly to forage (especially crop) with suspected elevated levels of nitrate. Feed forage several times a day if possible, rather than one feeding. Introduce animals in late morning and at least four hours before darkness sets in.

5. Feed animals with fibre sources (ie not green chopped – rather good quality hay) BEFORE turning them out into a suspected high nitrate pasture. Animals will adapt to higher levels of nitrate over time, unless pastures are extremely toxic.

6. Observe animals frequently, if pasture is suspected to be high in nitrates. Remember those risk factors!

7. Remove animals immediately from suspicious forage source (and feed just hay) if any of the above symptoms occur.

12. Remember that animals with moderate nitrate poisoning can be successfully treated, with a methylene blue solution, given intravenously.

N Dougherty BVSc MRCVS

Pet Reminders

- Check diet for winter
- Check bedding warmth for winter
- Worm cats and dogs
- Arrange annual check up
- Check dog registration

Opposites

The NSVets team are attending a course on emotional extremes.

"Just to establish some parameters," the professor says to Julia, "what it the opposite of joy?"

"Sadness," Julia replies.

"And the opposite of depression?" he asks Morgan.

"Elation," says Morgan.

"What about the opposite of love?" he asks Michael.

"Hate," Michael replies.

"And you, sir," he says to Paul, "how about the opposite of woe?"

Paul replies: "Professor, I believe that would be giddy up."

Deer Reminders

- TB test
- Pregnancy scanning
- Weaners—drench for lung worm
- Liver, copper and selenium check dry hinds