

Edited by:
Dennis Scott BVSc
MACVSc

EA Veterinary Marketing Ltd
54 Hobill Ave Wiri
PO Box 97-110 Manukau City
Manukau 2241

Ph 09-262-1388 Fax 09-262-1411
Freephone 0800 800-624
email info@ethicalagents.co.nz
website www.eavm.nz

CPD Clash

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Some years ago it was estimated that 10% of registered veterinarians in New Zealand were members of the Australia and New Zealand College of Veterinary Science, in one discipline or another. The number could well be even higher now, especially as there is now a dedicated New Zealand Branch of the College up and running.

Hence it seems quite an anomaly that the NZVA Annual Conference and the College's Science Week, also held annually, should clash with both being in the same week in June this year.

This is unprecedented and the fault does not lie with NZVA as they have traditionally held their annual conference in the third week of June in most years. The clash came about because the College changed its traditional time slot.

Normally Science Week has been held on the Gold Coast at the end of the first week in July just before the popular Gold Coast Marathon. The latter occasion did



mean hotel bookings were at a premium, especially at the weekend and often Science Week also coincided with Australian school holidays. Therefore, in their wisdom, the members of the College Council decided to shift Science week this year, the first time for decades, in order to avoid the marathon weekend.

The decision was rather myopic as far as Kiwi members were concerned with no cognizance taken of the set dates for the NZVA Conference. The upshot is that the NZVA Conference in Hamilton is Monday to Wednesday and Science Week is Thursday to Saturday of the same week.

This makes the logistics of doing both virtually impossible with a day in the middle of the week required for travel. While most delegates normally

attend one or the other there are some with commitments to both.

What makes the date clash more difficult to understand is that one would have expected the New Zealand Branch of the College to be all over this and also New Zealand members of the College Council must have had an input.

It may only affect a small number but it should not happen. Hopefully it is all sorted next year.



**faithful
frank** 🐾



What Colour is Hydrogen?

Hydrogen is the simplest and smallest element in the periodic table. It has one electron and one proton, with nothing else to clutter it up. So why are we talking about different colours of hydrogen? The answer is quite simple; the colour does not refer to the chemical itself but how it is generated.

Hydrogen is the most abundant chemical element, estimated to contribute 75% of the mass of the universe. Here on earth, vast numbers of hydrogen atoms are contained in water, plants, animals and, of course, humans. However, while it's present in nearly all molecules in living things on earth, it's very scarce as a gas – less than one part per million by volume.

With the move away from fossil fuels hydrogen looks as probably the most environmentally friendly option, as long as it can be generated in a clean manner. Currently battery powered cars are all the vogue but batteries do not make electricity – they store electricity produced elsewhere, often by coal, uranium, natural gas-powered plants, or diesel-fueled generators.

No matter how hydrogen is produced, it ends up with the same carbon-free molecule. However, the pathways to produce it are very diverse, and so are the emissions of greenhouse gases like carbon dioxide (CO₂) and methane (CH₄). This is where the colour coding comes in.

Green hydrogen is defined as hydrogen produced by splitting water into hydrogen and oxygen using renewable electricity. This is a very different pathway compared to both grey and blue.

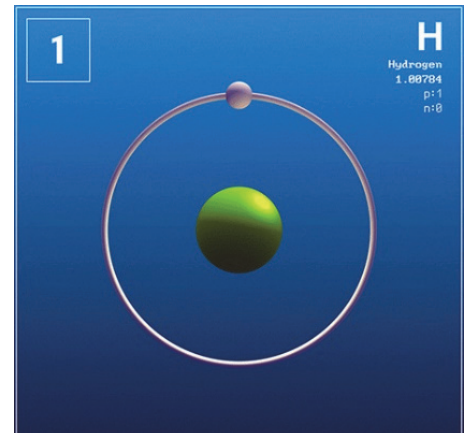
Grey hydrogen is traditionally produced from methane (CH₄), split with steam into CO₂ – the main culprit for climate change – and H₂, hydrogen. Grey hydrogen has increasingly been produced also from coal, with significantly higher CO₂ emissions per unit of hydrogen produced, so much that is often called brown or black hydrogen instead of grey.

It is produced at industrial scale today, with associated emissions comparable to the combined emissions of UK and Indonesia. It has no energy transition value, quite the opposite.

Blue hydrogen follows the same process as grey, with the additional technologies necessary to capture the CO₂ produced when hydrogen is split from methane (or from coal) and store it for long term.

It is not one colour but rather a very broad gradation, as not 100% of the CO₂ produced can be captured, and not all means of storing it are equally effective in the long term.

The main point is that by capturing a large part of the CO₂, the climate impact of hydrogen production can be reduced significantly.



Credit: Wikimedia/SE3-29X

So clearly the ideal is green hydrogen and with our massive access to renewable energy New Zealand is in a great position to take advantage of it.

One could argue that the situation is the same for batteries, notwithstanding the inane decision by DOC to put a battery powered car on Stewart Island, where it had to be topped up by diesel generated power.

However rechargeable batteries of the type used in vehicles are comprised of lithium, cobalt, nickel and copper. The process of mining of especially the first two on that list is far from environmentally friendly.

Hence the sudden popularity of green hydrogen and economies of scale will make it easier to produce, especially in a country with such natural advantages.

Simple Maths

An accountant applied for a top job with a large firm.

At the end of the interview the chairman asked, "What is three times seven?"

The accountant said, "twenty-two." Outside he checked himself on his calculator and concluded he had lost the job.

Later he was offered the post.

He asked the chairman why he been appointed when he had given the wrong answer.

"You were the closest," the chairman replied

SERAG C-SECTION FIELD PACK



Not so much a new innovation but a new presentation will make life easier for busy clinicians in the calving season.

It is 12 years now since we launched the revolutionary C suture, specifically designed for caesarean sections in New Zealand conditions by the world's top suture manufacturer Serag Weissner.

Polydioxanone is the most suitable synthetic for caesarean sections in cattle as it is a monofilament suture however. While light and very strong, it is a reasonably rigid material compared to catgut.

Even in the much narrower gauges than comparable strength catgut, the caesarean section sized polydioxanone sutures can give some

knot tying difficulties.

This led to the development of C Suture by Serag-Weissner. C suture, known in Europe as Serasynth Soft is 70% polydioxanone with the other 30% being a tripolymer made of: Polydioxanone DO, Trimethylencarbonate TMC and Caprolacton.

It is the blending of the tripolymer molecule with the polydioxanone that gives the filament features that pure polydioxanone does not have.

The 25% lower stiffness in the product means much easier handling and knot tying, higher knot security and a faster surgical technique than either polydioxanone itself or catgut of comparable size.

Because it has much higher tensile strength than catgut and lasts a lot longer, much smaller sizes are needed adding to the easier handling and speed.

The new presentation is the SERAG C-SECTION FIELD PACK. These C-Section kits contain the ideal two products for the job in ready to use form manufactured especially for New Zealand. The products are of course Serasynth Soft C-Section Sachets coupled with Supramid 3+4 USP Sachets with appropriate needles swaged on each.

Each pack contains: 3x Serasynth Soft C-Section Sachets, a perfect

length 250cm, and ideal USP 2 for the right tensile strength.

It has a soft special coating for easy slide and tie capacity which minimizes memory. Swaged on is an ultra sharp, ultra-strong half round Trocar 45 Serag needle.

This is combined with 3x Supramid 3+4 Sachets, designed specifically for cow skin closure after internal surgery. At an ideal length 120cm with a strong sharp DS-100 cutting needle.

Compact and fit for purpose the C section field pack means no more clunky cassettes, better hygiene and sharp needles every time.



Swearing

The minister was on the golf course when he heard a duffer, deep in a sand trap, let loose a stream of profanity.

"I have noticed," chided the minister, "that the best golfers are not

addicted to the use of foul language."

"Of course not," said the man.

"What on earth have they got to swear about?"



What, Where, When?

Transition cow oral supplementation provides a myriad of options with the best choice being dictated by circumstance. Whether it is mineral, energy or vitamin supplementation, or any combination of these requirements, can be an issue but there are also other factors to consider.

When supplementing energy for instance, the approach differs between individual cow treatment and group or whole herd treatment. The same can apply for mineral supplementation.

With individual animals there is also the issue of whether it is therapy for a defined condition, the most common two being milk fever and ketosis, or nutritional support as an adjunct to therapy, e.g. energy supplementation to aid in recovery from ketosis.

In the EA armoury there are different products for each indication, from therapeutic product to nutritional support.

For treatment and prevention of milk fever the tried-and-true Calol has no peer, as a therapy or as a preventative. If a cow is suffering from hypocalcaemia, as long as she has a swallow reflex then a bottle of Calol is sufficient for complete recovery. If there is no swallow reflex intravenous calcium is indicated then a bottle of Calol as soon as she can swallow, which is surprisingly quick. This will prevent relapse.

Being a therapeutic product Calol is a registered veterinary medicine and, while an over-the-counter product, it is only availa-

ble from veterinary practices nationwide. While used originally in Europe as a very successful whole herd treatment and preventative this use is impractical in New Zealand conditions due to our herd sizes so Calol is an individual cow therapy or used as a preventative targeting high milk fever risk cows. While supreme in its field Calol is a milk fever only remedy and makes no claims to treat other metabolic problems.

Other oral medications are all nutritional support items and include starter drenches, energy supplements and vitamin supplements.

Mineral supplementation is mainly magnesium and, as our pastures are notoriously low in magnesium, supplementation is imperative and done

on a whole herd basis. Other minerals of importance are calcium and phosphorus and both have bioavailability issues. Insoluble calcium salts are widely used but most issues are simply overcome by using Calol on at risk cows.

Phosphorus is the other macro mineral around transition and, like calcium, it is best fed after calving rather than prior and, also like calcium, is readily mobilised from bone. Supplementing phosphorus at or prior to calving thus is not beneficial as first of all it would, like calcium, suppress body mobilisation and secondly adversely affect

the DCAD ratio of the diet. Hence phosphorus is more an individual cow issue rather than a herd one.

Starter drenches are designed to supplement minerals and energy

on a whole herd basis therefore are designed to be extremely economical, which is both their strength and their weakness. It is a strength in that whole herd drenching is relatively cheap and easy but a weakness in that they do not contain enough of either energy or minerals to assist cows in serious deficit. In fact dairy scientists claim that starter drenches are an expensive way to supply energy when good nutrition can do it so much more effectively. Be that as it may, when there is insufficient grass available during a wet winter it is too late to think of upping nutrition rates in pasture and so starter drenches can play an important role in

keeping most of the herd on the straight and narrow. That is their role, supplementing herd nutrition in times of peak output with low nutritional intake.

Other supplements are more designed to augment the nutritional status of individual cows under pressure from other problems, be it prior disease impacting on body organs such as the liver or rapid tissue breakdown overloading normal metabolic processes.

Energy supplements do just that, supply extra energy, whereas vitamin supplements aid in the function of normal metabolic processes, restoring efficiency.

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What, Where, When?

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The ubiquitous molasses, high in energy and low in protein, as desired for animals with poor liver clearance, is used alone as an energy source or with both starter drenches and with vitamin supplements, thus adding energy to both mineral and vitamin mixes.

As well as molasses the other well used energy source targeting individual cows is propylene glycol. While sometimes added to feedlot diets overseas it is really just indicated for individual animals in our pasture-based agriculture for two reasons. The first obvious one is cost but the second one is that early research, which showed the beneficial effect of propylene glycol in pushing ruminal fatty acid metabolism along the propionic acid pathway, is not so evident in cows that were not stressed by either high lactation yield or low concentrate intake.

Some proprietary propylene glycol supplements have added cobalt and choline but these are totally super-

fluous and of no value to the transition cow low in energy; it is the propylene glycol alone which gives the beneficial effect. The reason for that is that the important amino acids in dairy cow nutrition, such as choline, need to be protected from ruminal digestion or else they will be totally con-

sumed by microorganisms in the rumen so being rendered unavailable to the animal. In addition, cobalt is converted to Vitamin B₁₂ by ruminal microorganisms, a process that is far too slow for a transition cow in deficit.

Which brings us to the question of amino acid supplementation. This is an individual cow rather than a herd approach. As stated, important amino acids such as choline and methionine must be pro-

tected from ruminal digestion or else they will not be available for absorption by the animal itself. This is where Hep Ora comes in. Hep Ora contains rumen protected choline and methionine, plus the all-important driver of energy consumption in carnitine as well as the 'forgotten'

vitamin in the lipolytic niacin. These are all suspended in molasses for extra energy. Hence Hep Ora is designed for the individual care for nutritional support in cases of liver insufficiency, a common occurrence in the transition cow.

So, in summary, as a therapeutic individual milk fever remedy Calol is the answer, for whole herd nutritional mineral and energy support the easy to mix emulsified Calstart does the trick.

For individuals lacking mainly energy Propol is ideal and finally, for those individuals needing a boost to liver function Hep Ora is simply perfect.



The Race

Gasping for breath and covered in sweat Nagy came into a racetrack snack bar and ordered a soft drink. "What happened to you?" the waitress asked.

"I was in the paddock area," Nagy panted, "when I saw some money on the ground. I bent down to pick it up.

While I was bent over somebody threw a saddle on me and a jockey jumped into the saddle. The next thing I knew I was on the track and the jockey was whipping my flanks."

"No kidding?" said the surprised waitress, "so what did you do?"

"I came third!" puffed Nagy.



Faithful Frank

A few years back one of the most entertaining lectures given at Science Week of the ANZ College was by Ted Whitem on the rather mundane topic of soap. He made points such as the negative charge on soaps interesting, e.g. they are anionic and that is easy to remember as an anion is *a n*-egative *ion*. What came out also is the complexity of soap and shampoo technology and the differences between soaps and shampoos used for human and animal, especially canine, use.

There is a plethora of shampoos on the market especially designed for dogs but few specialised soaps. There certainly is a market for soaps as owners find them less messy and they tend to result in a more intimate contact with the animal.

Until now there have been few dog specific soaps but that has now changed with the intriguing Faithful Frank range. Frank was an engineer during WWII whose work mate Teddy's wife died and home had been bombed. Despite not having a lot of money Frank and his wife Edna (and Boxer dog Ringo) took in Teddy and his young sons and then even learnt sign language

to communicate when Teddy lost his hearing (Ringo did not need to – he understood).

The Faithful Frank soaps owner, Jacqueline, has dedicated her range of uniquely engineered soaps to her Grandad Frank.

So that is the story of the name but what is in the soap? More importantly is what is not there, palm oil! Jacqueline made a commitment to provide a dog soap that was palm oil free, as she did not want to be part of the destruction of our closest living relatives, the orangutan's native forest environment. All orangutans need the protection of their natural home.

The purpose of the Faithful Frank brand is to put our faithful friends at the front of mind by using natural products and only essential oils that are safe for dogs. Providing a soft curved soap that sits comfortably in the hand, and most importantly, is gentle on dogs' sensitive spots.

An essential oil is the volatile, organic component of plants that give each plant its distinctive fragrance. These are found in all parts of the plant and referred to

faithful frank 🐾

as volatile because their molecules go from a liquid or solid state into a gas or aroma.

Not all essential oils are safe for dogs, some oils are toxic and can be harmful. Essential oils can be inhaled or absorbed through the skin, which then enters into the bloodstream. Here is a list of essential oils that have been identified as toxic for dogs. Tea Tree (a very small % is okay), Peppermint, Eucalyptus, Ylang Ylang, Wintergreen, Pine oils, Cinnamon.

Faithful Frank soap scents have been carefully selected with all the above considerations in mind, along with advice from experts in soap manufacturing so that the best ingredients are sourced. Major oils used in Faithful Frank soaps are coconut oil (with oatmeal), cedarwood oil, lemongrass oil and frankincense. Thus the four different soaps are designated Lemongrass, Frankincense, Cedarwood and Oatmeal.



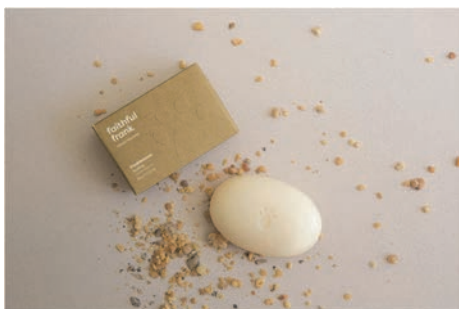
Cedarwood assists with skin irritations and dandruff, along with known anti-inflammatory properties. It is gentle, easily tolerated and good for their nerves. Combining shea butter for moisture, and argan oil which is known for its

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Faithful Frank

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anti-inflammatory properties and rich with antioxidants, cedarwood is also good for hair loss and can deodorise those smells.



Frankincense dates back to 500 BC and is a mildly potent oil used widely in dog care products for assisting skin healing and is antibacterial. Frankincense can relax the dog, along with being helpful for ear infections and allergies. Combining this with aloe vera for skin healing and yoghurt for moisturising their skin, frankincense oil can assist with hair loss.

With only a couple of drops for that fresh citrus smell, lemongrass oil repels fleas, ticks and parasites and is good for the skin. Lemongrass oil is antibacterial and assists with skin irritations. Combining lemongrass oil with the manuka honey soothes the skin, and



adding neem oil that is a natural pesticide, assists with anti-fungal, anti-viral, anti-bacterial and skin allergies.



Oatmeal, with coconut oil, assists with dry itchy skin conditions and reducing allergies. Manuka honey promotes healing and coconut oil is mixed in for an antioxidant, antibacterial and anti-fungal blend. Gentle on all skin types, this soap will leave an improved soft and shiny coat.

All the soaps contain glycerine. Glycerine is a humectant so it

draws water to the surface of the skin and this is the ingredient in the soap that naturally hydrates the skin. Glycerine is a substance that helps retain moisture and this is why it is used in not only soap products but many cosmetic products.

Glycerine is a clear liquid compound that is plant based and gentle on all skin types, especially sensitive skin. Glycerine moisturises, calms, and protects the skin. Faithful Frank soaps are consistent with a commitment to palm free oil, therefore the glycerine used is also palm free.

Packaging is PEFC (Programme for the Endorsement of Forest Certification) – recyclable – biodegradable – compostable.

All printing material is the same - recycled paper produced from 100% post-consumer waste. Manufactured without chlorine bleaching. Certificates FSC (Forest Stewardship Council) and PCF (process chlorine free).

Natural and incredibly environmentally friendly what is not to like about this brand? It certainly is already proving to be a winner with the general public.

Creation

On the first day of creation God created the dog.

On the second day God created man to serve the dog.

On the third day God created all the animals on earth to serve as potential food for the dog.

On the fourth day God created honest toil so that man could work for the good of the dog.

On the fifth day God created the tennis ball so that the dog might, or might not, retrieve it.

On the sixth day God created veterinary science to keep the dog healthy and the man broke.

On the seventh day God tried to rest - but he had to walk the dog.





The Watchdog

This bloke's job had him spending a lot of time on the road and, out of concern for his wife's safety he visited a pet shop to look at watchdogs.

"I have just the dog for you," said the salesman, showing him a miniature Pekinese.

"Come on," protested the bloke, "that little thing couldn't hurt a flea!"

"Ah, but he knows karate," the salesman replied. "Here, let me demonstrate."

He pointed to a cardboard box and ordered, "Karate the box."

Immediately the dog shredded the box.

The salesman then pointed to an old wooden chair and said, "karate the chair."

The dog reduced the chair to matchsticks. Astounded, the bloke bought the dog.

When he got home he announced that he had bought a watchdog but, when his wife saw the Pekinese she was unimpressed.

"That scrawny thing couldn't fight its way out of a paper bag!" she said.

"But this Pekinese is special," the bloke insisted, "he's a karate expert."

"Now I've heard everything," his wife replied, "Karate my foot."

