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Mixed Message

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“Is our dairy herd fertility in crisis?”, screamed the headline for the Farmers Weekly in March, yet one short month later the same publication had the headline “Record in-calf rates for dairy farmers!”

Talk about fake news. It brings to mind the iconic 1967 version of Bedazzled when Dudley Moore, as Stanley, says, “I don’t know who to believe,” and the deadpan Peter Cook replies, “Not me Stanley, believe me!”

Taking the second article first the claim is that “The average six-week in-calf rate is sitting at 69.3% for the 2023-24 season, up 2.7% from last season (66.6%), and the not-in-calf rate is down to 15% from 16.7%.” and this is being trumpeted as a huge success, with positive ramifications not only in the farmers’ back pockets but also in lowering of emissions.

The other article is an opinion piece by Julia Baynes, a veterinarian, who is national sales manager for cattle breeding company CRV.

She dampens enthusiasm by saying, “Let’s not mistake progress for success. We cannot afford to rest on our laurels when the trajectory of our national herd fertility remains disappointingly flat.”

Baynes then goes on to recommend sexed semen as a positive way forward, and well it might be.

However neither article addresses the issue of why the reproductive performance of the national dairy herd has been below optimum for some time.

Despite the outgoing government’s denials the country has been in recession and farmers have been hurting as much as everyone else.

Traditionally, when income is down, farmers spend less on things like fertilizer and also reproductive aids. Both of these measures are gen-

erally false economies in the long run.

However, expense can be mitigated without reduced efficacy. At the start of the 20’s a lot of marketing went into the benefits of an extra shot of prostaglandin. However this was with racemic cloprostenol; with the more potent d-isomer, as in Dalmazin, the need for an extra shot, and the expense of another veterinary visit is obviated.

Thus economic advantage can be obtained whilst still following a scientific reproductive program.

Sexed semen may be a way forward but d-cloprostenol is the here and now.



New Product Launch

In what seems a crowded market one could well ask why launch another generic? The answer is simple, economics! A liaison with reasonably new Australian company has seen two products, Stilator, a medetomidine preparation and its antidote Mobitor, which is of course atipamezole, become available to the New Zealand market. By being produced just across the ditch these two products can be marketed here at very competitive prices and with a short supply line, negating out of stock issues.

Relatively new drugs at the turn of the century medetomidine and dexmedetomidine are now old hat. As can be seen from the names medetomidine is a racemic mixture and dexmedetomidine is the isomer that works. While some isomers in racemic mixtures can be detrimental, such as L cloprostenol being responsible for prostaglandin side effects whereas the reproductive effects are all due to D cloprostenol, this is not the case with medetomidine. The main difference is that the dexmedetomidine is twice as effective hence half the dose is utilised.

This does not necessarily make it more economic as medetomidine costs less to produce, and the complete lack of side effects for the L isomer make it act as just another diluent and the dosage, especially for cats, is much more practical.



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Remembrance

Three elderly men are sitting together and discussing what they want their family and friends to say when they are lying in their casket at their funeral. They started to get nostalgic.

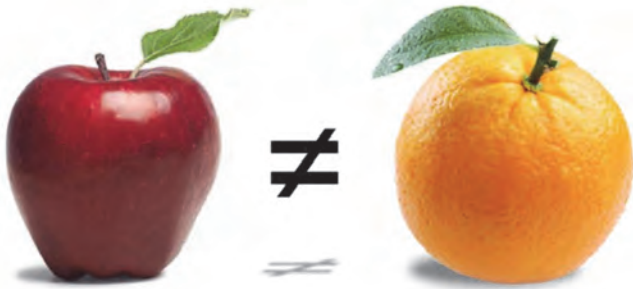
The first man says "I want them to say I was a great father and a great friend. I want them to say I could always be counted on."

The second guy says "I just want them to talk about how much I

changed the world, and how I left it a better place."

The third man says "I want them to look right at me and say: 'Look! He's moving!'"

Comparisons



The old saying is you cannot compare apples with oranges. Of course you can, apples are round, with a thin smooth skin and have a sweet tangy taste whereas oranges are round, with a thick dimpled rind and a citrus taste. What the saying really refers to is comparing like for like and this is important in syringeability comparisons.

Amoxicillin preparations are notorious for low syringeability and reacting with plastic bungs in syringes making them difficult to utilize; not so with Bimoxyl LA, the new amoxicillin preparation from Bimeda.

At the NZVA conference last year a sample was kept on the EA stand

all through the conference and repeatedly drawn up and expelled from the one plastic syringe.

It was just as smooth an operation on the last day as on the first;

no problem there.

This is where the comparison analogy comes in. there are some penicillin products on the market that are just like milk.

Obviously comparing an amoxicillin product with them is similar to comparing apples and oranges, it can be done but is not like for like, i.e. it is an unfair comparison.

When compared to the standard amoxicillin preparations Bimoxyl LA shakes up out of suspension much more readily, is much more syringeable, and does not suffer the interference with the bungs that makes the syringes sticky and difficult to use.

Syringeability is its major selling point in the European market and it is already available here in 100 ml recyclable plastic containers.

The good news is that it will also be available in the new season in the popular 250 ml vial size.

If the answer to the first question, 'is amoxicillin indicated in this instance?' is yes, then the answer to the second question, 'which amoxicillin shall I use?' must be Bimoxyl LA



Leviticus chapter 28

A preacher is coming to the end of his sermon and he tells the congregation,

"In preparation for next week's sermon, everybody please read Leviticus chapter 28."

Next week when everybody comes in the preacher follows up,

"Now who read Leviticus chapter 28?"

Almost everybody raises their hands.

The preacher says, "Okay, good.

There is no Leviticus chapter 28. I'd like to begin my sermon on lying."

Fishing

Nagy and Tony go on a fishing trip. They rent everything they need for the trip including the cabin.

The first day they go fishing they don't catch anything. It goes on

like this until finally, on the last day of their vacation, Tony ended up catching a fish.

As they're driving home Tony turns to Nagy and says, "Do you

realize that this one lousy fish we caught cost us fifteen hundred bucks?"

Nagy says, "Wow! Then it's a good thing we didn't catch anymore!"

Still The Best

In the pharmaceutical world, in fact in any sort of marketing, it is well acknowledged that every product seems to have a life cycle and, after a time sales tail off. Then the focus is on extending that curve so that said product is still at the forefront of minds.

One of the major reasons for a tail off is the arise of generics after patents expire. One trick by many pharmaceutical companies is to incorporate another use or another drug into the mix to extend the patent for the new use or combination.

This is known in the business as evergreening, an example being the incorporation of insect growth regulators into the original fipronil on the market. This combination was not wholly successful for two

possible reasons, one being that the combination did not seem to be as effective as the original product, another being a perceived rise in fipronil resistance.

"After all Newton's law of gravity is hundreds of years old but is still beyond dispute."

In some cases the parent company has simply moved on and left the field to the generics, the supreme example being the original xylazine, Rompun. Once the generics appeared Rompun, a virtual household name in veterinary circles at the time, completely disappeared. That is the way of the corporate world, it's all about profit

and, if you are big enough, just move on.

Then there is the case of the niche product in a small, and possibly declining market, that has no straight generic competition but can slip from memory. Such a product is Calol, which has dominated the oral milk fever market for three decades. Calol is a milk fever, and milk fever only, treatment that has been attacked by a myriad of products, all of which ultimately failed despite massive corporate marketing, simply because they were not as effective or as safe to use.

The trap for a product like Calol is that the original message can be lost, cows still get milk fever and they need treatment. The fashion

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The Diagnosis

A patient was anxious after a prolonged bedside discussion by a team of hospital doctors.

The head doctor came over to see him.

"There must be a lot of doubt about

what is wrong with me," the patient told the doctor.

Where did you get that idea? "the doctor replied.

"All the other doctors disagreed with you, didn't they?"

"To some extent, but don't worry," said the doctor consolingly, "in a similar case I stood firm on my diagnosis - and the post mortem proved me right."

Still The Best

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in the cattle world at this time, and a fashion it is, is that boluses fix everything.

Just as heavy marketing in the 90s went into failed calcium propionate products, or products that poured out of the bottle quickly despite not getting cows on their feet, heavy marketing is now going into boluses for milk fever.

While boluses may or may not be effective in reducing instances of milk fever there are two issues to address. The first is safety. Unpublished work by Aage Højbjerg et al in the early 90's showed significant mucosal damage from boluses because they settled at the bottom of the rumen, maintaining a high concentration of calcium chloride next to the mucosal wall itself.

The second issue is efficacy; without getting into a debate about whether boluses do help in reducing instances of milk fever one thing is quite clear, they are of little use in the immediate treatment of a clinical case.

While giant strides have been made in the milk fever and mastitis fields over the last few decades one simple fact obviously means that clinical cases of both diseases will continue to occur. This simple fact is that we continually selec-

tively breed cattle to produce more and more milk, and to milk out faster. Therefore, despite everything we will still see clinical cases of milk fever, and this is where Calol comes to the fore.

If a cow does not have a swallow reflex, then intravenous calcium is the only real option but, if there is a swallow reflex or, as soon as it returns Calol is highly indicated.

There is a torrent of literature to its effectiveness in such situations. Calol in the nineties replaced the time honoured, flawed practice of the 'bottle under the skin', being faster, easier, more hygienic and, above all, much more effective.

There was also a plethora of anecdotal evidence from both clinicians and farmers about how rapidly cows responded when only treated with Calol.

Many competitors made the mistake of claiming ketosis efficacy as well as being a treatment for hypocalcaemia when, fact, the two are mutually exclusive because of the DCAD differences required. In the meantime, Calol rules supreme in the market.

The science may now be ageing but it is still really valid. After all Newton's law of gravity is hundreds of years old but is still beyond dispute.



As a primary treatment for hypocalcaemia when there is a swallow reflex, as adjunct therapy instead of the mostly ineffective 'bottle under the skin' or purely as a simple preventative before transport there is still nothing that matches Calol and it is a vital tool for niche indications in the armoury of clinical dairy practice.

The Prognosis

A man and his wife go to the doctor's office. After the doctor sees him he calls in his wife and she asks "Is my husband okay Doctor?"

The doctor replies "Well, he will be if you do everything I say. You have to prepare all of his meals for him every day. You also have to do all of his chores, never nag at him,

and most importantly you must massage him three times a day. Do this for about a year and he will live."

Later in the car the husband asks his wife what the doctor said and she replies "He said you were going to die."



Myofibrillar Myopathy

Myofibrillar myopathy is a reasonably new discovery seen mainly in endurance horses.

It used to be a simple diagnosis when a horse had a stiff gait due to sore muscles. A half a century ago there were two main options for 'tying up'.

They were either overtraining or what was known as 'Monday morning disease,' when the animal had had a rest day but was still fed high grain rations.

Those two options remain although they have had new nomenclature. Overtraining is known as sporadic exertional rhabdomyolysis and the old traditional tying up is termed polysaccharide storage myopathy.

There are now more options and the most common diagnosed myopathies are sporadic and recurrent exertional rhabdomyolysis, poly-

saccharide storage myopathy, and myofibrillar myopathy.

Over the last four decades, research has led to a more sophisticated understanding of myopathies, including enhanced diagnostic techniques. While genetic testing is available for some myopathies, diagnosis of other diseases depends on microscopic examination of muscle biopsies from horses.

All muscle pain and impaired performance that occurs during or after exercise is now known as exertional myopathy rather than the more colloquially 'tying-up'. In the context of athletic horses, any myopathy has the potential to derail performance, either temporarily or permanently. Some myopathies are so severe that, when left unaddressed, horses are unable to be used for any athletic endeavour, even casual riding.

Thoughtful management strategies, including careful attention to nutrition and exercise requirements, relieve clinical signs in some horses, allowing them to perform comfortably.

Sporadic exertional rhabdomyolysis usually arises from extrinsic factors such as exercise in excess of fitness (i.e. overtraining), including accelerated training

programs, and/or nutritional imbalances, whereas chronic disease originates from intrinsic abnormalities in muscle function, which may be attributed to a single gene defect, multiple gene flaws, or gene products that arise under certain environmental stimuli.

Recurrent exertional rhabdomyolysis (RER) is an intermittent form of tying-up in horses that appears to involve an abnormality in the intracellular calcium regulation.

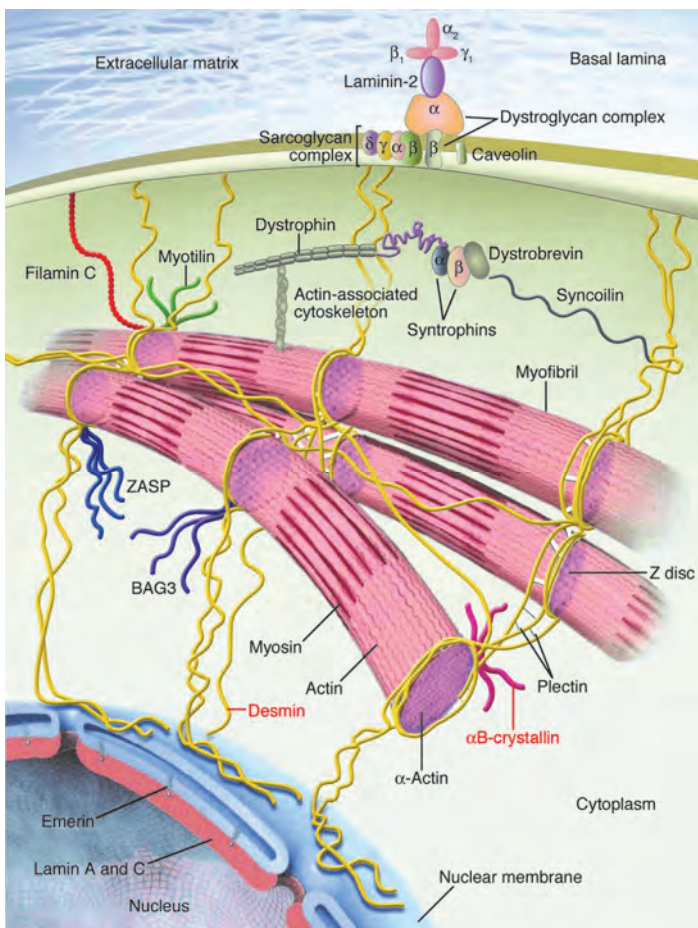
Polysaccharide storage myopathy (PSSM) is characterized by the presence of abnormal polysaccharide inclusions in muscle biopsies. This disease is divided into two classifications.

Type 1 polysaccharide storage myopathy (PSSM1) is caused by a distinctive genetic mutation that results in elevated glycogen synthase activity and higher muscle glycogen concentrations in skeletal muscle. The enzyme mutation enhances synthesis of glycogen and appears to disrupt metabolism of this energy substrate.

Type 2 polysaccharide storage myopathy (PSSM2) is a histopathologic designation that indicates the presence of abnormal polysaccharide in muscle biopsies of horses lacking the genetic mutation found in horses diagnosed with PSSM1. The term PSSM2 does not indicate a specific aetiology since no common genetic mutations or biochemical aberrations have been observed in these horses.

Myofibrillar myopathy is a relatively new phenomenon and is a disorder defined by specific histopathology, primarily cytoplasmic aggregates of the cytoskeletal protein desmin in scattered muscle

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Myofibrillar Myopathy

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fibres. Within muscle fibres, desmin helps align sarcomeres and tether them to the cell membrane. Arabian and Warmblood horses previously diagnosed with PSSM2 may represent early cases of MFM.

The main breeds affected are Warmbloods and Arabians (especially those involved in endurance). It is unlikely one specific gene causes MFM. Based on gene and protein expression studies of Arabian horses, MFM in Arabians appears to involve altered cysteine metabolism.

Cysteine is an amino acid that is a key structural component of proteins and a necessary component of many antioxidants in muscle. Endurance horses have a high capacity to oxidize fatty acids which can create oxidative stress during aerobic exercise. A deficiency of cysteine-containing antioxidants could cause chronic oxidation and aggregation of key proteins such as desmin.

Clinical signs in Warmbloods, insidious onset of exercise intoler-

ance characterized by lack of stamina, unwillingness to go forward, inability to collect, abnormal canter transitions, and inability to maintain a normal canter, unresolved hindlimb lameness, stiffness, muscle pain.

In Arabians, history of intermittent elevations in serum creatine kinase activity after exercise that follows a week or more of rest, signs of exertional rhabdomyolysis (pain, reluctance to move, sweating) that are less severe than RER and occur at the end of endurance races. Diagnosis is by muscle biopsy.

Nutrient requirements focus on provision of high-quality protein and supplementation of specific amino acids.

Because of the increased cysteine requirement, horses with myofibrillar myopathy should be given MFM Pellet™, a supplement that contains cysteine and other key amino acids; when coupled with amino acid supplementation coenzyme Q10 in the form of Nano-Q10 will boost antioxidant protection.

Successful management of horses with myopathies often requires a team approach with cooperation from many professionals, namely veterinarians and nutritionists.

Adherence to specific diets and exercise routines can completely change the lives of certain horses diagnosed with a myopathy.



Missing Teeth

A man went to the dentist because he was missing some teeth.

The dentist asks him, "How exactly did this happen?"

The Workers

A man is sitting on his porch when he notices Nagy and Tony working down the road. They both have shovels.

One of them digs a hole and the other immediately fills it in.

The man watches them for a few hours and finally approaches them,

He replies, "My wife's bread is as hard as a rock!"

The dentist says, "You could have said no to eating it."

"You guys look like you're working hard.

But I'm not sure what you're trying to accomplish."

Nagy replies, "Well there's usually three of us, but the guy that plants the trees is off sick."

The man replies, "I know, how do you think this happened?"





Animal welfare is our business



Dolphin Trainer

An elderly man rear-ended a guy driving an expensive European sports car. Enraged, the guy hops out and confronts the old man.

He yells, "Look what you did to my car! You're going to give me \$10,000 right now or I'm going to beat you to a pulp!"

"Oh my..." the old man said nervously. "I don't have that kind of money. Let me call my son." he said with hope. "He trains dolphins and he will know what to do."

"Dolphins!" the other driver huffed, while rolling his eyes.

The old man pulled out his phone, dialed his son, and just as his son answered, the irate man snatched the phone away from the old guy.

"So, YOU'RE a dolphin trainer, huh?" The irate man yelled, "Well, your old man here just rear-ended my car and I need TEN GRAND right now, or I'm going to beat you AND your old man to a pulp!"

"I'll be there in 10 minutes." says the voice calmly on the other end.

Exactly 10 minutes later, a Jeep pulls up and a guy hops out and proceeds to pulverize the bully, leaving him in a heap on the side of the road.

When he finished, he walked over to his father and said,

"For the last time dad, I train Seals... Navy Seals. NOT Dolphins."

