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Spring In Small Town NZ

Inside this issue:

| | |
|-------------------------------|---|
| A Change Of Livery | 2 |
| Bye Joc | 3 |
| Antibiotic Myths | 4 |
| What You See In A & E | 6 |
| The 5 Moments Of Hand Hygiene | 6 |
| Copper EDTA or Glycinate? | 7 |

Special points of interest:

- * Common misinterpretations in antibioticosis
- * Marketing Changes at EA
- * Farewell to a long serving staff member
- * Glycinate v EDTA

The dairy price has bounced back a little, as expected, but is still fluctuating.

The ramifications are less for the farmer who has good equity but more for local businesses, including many veterinary practices.

While the Auckland housing market is still booming along, and the Christchurch rebuild is continuing, albeit more slowly, retail in small town New Zealand is going through a hard time.

Meanwhile spring has certainly arrived with deciduous trees around the country waking up.

While not as dramatic as the “Dr. Green” effect noted in the colder climates of the Northern Hemisphere springs the change is dramatic and helps bring a feeling of well being.

The ground in areas such as the Waikato is now getting firm, so many are looking skywards for some more rain, even though winter was just a short time ago.

The NIWA prophesies of an “El NINO” summer with its attendant drought like conditions



in areas of the country have many farming communities feeling rather nervous.

Small town New Zealand worries can be assuaged by a wet summer and a big bounce back in the dairy price, neither scenario seeming very likely at the moment.

Plenty To Talk About

The many myths and misapprehensions about use of antibiotics abound in the media, both social and mainstream.

We look at some of these inside in the main feature article on pages four and five.

The 5 moments of hand hygiene are also discussed, with the pertinent fact noted that it is more often the nurses that are responsible for the implementation.

We also look at the difference between

glycinates and EDTA for copper injections and note that Coppernate is the only glycinate approved for use in deer in New Zealand.

And a big farewell to the long serving Jocelyn.

Change Of Livery

Over the last twelve months there has been a change of livery for many EA based products with the company doing a lot of own branding on its own registrations.

While still very proud to be associated with our major overseas partners the EA products themselves were due for a ‘smarten up’ and specific branding.



The EA logo itself, in its distinctive triangular shape, is a powerful one

and it is readily accepted in clinics around the country. As well as incorporating the logo more fully a distinctive livery has been devised by the marketing arm and features on various types of products. One special feature is the pictogram of animals on each product box, representing the animals that that particular product is registered for.

For example there are not only sheep and cattle on the Coppernate carton but also a deer featuring prominently.

This emphasizes the fact that Coppernate is the only copper glycinate that is actually registered for deer and the label recommendations, showing a different dosing regimen to cattle, indicates that deer are not just



small cattle but have a different pharmacokinetic system of their own.



The Monastery

A man sick of the outside world joins a temple in Tibet. One of the stipulations of entry to this holy order was that he was only permitted to say two words every five years.

The first five years he eats rice, he sleeps on a wooden bed and has only one blanket with holes in it. He tends to the fields and looks after livestock every day.

After five years the head monk

comes to him and says he can use his two words, to which he replies, “More blankets.”

Now the man is warm at night on his wooden bed with all his blankets but still only eats rice and tends to the fields and livestock every day.

Another five years passes and the head monk comes to him again and says he can use two more words. He replies, “More food”.

He now sleeps on his wooden bed with all his blankets and eats good food every day but he still has to tend to the fields and the livestock.

Another five years passes and the head monk comes to him and says, “You may use two more words.”

The man replies, “I’m leaving.” “Good,” says the head monk, “all you’ve done is complain since you’ve been here.”

Bye Joc

We bid farewell to long serving customer services manager Jocelyn Atkinson.

Joc, who joined the company in August 2001 is well known to many clients and wholesalers and her helpful dealings were much appreciated around the country.

Jocelyn has a very interesting and varied background, and much of her employment has been animal related.

A qualified veterinary nurse Jocelyn had worked in some top practices in the Auckland area and also held a receptionist position so she was au fait with all our clients' requirements.

A strong side to her demeanour can be seen in her time as a park-

ing officer for the Auckland Council.

She does not, however, fit the stereotype as her caring nature saw her employed for some time as a receptionist at the SCPA.

Jocelyn did courses at Unitec on animal behaviour and was once employed as an animal control officer which was an important help to her getting on with the rest of the staff at EA.

A successful breeder of Australian Cattle Dogs, with many show certificates, her other hobbies include gardening, landscaping and reading.

In recent years Joc has become an accomplished quilter, winning international awards.

Experience, efficiency and empathy reflected in the excellence in Jocelyn's demanding but critical role as the face of EA.

She had always intended to retire at the end of October but unfortunately her retirement was precipitated prematurely at the start of the month when she fell ill with pneumonia.

All at Ethical Agents wish Joc a speedy recovery and hope she will continue to be her fully occupied self as a keen gardener, cook and quilter.

Enjoy your retirement Joc along with Steve and your much loved dogs.

Plus a big happy birthday on Halloween!

Fixing The Verdict

This very smart lawyer bribed a man on his client's jury to hold out for a charge of manslaughter, as opposed to the charge of murder which was brought by the state.

The jury was out for several days before they returned with the manslaughter verdict.

When our clever lawyer paid the corrupt juror he asked him if he

had any trouble convincing the other jurors to see things his way.

"I sure did" the juror replied, "the other eleven were all determined to acquit.

Robbie Takes Up Riding

Now that Robbie is over the worst of her horse riding accident some time ago we can relate the story of her first ever ride.

She mounted the horse unassisted and it sprang into motion. It galloped at a steady pace but Robbie began to slip from the saddle.

In terror she grabbed for the horse's mane but could not get a firm grip.

She threw her arms around the horse's neck but slipped down the

side as it galloped on.

Robbie tried to leap from the horse to safety, now in all sorts of trouble with her head banging repeatedly against the ground as the horse continued to gallop. (that explains a lot! Ed)

Robbie then started to lose consciousness.

Luckily one of the checkout girls noticed her predicament and rushed over to unplug the horse.



Antibiotic Myths

With all the claims and counter-claims by many on the antibiotic debate there is scope for lots of myths and mistruths, especially when one considers that it is not just a science based argument but what is whimsically called a value based debate.

Myth Number 1

“Go to the end of the course” screamed health professionals over the decades, the rationale being that you do not stop the medication when symptoms subside but keep taking the tablets until they are all gone or else you will encourage resistance. The obvious question is how?

Resistance development from antibiotic use is due to selection pressure, with the resistant microbes better at surviving the antibiotic milieu. Thus the more antibiotic use, the greater the selection pressure and thus we have the dogma of continued antibiotic use leading to resistance. Hence it does not make sense to claim that resistance is more likely if antibiotics are not continued after the cessation of symptoms. There will be the odd situation whereby the infection is better symptomatically but not



under control so may resurface at the cessation of treatment. However in most immunologically competent individuals antibiotic therapy is mainly aimed at getting an infection down to a level where the

body can take care of it itself, that is why we so often use bacteriostatic drugs instead of bactericidal.

Therefore going to the end of the course, in order to reduce resistance, is a myth; albeit a very enduring one.

Myth Number 2

The other great battle cry of the uninformed is that the subtherapeutic use of antibiotics by the agricultural sector as a means of growth promotion is the most dangerous practice of all.

For a start we need to go back to first principles and recognise that it is selection pressure from the antibiotics that encourages development of resistant strains. Subtherapeutic use implies use below the minimum inhibitory concentration (MIC) of the antibiotic for a particular microbe. By definition then, if it is below MIC there is no actual inhibition hence there is no selection pressure generated.

Nothing in nature is so simplistic and microbes do have an ability to change in the presence of subtherapeutic doses of chemicals or heat but to label subtherapeutic use as the primary cause of resistance is a very long bow to pull indeed. Actual therapeutic use applies much stronger selection pressure and so is the greater danger.

This is borne out by the analysis of the ‘Danish experiment’ over the last decade. The use of hormonal growth promotants in their highly intensive pork and poultry industries was banned at the start of the century; however overall antibiotic use has actually increased and that is due to the increase of therapeutic use of antibiotics.

The main diseases controlled by hormonal growth promotants’ (HGP) were necrotic en-

teritis in poultry and swine dysentery. Rather than a form of growth promotion it was really a matter of disease suppression and this suppression was what led to better growth rates. The lack of HGP use led to more disease and more ther-

“veterinarians would say that as they are self-interested drug peddlers.”

apeutic use of antibiotics and the sequel was not only an overall increase of antibiotic use in general but also an increase on antibiotic resistance, including multi-drug resistance.

So subtherapeutic use is not necessarily the most dangerous use of antibiotics, it is therapeutic use above MIC that provides the greatest selection pressure.

Myth Number 3

The ‘Danish experiment’ itself was a great success. Like every experiment, it all depends on what parameters you wish to measure.

One paper (Maron, D. F., T. J. S. Smith, and K. E. Nachman. (2013). Restrictions on antimicrobial use in food animal production: an international regulatory and economic survey. *Globalization and Health* 9 (48)) claims that, “for the broiler industry, mortality rates, average weight gains and productivity were not affected by restricted use of antibiotics.”

That may well be so but, as seen above, the Denmark 2013 figures show an increase overall in antibiotic use, in particular therapeutic use, and an overall increase of resistance to antibiotics, including multidrug resistance. Considering that the ‘Danish experiment’ was

(Continued on page 5)

Antibiotic Myths

(Continued from page 4)

designed to reduce antibiotic usage and resistance development, rather than be concerned with mortality rates, average weight gains and productivity gains, then it can hardly be deemed a success.

Myth Number 4

Perhaps the greatest myth of all: that calls for the restriction of antibiotic prescribing by veterinarians can be countered by good science; quite plainly this is not the case. In a perfect world that would be so but in this instance the world is not perfect.

Science deals with facts but opinion is a state of mind. The fact that we can even have a debate on subjects such as vaccination emphasizes this. The old story about being able to assess a person's intelligence from their views on vaccination holds true; although that also clearly is opinion.



Many areas have an effect, from political grandstanding by minor parties looking for populist issues through to retail outlets looking for a marketing edge.

The old journalists' ethic of never letting the facts getting in the way of a good story certainly plays a vital role.

There is a wealth of data that suggests the New Zealand Veterinary Industry is reasonably judicious in its antibiotic prescribing but that is all to no avail when a

politician makes a remark along the lines that "veterinarians would say that as they are self-interested drug peddlers."

Senators in the USA looking to make a splash on the political scene are very selective in the data they use and, since McDonalds made a relatively reasoned statement that they will not source meat from farms using antibiotics critically important to human medicine, other companies such as Chick Fil A and now Subway have been climbing over each other with more outlandish statements so as to regain a marketing edge.

None of this has anything to do with good science. Rather the fact is that this is all in the face of good science but is having a large effect in the marketplace.

Myth Number 5

The whole debate has led to the demonization of antibiotics and the thought that they are inherently bad chemicals.

To paraphrase a popular beer marketing campaign, "Yeah right!" Many of those reading this right now would probably be dead if they did not live in the age of antibiotics.



Making Man

A group of eminent scientists got together and decided that man had come such a long way that they no longer needed God.

God was redundant, they decided, so they went to God and said, "We can clone people and do many wondrous things.

We don't really need you any more and we think you should retire."

God listened patiently. "OK", he said "but first let us both make a man like I did with Adam then we can compare our work."

"Yes, let's do that," replied the scientists as one of them bent down to scoop up a handful of dirt from the ground.

"Oh, no you don't," scolded God, "go and get your own dirt!"



What You See In A & E

With infection control becoming a much bigger issue, especially for nosocomial infections, it is always interesting to have a look at the other side, i.e. the medical profession. Therefore an unplanned trip to A&E in Invercargill hospital gave an opportunity to take in the shifting scene in best practice infection control.

After getting over the first nervous thought about being in a hospital is the worst place to be if you have a possible infective problem the most noticeable comment was that

the nurse went to discuss whether to not prescribe antibiotics as the wound was quite clean. The doctor gave considered thought before recommending antibiotics (flucloxacillin) because there was periosteal involvement. It was not very long ago that antibiotic therapy was *de rigueur* for such cases, no discussion entered into!

More subtly was the hand washing protocol that was underway. Clearly they had been schooled up on the five moments of hand hygiene protocol and it was very reassuring

It was not very long ago that antibiotic therapy was *de rigueur* for such cases, no discussion entered into!

to see several nurses all adhering to the regime. Doctors themselves could take a lesson from them.

Many veterinary practices abrogate responsibility for in clinic hygiene to the nursing staff but the principles should apply to all who enter the clinic.

The My 5 Moments For Hand Hygiene

The My 5 Moments for Hand Hygiene approach defines the key moments when health-care workers should perform hand hygiene.

This evidence-based, field-tested, user-centred approach is designed to be easy to learn, logical and applicable in a wide range of settings.

Based on World Health Organisation guidelines the protocols are implemented as part of the *Hand Hygiene New Zealand* programme and identifies the following *five moments for hand hygiene* as critical to the prevention and control of infections.



| | | |
|----------|--|--|
| 1 | BEFORE TOUCHING A PATIENT | <p>WHEN? Clean your hands before touching a patient when approaching him/her.</p> <p>WHY? To protect the patient against harmful germs carried on your hands.</p> |
| 2 | BEFORE CLEAN/ASEPTIC PROCEDURE | <p>WHEN? Clean your hands immediately before performing a clean/aseptic procedure.</p> <p>WHY? To protect the patient against harmful germs, including the patient's own, from entering his/her body.</p> |
| 3 | AFTER BODY FLUID EXPOSURE RISK | <p>WHEN? Clean your hands immediately after an exposure risk to body fluids (and after glove removal).</p> <p>WHY? To protect yourself and the health-care environment from harmful patient germs.</p> |
| 4 | AFTER TOUCHING A PATIENT | <p>WHEN? Clean your hands after touching a patient and her/his immediate surroundings, when leaving the patient's side.</p> <p>WHY? To protect yourself and the health-care environment from harmful patient germs.</p> |
| 5 | AFTER TOUCHING PATIENT SURROUNDINGS | <p>WHEN? Clean your hands after touching any object or furniture in the patient's immediate surroundings, when leaving – even if the patient has not been touched.</p> <p>WHY? To protect yourself and the health-care environment from harmful patient germs.</p> |

Copper - EDTA or Glycinate?

Apple or Microsoft? In earlier days it was VHS or Beta? Maybe not as earth shattering as those big choices the field of copper injections also poses the question of EDTA or glycinate?

EDTA suspended copper is actually the older technology but still claims a major share of the market, especially in the dairy field.

While both have a narrow therapeutic window, and both have strong label statements advising against any other procedures being undertaken on the animals when injecting with copper, their major toxicities have different mechanisms.

EDTA copper translocates from the injection site extremely rapidly so is more prone to the acute haemolytic crisis, with attendant jaundice and 'gunmetal' kidneys than copper suspended in glycinate. Sudden death is common, particularly in sheep.

While this scenario is always possible with copper glycinate it is very much less common as it moves from the injection site to the liver at a slower rate.

Optimism

Tony always looked on the bright side. He would constantly irritate his friends with his eternal optimism. No matter how horrible the circumstance, he would always reply, "It could have been worse."

To cure him of his annoying habit, his friends decided to invent a situation so completely bad, so terrible, that even Tony could find no hope in it.

On the golf course one day, one of them said, "Tony, did you hear

The biggest negative therefore is that a lump may persist until all the copper is absorbed. This may seem unsightly in a few cases but overall is much preferable to an acute haemolytic crisis.

In very rare instances both may result in an anaphylactic reaction and this is one reason why the label statements are there.

It has been more common for EDTA to be used in dairy cows as it was suspected that glycinate treated cattle would have reduced food intake, hence reduced milk yield, for two to three days.

Recent work in New Zealand has shown, however, that this is not confined to glycinate but is also a feature of EDTA injections.

An abstract from an NZVJ article (NZVJ Volume 62, Issue 5, 2014) by David Hawkins appeared in a recent edition of the DCV Newsletter. A pertinent comment was, "A negative impact on milk yield and composition occurred immediately following injection. Injection 10 days prior to mating had a negative effect on submission and pregnancy rate."

about Tom? He came home last night, found his wife in bed with another man, shot them both and then turned the gun on himself!"

"That's awful," said Tony, "But it could have been worse."

"How," asked his angry friend, "could it have been worse?"

"Well," replied Tony, "If it had happened the night before, I'd be dead now!"

So, just as any copper injection can have acute toxicity and/or anaphylaxis in rare cases, it seems that any copper injection can have a negative milk yield effect in dairy cows.

This makes the superior suspension and syringe-ability of the glycinate preparation very attractive in both the dairy and the sheep and beef scenarios.

The more economical cost in these days of low milk pay-out must also be attractive.

"Recent work in New Zealand has shown, however, that this is not confined to glycinate but is also a feature of EDTA injections"



The only glycinate registered for deer, plus cattle and sheep.



Road Painting

South Island manager, Nagy, once worked for a road crew back in his native Egypt. The road crew supervisor hired Nagy to assist his crew with painting the yellow line down the middle of the road. He explained to him the work assignment and told him he had to complete 2 miles of yellow line on his road. He then set him up with some brushes and paint and got him started.

After the first day, the supervisor was pleased to find that Nagy did an excellent job and was able to paint 4 miles of road in his 8 hour shift. The supervisor told him that he did an excellent job and how pleased he was with his progress.

On the second day, Nagy completed painting 2 miles of road. The supervisor was surprised because

on day one he had completed twice as much work. But, he did not say anything, since 2 miles of road was the amount that the job required anyway. He decided to just accept it, and to look forward to the next day when he was sure he would pick up his speed again.

On day 3 he was shocked to learn that in his 8 hour shift, Nagy only completed painting 1 mile of road.

He called him into his office and asked him what was the problem; "On your first day, you completed 4 miles of road, on your second day, 2 miles of road, and now on day 3, you are only able to complete 1 mile of road. Can I ask you, what is the problem?"

"Well," Nagy replied, "I keep getting further and further away from the paint."

