

## Facial Eczema, Copper and PKE

Copper is a trace element essential for normal growth and production. Dairy cows' requirements are highest in late pregnancy and early lactation. Taranaki ring plain soils should have enough copper for dairy cows but don't because they also have high iron (Fe), molybdenum (Mo) and sulphur (S) levels which interfere with copper uptake from the gut. In the Ngaere swamp type soils the Fe, Mo and S levels are so high they can cause frank copper deficiency. The papa soils to the east of the ring plain are naturally low in copper. To compensate for these deficiencies dairy cows in Taranaki have traditionally been given extra copper, often contained in mineral mixes with other trace elements and minerals.

**Copper and PKE** The introduction of Palm Kernel Expeller meal feeding has changed all this. PKE contains about twice as much copper as grass and that copper is much more available to the cow than the copper in grass. Cows eating 250kg PKE a year may not need any extra copper and cows getting 500kg should not be given any extra copper. Why? Copper is stored in the liver and if cows are fed more than they need the excess copper accumulates. Eventually it can reach toxic levels and cows can die. If you feed more than 500kg PKE/cow/year AND feed additional copper you may be in danger of giving your cows copper poisoning.

**Copper and Facial Eczema** We know that zinc competes with copper for absorption from the gut and this is why traditionally copper was supplemented during the FE season when high levels of zinc are fed. This made sense when cows' diets were marginal for copper but on farms where PKE is fed that is no longer the case. There is some worrying evidence that high copper stores may make cows more susceptible to facial eczema. Free copper ions in the liver may increase the damage done by sporodesmin, also zinc treatment may be less effective in animals with high liver copper stores. If you have a spring calving herd, summer is the time when their copper requirements are lowest anyway. So it really doesn't make sense to be giving spring calving cows extra copper through summer. If the cows already have high copper stores in their livers from previous PKE feeding then supplementing copper through the FE season may be harmful. This is why Wonder are offering two kinds of zinc socks this year, the traditional one with added copper for non PKE farms and zinc alone for PKE feeding farms. If you think your cows may need extra copper, it is better to give it to them *after* the FE season is over. The best way to find out if your cows do need extra copper is from liver analysis of culls in autumn. The works need 5 days notice and we can fax you the forms.

### Take home messages

1. Don't give cows copper through the FE season.
2. If you feed more than 500kg PKE/cow/year don't feed extra copper at all unless lab tests show the cows need it.
3. Do get liver copper analysis done on cull cows going to the works in autumn so you know what your herd's copper status is.



## FEBRUARY 2012

I have been away for two weeks dividing my time between watching my son play cricket at Lincoln and visiting my critically ill mother in Rotorua. While I was away the team have fleshed out the latest newsletter from the bones of a few articles I started putting together before I had to leave. Cunningly, they have left me with very little room for my usual long-winded opening rant (perhaps there's a message there?).

Anyway this newsletter addresses the latest issues and in particular Polly has completely re-written my pathetic attempts to tell you about the Salmonella situation that has dominated the news recently. And what a fine job she has done. You will also find your Dry Cow Consult form for this year along with plenty of other topical articles. Joan is tapping me on the shoulder saying "hurry up I want to go to print" so I have to leave it there. See what happens when I go away for a couple of weeks...

## 75TH JUBILEE

This vet club was formed in 1937 and has been servicing farming clients ever since.

To celebrate you are invited to a  
**Barbeque lunch at the clinic**  
**Saturday 14th April, 12.30 - 3.30pm**  
*(no charge; an indication of attendance would be appreciated)*

&/or  
**Cabaret, Eltham Town Hall, 7.30pm,**  
**Saturday 14th April.**

Tickets \$20 each. Phone clinic to reserve your ticket.

### Dry Cow time already?

I know most of you expect to milk well into May or even June so you're not even thinking about drying off yet but unbelievable as it sounds we need to start preparing for the end of the season and Dry Cow Therapy (DCT). You may have a few cows that need to be dried off early for all sorts of reasons. **Therefore with this newsletter you will find the dreaded Dry Cow Therapy Consultation Form.**

Please put it aside for later use or if you are really organised, start filling it in now with a view to a smooth, hassle free drying off in a few months.

A consultation is a legal requirement for the prescribing of DCT so the fewer people who arrive at the counter expecting to pick up their DCT and then claim "I didn't know" or "I forgot" the better. These forms are the simplest way to do this - we could insist on full on consultations (with fee attached), but I think you would prefer to keep it as hassle free as possible. The information you supply does help in making a suitable recommendation and gives us a clearer picture into what is going on in your herd.

We will once again aim to provide our DCT products at a very competitive price and are confident we can find something that will be appropriate to your needs. So don't throw that form away, file it with your records and fill it in at least a week before you expect to dry off, preferably two. Thanks once again for your co-operation.

### Director ends 2011 with an Ace

Monday the 26<sup>th</sup> of December 2011 will be a date that our sheep & beef director Andy Best won't forget in a while. Playing golf at the Katikati Golf Club Andy lined up his tee shot on the 145m par 3 uphill 9<sup>th</sup> hole with his trusty 7 iron.

It felt good as he watched it soar majestically towards the green, land and jump left and out of sight. He walked confidently and contentedly up to the green and was dismayed to see his ball wasn't there, which seemed very unfair given it was such a nice tee shot. A brief search around the fringes failed to find his ball and as a joke his young playing partner went and looked in the hole. Lo and behold there it was.

Andy isn't the first director to get a hole-in-one because last summer our soon-to-be-retired former chairman Alistair Abbott achieved the same feat at Te Ngutu, but I reckon it's safe to say he's the first sheep and beef director to do the deed. Given we now have two current directors out of a total of 7 with aces (28.5% of the board) that puts huge pressure on the other 5 to join the hole-in-one club. Congratulations Andy and we look forward to the shout that must surely follow.



### In an Irish sawmill ...

*One day, Mick slips and his arm gets caught and severed by the big bench saw.*

*Paddy quickly puts the limb in a plastic bag and rushes it and Mick to the local hospital.*

*Next day, Paddy goes to the hospital and asks after Mick.*

*The nurse says, 'Oh he's out in Rehab exercising'.*

*Paddy couldn't believe it, but here's Mick out the back exercising his now re-attached arm.*

*The very next day he's back at work in the saw mill.*

*A couple of days go by, and then Mick slips and severs his leg on another bloody big saw. So Paddy puts the limb in a plastic bag and rushes it and Mick off to hospital.*

*Next day he calls in to see him and asks the nurse how he is.*

*The nurse replies, 'He's out in the Rehab again exercising'.*

*And sure enough, here's Mick out there doing some serious work on the treadmill.*

*And very soon Mick comes back to work. But, as usual, within a couple of days he has another accident and severs his head.*

*Wearily Paddy puts the head in a plastic bag and transports it and Mick to hospital.*

*Next day he goes in and asks the nurse how Mick is.*

*The nurse breaks down and cries and says, 'He's dead.'*

*Paddy is shocked, but not surprised. 'I suppose the saw finally did him in.'*

*'No', says the nurse. 'Some dopey bastard put his head in a plastic bag and he suffocated'.*

### Clinic & Farm Supplies

Railway Street, Eltham  
Ph. (06) 764 8196  
[www.elthamvetservice.co.nz](http://www.elthamvetservice.co.nz)

### Trading Depot

Hollard Engineering,  
Victoria Street, Kaponga  
Ph. (06) 764 6686  
J Larkin 0274 482 585

### Veterinarians

Alistair McDougall BVSc - CEO  
Giles Gilling BVSc BSc MRCVS  
Andrew Weir BVSc, PGDip (Epi)  
Jim Robins BVSc, BSc, DipPharm  
Polly Otterson BVSc, MSc,  
Teresa Carr BVSc  
Adrian Clark BVSc  
Linley Gilling BVSc  
Lindsay Lash BVSc  
James Bruce BVSc  
Leon Christensen BVSc

### Office

Joan Hughes John Larkin BBS  
Jill Watson Sue Morresey  
Nicola Duthie Frank Suter

### Calf Vaccinations - Due Now!!

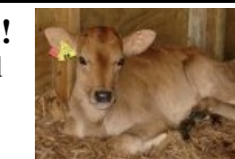
If you have not had your calf leptospirosis and BVD vaccinations done yet please phone us to get them booked in.

There are two BVD vaccines - Viracare and Bovillis (previously Pregsure).

Viracare works against three viral diseases. The BVD component helps prevent calves getting a transient BVD infection which can cause illthrift during the vital growing stage through direct effects of the virus including scouring and using energy to fight the infection but also makes them more prone to secondary infections such as pneumonia and yersiniosis. Viracare also contains a catarrh (Infectious Bovine Rhinotracheitis - IBR) component however we tend not to see much catarrh around compared to 10 or 20 years ago. Viracare also contains a Parainfluenza (PI-3) component. Parainfluenza can be a contributing factor in some pneumonia cases.

Bovillis contains just the BVD component so protects calves from getting a growth check but also has a claim to protect the foetus against infection if the dam contracts a transient BVD infection during pregnancy (a risk particularly when out grazing) which can result in abortion, a persistently infected (PI) calf being born, or small, weak and deformed calves. With Bovillis, after the 2 shots as a calf, we recommend a booster be given in September before heifer mating to boost the antibodies to cover the whole pregnancy as antibody levels will be waning from calf vaccinations part way through pregnancy.

**So which vaccine should you use?** If you don't think catarrh is an issue in your young stock and you want to protect the heifer's first pregnancy then using Bovillis with a booster shot in September is the best option. Note that if you have cattle which are potentially going to be exported overseas then do not use Viracare.



## The Salmonella Story

Recently there has been a lot written, and even more said, about Salmonella in dairy cows. Some of it is even true..... What is NOT true is that PKE, caumag or a product called 'MineralBoost' are infected with Salmonellae.

It is true that Salmonella disease in dairy cows in New Zealand has changed in recent years. We used to see Salmonella as one or two very sick, scouring cows, often in the colostrum mob. Many of these cows died but it didn't spread to the rest of the herd. *The numbers affected were low but the death rate was high.*

In 2009 there began to be reports from the Waikato of a different kind of Salmonella outbreak. In these outbreaks the disease spread rapidly through the herd with large numbers of cows affected, sometimes the majority of the herd. The milk in the vat often dropped by more than half but relatively few cows died. On some affected farms the disease spread to the people but it didn't spread to neighbouring farms. In these new outbreaks *the numbers affected were high but the death rate was low.*

These new Salmonella outbreaks spread to B.O.P. and in spring 2010 we saw the first ones in Taranaki. Up to Christmas day 2011 there have been 16 herds affected in Taranaki. Three of these were Eltham Vet clients. There are more than 1700 dairy farms in Taranaki so you can see *it is not a common disease* but for those 16 farmers, it has been catastrophic.

A group of vets from Taranaki practices has been working together with help from Massey to investigate the problem. Before Christmas some of you helped with a study which compared affected farms with similar unaffected farms to establish risk factors for these outbreaks. This group has achieved more in 2 months that the rest of NZ has in two years but we haven't got to the bottom of it yet. We know we are not dealing with a new Salmonella 'superbug'. We are growing a number of different strains from different farms and they are the normal environmental Salmonellae we have always grown. We know that Salmonellae are present in small numbers on many farms, we know that many farms have Salmonella carrier cows and we know that birds, rats, mice and many other animals carry Salmonella too. Nothing has changed here. What seems to have changed is cows' ability to resist the Salmonellae which have always been there.

Which brings us to a list of the risk factors which affected farms have in common. Not every farm has every risk factor and there are many farms which share some of these risk factors but have not been affected – bear in mind this is *not a common disease*. The list is not in order of importance because we don't yet know what is the order of importance.

- High producing herd
- Well managed, well fed cows
- Feeding PKE **and** another carbohydrate (energy) feed
- A recent change in the supplementary feed
- Home mixing minerals
- Not much long fibre in the diet
- Not vaccinated against Salmonella
- Feeding 'MineralBoost'

*Feeding PKE by itself is not a risk factor.* 'MineralBoost' has been widely blamed in local gossip. It is certainly a risk factor but *it is not the cause*. In Taranaki sixteen herds have been affected but about ninety herds were feeding 'MineralBoost'.

### What can you do to minimize your own risk?

- 1. Stop feeding 'MineralBoost'.** The makers have temporarily withdrawn it from the market. If you have feed on hand with 'MineralBoost' in it there are a number of things you can do.
  - Vaccinate your herd.
  - Do not feed more than the recommended rate and if possible reduce the feeding rate.
  - Dilute the 'MineralBoost' feed with untreated feed.
- 2. Vaccinate your herd.** Vaccination does not give 100% protection but compared to the losses suffered in these outbreaks vaccination is cheap insurance. If an outbreak does occur in a vaccinated herd it will be less severe. In some areas vets are recommending booster vaccinations 6 months apart instead of yearly in an effort to increase protection. The decision is up to you. If your farm does not have any of the risk factors listed above you may decide not to bother. If you are risk averse, heavily leveraged or your herd has several of the risk factors listed above you may decide you cannot afford not to vaccinate.
- 3. Take scouring cows much more seriously.** Most outbreaks start with one sick, scouring cow and the main outbreak starts 10-14 days later. So if dung samples from the first cow grow Salmonella, there is a window of opportunity to get the first vaccination in to the herd and reduce the severity of the outbreak. If you don't want a vet visit, you could just bring us a sample, as many of you do with mastitis.
- 4. Avoid sudden feed changes,** especially of high energy feeds.
- 5. Make hay or straw available to cows when grass is particularly lush.**
- 6. Take care home mixing minerals.** Stick to the recommendations, more isn't always better, enough is as good as a feast!
- 7. Salmonella infects people too.** It is most severe in young children, the elderly and those with compromised immune systems such as diabetics and pregnant women. These people should not go near scouring cows. Practice strict hygiene, wear gloves and wash your hands thoroughly before handling food or smoking. Pasteurised milk is completely safe, raw milk from the vat is not.
- 8. Reconsider intermittent drenching with zinc.** High doses of zinc are associated with Salmonella outbreaks in sheep flocks. Daily drenching with a small dose is safer than doing it weekly or every 3 days. Zinc boluses or water treatment would be safer again.

**If you would like to discuss your own situation in detail with one of our vets please call us.**



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## Minimising Teat Damage

We have been getting anecdotal reports of high levels of teat damage lately. When you think about it that's probably not so surprising because teat damage is generally a reflection of teat condition; i.e. teats in good condition are less likely to become damaged unless a machine fault exists.

This summer we have had excessive amounts of rain, subsequent mud and then the next day, hot dry windy conditions. Combine that with a common habit of reducing emollient in teat sprays after Xmas or stopping teat spraying altogether and it's not that hard to see why there may be an upsurge in teat damage.

If you have stopped teat spraying recently or have reduced the amount of emollient you put in your spray and have noticed that teat condition doesn't look so good or have noted an increase in teat lesions & cracks, perhaps you should resume spraying and increase your emollient levels, certainly while the weather is so unpredictable.

If you are spraying and using emollient and still seeing an increase in teat related problems, you may have issues with your machine that need to be attended to.

*Rather than re-invent the wheel, the following is taken from the Managing Mastitis Booklet available from DairyNZ:*

Teat damage is a major reason for cows getting mastitis. Damaged skin provides sites where bacteria can multiply. It is also an important indicator of faulty machines and/or milking technique.

Teat damage can be divided into two categories - teat sores and teat end damage.

### Teat Sores:

Teat sores and cracks provided sites where large numbers of bacteria can multiply. The greater the numbers of bacteria on the teat, the greater the risk of mastitis occurring. When teat skin condition is poor, effective teat sanitation is difficult to achieve and the risk of new intramammary infections increase.

Teat skin health is affected by exposure to mud & water, and milking machine factors.

Extensive teat damage may also be due to not enough emollient in the teat sanitiser to cope with adverse weather conditions.

To maintain teat skin health, minimise exposure of teats to mud & water, use sufficient emollient in teat sprays and maintain milking machine settings at the recommended levels.

### Teat End Damage:

An injury to the teat end dramatically increases the likelihood of mastitis. Bacteria can gain entry more easily through a damaged teat end. Injuries can be caused by a cow stamping on or tearing her own teat when she stands up, or by faults in the milking machine.

Milking machine factors that result in teat end damage can also upset the natural defences operating within the teat canal. These factors include high vacuum levels, slippage of the teat cups, failure of the pulsation rest phase, liners that are too short for the teats, prolonged milking time and poor vacuum regulator performance.

### Signs of Teat End Damage:

Checking the teats at milking time, particularly as the cups come off, will alert you to any possible problems. Look for:

- Bluening of teat ends
- Teat orifice damage
- Pin-point bleeding
- Black spot
- Pulled out teat ends
- Swelling of the teat end
- Wedge-shaped teat end
- Horizontal rings

Teat end damage is often worse for cows that experience prolonged milking, i.e. slow milkers who go around twice, high yielding cows or cows that are simply over-milked.

Bluing as the name suggests is a bluish or purple discolouration of the teat caused by congestion of blood in the teat tissues. This may be caused by the absence of pulsation, defective pulsation, excessive vacuum or incompatible liner/shell combinations. It is usually accompanied by general teat swelling and a horizontal ring formed at the base of the teat. Congestion causes pain, which is likely to affect milk let down and result in poor milking out

"Pulled out", everted or eroded teat ends may indicate persistently high vacuum, faulty pulsation and/or persistent over-milking.

Pin-point bleeding is said to be the result of poor machine function and sub-optimal pulsation, leading to inadequate teat massage during milking. These can eventually lead to teat cracks and sores.

Black spot, also called black pock, is a sore on the end of the teat identifiable by its persistent black scab. It results from teat damage due to a faulty milking machine, where milking causes the teat orifice to prolapse and become ulcerated. Black spot commonly leads to mastitis in the affected quarter because milking out becomes difficult.

One or two cases of black pock during a season are not cause for alarm as in this case it is probably due to a poorly shaped or formed teat rather than the machine itself.

However if you are getting numerous cases of black pock in your herd you need to act quickly and get your machine checked and vacuum adjusted.

*You know you're into middle age when you realize that caution is the only thing you care to exercise.*

*Everything get easier with practice except getting up in the mornings.*

*If you obey all the rules you miss all the fun.*

