

Special points of interest:

- In July, we will be running our spring triage and calf rearing seminars as usual for dairy farmers and their workers. We will send out some information shortly on material covered and dates of seminars. We hope to see you there!
- For abortion samples, please don't bring aborted fetuses inside the clinic, there will be a box at the front door to drop them in. Please bring the freshest (no more than 24 hours old) least scavenged fetuses possible. Please bring placenta if available, and only one fetus of twins or triplets, as the cause of death will be the same.
- We look forward to seeing our sheep farmers for PAR consultations this year. Please take this opportunity to pick our brains about any animal health or production questions on your farm. Remember, if you require any prescription drugs or vaccines for the coming season, by law we must do a consultation.

Mastitis Planning for Next Season

The dry period over winter gives you time to regenerate and recharge your batteries, reflect upon the last season and plan for next season.

Planning and implementing those plans is important in order to improve upon seasons past. Once you have a strategy in place you may wish to discuss these plans with your veterinarian or a valued advisor. You may even chose to ask them to help facilitate with setting targets and formulating goals.

Once the cows are dried off, observe them regularly, performing visual checks in the paddock weekly. If you choose to run them through the shed to manually check their udders, do this when the cows have been dried off at least 10 days. Do not squeeze the teats to remove contents unless suspicious lumps or heat are felt. Observing your cows allows you to do a preliminary assessment of how effective your drying off routines were.

Reducing bacterial numbers on the teats during the later stages of the dry period helps to reduce the risk of mastitis at calving. Teat spraying the dry cows udders every time they are in the dairy shed during the dry period will help.

The dry off period gives you the time to get the milking plant and teat sprayer tested, serviced, and/or upgraded.

Milking machines spread mastitis via the following mechanisms;

- spreading organisms via contaminated liner surfaces from mastitis milk or teat lesions
- assisting the passage of organisms into the canal by cup slippage, rough, or inappropriate cup removal from cows



- teat end damage and loss of keratin lining the teat canal

- less frequent and insufficient emptying of the udder

Regular testing, service and maintenance of milking equipment is essential to maintain good mechanical performance, optimise the speed and completeness of milking and improve mastitis control. A milking machine technician with a MPTA testing certificate will be able to perform a comprehensive series of dry tests plus some physical measurements.

It is important to act on their recommendations, no matter how trivial they may appear to be. This is because the cumulative effect on udder health can be significant.

Replacing the liners for the upcoming season is recommended. The new liners need to fit your cup shells, and your herd's teats. The correct liner for your herd is dependent upon your cows teat size, and variation between cows, the weight of the claw, the dimensions of your cup shell and the vacuum level you choose to milk your herd at. Some of these parameters can not be effectively measured and changing just one of them can affect the other ones. If your cows are milking out well, are comfortable during milking with no pinprick sized haemorrhages in skin or red blemishes at the

time of cup removal, no ringing (swelling) at the base of the teat once cups are removed, teat ends are smooth with the teat sphincter seen as a smooth orifice with no raised edges highlighting its circumference, minimal cup slippage during milking, and no cup crawl up the udder at the end of milking, then you have the ideal liner for your herd and plant. Do not be tempted to change to another liner that is 'the same but slightly different'. Just a moderate change in rubber softness will alter the required parameters of the mouthpiece lip diameter, upper barrel bore and even the taper of the liner and barrel bore diameter.

If your liner isn't ideal, trial a new liner on a few sets of cups to assess cow comfort and teat health. The expense and consequence of an inappropriate liner choice may be more severe than the not quite ideal liner you are currently using. The lifetime of 2500 milkings for nitrile rubber liners is a reality and the rapid deterioration of the liner surface and rubber elasticity results in slower milkings and greater exposure of the teat end to bacterial contamination impregnating the liner surface.

In conclusion, in regards to your liner choice, remember, 'if it ain't broke, don't fix it', but the caveat to this is don't ignore the subtle teat changes that indicate that chronic insidious teat damage is occurring which can be reducing complete quick milk out and deteriorating udder health which will show itself as a higher bulk somatic cell count and/or too many clinical mastitis cows.

Agresearch: Dairy Production Genetics

In the interest of supporting our colleagues at AgResearch Invermay, we are publicising some of the important research being undertaken in the lower South Island. We support the important ongoing research at Invermay and hope that we will continue to see science coming from the region. Moving all of the research to Lincoln, including GenomNZ, a major source of sheep, cattle and deer genetic research, will be a major loss.

This is one recent trial:

“Two major dairy cattle tests are being undertaken at Tokanui Dairy Research Farm to try and understand the mechanisms that regulate

milking persistency. A cow reaches peak lactation at four to six weeks after calving, then there is a gradual decline of milk production.

In one trial, scientists took mammary gland biopsy samples at two stages of lactation, one at the peak stage and one later. It is hoped that lab analysis will provide some clues about the divergence in milk yield between the two sample groups.

Another trial was based on overseas reports that persistency can be improved by carrying out frequent milking in the early stages of lactation, then reverting to twice-daily milking.

In this trial, 10 cows had half

the udder milked twice a day and the other half four times a day for a period of two weeks after calving. This method will eliminate a lot of potential for variability, such as nutrition and genetics, as the two samples for comparison are taken from the same animal.

So far, results have shown that some areas of mammary tissue are more active than others, and this varies between animals. Several known cell signalling pathways are being targeted to try to determine how inactive, or less active, tissue could be ‘switched on’ to improve milk production.”

- Courtesy AgResearch



Farrowing Sows

A sow will normally give birth about 112-116 days after she was mated. In preparation for farrowing it can be helpful to spend time being around and handling her in the last month of pregnancy so that if she needs assistance you can help safely, without stressing her.

At about day 95-100 she should be moved into a clean pen where she will farrow. There are a few things you can add to a farrowing pen to help avoid piglet losses from smothering. Sows often smother piglets unknowingly as they get up and down and move around. A guard board or hurdle can be put across one corner of the pen which will protect the piglets from being laid on. Also, a heat lamp will keep piglets warm without them having to huddle next to the sow for body heat where they are at risk of being smothered.

Noticeable changes start occurring in the last 10-14 days of pregnancy. Udder development begins and the vulva (external vagina) begins to swell. Blood vessels supplying the udder bulge.

Reduced appetite, restlessness, getting up and

down, chewing bedding and nesting are all signs of impending farrowing. Mucous may be seen at the lips of the vulva.

The actual farrowing process can take between 3 to 8 hours. The sow usually lies on her side, often shivers and raises her back upper leg. The piglets may come head first or backwards and there can be variable lengths of time between the birth of each piglet. You may recognise there is problem if either there is a lack of piglets being born, the sow is in obvious distress and panting or there is bleeding from the vulva.

Farrowing difficulty may be due to many things. Large piglets and small pelvis, lack of contraction of the uterus, multiple piglets in the birth canal at once, stillborns, twisted uterus and sow illness such as acute mastitis can lead to farrowing difficulty. The sow may need assistance either by manual manipulation and/or drugs such as 0.5 ml of oxytocin to help contraction. Antibiotics and anti-inflammatories may also be necessary following assisted or complicated farrowings.

Any piglets that do not breathe when they come out can be stimulated to cough out mucous blocking their airways by poking a small piece of hay or straw up the nose. Another way to clear mucous from the airways is to pull the tongue out, hold the mouth slightly open and while holding the head swing the piglet in a firm downwards direction.

The final stage of farrowing is completed when the placenta /afterbirth comes out. It is normal for discharge to come out of the vagina for the following 3-5 days. If the sow is eating well, is bright and alert and there is no sign of mastitis or other illness this can be ignored.

With the farrowing process over it is time to make sure all piglets get colostrum within the first 6 hours of life. Large vigorous piglets can be removed after feeding for an hour or two to decrease competition for colostrum. Weak or small piglets may need to be given colostrum by syringe. Three 15-20ml doses in the first few hours will give them a good start in life.



'There is no substitute for milk'

There are constantly 'new' calf rearing programmes which promise to rear beautiful, healthy large calves while leaving all that expensive milk in the vat. With the payout being high the last few years, we have seen more and more of these early weaning programmes on the market, where special feeding, or oral dosing with product X promises to replace milk and allow calves to be weaned as early as 28 days!

This all sounds great at an \$8.00 payout, and many of our farmers have tried one system or another. The majority of

these programmes have no studies published in peer reviewed journals, and some have no published data at all.

So how likely is it that a product can replace milk?

Probably not very. Realistically, milk is produced to provide nourishment for calves. Biologically, calves would stay on milk until about 6 months. Milk provides not only protein, fat and energy but also antibodies to diseases in the calf's environment and trace minerals. Additionally, at 4 weeks old, a calf's rumen is unable to digest grass or fibre (they

are nonruminant). We have seen many farms with disease outbreaks after using early weaning/early ruminant programmes, and some where calves have died. These animals are the future of your herd.

There is no substitute for milk.



Getting more eggs.

In a follow up to last months article on egg quality I thought it would be time to talk about egg quantity.

Chooks will start laying around 20 weeks of age. Their peak production will be at about 27 weeks of age when they are in their adolescent prime when they will be producing close to an egg a day. Then production will decrease to around 4 eggs per chicken per week by five years of age. Egg size however will do the opposite and will generally start at around 60g (size 5 or 6 in the super market). From here they will slowly get bigger throughout the hens life, The size reached depends on the hen but increasing about 1 egg size (about 8g) every 1.5-2 years. So what if this isn't happening?

Age. The older your flock the fewer eggs it will produce. This is remedied by getting some young replacement chicks or pullets and cull the older girls, they might go alright in a curry. You can breed your own if you have a rooster but be warned, roosters can be truly evil creatures so wear long pants when near them, they can leave nasty scars.

Feed. Hens require a complete, balanced diet. If they are consistently fed an imbalanced diet it will result in a plummeting egg production. Most back yard chickens will receive table scraps as part or

all of their diet. Table scraps, especially greens, are often a good source of vitamins and minerals. Scraps are not a complete diet however. I would recommend that ALL hens receive a commercially produced layer hen feed as at least a quarter of the diet but the more the better. It is important that it is a layer mix and not a feed intended for meat chickens or pullets and chicks. These feeds will contain coccidiostats which adversely affect egg production and commonly have an egg withhold. In addition to this they should have a calcium based grit available. This is essential for egg shell production and if calcium deficient the hens will produce soft shelled or low numbers of eggs and can become egg bound which can be fatal. This grit commonly available as ground up oyster shell.

Toxicities. Hens can be poisoned by toxic substances lying around. Probably of more concern is poorly stored feed. This can lead to fungal or bacterial overgrowth. You don't want a botulism botch up in your hens! Feed should be stored in a cool, dry place away from rats, mice and other small stinky creatures.

Parasites. Chickens are susceptible to lice, mites, ticks and worms. All of which will impact on production. Adult chickens are relatively resistant to worms but should still be wormed twice a year (more often if not free range). Flubenol is available which is given through the water supply and has no egg withhold. Lice, mites and ticks can be treated with Pestene

powder which is dusted on the hens and roosting/nesting areas. Eggs must be discarded for 24hrs following treatment. It is important to also clean the coop as the mites will live in the timber around the nest boxes and come out at night to suck the chickens blood. If you only have a few birds then ask our vets for alternative, off label products. These will incur a default 10day egg and 63day meat withhold.

Others. If the chickens have free range they may also be laying elsewhere and hiding their eggs. In this case you may need to confine their range. Also sometimes chickens get a taste for eggs and eat their own. In this case the best course of action is to cull the culprit and replace her. On occasion hens will become 'clucky'. This is when they have a desire to mate and rear young. They stop laying and sit on the nest box for most of the day and cluck madly if you approach her. Place these hens in an enclosure by themselves with a perch and no nest box for 3-4 days and they should come right.

Cleanliness. Clean the coop every 4-6 weeks and replace the straw. Disinfect twice yearly with Virkon. Clean water and food containers weekly and check wood work for small red mites, if found spray with pyrethrum spray or dust with Pestene. Cleanliness ensures a healthy habitat and reduces incidence of diseases that will lower egg production. cluck cluck cluck



Helicobacter Abortions

In the last five years we have seen an increase in abortions caused by *Helicobacter rappini* (formerly known as *Fusobacterium necrophorum*). The history of this disease is ill defined, but this is the current knowledge.

Since 1991 there has been many large sheep abortion outbreaks in the South Island with liver lesions in aborted lambs resembling *Campylobacter* infection (*Vibrio*). However in these cases cultures were negative for *Campylobacter*. Some bacteria were found using microscopy and were thought to be *Fusobacterium* (the bacteria that causes ovine footrot). However, on further investigation these bacteria were identified as a *Helicobacter* species which has been documented as causing sporadic abortions in the USA and the UK. These bacteria are difficult to identify using standard lab techniques, and tests are currently under development to detect them. The current test available is accurate, but the timeframe for testing is long, and cost can be high.

There is also some uncertainty as to the significance of *Helicobacter* bacteria when present; and if they are actually causing abortion outbreaks, what

the risk factors for their occurrence are.

The *Helicobacter* organism is a normal gut inhabitant so will always be present in the environment due to faecal contamination (greater stock density will increase contamination of feed). Observations from previous possible *Helicobacter* abortion outbreaks have involved flocks that were strip grazing either on pasture or crop, sometimes in muddy conditions, abortions tended to occur over a 50-60 day period, spreading out of ewes had variable effect on abortion rate, and some immunity seemed to have been gained in affected flocks (although in one Canterbury farm the flock had 14% abort again 6 years after the first outbreak). Antibiotics have not appeared to help stop the abortions and vaccination with a *Fusobacterium* vaccine during one outbreak did not slow the abortions. Ewes that have aborted in these cases have been reported to get back in lamb normally.

We are constantly increasing the amount of information available about this disease, with the help of our farmers and the pathologists and research scientists at Invermay.

This season we are helping the scientists to gather information about suspicious

cases of *Helicobacter* and the management practices of farms which have outbreaks.

One of the main concerns is identifying the best location to take post mortem samples and get a positive test result. The scientists report that often of twenty lambs sampled from the same abortion outbreak, only 2-3 will return a positive result. We are thinking that using a different sample (possibly placenta or stomach contents) will help us get less variation in results. Being able to positively identify cases is a crucial first step in studying the epidemiology of the disease.

Cases of *Helicobacter* generally occur close to lambing, and there have also been reported cases of weak lambs which die soon after birth. The diagnosis is often one of exclusion, ruling out toxo, *Campylobacter*, and salmonella, as well as fungal abortions. The majority of the time there are no grossly visible lesions on post mortem.

If you have suspected cases of *Helicobacter*, we would like to hear about them, and we will continue to try to increase the veterinary world's knowledge of this frustrating disease.

Vetco Limited

14 Sweeney Street

Edendale 9825

Ph: 03 206 6170

Fax: 03 206 6171

11 Clapham Road

Kennington 9871

Ph: 03 230 4689

Fax: 03 230 4026

**We're on the
web!**

www.vetco.co.nz

Agresearch: Easy Shear Sheep

Tailing lambs is still the most economically effective and common method of managing fly strike risk on farms. Agresearch has been looking into alternative methods of managing fly-strike, in case consumers in our overseas markets develop welfare concerns around pain at docking.

"Research has shown that sheep that are less prone to dags and flystrike can be bred by farmers using genes already in the flock, with

minimal impact on wool yield. David Scobie of the Animal Productivity group has spent 10 years researching sheep that cost less to farm. Short tails, a bare rear-end and no underbelly wool can mean a significant saving on management costs and shearing time, with only the lower-value wool lost.

A woolly bulk-standard romney takes about 150 seconds to shear, and one with a bare belly and rear-end takes around 68 seconds.

Shearing is also easier with shearers not going near the udder or hamstrings, which can easily be cut.

Dr Scobie says farmers can breed the bare sheep themselves from the enormous gene pool that exists in New Zealand. It is advised that farmers remove daggy ewes from the flock and choose clean rams, as traits such as tail length, clearness under the tail and belly are highly heritable characteristics."