



HEAT STRESS

This has been a big problem this summer, both on the grass and on the livestock (as well as farmers and vets!).

What causes Heat Stress?

Air Temperature and Relative Humidity are what we generally focus on. The Temperature Humidity Index takes these 2 into account because humidity decreases the efficacy of panting and sweating to dissipate heat. However, in NZ, Solar Radiation is also an important factor. The Heat Load Index combines all 3 of these factors, plus wind speed.

What do we see?

In terms of behavior, cows tend to have an increased breathing rate and may pant with open-mouth breathing, drooling and tongue protruding. They will also seek shade, be reluctant to move, drink more and spend less time lying. With decreased feed intake we also see reduced milk production.

When do cows get heat stress?

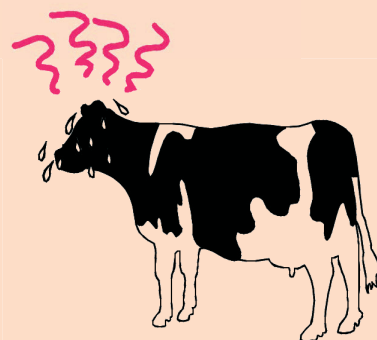
As a guide, Freisians display a drop in milk solids at THI 68 (21C at 75% humidity). Jerseys have a higher tolerance, showing heat stress at THI 75 (25.5C), and Cross-breeds at THI 69.

Dairy NZ have a good online THI calculator for THI:

<https://www.dairynz.co.nz/animal/cow-health/heat-stress/>

What can we do?

- Shade – trees, shelter belts, shade structures with enough area for all the cows (5m² each)
- Sprinklers in the yards
- Lots of clean drinking water (cows can drink 100+ litres daily)
- Reducing walking distance in the heat
- Changing milking time to avoid peak temperatures
- Going to OAD or 16hour milkings
- If cows are displaying extreme signs of heat stress – pour lots of cold water over them, move them to nearby shade and call us.

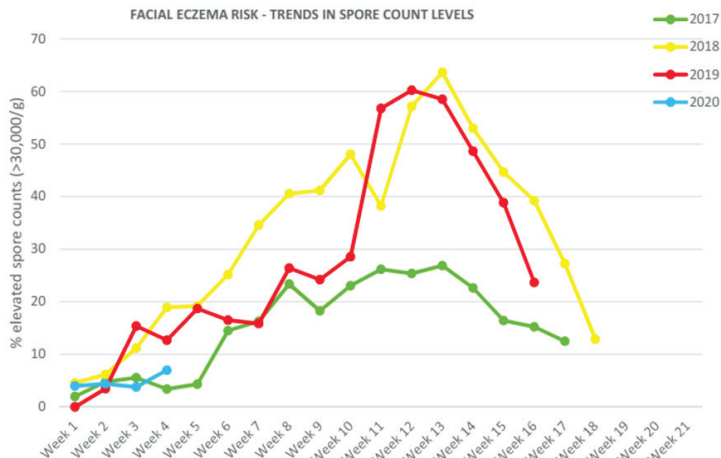


DROUGHT

With the dry summer, we are facing some big decisions. Don't forget to get your herd scanned to identify empties/lates for culling, condition scored for drying off priority, and herd tested for drying off information. We have a certified BCS Assessor who can help you.

Facial Eczema

FACIAL ECZEMA RISK - TRENDS IN SPORE COUNT LEVELS



With it being so dry, spore counts are currently very low. However, when we get some rain they may well escalate quickly. Keep an eye on your farm risk by dropping grass samples in to us.

Spore graph from Gribbles

FACIAL ECZEMA DEFENCE

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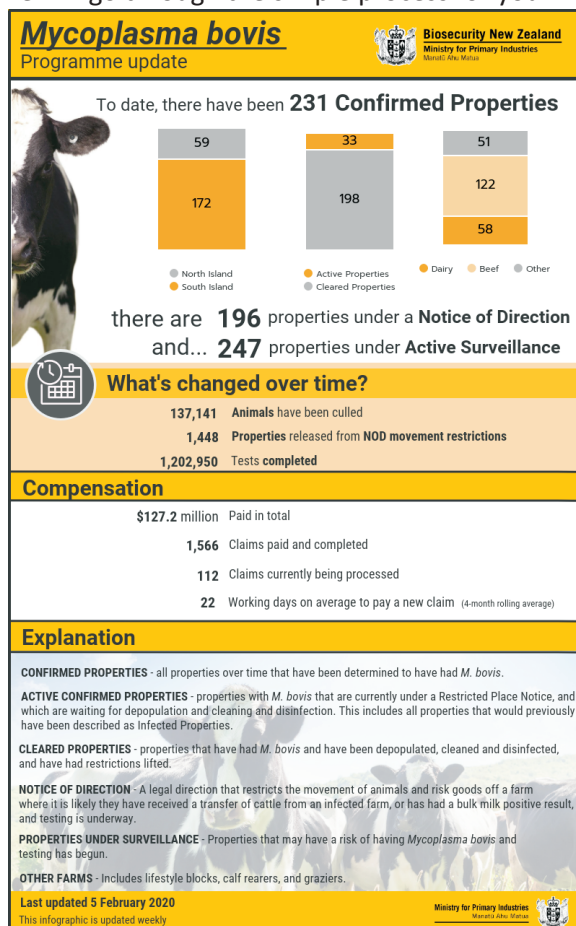


Don't forget to get your herd tested if you want to use antibiotic dry cow!

2020 is the year we are no longer allowed to blanket dry cow (unless justified) as part of the response to ensure responsible use of antimicrobials to minimize the risk of bacteria developing resistance in both animals and people. Most of our clients have been moving to selective dry cow and teat seal over the past decade, and it is a strategy that delivers excellent results as long as cows are chosen appropriately, and the products are inserted appropriately. So to use selective dry cow, we really need to choose those cows who are likely to have an infection ie we are using it as a treatment rather than a preventative. Generally we can use a recent herd test to pick cows with SCC over a threshold (normally 150 or 200). If you don't herd test the options are to order one before drying off, or to get the herd RMT'd to identify "gluggy" sub-clinicals.

Clean cows (no mastitis, low SCC) are actually better protected with a teat sealant as it prevents new infections all the way to calving (ie it doesn't run out like antibiotics must to prevent a with-holding issue). Inserting teat seal in particular, but also any intra-mammary, needs to be done with scrupulous hygiene. We can help with a team of technicians for this demanding job, with a guarantee of professional standards.

The prescription regulations are also changing for Red Light Antibiotics, which are classed as Critically Important for human use. Currently this covers Mastalone, Tyloguard, Excede LA, Excenel, Marbocyl. Prescriptions for these medicines now only last 4 months, and volume of stock on hand needs to be recorded. We have developed a new form for these, and if you are holding any or anticipate needing some we will go through the simple process for you.



Another aspect of responsible use of antimicrobials is to do culture and sensitivity tests. We currently run milk cultures in house to identify the cause of the mastitis; if a chronic old cow has staph aureus, the cure rate will be so low it may be wiser to cull than to treat for example.

Remember to order your Antibigram! Or drop off samples

Sensitivity / resistance testing can either be done on individual milk samples, or the bulk milk can be monitored with the Antibigram. I recommend getting this done before dry off as it will give you a snapshot of the antibiotic sensitivities for staph aureus and strep uberis. Not only will this help guide the choice of DCT, but will mean you can monitor the efficacy or development of resistance on your farm.

Selenium Supplementation

To counter the wide range of recommendations currently promoted for selenium supplementation, Hendriks and Laven wrote a detailed summary of selenium supplementation in NZ. Looking at various field trials assessing impact on SCC, milk yield and reproduction, they concluded that for pasture-based systems there is no evidence to support the much higher threshold used in the USA. They support the recommended intake of 0.03mg/kgDM.

They made some other interesting points:

Selenoproteins are important anti-oxidants, preventing tissue damage and playing a role in thyroid function. Pasture has higher natural levels of Vitamin E, which is also a scavenger of peroxides, so may reduce the requirement for Se compared to TMR diets. However, this is likely to be lower in conserved forages.

However, the real question is the overall balance between anti-oxidants and pro-oxidants. The main pro-oxidant in cattle diets is peroxidisable PUFA. Although the level of vitamin E drops in hay, so too does PUFA ie the ratio stays the same and so oxidative stress is the same.

Kale, turnips and swedes contain higher concentrations of peroxidisable PUFA. The bulbs of turnips have very low vitamin E levels. Fodder beet is low in Selenium. These figures suggest feeding such crop may necessitate higher selenium supplementation, but we need more data on the balance of all these and the impact on selenium levels to be certain of advice.

Ultimately, we need to be monitoring selenium levels in livestock to assess efficacy of supplementation.

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