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THE GOLDEN CIRCLE OF RESILIENCE

– a proudly south african standard

by Elizabeth Van Papendorp

Tough times don't last – tough people do! Our world-renowned work ethic is one of our most proudly South African traits. Our willingness to work hard and our resilience under difficult circumstances make us unique, and these traits are invaluable when it comes to dairy farming. Conditions on the farm rarely stay the same, with many external factors affecting farm management and, even more importantly, the cows. These factors come in all shapes and sizes, from a change in milk buyer and milk price, to changing quality of raw materials and seasonal stressors on the cows. Since these factors probably will not influence the farm positively, it is important to have a robust system with resilient cows to carry you through to better times. These will be the animals that survive and thrive – long after the tough times have ended.

How can we ensure that our cows are tough and resilient? What are we preparing them for? At this time of year, the answer is summer. We should be thinking ahead and planning our summer strategy because this is when the most external stressors affect cow health and productivity. Heat stress is probably your first thought, but there is something else your cows could be struggling with in the heat.

I'm referring to a disease that you've either heard of (and know first-hand how badly cows can suffer from it), or that you are lucky enough never to have encountered before ... facial eczema.

WHAT IS FACIAL ECZEMA?

Facial eczema is a liver disease caused by the consumption of the spores of a mould called *Pithomyces chartarum*. This mould is typically found

in the grass mat during hot and humid conditions. Once ingested, the spores release a mycotoxin called sporidesmin that is absorbed into the cow's system and wreaks havoc. Sporidesmin causes internal damage to mainly the liver, the mammary gland, and the bladder; however, the only typical external clinical sign is severe photosensitivity.

The real issue with facial eczema is that unless a cow shows photosensitivity, you are unlikely to realise that she is suffering from pithomycotoxicosis. In addition to the liver and mammary damage, the cow will also experience subclinical inflammation, reducing the availability of nutrients and energy for production and reproduction. The only thing the farmer can see is an underperforming cow, with no clear cause for the reduced performance. Combine these symptoms with known consequences of heat stress, and it really seems as if we are looking for a needle in a haystack.

REDUCING RISK, INCREASING RESILIENCE

Although there is no known treatment for cows showing clinical symptoms of facial eczema, there are a number of strategies we can employ to reduce risk and increase cow resilience against this disease – but it requires action on all fronts.

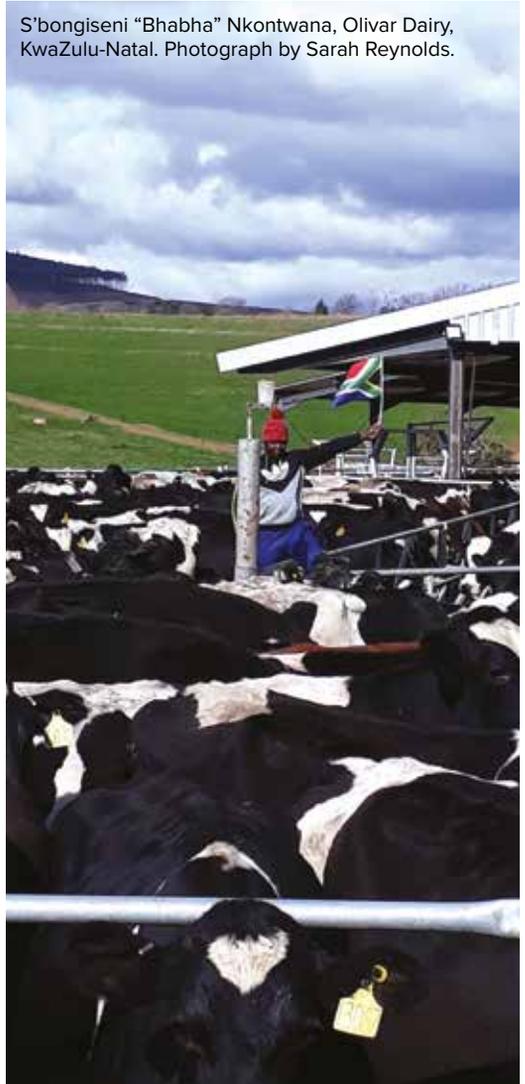
Step one in reducing risk is management of pasture grazing height. *Pithomyces chartarum* spores typically occur in the grass mat, so it is important to ensure that cows are not grazing too close to the pasture mat to reduce the chance of ingesting these spores.

Step two is the inclusion of high levels of zinc oxide in the dairy ration. Zinc oxide works by forming a complex with sporidesmin in the gut and preventing absorption of the mycotoxin.

Step three towards increasing resilience is to consider including a mycotoxin binder or eliminator that has immunomodulatory action. While many mycotoxin binders are typically ineffective on *P. chartarum* spores, some have increased functionality and modes of action, including immunomodulation. This will provide the immune system with the added support it needs

by protecting immune cells from damage and balancing immune-signalling proteins.

S'bongiseni "Bhabha" Nkontwana, Olivar Dairy, KwaZulu-Natal. Photograph by Sarah Reynolds.



CONCLUSION

The use of a functional mycotoxin eliminator, combined with the preventative actions of zinc oxide and good pasture management, can help us reduce risk and equip our cows to achieve greater resilience through the summer season. mipo