Lingpica Depression

Horses don t do the tropics

By Andrew Bowe, Master Farrier Images courtesy of Mayfield Barehoof Care Centre



Recently, I took a (working) trip up north just in time to catch the end of the wet season. We are regular visitors to the 'Sunshine' states, but we usually do a run of hoof management workshops during the northern dry, which means most of the hooves we see are robust, tough and shining examples of how equine hooves should be. However, for as long as we have been visiting northern horses in the dry, we have been hearing about the litany of problems that beset horses' hooves in the tropical wet.

So, there I was, after a week of trying hard not to squash all the 'cute' cane toads crossing the roads and having just seen more rain in a week than I had seen in a year, thinking I was right in the middle of the wettest wet season ever, the locals nonchalantly insisted that it was only just an average wet season.

But the grass! Whilst a welcome tonic for droughtweary southern eyes, it was nonetheless lush, wet and totally the wrong species for equine consumption. I was expecting to see problematic hooves and I wasn't disappointed.

Horses - by their genetic blueprint - are high altitude desert dwellers. They are designed to digest high fibre, but low quality herbage and traverse dry terrain. The central Asian Steppes where they come from are mostly cold and any heat is dry, very dry heat.

Tropics are the antithesis of the adopted equine environment. Apart from the nutritional challenges that bombard their hooves with laminitic pressures and the constant wet that robs keratin of its tensile strength, extra challenges facing tropical hooves are the humidity, and the omnipresent and particularly virile and opportunistic pathogens (bacteria and fungi). All in all, it takes considered management to get the best out of equine hooves during the tropical wet season.

The cornerstone of successful hoofcare in such an adverse environment is regularity. Very simply, don't let the hooves grow long.

Horses evolved over the millennia with their hooves being constantly worn by continual movement over abrasive terrain. It is thought that their hooves did not grow long, but remained short with frogs weightbearing and resilient, and with the laminar line compact and tightly connected. This is how they attain great architectural strength as a unit and keep out foreign invaders.

This is why hooves should be trimmed regularly enough to ensure the frogs stay well-grounded and robust, and the walls don't grow far enough past the sole to create any excessive mechanical forces, which lead to laminar separation or wall cracks. Even minor breeches of security will let the tropical bad guys into the hoof's safe house.



There is an endless interpretation as to the fine detail of how horses' hooves should be trimmed in any given situation. One does not have to look far in the equine industry to find contradictory opinions about hoofcare. However, the devil is surely in the detail and it is wise to stay focused on the big picture, which in this case is optimising hoof capsule integrity.

AN ARIS TOMATA



ABOVE: Lush but all the wrong grass species. LEFT: Photo 3 - Hooves should be routinely palpated to check for frog sensitivity. BELOW: Photo 4 - The effects of flat trimming.



One notable exception to this rule may be the need to allow heels to grow high enough in order to protect frogs that are already soft and sensitive, due to prolonged exposure to moisture. As an aside, hooves should be routinely palpated to check for frog sensitivity. (See Photo 3.)

During the wettest, steamiest days of the season, it may be helpful to trim hooves with an exaggerated roll through the outer wall that is somewhat steeper than the standard 45 degrees, leaving only a thin rim of inner wall adjacent to the laminar line. Enough wall to protect the sole, but not enough to leave any lever forces.

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There is one specific detail that needs to be addressed when discussing tropical hoof management. That is, the fundamental difference between how horses have been 'traditionally' trimmed, compared to modern 'barefoot' trimming principles. A hoof trimmed specifically to remain barefoot is not flat; rather the outer wall is kept non-weightbearing and the quarters are trimmed to the contour of the sole. On the other hand, traditional trimming has been flat (as if to put a shoe on), which does not seem conducive to optimum hoof health in the tropics. Flat trimming leads to laminar separation in general and breakage through the quarters in particular, resulting so often in pathogenic invasion. (See Photo 4.)



ABOVE: Photo 5 -A tropical hoof with the lot: seedy toe, white line disease, thrush and a washed-out sole.

RIGHT and BELOW: Photos 5b, 5c and 5d - Any incursions of seedy toe need to fully removed.









LEFT: Photo 6 - Laminar separation infected with white line disease.

BELOW LEFT: Photo 7 - All separation needs to be 'safedoff' with a rasp.

BELOW: Photo 8 - A hoof pick disappearing into a deep, thrushy central sulcus.

FAR RIGHT: Photo 9 - An angry tropical abscess that has burst through the coronet band.





Speaking of pathogens, the scourges of seedy toe, white line disease and thrush, are commonplace in the tropics. Hooves need to be closely monitored for these (that means picked up, cleaned out and inspected at least once a week) and, at the first signs of incursion, they should be attended to. If pathogens do manage to break into a hoof, an awful lot can happen in the 6-8-10 weeks between visits from a professional. Early detection and intervention may well avoid extensive treatment and potential downtime in the forthcoming riding season. (See Photos 5a-c.)

Seedy toe (bacterial infection of the inner wall adjacent to the toe) needs to be resected back to healthy tissue and treated topically with peroxide (3% strength scrubbed on every day for a week if practical) and then with a penetrating residual agent, such as Black Heeler, that should kill any germinating bacterial spores within the healthy tissue of the inner wall. Seedy toe is much easier and more successfully treated if small incursions are not allowed to become large cavities. Don't ignore it!

White line disease (bacterial infection through the quarters and into the heel corner area - see Photo 6) is harder to fix than seedy toe and needs to be treated topically with a stronger agent, such as phenyl. Whilst this may sound a bit harsh, phenyl is an old bushies' remedy that has been used for generations on horses' hooves for treating various infections. It flushes out all diseased epidermal tissue and leaves behind healthy tissue that has a surface like polished marble and is fortified against further pathogenic invasion. It works well and does not seem to cause any collateral damage. (See Photo 6.) When trimming, particular attention needs to be paid to any areas of separation within the wall or the laminar line. Any and all mechanical lever forces that are perpetuating any such separation need to be removed.











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A common outcome of pathogenic incursion are the hoof abscesses, which seem all too prevalent in the wet season. For further information about abscess management, please refer to a recent article in Horses and People Magazine (May 2015).

Frogs need to be trimmed along the collateral grooves, and around the central sulcus to remove any verandahs that trap fungus and bacteria (See Photo 8). Heading into the wet season, it is best to be proactive and try to prevent thrush with the daily application of a mild bacteriostatic agent, such as cider vinegar.

Frogs should be regularly monitored and any bacterial invasion needs to be repelled. If vinegar is not successful, stronger agents, such as chloride, compounds or essential oils,

TOP LEFT: Photo 10 - A washed out sole that has broken through to the corium.

ABOVE: Photo 11 - Palpating the sole to check how thick it is.

ABOVE RIGHT: Photos 12-13 - A shoe removed at the start of the wet season showing early signs of pathogen invasion. such as tea tree or neem, may be used, but avoid using caustic agents, such as copper sulphate, zinc sulphate and formaldehyde, that can damage healthy frog tissue. (See Photo 8.)

If a horse is being ridden during the wet season, it will also be important to guard against 'washed out' soles (a condition that is also known as 'retracted' soles), which occurs when soles are continually losing their outermost layers to the combined effects of bacterial consumption, coupled with mechanical abrasion from the ground surface when being ridden. Wet sand is notorious for this. Layers of 'skin' effectively get eaten away quicker than they are being regenerated.

In such cases, there is no evidential build-up of bacterial detritus, only a sole that gets progressively more concave and thinner, and it can ultimately become just a weak veneer covering the vascular corium beneath (See Photo 10). Understandably, a horse with washed out soles will become progressively more sensitive on its hooves.

How can you tell if your horse's soles are beginning to wash out? Visually, a sole will develop localised pitting that will get deeper and wider, but it will also become increasingly easy to palpate. Hooves should be regularly palpated to check for any loss of sole thickness. (See Photo 11.)

Washed out soles are hard to prevent topically. Agents, such as iodine, can be scrubbed on daily in an effort to kill any resident bacteria, but the trouble is, as soon as the horse is turned back out into lush pasture, any topical agent will simply be washed off and new keratineating bacteria will colonise the sole.

A good way to overcome the effects of the constant damp is to create a night yard (roof covered if possible) that has 4-6 inches or thereabouts of pea-sized round and smooth river pebbles. Round and smooth is the key. Apart from providing a horse up to half of each day with dry hooves, a free-moving deep footing of pebbles has the added benefit of maximising the perfusion of blood through hooves which, in turn, will help to grow a healthier and more resilient hoof. At the risk of over-intensifying hoof management, an ideal situation to ward off the effects of solar wash-out would be to treat the soles topically (with iodine) and then keep the horse tied up on dry flat footing for half an hour (feed up time) before turning it into its pebbly night yard.

A note of caution regarding deep pebble footing is that the use of such a yard needs to have been started before the onset of the wet season. Once a horse's soles have already begun to wash out, a deep footing of pebbles may actually be uncomfortable for a horse.

Horses that are regularly shod during the dry season should get a spell out of shoes during the wet. This gives hooves the opportunity to grow out the inevitable hoof deformity that arises from the incorrect weightbearing pressures that a shod hoof endures on hard ground, but shoes also provide some very dark corners for pathogens to set up camp in the wet season. (See Photos 12 and 13.)

Hoof boots are a logical choice to overcome any sensitivity arising from horses being worked barefoot in the wet season, because they are removed after riding and a horse can remain barefoot in its paddock.

It seems every aspect of a horse's existence in the tropical wet season affects its hooves. What else could we expect from cramming a whole lot of rain into such a short and steamy time?! Short of packing up and moving way out west into the dry country, there is no total solution.

Maybe the answer lies in setting hooves up with the best possible integrity and health leading into the wet season. I know this author bangs on about it, but the best hooves I saw on my trip were those being maintenance trimmed every couple of weeks by their owners.

True to the original model of hoofcare (constant abrasion arising from constant movement), maintained hooves have fully functional and robust frogs, and tight structural connections. They are resilient - even in Cane Toad County.





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