

Talking Horses

The newsletter with news, views and practical advice

From the editor...

Spring is almost here! The prospect of warmer weather and longer days will delight many riders, and perhaps some may not be as enthusiastic if they have to go back to training. It is always hard to get time during the winter months if you work and don't have an indoor arena in which to train at night under shelter.

In this issue, we provide a review of the condition referred to as 'Spring Fever' - just what makes some horses to be 'up on their toes' and excited - well perhaps not about training. Being an early spring issue, we highlight a warning about founder in horses and ponies grazing lush spring pastures, especially if they are already well conditioned and building up a 'cresty' neck.

We also discuss fencing and the need for safe fencing to minimise the risk of injuries as horses enjoy themselves, sometimes with reckless abandon!

And to top it off, we begin a series of information reviews on plants which are poisonous to horses, which will provide you with a handy reference as the series unfolds. In this issue, we highlight avocado poisoning as a high risk problem in horses grazing over the fence from avocado trees in a garden.

Keep safe and enjoy your horses.

All the best,

Dr John Kohnke BVSc. RDA

Did you know that...

All equines, including horse, donkeys and zebras, have an extra ligament, called the accessory ligament, associated with their hip joint. The standard ligament in all animals anchors the ball (femoral head) into the socket (acetabulum) within the hip joint to allow full swing movement within the hind limb. The accessory ligament has an anchorage point just outside the hip joint on the top end of the femur bone and extends downwards to the pelvic floor. It is thought that this ligament stabilises a horse's hind end as it gallops to prevent sway, especially as a horse turns at speed. It helps prevent the horse's hind limbs doing the 'splits' at speed, which would otherwise risk it falling over. Horses, for this reason are unable to 'cow kick' out sideways, but if they do kick out to the side, they need to jump off the ground, rotate their pelvis and kick with both hind limbs or 'both barrels'. Horses can't become ballet dancers for this reason!!

Managing Separation Anxiety

Horses are gregarious animals, with many suffering from separation anxiety when shifted away from their friends or when left alone when other horses in sight are removed from a neighbouring paddock. It can result in running fence lines with increased risk of injury, vocalising in attempts to attract attention of other horses and being difficult to handle or travel when taken away from familiar surroundings and their established companion(s), particularly in younger horses. Some horses go off their feed and become depressed as if they are lonely. Although a step-wise planned separation is often recommended, with removal of a companion away to within sight or ear shot is useful in many horses, others simply cannot cope with separation at all. However, recent observations suggest that rather than tranquillising a horse suffering from acute separation anxiety, providing a supplement of organic magnesium and natural Vitamin E, such as contained in **Kohnke's Own Mag-E**, can help a horse cope by correcting shortfalls in the diet of these nutrients which have a role in maintaining proper nerve function and may help quell excess nervous agitation or anxiety. Often it will take 2-3 weeks of daily dosing, starting on double doses for the first week, to help foster normal nerve function in a horse with separation anxiety. Once a horse responds, then the dose can be reduced to every second day and maintained for 2-3 weeks. If you have a horse which suffers anxiety when taken away to a competition for a day or so, then commence the Mag-E in the 2 week period before separating the dependent horse from its friend(s) and try a few hours of trial separation within sight, before making the full move to separate the horse completely. In severe cases, taking another horse which it shares a paddock or an adjacent stable, in the float as a travelling companion, may help the insecure horse cope with separation anxiety.

Handy Hint 3

In this issue...

- * 'Spring Fever' & 'Spring Laminitis'
- * Fencing - keeping horses safe
- * Poisonous Plant #1- avocado

Plus handy hints and lots more!

Allow Pastures to Seed to Rejuvenate

Many pasture plants, such as annual grasses and legumes, especially clovers and medics, should be allowed to seed each year so that they can re-establish from year to year to maintain their vigour, balance and competitiveness in the pasture. Although, under heavy stocking conditions or during drought, this may not be possible, simply reducing grazing pressure or allowing them to come to head and flower after rain and then seed over a 2-3 week period, will help them to maintain their presence in the pasture. This will facilitate regeneration and competitiveness in the pasture and reduce the risk of them being closely cropped back and over-grazed, especially palatable plants. Once the plants have matured, produced seed heads or pods and shed them into the pasture, they then dry off to become good summer grazing. Of course, this applies to weeds as well, which should be either grazed off by sheep, cattle or goats, slashed short or spot sprayed before they are able to come to head to produce seed. If desirable pasture plants are not allowed to seed to re-establish the following season, it will also increase competition from vigorous grasses, such as kikuyu in tropical or sub-tropical climates and will allow them to become dominant, smother, over-shadow and choke out other plant species. This will reduce plant balance, especially fragile legumes which provide nitrogen for the growth of grass in a balanced pasture.

Getting a Horse Reasonably Fit in a Quick and Safe Way

Many owners plan to get their horses fit quickly for Spring competition as soon as possible when returned to work after paddock rest over winter. One simple way to help you and your horse to become more physically fit in a 2 week period, is to warm the horse up slowly at the walk and intermittent trot for 10 minutes, and then trot the horse over 1500 metres every day for 2 weeks. This can be done in a straight-line trot in an arena or in the paddock. Studies have shown that a horse will increase its oxygen uptake to become 50% muscle fit in 2 weeks. A free trot-out will also provide controlled concussion to help adapt bones and tendons to loading, as well as help you develop fitness as you prepare to get back into the saddle. This form of strengthening work is much more preferable to the old practice of lunging a horse for 15 mins each day, as you are not becoming saddle fit and turning on a circle increases the risk of overload of the fetlock joint and tendons on the inside limbs, especially if the horse is overweight and frisky. Ensure that the horse's hooves have been trimmed on returning from the paddock and that the animal has been wormed to assist digestion as hard feed is introduced.

Handy Hint 2

Kohnke's Own® Contact Details

FREECALL 1800 112 227 - FREE FAX 1800 112 228

Website: www.kohnkesown.com - Email: info@kohnkesown.com

Postal Address: PO Box 3234, Rouse Hill, NSW, 2155

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SEASONAL ALERT *Spring Fever & Spring Laminitis*

'Spring Fever'

Many horse owners report that some horses with access to lush, spring pastures often develop more 'energetic' and excitable behaviour, although they do not always appear to be overly anxious or 'nervy' in their temperament.

'Spring fever' is a term which is used to describe this increase in 'energy'. It is linked to the intake of extra soluble sugars in growing plants and some authorities believe it is associated with high potassium mineral levels and possibly a low intake of magnesium in horses grazing rapidly growing, lush pastures. It is also likely that horses which have been resting over winter are more 'frisky' when ridden for the first few times because they are 'full of beans' and feeling great after a long holiday!

Horses grazing plants with high soluble sugar and 'fructan' sugar content, such as cool weather C3 grasses including ryegrass, fescue, cocksfoot and other cereal grasses are more likely to show symptoms of 'spring fever'. This could also be in part caused by the development of hindgut acidosis (refer to Laminitis review in this article for a full explanation) which can result in nervy, 'fizzy' behaviour. Fillies and mares grazing clover pastures containing natural phytoestrogens may also show symptoms of being 'in season' more intensely during the rapid growth period of spring pastures and hence more 'up on their toes' and 'bitchy' when being worked.

'Spring Laminitis'

Horses (and humans) do not have an enzyme in the small intestine which can digest and split 'fructans' in grass (or fructose sugars from fruit in humans) into absorbable glucose, so large amounts of these pass into the hindgut. Certain Lactobacilli species of D-lactic acid producing bacteria in the hindgut are able to digest these sugars, producing D-lactic acid and gas from fermentation. The concentration of D-lactic acid - a non-absorbed, non-metabolisable acid compound, builds up as 'fructans' (and excess sugars) are overloaded. It irritates the bowel wall to increase motility (resulting in soft droppings and diarrhoea), as well as lower hindgut pH to develop hindgut acidosis. Higher acid concentration suppresses and kills other digestive microbes, releasing toxins which are readily absorbed into the bloodstream through the compromised gut wall. These trigger blood flow reduction, hamper glucose uptake and result in basement membrane attachment failure between the hoof wall and pedal bone within the hooves - all resulting in laminitis and progression to founder where internal collapse and pedal rotation can occur. Insulin-induced laminitis (insulin resistant animals with EMS) can be minimised by limiting grazing, providing soaked hay and supplementing with **Kohnke's Own TRIM**.

Management Hints to Minimise Laminitis

- Limit grazing to between 8am-10am when grasses (especially ryegrass, fescues, cocksfoot and clovers) have the lowest 'fructan' and soluble sugar content.
- Prevent pasture access during bright sunlight hours 10am-4pm - either confine the horse to a yard with hay (soaked for 'cresty' IR horses and ponies), or fit a grazing muzzle to prevent excess grazing.
- A short turn out between 4pm-6pm, with a small feed of hay to reduce appetite before turning out, is usually safe as excess consumption is unlikely.
- Confine horse or pony to a yard or small grazed off area with hay overnight
- Supplement with Founderguard or Equishure each day in a small hard feed to limit hindgut acidosis. Kohnke's Own TRIM will provide nutrients which have a role in glucose metabolism and insulin activity in IR or EMS affected 'cresty' horses or high risk animals.
- Consult your veterinarian for advice.

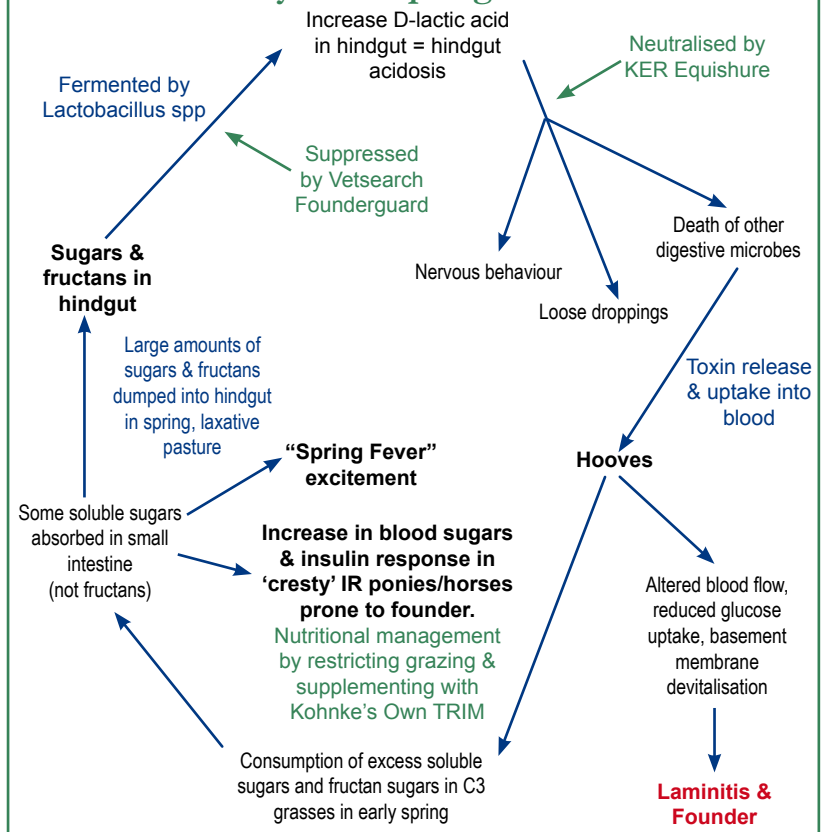
Supplement with Organic Magnesium

It is considered that a low magnesium and high potassium intake in horses grazing lush spring pastures may trigger symptoms of 'spring fever' with 'fizzy' and unsettled, 'rushing' behaviour under saddle. Many horses tend to settle down when taken off the pasture overnight, which also reduces the risk of laminitis from excess intake of 'fructan' sugars. Many owners find that supplementation with magnesium, especially in organic chelated form, such as in **Kohnke's Own Mag-E**, at double doses daily for 5-7 days, helps to correct the low magnesium intake and maintain a more 'unfazed' attitude in horses with 'spring fever'.

Handy Hint 4



The cycle of spring laminitis



Note - Although the levels of 'fructan' sugar, soluble sugars and non-structural carbohydrates (NSC's) in growing plants decrease overnight, horses and ponies can graze up to 40% of their total daily intake in the first 3-4 hours in the evening due to natural grazing habit. It is therefore best to restrict grazing overnight in high risk horses and ponies, especially those which are overweight or have a 'cresty' neck and excess tail butt fat deposits.

Paddock Injuries - a high risk problem

Horses are naturally free roaming, gregarious and inquisitive animals and fences are necessary to keep them confined. Horses rely on speed to get away when frightened. This survival instinct of fright and flight triggered by adrenaline release, can result in the horse being oblivious to any barriers and obstructions, such as fences, eroded ground and other obstacles in its path as it attempts to escape. This can result in serious wounds and in some cases, fatal injuries.

Good quality, durable well sited, safely constructed and maintained fencing is one of the most valued assets on a horse keeping property. Although it is not statistically proven, anecdotal observations by many horse owners links the risk of injury on fences to be directly related to the value of a horse, with well bred horses suffering a higher incidence of injury. The type of injury is relative to the type of fence construction and its state of repair. However, horses which become accustomed to the confines of a fence, even if it is ‘tatty’ and falling down, are less likely to sustain fence injuries than horses introduced to an unfamiliar paddock.

Safety is Essential

The safety of fencing is influenced by the type of fence construction and its state of repair.

1. Multiple strand wire fencing is likely to cause the highest risk of injury, particularly if it is not maintained in a straight line or a tensioned state. Having first hand experience of injuries to horses caused by barbed wire, as a vet, I would concur with most horse owners that barbed wire and horses are not compatible. Barbed wire is dangerous and should not be used as fencing for horses. Cattle which share horse pastures also place more ‘pressure’ on a fence, even a barbed wire top strand, because cattle have thicker skin and a tendency to lean over or push through fences to graze higher grass on the other side.
2. Fences with steel droppers have the potential to increase the risk of skin wounds at fence height level, unless the tops are covered by protective caps or overlaid piping.
3. Post and rail fencing is credited by many as having the least risk of injury, although maintenance can be higher if preserved timber is not used initially. White modular plastic post and rail fencing has become popular on many boutique properties, but UV stabilised plastic is essential to reduce deterioration in sunlight.
4. Electric strands placed along the line of any fence at mid body height can reduce the risk of fence related injury by 60-70%. Wide 45mm white electric woven tape increases the visibility of a fence line compared to a thin ‘hot’ wire, but UV deterioration of the plastic weave can occur in the longer term. Thin woven ‘hot’ wire has a high risk of severe traumatic and strangulation injury if a horse becomes entangled in a broken or loose wire. ‘Hot’ wires placed just above the ground are extremely dangerous from being caught in shoes and can cause severe ligature injuries in young horses trying to get to neighbouring horses. The lower wires of a plain wire fence can be caught on the front heel of a shod horse, which on pulling back to escape, can tear tendon fibres in a ‘passive’ loading effect and result in long term tendon damage.

However, it is universally accepted that horses quickly learn to respect electric fencing or a ‘hot wire’ if the voltage pulse is maintained and the voltage and earth return is adequate to provide a strong ‘shock’ when touched. Horses with thick quilted rugs soon learn that they can touch electric tape or wire without being ‘shocked’ and they develop less respect for an electric top wire on a fence.

Lower limb injuries to the outside coronary band, pasterns and fetlocks are a problem in sandy soils where horse traffic erodes the soil along the fence line. Because of the flexion of the fetlock, often these wounds take longer to heal with more proud flesh and scar formation, creating a blemish and sometimes restricting joint movement.

Years ago, chain mesh fencing was popular on stud farms because it was neat, could be tensioned and provided a ‘spring’ mattress effect if a horse ran into the fence, which can absorb concussion and minimise skin abrasion and tear. However, erosion at the bottom edge, combined with a billowing out or outward curvature of the fence base between the posts increases the risk of laceration to the lower limb as horses move along the fence line.

Did You Know that...

Skin wounds on the upper body heal with a tissue growth rate 5 times faster as compared to wounds on the lower limbs of horses due to the differences in blood flow between the upper body and the limbs. The lower limb has a higher risk of laceration because the skin is under a greater tension as it stretches over the hard bone. This leads to a longer healing time as there is naturally slower epithelial cell division.

Injuries on the lower limb can also become more easily contaminated with soil, bacteria and pasture moisture from dew on pasture and abrasion from grasses which can further delay healing and encourage the development of ‘proud flesh’.

Keep Paddocks Horse Safe

In addition to providing safe fencing which is well maintained, it is essential to regularly check the paddock area for fallen branches, twigs, eroded areas after a rain, rabbit holes and large stones, which all pose a risk of lower limb and hoof injury to horses as they move around the pasture, especially in the dark if they are left out grazing 24/7. If horses are turned out in a group when spelling at pasture, it is a good idea to at least remove the rear shoes to help minimise the risk of injury from kicks as horses settle their differences in their own natural way. This is particularly important if aggressive horses are pastured with young horses, old horses and more docile horses, especially heavily pregnant mares. Regularly walk the paddock to check for branches, stones, bailing twine, loose fence wires and erosion along the fence lines, especially in sloped areas or on sandy country.

Handy Hint 5

Facts and Stats

- Fences can contribute up to 60% of the lower limb injuries, 80% of the wounds, and up to 90% of accidental fatalities in pastured horses.
- Risk of injury from running into fences, especially at night, can be reduced by up to 70% by making the fence visible using white ‘sight’ railing, piping or wide electric fence tape.
- Fence line erosion and risk of injury is lower in a square paddock as compared to a rectangular paddock of the same area. Horses in a square paddock spend more time grazing and congregating in the central area of the paddock with less activity along the fence line.
- Fencing a square paddock uses 5-10% less length of fencing as compared to the same type of fencing to form a rectangular paddock of the same area.
- The majority of injuries occur in the corners and around heavy traffic areas, such as gateways.
- Horses walk from between 12-18 kilometres per day in a 10 hectare (25 acre) paddock as they graze, with up to 60% of this grazing movement along fence lines.
- Young horses up to yearling age have 3-4 times the risk of sustaining an injury from fences, even when they are well maintained, as compared to older, mature horses.
- A young horse in a paddock by itself will spend up to 80% of its time along the fence line of a paddock seeking contact with neighbouring horses. This can increase the risk of fence injury, particularly in young colts or stallions seeking companionship of neighbouring fillies and mares.

Maintenance of fencing is paramount

Even if a fence is well designed and constructed to be safe and durable, horse ‘pressure’, environmental weathering and general ‘stress’ will influence its long term barrier function and safety. Regular maintenance and tightening of wires, checking for bent steel droppers and loose wobbly posts, especially in sandy soil, is an essential maintenance job on both perimeter and internal fencing.

Major increases in the risk of injury are often caused by loss of tension in wire fences, as horses lean on fences to graze adjacent pasture, deterioration by weathering, erosion by heavy rain and destructive damage by windsucking and chewing on wooden rails and posts. In areas prone to white ants, non-treated wooden posts can be quickly eaten out, or in water logged areas, the ground portion of posts can develop dry rot from moulds in the adjacent soil, or be pushed out of alignment by horses seeking greener grass on the other side. Fences which are ‘tatty’ but still retain their line without leaning inwards into a paddock, often have a lower risk of injury compared to fences which ‘wobble’ and lean inward to catch the skin as a horse brushes along the fence.

Gateways are a particular area of danger for many horses, not only because horse 'group' pressure is often higher at gates where the 'hard' feed enters, but also because a mob of horses may 'squeeze' through all at once when entering a new paddock. Erosion of wheel tracks and build up of organic material from horse dung in the soil can result in increased risk of fence contact as horses congregate in gate areas, often skidding when the ground is wet.

Yard Fencing

The incidence of fence related injuries is increased in holding yards and small paddocks. Most horse owners would agree that well constructed post and rail fencing, protected from horse 'pressure' by an electrified border tape, is probably the most durable and safest type of fencing for yards. Wire fencing unless it is welded as 'weldmesh' panels onto sturdy posts and rails, is likely to deteriorate more quickly and increase the risk of injury. It is very unwise to use 'ring lock' type fencing for horse paddocks and especially around yards as the risk of snaring a hoof or limb in the fence is very high, particularly in foals.

Did You Know that...

Weeds often establish along fence lines of yards and small paddocks because small seeds can be harboured in the gut of horses and spread in their manure. Some weeds, especially succulents, are attractive to horses, including small flowered mallow, Paterson's Curse (Salvation Jane), Fireweed, Thistles, Flat weed, and Turnip weed and these are common along fence lines. The seeds of these plants are less than 1.5mm in size and miss being crushed up by a horse's teeth, with 95% passing through the digestive system retaining their viability. Horses can harbour weed seeds for up to 14 days after eating seeding plants, with the highest numbers being passed out 3-4 days after ingestion. Increase in organic matter from dung and water retained in fence line 'tracks' or 'ruts' encourages the establishment of weeds.

Beware of Protruding Gate Latches

The weight of gates can also cause movement of fence lines, with increased risk of injury. In my own experience gate chain 'knobs' can be a danger. Whilst careful placement of the knob on the curvature of a post outside the paddock is the safest position for the anchor and latch bolts, movement of posts, especially rotation of round posts under the tension of wires wrapped around the post, can result in the latch 'knob' being turned around to project into the gate opening - a waiting disaster! As a vet, the largest wound I have ever had to suture was caused by a protruding gate latch 'knob'. The laceration required over 200 sutures over the length of the body from the shoulder, along the depth of ribs to the buttocks when a mare was 'squeezed' in a gateway as she entered with a group of other mares eager to return to their paddock after working. Check the gate latches regularly, and any movement or protrusion into the gate opening should be rectified immediately.

Handy Hint 6

Safe Electric Fence Construction

On our own horse property, I used 2 strands placed 500mm apart of white 45mm tape electric fences around the inside of the perimeter fence and internal dividing fences to increase the safety of the fencing. Over the 20 years since installing the 2 strand woven tape electric fences, our horses did not suffer any fence related injuries, even when confined to their small overnight holding yards. I further increased the safety aspect by using plastic 'star' droppers (1650mm long). I cut a small 3mm deep groove with a hack saw on each of the 3 'star' edges at ground level after the fence was installed. On one occasion, when a thunderstorm frightened one of the Warmbloods and she failed to apply her brakes in an oblivious downhill gallop on the wet grass, she skidded through the fence as it snapped off at ground level and laid over, only to get up and continue grazing on the other side! The 8 droppers snapped off without any sharp edges or spikes and were easily replaced and the fence repaired in 30 minutes after a 30 metre long section was flattened by the stampeding Warmblood. The fences were cheap, easy to install, convenient to shift and virtually maintenance free over the 20 years. One particular brand of horse tape deteriorated in the sunlight, but the original Gallagher brand of red line 'Turbo' tape lasted for 20 years.

Handy Hint 8

AVOCADO POISONING

Over the last 20 years, avocados have become a cheap, nutritious fruit which is popular as a sandwich filler and salad constituent to add flavour to meals for humans. Many people like to have an avocado tree for shade and the delicious avocado fruit. The trees grow to 15 metres in height under suitable conditions, although they are evergreen in most cases, they shed excess leaves during the full year, depending on the variety.

All parts of an avocado tree, especially the leaves which contain the highest concentration of toxins, either as fresh leaves, fallen leaves and dried leaves, can be toxic to horses. The toxin, called persin, when ingested from nibbling green or dry, fallen leaves which horses find particularly attractive, can result in nervous and colic signs. The exact mechanism of action of the persin toxin is not known, but it can result in severe reaction or death from sudden heart failure. As southern Australia has become warmer, wetter and more sub-tropical, with avocado trees thriving in house gardens, the number of cases of avocado poisoning in horses has increased, with a number reported already in 2011. Under these conditions, the trees become semi-deciduous during the winter and horses gaining access to orchards or gardens or fed from bins into which avocado leaves have fallen, can develop symptoms.

Symptoms of Avocado Poisoning in Horses - The major symptoms are associated with direct contact of the persin as an irritant to the mouth and mucous membranes, with swelling of the lips, muzzle, head, neck and chest. Lactating mares develop non-infectious mastitis and reduced milk production, often with their foals losing weight and developing diarrhoea. The majority of horses develop colic, diarrhoea, depression and a loss of appetite after ingesting fresh or dried, fallen avocado leaves or fruit. Extreme cases may become short in the breath and develop heart abnormalities due to the effect of the toxin, often after 6-12 hours.

Reference: Offord, M, Plants Poisonous to Horses An Australian Field Guide Published by RIRDC, Canberra 2006 Page 76.

Managing a Horse with Avocado Poisoning

The symptoms are best treated as they affect the horse, with nervous signs and diarrhoea being the most common, with mild sedatives and anti-inflammatories if the mouth or head are swollen due to contact allergic reactions. If the horse has ingested enough to cause heart abnormalities, then monitoring the animal until it recovers is essential to avoid further complications or death. Most affected horses will recover without complications, even in cases where mares suffer a temporary reduction in milk production. If you have an avocado tree, or a grove as shade trees, along a fence line, or for garden fruit, then it is important to fence them off to prevent access by horses. Do not offer horses or ponies clippings from avocado trees, and in common with oleander leaves, do not offer horses lawn clippings contaminated with avocado leaves. It is unwise to feed any horse or pony lawn clippings, even when they are fresh and not contaminated with poisonous leaves, as they can ferment in the stomach and large bowel and lead to severe colic.

Handy Hint 7

Kohnke's Own® Product of the Month

Combined with a low GI diet, TRIM provides nutritional support to assist sugar and fat metabolism to help strip off 'cresty' necks and abnormal fat deposits.

In as little time as 7-10 days in combination with reduced feed & soaked hay, Trim will provide the nutrients to assist the diet in reducing the size of the crest & abnormal fat deposits in a horse or pony prone to laminitis.

TRIM



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