



Talking Donkeys

ISSUE 3

The newsletter with news, views and practical advice

From the editor...

Time has passed so quickly over the last few months. I was reminded by newsletter readers that we had not published Talking Donkeys Issue 3! I hope that you find this long awaited issue of practical interest.

As a special note, the current outbreak of Hendra virus infections, spread by fruit bats, in Queensland and northern NSW, can also affect donkeys as they are equids, and the odd zebra lurking in the back paddock. In areas with a high risk of Hendra infection, take special note for signs which may be associated with Hendra and notify your vet.

With the current cold weather and risk of elderly donkeys losing weight, we provide a brief on weight loss and how to avoid it in donkeys at grass.

We include an overview of a condition referred to as hyperlipaemia. This metabolic disorder can affect middle aged donkeys in good condition within a few days of a dramatic reduction in food intake due to wet weather, hoof infections which limit grazing, as well as travelling and relocation. Heavily pregnant and lactating Jennies which require a regular energy intake are most affected.

We provide a brief on managing arthritis in aged donkeys.

And don't forget, if you have any pics of your donkeys being ever so cute, please send a digital jpeg to Gary at newsletters@kohnkesown.com and we will publish as many as we can in future issues.

Kind regards,

Dr John Kohnke
BVSc. RDA

Handy Hint: Assess Joint Movement and Discomfort

Gentle backward flexion of an enlarged fetlock or knee joint, will help to determine the degree of discomfort and restriction of joint movement. Holding the limb off the ground and flexing the joint with a constant, but not excessive, flexion force for one minute and then dropping and immediately walking the donkey off over 20 metres, will help determine the degree of discomfort. However, if the donkey resents the flexion test and shows discomfort, do not continue the test as you are causing unnecessary pain. A normal joint will not be 'stressed' and may only cause slight restriction of movement for 4-6 steps. A damaged, arthritic joint may cause lameness for the whole distance. If the donkey is reluctant to step out or 'bobs' its head as the painful limb bears weight, then the arthritic changes are likely to be cause for concern and your vet should examine the joint. A second walk out after one minute (not repeating flexion) can indicate the severity of the changes if the animal is still lame. In the case of arthritic 'ring bone' changes to the pastern joints, often the joint will have very little movement, although the discomfort in a non-weight bearing joint will be minimal. If you are concerned that your aged donkey is in pain and having difficulty grazing or showing discomfort when walking around or has difficulty in getting up after lying down, then you should have the animal assessed by your vet. An X-ray of the problem will help to check the relative severity and type of osteoarthritic change.

Handy Hint: Regularly Check for Skin Conditions during Wet Weather

Skin conditions, such as rain scald, can occur on the top-line of a donkey which is not rugged. Mud fever or greasy heel on the limbs below the fetlocks can develop in wet conditions. The immune defence in the skin of very young or aged donkeys may not be adequate to resist fungal and microbial invasion, especially under stressful cold and wet conditions over winter. A loss of hair or small juicy infected craters with loss of tufts of hair can indicate rain scald or 'mud fever'. Wash the affected areas of the skin with 10% Betadine® or Vetadine® wash, 3 times on alternate days. Leave the iodine wash on the skin for 10-15 minutes to allow the slow release iodine compound to be liberated before rinsing it off with clean water and patting the skin dry. A daily supplement of **Kohnke's Own**

Donkey Supreme will help make up shortfalls of essential nutrients to maintain the appetite and the immune system under stressful conditions. If the skin condition persists, seek advice from your vet.

In this issue...

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- * Hendra Awareness

Plus handy hints and lots more!

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Handy Hint: Beware of Frost-Killed Grass

If you have a middle aged or elderly donkey with a history of laminitis which is grazing winter pasture after a heavy frost, then there is a risk of triggering a laminitic episode. Donkeys, in common with horses, are prone to developing Equine Metabolic Syndrome (EMS) if they have been allowed to graze good quality grass pasture, become overweight and 'cresty' and have previously foundered. Although there is no definitive research indicating that donkeys are prone to EMS and associated insulin resistance, some older 'cresty' donkeys suffer repeated episodes of founder when at grass. In this case, it is likely that a donkey could develop insulin resistance with high levels of circulating insulin hormone which can trigger a secondary diabetic condition and intolerance to soluble plant sugars. When grass is 'burnt' off and is stressed by frost, the plants accumulate higher levels of soluble sugars in the stem base as a store for regrowth before they shrivel completely and die off. This grass is very 'sweet' to the taste and horses and donkeys are attracted by the taste and may preferentially graze frost affected pasture out in the open sunny areas of the pasture. In this case, it is best to confine the donkey(s) to an area shaded and protected by trees. Simply run an electric fence to make a small paddock under the trees and confine the donkeys to this for a week or so to help avoid the risk of laminitis and founder in secondary diabetic, insulin resistant animals. Pasture under trees does not flourish as well to produce high levels of soluble sugars due to the shading effect and reduced moisture, as well as being less likely to be burnt off by a couple of heavy frosts. Be aware that this is not a good practice in areas where there are fruit bats.

Handy Hint: Provide a Mucilage Supplement to Assist Digestion

Donkeys suffering from hyperlipaemia due to travelling or relocation stress and lack of feed for a few days will often develop gastric ulceration with severe discomfort and loss of appetite. In this case giving tempting food and especially gruel by stomach tube (which does not require chewing benefit from the stomach buffering action of salivation), can cause increased gastric acid flow and increase the discomfort. Often affected donkeys resist handling and feeding for this reason. In this case, anti-inflammatories, such as 'bute' are likely to aggravate the stomach wall damage, and should be avoided. Add 3-4 scoopsful of **Kohnke's Own Gastro-Coat** to the gruel mix before stomach tubing each feed. Alternatively mix it in warm water and dose it over the tongue 3-4 times daily will help to encourage salivation as well as provide mucilage compounds which normally coat the stomach lining. In a case where a donkey refuses all food and exhibits signs of stomach ulceration which includes looking at its flanks, pawing the ground and grinding its teeth, especially shortly after being given a gruel feed (which stimulates gastric acid secretion), then an anti-ulcer medication drug and a slurry of Gastro-Coat will help the animal to take more interest in food over the ensuing 3-4 hours. Repeat the Gastro-Coat slurry 5-10 minutes before each meal or gruel feed for 2-3 weeks.

Kohnke's Own®

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Maintaining body weight under cold conditions *some helpful hints*

The wet and cold winter conditions accelerate the energy drain from a grazing donkey at grass as it attempts to maintain body heat and comfort. Elderly donkeys in particular need special care during the colder months to help them cope without losing condition, which is often hard to regain.

The primary needs of a grazing donkey during cold weather are an adequate supply of good quality roughage, shelter from the cold wind and rain, especially during periods of high chill factor, free access to clean water and room to exercise to keep itself warm. Donkeys are generally hardier as compared to horses and are more able to maintain their condition under drought and cold conditions with limited grazing.

Older donkeys may not be able to graze for long enough each day or walk comfortably over distance to harvest their feed due to arthritis or weakness as they lose condition.

Although specific studies have not been carried out in donkeys, it has been established that a horse does not start to lose significant amounts of body heat until the temperature falls below 8°C. Under southern conditions, temperatures below this may last for as long as 14-16 hours each day during winter.

Provide a rug

If paddock conditions are bleak, then purchase a snugly fitting insulated (eg quilted) and waterproof pony rug (ventilated if possible) for your donkey which is outdoors during cold, wet conditions and especially overnight. A rug will make life more comfortable, will reduce heat loss and will help maintain condition. Fit the rug and observe the donkey for a few hours to ensure that it gets used to the rug if it hasn't had a rug on previously.

Feeding Roughage

- Hay alone provided at the rate of 1-1½ kg/100kg (1-1½ biscuits of grassy hay for the average donkey) provided daily to supplement sparse, winter pasture will usually maintain condition. Only good quality, leafy hay should be provided, preferably in a hay rack or trough to reduce wastage. It is best to give half and half of lucerne for protein and calcium together with cereal or grass hay for digestive function.

An evening feed with extra hay will help to provide available energy and fibre for hindgut fermentation to prepare for the cold overnight conditions and will help keep the donkey warm and contented with a full belly. Feed bins should be located on the leeward side of a hill, sheltered from prevailing winds by a windbreak or warm comfortable shelter shed.

When hand feeding is necessary on short winter pasture, give at least two small feeds daily to provide a more continuous supply of feed and maintain the warming effect and enjoyment that eating provides in cold weather. This is particularly important in the case of Jennies and foals, weanlings and yearlings, where heat loss in cold weather will sap energy for growth in young donkeys and development of the unborn foal in pregnant Jennies.

Do not feed large amounts of ad-lib concentrates, such as pellets and especially sweet feeds, to a hungry, cold donkey. The animal may ingest the ration too quickly and may suffer choke, digestive upset, colic and founder. This is especially important where hungry or greedy donkeys within a group are competing for hard feed

Did you know that...

Donkeys adapt to cold conditions by growing a longer coat. It requires extra energy and protein to grow additional hair, which increases the likelihood of loss in condition.

They also group together to conserve body heat and increase their appetite and feed intake by up to 30% to provide more energy and consume more roughage to help maintain the body heat generated by hind gut fermentation of fibre. They are likely to lose weight within a week or so under cold conditions if not provided with a rug, an overnight shelter shed or a regular supply of roughage as hay.

Handy Hint: Provide a Rug with a Tail Flap

Donkeys, like horses, normally stand with their hindquarters facing the prevailing wind, sleet or rain. They graze with the wind behind them to conserve heat. Ensure that the rug has a long tail flap which hangs down to just above the hocks. This will prevent cold air and draughts from drawing heat from the under the belly area where body heat is produced as a by-product of the fermentation of fibrous food during hind gut digestion.

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Handy Hint: Reduce the Risk of Colic During Winter

Soak hay during winter for donkeys that are supplemented in the paddock or shelter. Donkeys often do not drink enough water, especially under cold conditions, to maintain fluid content in their hindgut reserves. Ingestion of dry hay can increase the risk of impaction colic during winter when the hindgut is not well hydrated. Soak hay (or straw for overweight donkeys) in luke-warm water for 10 minutes and allow it to drain for 10-15 minutes before feeding. This will help maintain hindgut fluid content and can reduce the risk of impaction colic in donkeys. It is best to have the donkey's teeth checked before the onset of winter so that it is able to chew the hay more efficiently in preparation for digestion. This will improve the digestive process and help reduce the risk of colic. Worm the donkey out before winter to increase its overall digestive efficiency when pasture may be less nutritious or in short supply.

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or hay and may consume their feed too quickly without chewing properly for optimum digestion. Alternatively, provide them with a portion of dampened hay to eat first to fill them up and then provide a small measured portion of fibrous pelleted feed at the rate of 500g per 100kg bodyweight, mixed into 3 times its volume of cereal chaff as roughage each morning and evening. Donkeys under normal conditions do not require any form of concentrate ration. Elderly donkeys with poor teeth will utilise pelleted feeds more efficiently to help maintain their condition under adverse cold conditions and wet weather. Adjust the amount provided relative to condition to maintain the animal's bodyweight.

Check the donkey's hooves every day or so and apply a dressing, such as **Kohnke's Own Hoof-Seal**, to the soles twice a week. This will help maintain normal moisture content to limit the soles from absorbing excess water under wet conditions. Excess moisture uptake may soften the hooves and make them less resilient to bear weight and result in lameness, especially in heavily pregnant Jennies confined to poorly drained paddocks. It is best to move donkeys to a higher, well drained location during wet weather, or at least a dry shelter overnight. Placing dry shavings on the floor overnight will help avoid excess wetting of the hooves and help them dry out. Some donkeys will snack on the shavings, so it's best to provide hay to deter them from this habit. Paint **Hoof-Seal** onto the soles each morning before returning the donkey to the wet, saturated and muddy paddock.



Hyperlipaemia ~ be observant

In the second issue of Talking Donkey (#2), we highlighted a case reported some years ago in the Australian Veterinary Journal of hyperlipaemia which developed in a pregnant Jenny in Victoria after she was moved to another property. She was the one donkey in the 3 donkeys moved which refused to eat the hay provided and suffered a sudden decrease in her energy intake which triggered the condition. However, the condition can affect donkeys in good or poor condition, especially heavily pregnant animals, when energy intake from grazing, hard feed or hay is suddenly reduced and body fat stores are mobilised to meet energy demands.

It is caused by the mobilisation and accumulation of excess blood fluid (plasma) levels of triglycerides (above 5mmol/litre) which are released from fat reserves under conditions of negative energy intake. Hyperlipaemia is a life-threatening condition and can invariably result in death within 7-10 days if the symptoms are not recognised early and expert veterinary intervention and nutritional management is not carried out. Even following specific treatment and professional vet management, up to 60-90% of affected donkeys, even early diagnosed cases, can die.

The main trigger for Hyperlipaemia is a stress situation combined with a sudden reduction of feed intake. This can include long distance travel; relocation and herd hierarchy/dominance stress due to social group changes; shifting onto poor quality pasture; sudden onset of cold, wintery and wet weather with limited grazing; insulin-induced laminitis in 'cresty' donkeys; tooth abscesses which suddenly reduce feed intake; viral respiratory disease or gastric ulcers which reduce appetite; severe hoof infections which prevent grazing; heavy worm burdens and impaction colic. The rapid reduction of feed intake over 12-14 hours in fat or obese donkeys, requiring them to revert to use stored fat as an energy source, triggers the metabolic changes. A higher energy demand superimposed by the elevated demands of late pregnancy or lactation in Jennies, which requires them to suddenly revert to use stored fat as an energy source, makes them the most susceptible when energy intake is suddenly reduced.

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Handy Hint: Check for Associated Rapid Food Deprivation

Hyperlipaemia can also be triggered by food deprivation as a result of snow falls, heavy rain and flooding, as well as bushfires where food supply is suddenly interrupted or grazing is severely restricted. Even donkeys being starved for 12-24 hours in preparation for surgery, combined with the associated stress of abdominal surgery in particular, are highly prone to secondary hyperlipaemia. This is in contrast to a slow onset of lack of food availability, such as occurs in a drought or drying off of summer pasture, where lipo-protein complexes are not formed by the sudden release of fat reserves to provide energy in a starving donkey.

It rarely affects younger donkeys under 10 years of age as they are often more healthy and active. Jennies are more likely to be affected than male donkeys.

Another condition with a similar sounding name is Hyperlipidaemia, which relates to excess circulating blood levels of lipids or fats. It is a normal finding in horses, ponies and donkeys following exercise or mildly and short term reduced energy intake due to colic, surgery and short periods without regular feed. It is caused by the body's natural reaction to mobilise fat reserves for energy, thereby increasing circulating lipids (fats) in the blood. It is not life-threatening and is a transient normal reaction, except in donkeys, where it can also be a predisposing cause of hyperlipaemia.

Metabolic Changes

In a normal healthy horse or donkey, most of the fats or lipid compounds circulating in the blood to provide energy and omega fatty acids to the cells are in the form of a very low density lipo-protein (fat-protein complex) which is produced in the liver. Although some fatty acids can be used to provide energy to maintain body functions, when higher amounts than normal are quickly released in response to feed deprivation

and form longer chain lipo-protein complexes in the liver, they are unable to be metabolised and begin to accumulate in the liver and blood. It occurs most commonly in overweight middle-aged and aged animals, especially those which have developed insulin resistance and a 'cresty' neck. Abnormal fat distribution and a 'cresty' neck are the underlying signs of insulin resistance (also referred to as Secondary or Type 2 Diabetes in animals and humans) and the trigger for insulin-induced laminitis, and in the long term metabolic Cushing's Disease and associated laminitis.

Did you Know that...

The insulin hormone, which normally controls blood sugar levels, is also required for the activation of cortisone hormone-sensitive lipo-protein enzyme, lipo-protein lipase, which breaks down these fat reserves as they pass through the liver. In animals at risk of mobilising long chain lipo-protein complexes due to feed deprivation, which are unable to be broken down by the lipase enzyme due to associated insulin resistance and failure of insulin to control its action, the complexes accumulate in the blood and metabolic function is interrupted. This quickly results in increased risk of elevated blood levels of long-chain lipo-protein complexes, resulting in rapid accumulation of fat in the liver and kidneys, culminating in 7-10 days in organ failure.

Typical Signs

Unfortunately, being a metabolic condition, as compared to a lameness or infection related problem, the early signs are often very vague and overlooked, especially in an aged, quiet animal.

Predisposing causes such as a history of severe stress, food restriction or inability to graze due to weather, lameness or severe disease should alert you to the possibility of the onset of metabolically-induced hyperlipaemia.

Gut function is often slowed down as energy drain occurs. The sick donkey develops a 'faecal' odour breath, dry, slimey (mucus) covered droppings and reduced appetite and interest in feed. Some animals develop an elevated temperature initially, but it may return to normal, unless it is associated with an infection.

Within 3-4 days, the animal may develop a soft swelling (oedema) under the belly and chest due to reduced blood protein levels and may start to stagger and drag its hind-limbs due to weakness and lack of energy.

Elevated heart and breathing rates occur as the animal develops severe metabolic changes and collapse can occur. If the condition is recognised within the first 4-5 days and treatment is commenced, often the condition can be reversed and the animal will recover within a few days. However, once a sick donkey develops more severe signs, treatment to reverse the lipo-protein damage to the liver and kidneys is often unsuccessful.

Diagnosis

Normally, a sudden change in appetite following a stressful situation is a sign that hyperlipaemia may be developing. Diagnosis is a job for your vet. A blood sample taken from the donkey can be tested for elevated triglyceride levels, but often this can take 24-36 hours and the sick animal can rapidly deteriorate to beyond the chance of recovery. If the blood is taken and the blood tube positioned upright for 10 minutes until the red cells precipitate, the serum after the blood has clotted will be very cloudy or 'milk-like' in colour and appear thicker than blood from another non-affected donkey. A laboratory blood test will also assess liver and kidney enzymes, dehydration state and electrolytes. [Cont pg 4...](#)

Handy Hint: Beware of Subtle Early Signs or Changed Feeding Behaviour

If you notice that a newly arrived, well-conditioned donkey is dull, depressed and off its feed for 2-3 days, or a heavily pregnant Jenny has not grazed for 24-36 hours or is not eating hay provided, lacks energy, becomes weak or starts to have trouble standing, you must consider developing hyperlipaemia as a possible cause. Another sign is the refusal of regular treats, such as apples and carrots, especially in normally greedy animal, or 'sham' eating where the food is taken into the mouth, but not chewed and drops out, even if it appears eager to eat the food.



Treatment

In early cases, where the plasma triglycerides are between 5-7 mmol/L, warm mashes, dampened rye grass hay and succulent grass will often tempt the appetite and encourage the animal to start to eat food again to help correct the condition. Sick donkeys will often become stubborn or resist handling, so that fluids and food may have to be given by a drip or stomach tube. This can be an ordeal in a sick, uncooperative donkey. The immediate need is to give energy as glucose by an intravenous drip with fluids and electrolytes. This should be followed by a feed of 2-3 L of mashed pellet gruel by stomach tube if the gut is active and not static (which increases the risk of impaction), to provide fluid and solid food to kick-start digestion and normal metabolism. Most pregnant Jennies will recover if diagnosed early and the blood triglyceride readings are lower than 10 mmol/L.

Where the blood triglycerides are above 12mmol/L, then repeated IV fluid therapy and stomach tube feeding every 2-4 hours is necessary, which can be very expensive and must be weighed up against the chances of survival in an advanced case, or in an already compromised or sick aged donkey to reverse the metabolic catastrophe. The severity of the condition, age and concurrent disease status of the animal must be evaluated as the chances of recovery reduce with higher triglyceride and depressed liver and kidney function.

Other therapy may include antibiotics, anti-inflammatory drugs (care must be taken in elderly donkeys as many can develop stress-related gastric and duodenal ulceration) and a nutritional supplement, such a **Kohnke's Own Donkey Supreme** formulated for donkeys can assist the appetite and recovery.

Preventing Hyperlipaemia

It is important to bear in mind the risk of hyperlipaemia. Be aware of the risk factors discussed in this article. Ensure that dietary calorie intake in overweight donkeys is limited by putting them on a slow reducing diet and supplement with **Kohnke's Own Trim**. This will help reduce the risk due to sudden changes in food intake. Any donkey exhibiting signs should be examined by a vet, or even a sample of blood taken from the jugular vein and allowed to clot to check for 'cloudy' serum if a vet cannot attend within 24 hours, may help diagnose the condition and ultimately allow earlier treatment to save the animal's life.

Hendra Virus Warning

The recent outbreak of Hendra virus in Queensland and northern NSW has highlighted the high risk of transmission from a sick horse or donkey to human carers and vets. If you are in an area frequented by fruit bats feeding or roosting in trees on your property or nearby, you should take precautions to minimise the risk of infection to your donkey and yourself. If you notice your donkey is depressed, off its feed, appears to have mild colic, swelling behind the border of its jaw or has a nasal discharge, quarantine the animal immediately in a separate area and call your vet. Wear latex or plastic gloves pulled over full length sleeves, a hat and face mask to attend to the animal. Feed and water the donkey out in the open during the day and confine it to a shelter shed under a full roof overnight. Monitor its temperature - wear full protective clothing and record readings to pass onto your vet. More information can be obtained from your vet, Biosecurity Qld or reading the brief on Hendra virus at www.kohnkesown.com

Arthritis-Managing the Elderly Donkey

In common with other aging animals, donkeys are prone to develop joint inflammation and pain (arthritis) and joint cartilage 'wear and tear', progressing to bony changes on the joint surfaces, referred to as osteoarthritis. Aging donkeys appear to have a higher threshold of pain, often suffering and exhibiting few outward signs, as compared to horses with similar arthritic changes.

Donkeys which have been worked during their lifetime are more likely to develop joint changes as compared to non-working donkeys. Most donkeys as they age, suffer varying degrees of joint cartilage damage. Overweight donkeys are also more prone to weight-bearing compression of the joint cartilage in the fetlocks and knee joints. Working donkeys which carry packs and loads, and ridden donkeys, are also likely to develop arthritis due to compression and distortion of the thin layer of joint cartilage covering the bone layer (subchondral bone) of the fetlocks and other joints. Donkeys which are harnessed for traction work often have a higher risk of concussive hock and stifle damage and osteoarthritic change due to the sprain and shearing forces within the joint, with distortion and 'squishing' of the joint cartilage as they haul carts or vehicles.

Often a donkey will sprain a joint during normal activity if it slips or falls on wet grass or places a hoof in a hole in the paddock. Kicks to the joint may also exhibit swelling and in some cases, can result in bony reaction over the area in the long term. The swelling may be painful for a few days until the internal joint membrane reaction and fluid swelling subsides and the animal regains its mobility.

Signs - Enlargement, extra warmth due to inflammation and swelling of the affected joint(s), with soft fluid swelling or a hard bony appearance are the outward signs of joint disease. In early joint disease, the animal may show very few signs, except resting the affected limb or lying down for extended times each day. Donkeys in pain will sometimes become stubborn and cantankerous in contrast to their normal placid and willing nature.

During cold weather, often joint discomfort and restriction becomes more apparent and may result in reduced time grazing so that the animal loses condition even on an otherwise adequate diet.

In severe cases, the donkey will show varying degrees of lameness on the affected limb, or exhibit a stilted gait uncharacteristic of its normal flow of movement, which may appear to improve or 'warm out' as the animal walks around. Restricted movement within the joint as the animal walks or trots should be investigated.

Management - After a diagnosis of joint osteoarthritis, your vet can provide treatment to help ease discomfort and enable the donkey to lead a relatively pain free life. Treatment options range from topical 'warming' or 'cooling' gels rubbed in over the joint each day for mild discomfort, to low doses of 'bute' over a 7-10 day period, with occasional doses to maintain comfort. Do not give high or prolonged doses of 'bute' to an aged donkey as it is likely to cause gastric and duodenal ulceration. If your donkey starts to refuse food or swell up along the underbelly, withdraw the 'bute' immediately and seek advice from your vet.

A joint supplement, such as **Kohnke's Own Nutricart®**, is also recommended for early osteoarthritis to assist joint health and function and enable the animal to lead a more active lifestyle into its old age. It is the most economical of all the joint supplements available and has been widely evaluated on donkeys with good results.

DONKEY SUPREME...the only calcium, trace-mineral and vitamin supplement in the world formulated to NRC (2007) guidelines specifically for all ages of donkeys. Recommended for pregnant and lactating Jennies, growing, working and aged donkeys to make up shortfalls in common feeds and pasture.

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