

Issue **9** (May - July)
2006

**Equestrian
Edition**



Talking Horses

The newsletter with news, views and practical advice

from the editor

Welcome to Issue 9 – May-July 2006 – published on the second anniversary of our original issue 1 ‘Talking Horses’ newsletter. We appreciate the support and enquiries that many of you email and phone with after each issue. We received hundreds of letters and emails to provide a name for the cheeky, cute foal on the Cell-Grow label, and after a lot of deliberation we have chosen a name from over 600 names received! We reveal all on the back page, including some extra prizes for younger riders that sent cute names and letters with them!

In this issue, we discuss sacro-iliac pain in more detail, and it’s surprising how many horses are suffering from lower back pain and showing typical symptoms that go undiagnosed in many cases. I bet that the horse that lugs to one side, resists transitions, bucks, has a restricted stride, drags a hindlimb and has no topline or rump despite building work (and even **Muscle XL**) has a sacro-iliac problem!

We also provide some management hints on preparing your mare for foaling, plus an additional fact sheet by mail or email on caring for the newborn foal, explaining colostrum, worming and introduction to hard feeds. Also we can provide a fact sheet on managing an orphan foal in the unlucky event that you have to look after an orphan. Ring 1800 112 227 or email adminjpk@bigpond.com for a copy!

Joint therapies are a controversial subject at the present time and we provide some hints on their use, not only as an aid in managing joint problems, but also their use as preventative or prophylactic supplements to reduce the risk of long term joint unsoundness in older, highly trained and valuable horses. By the way, in our next issue we highlight ‘fizzy’ and nervy horses and how to settle them down!

Regards **John Kohnke**

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**THIS ISSUE
Feature Article**

➤ **Sacro-iliac** – The signs are more common than you think!

Also a brief on

➤ **Preparing Your Mare for Foaling** – some handy guidelines for a healthy mum and newborn foal

➤ **Joint Supplements** – Latest findings

➤ **Plus Regular Features**

HANDY HINT

1

Loose Shoes during Wet Weather?

If you have a battle keeping shoes from working loose under wet conditions, try placing a smear of silastic sealant over the clinches. Simply brush to clean the hoof wall around each clinch, use methylated spirits to clean off oils and then carefully dab and spread a layer of silastic sealant over each clinch head and hole. Stand the horse on a hard surface for 10 minutes until the silastic cures. The silastic will prevent water softening the anchorage area for the clinches and prevent them being pulled in to loosen the shoe. Alternatively, barefoot trimming by a skilled practitioner is an option.

2

HANDY HINT

Dampening Hay the Easy Way!

Dry hay is a source of dust and mould that can be inhaled as a horse eats and it is more easily wasted – with up to 50% pulled apart and dropped as it is eaten! The simplest way to dampen hay is to place the allocated portion or biscuit into a clean polywoven chaff bag and spray or tip 1-2 litres of clean (preferably warm) water over the narrow cut edge so that it soaks down through the hay, with excess water draining out through the woven bag. Stand for 10 minutes, and then feed out. You can prepare hay in this way in the morning for the evening feed and vice-versa, but don't let it remain damp for more than 12 hours.

Sacro-Iliac Pain

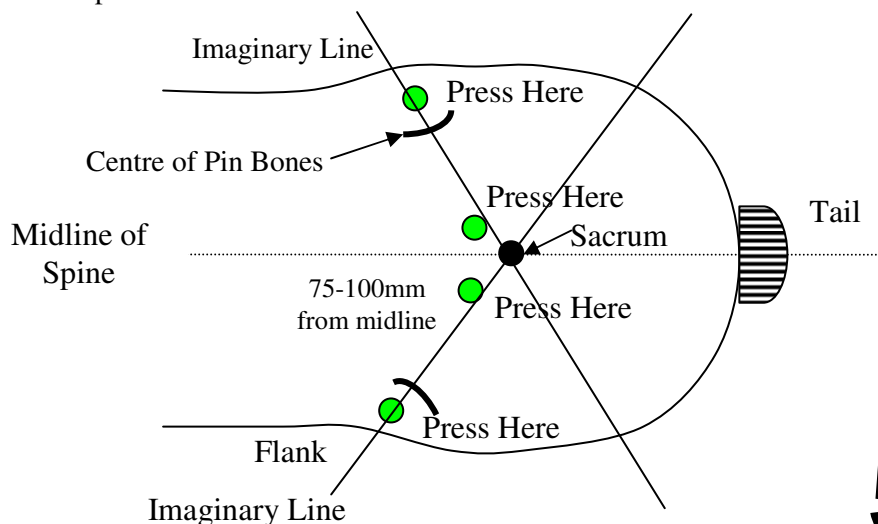
The signs are more common than you think ...

Lower back pain can cause a change in gait and behaviour and loss of performance in racing, equestrian and leisure horses. Sacro-iliac ligament strain and joint sprain, stress fractures and chronic arthritic pain account for 50% of all back injuries. 15% of all horses with back problems were shown to have chronic, long standing sacro-iliac joint injury. Dr Tracey Turner of Minnesota University and Prof. Sue Dyson of the Animal Health Trust Newmarket UK have recently reviewed the diagnosis and rehabilitation of sacro-iliac ligament sprain and arthritic conditions.

Recognise these Symptoms?

If you recognise 4 or more of these typical symptoms, then your horse could have a chronic sacro-iliac injury.

1. Lugging to one side or inability to work smoothly around a bend or circle on one side
2. Resisting the transition, throwing the head up, and 'dipping' in the back when asked to canter or work with hindlimb impulsion
3. Dipping the back when ridden in a 'collected' gait, with lack of lateral flexion.
4. Working with one hind leg swinging in under the hindquarters, especially when turning
5. Dragging the toe of the hind limb of the affected side when walking, with a short hindlimb stride length.
6. Bucking when asked to work up a rise or refusing to jump over rails.
7. Failure to develop backline croup muscles, with short hind limb stride movement
8. Intermittent lameness and shortened stride in the diagonal front limb
9. Swishing the tail when under saddle, particularly during warm-up exercises
10. Presence of a 'hunters bump' or prominent sacrum area just in front of the rump
11. Discomfort and leg 'trembling' when the affected hindlimb is lifted up for hoof trimming or cleaning
12. Some short term relief after chiropractic manipulation but not long lasting improvement



Diagnosis

The diagnosis of sacro-iliac discomfort is based on symptoms and deep examination of the sacro-iliac region for pain reaction by deep finger palpation around the dorsal sacro-iliac ligament attachments. Ultra-sound scanning to determine the presence or extent of ligament damage or infiltration of local anaesthetic into the area to evaluate pain relief can be used to identify the injury area.

Therapy and Treatment

The treatment for back problems are many and varied and because many back problems often become chronic in nature, there is no single therapy that is the 'cure' for most sacro-iliac related injuries. The majority of sacro-iliac strains involve ligament and soft tissue injuries, often with displacement injury to sacral and pelvic structures associated with a fall, overloading or slipping on a wet working or arena surface.

3 HANDY HINT

Horses with chronic, sacro-iliac discomfort do not develop or maintain 'top-line' and 'bulk up' in the croup and rump as they avoid engaging their hindquarters when working, often resisting collection to improve hindlimb impulsion.

4 HANDY HINT

Press just in the front of the imaginary line as illustrated to evaluate sacro-iliac sprain and tearing – affected horses will dip in the back. Also press down along the rear edge of the pin bones for reaction to pain. Consult your vet for a diagnosis.

Did You Know ???

- ★ The prominence of the sacro-iliac or "hunters bump" is dependent on the conformation, physical condition (lean and fit or overweight) and the muscular development of the lower back and hindquarters. A horse's individual low tolerance to pain may result in poor performance and a change in gait.
- ★ A mild "hunters bump" may have no influence on gait or performance. However, a study in Standardbred trotters found that an increase in prominence of the sacrum of more than 10mm (1cm) was associated with poor performance. In one survey, 61% of racing thoroughbreds were classified as having moderate sacro-iliac changes.
- ★ Horses that are stabled for long periods in training do not maintain flexibility or optimum strength in the pelvic and lower back area, compared to horses that are turned out and can twist and turn when exercising during the day.

5 HANDY HINT

When massaging, close the fist and roll it over onto the top knuckles in a kneading action, working towards the midline around the sacrum and spinal column. Do not finger massage the rump area as it will tear the roots of the hairs and cause discomfort.

A therapy program that includes initial rest, followed by specific exercises to “work” the sacro-iliac ligaments and increase their flexibility and strength has been shown to provide the best long term chance of rehabilitation in up to 47% of horses with sacro-iliac ligament strain and joint arthritis. Note: Severe inflammation and pain can be reduced by a short acting cortisone injection into the sacral-iliac ligament attachments. Consult your vet.

Simple Rehab Program

1. Where the sacro-iliac ligament or joints are inflamed and painful, initial ice-packing and injections of long acting cortisone helps provide relief from long standing discomfort, followed up by an appropriate withdrawal period before returning to training or competition. Consult your vet for advice.
2. Long rest periods by turning the horse out are **contra-indicated** because the **back muscles and associated ligament structures need to be “worked” to improve flexibility and strength**, although in a new ligament tear with severe local inflammation and discomfort, may require up to 30-45 days of stall and yard rest. Controlled daily straight line hand walking (avoid a circular walking machine) will help to avoid further strain injury. Do not turn out a horse with a severe injury into the paddock as uncontrolled paddock exercise may aggravate the injury.

Massaging over the sacro-iliac on both sides with an oily muscle liniment (wipe of any excess oily residue if the horse is turned out in a yard during the day) for 2-3 minutes before exercise, and then walking over 3 ground poles spaced 1 ½ - 2 horse lengths apart at a 45° angle approach in a ‘figure 8’ pattern (see diagram), 4-5 times during warm up, will help to **flex and twist the sacral and pelvic area** as the horse lifts each leg individually as it walks over the poles. This simple exercise can be carried out before training each day for 4-6 weeks. Once under saddle, walking the horse at an angle as in a ‘shoulder in’ lateral movement for 4-5 “zig zags” across the arena will further help to strengthen the sacro-iliac ligaments and associated joint structures.

If Sacro-Iliac Sprain is Present in Competitive Horses

1. Stall or yard rest, combined with massage and walk over poles daily for 7-10 days and a walk on the lead for 10-15 minutes daily will help settle down painful sacro-iliac conditions.
2. Place the feed bin up off the ground to avoid tensing the back when head down feeding.
3. After 7-10 days if improved, re-introduce straight line work under saddle, but avoid jumping, circle work or repeated transitions for the initial 2-3 weeks.

HANDY HINT

Controlled exercise, initially with low doses of ‘bute’ and backing the horse for 5-6 steps to tension the sacro-iliac ligaments daily for 2-3 weeks, followed by 4-6 weeks of ground pole and lateral exercises, have been shown to be the most helpful in promoting repair and strength of a chronic sacro-iliac ligament injury. Providing a supplement such as **Kohnke’s Own Cell-Vital® or Cell-Vital PREMIUM®** with extra vitamin A, zinc, copper, manganese and vitamin E will help correct low dietary levels of important nutrients required for ligament repair.

A daily supplement of Kohnke’s Own Muscle XL given in a small feed each day for 10-14 days will help provide high quality amino acids for strengthening top-line and rump muscles. Ring 1800 112 227 for a free factsheet on how to give Muscle XL.

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HANDY HINT

Horses with well-developed back line and hindquarters are less likely to develop sacro-iliac injury, with the risk increasing in all horses that jump at speed (hurdlers, showjumpers and eventers) or use their lower back for acceleration and impulsion (pacers, dressage horses, polocrosse). Evaluation of the clinical relevance of a “hunters bump” or prominent “tubera sacrale” area must consider the horse’s work history, stage of fitness, breed, condition and ideally, how the size of the ‘bump’ has changed over time.

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HANDY HINT

Of all the therapies used, simple massage, physiotherapy and therapeutic ultrasound, electrical stimulation of surrounding muscles (muscle contraction – not lasers) and magnetic field therapy were found to be the most beneficial when used to relax and relieve pain prior to exercise. Dr Tracey Turner’s study indicated that chiropractic manipulation and acupuncture were helpful for short term relief, but did not significantly assist healing or long term rehabilitation because occasional manipulation did not help to strengthen the lower back structures.

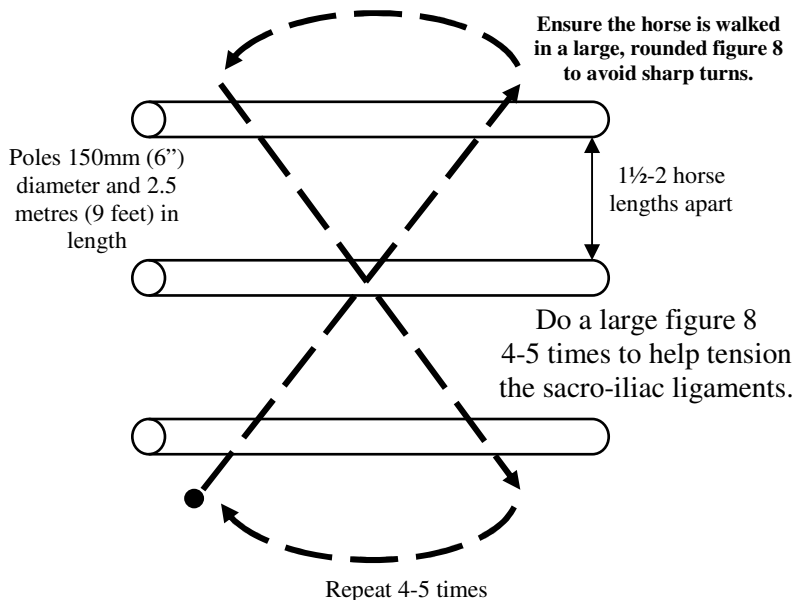


Figure 8 movement pattern to strengthen sacro-iliac ligaments to assist recovery and reduce overall risk of sacro-iliac sprain.

Practical Suggestion: Include a warming massage (or a warm hot water bottle placed over the sacro-iliac area for 2-3 minutes) before daily exercise, then the figure-8 hand walk over poles as part of daily warm-up before training in a horse with a chronic sacro-iliac problem. An magnetic therapy rug positioned over the hindquarters overnight will also facilitate the warming and healing process.

HANDY HINT

During the first 3-5 days of pole exercise, the horse may ‘clip’ the pole with the toe of the worst affected hindlimb as it walks over the poles until the exercises strengthen the lower back muscles and sacro-iliac area.

9

Preparing Your Mare for Foaling

All horse owners and breeders want their pregnant mare to produce a well-developed, healthy foal with no difficulties during foaling. There are a number of important management practices that should be carried out in the last three months prior to foaling that will help minimise foaling problems and ensure the young foal is assured of a healthy start to life.

Feeding During the Last Three Months

An unborn foal doubles its size during the last 3 months (last trimester) prior to birth, increasing the nutrient demand on the mare with this rapid rate of development, as well as the elevated need in preparation for milk production by the mare at foaling.

A heavily pregnant mare should be provided with a higher energy diet containing more concentrate to provide energy, as well as protein, calcium and other essential nutrients to fuel the growth of her unborn foal.

Joint and Bone Formation

Studies in Holland by Dr. Van Weerin have shown that a young foal has only "once in a lifetime" chance to form sound, flexible cartilage and tendons, starting from around 6 months of pregnancy when cartilage and collagen begins to form and then finally matures by 5 months of age.

If developing joint cartilage and tendon tissue is not provided with adequate nutrients during late pregnancy and the first 5 months of a foal's life to form resilient collagen type 1 in its matrix, it is unable to mature to protect joint surfaces and provide strong tendons and ligaments.

The bone structure in the unborn foal is composed of a fibro-cartilaginous framework which at birth is only 16% calcified, increasing to 60% calcification by 6 months of age and 83% by yearling age under optimum nutritional conditions.

It is essential to provide an adequate intake of calcium and bone minerals for structural development of bones, trace-minerals including copper, zinc, manganese, selenium and iron, as well as vitamin A (all of which must be stored in the unborn foal's liver as a reserve during the first month of life as milk is low in these nutrients) required for an optimum rate of growth and strong musculo-skeletal development.

Vaccination

A booster injection of tetanus toxoid (and Strangles if recommended in your area by your vet) should be given 4 weeks before foaling to enable optimum passive transfer of antitoxin into the colostrum milk prior to foaling, not only to protect the mare against tetanus if she is torn at foaling, but also to ensure that the colostrum (first milk with antibodies) contains a source of antitoxin to the new born foal. Many stud farms give an additional tetanus antitoxin injection to the newborn foal to ensure optimum protection against tetanus if the germ is taken up through the umbilical stump. Consult your vet.

HANDY HINT 12

Providing the pregnant mare with a well formulated supplement of bone minerals, trace-minerals and vitamins, such as in Kohnke's Own **Cell-Grow**[®], fed at the rates recommended to meet the needs relative to growth rate and expected mature weight of the young foal, from 6 months of pregnancy and during lactation is paramount to correct low or inadequate levels in the diet. **Cell-Grow**[®] is a convenient 3 Supplet[®] pellet blend that is not sifted out or blown away from paddock feeders as can occur with many powdered supplements. Many breeders add additional **Cell-Grow**[®] at 50% of the recommended rate even when a prepared feed is being fed as an insurance against poor availability of trace-minerals and loss of vitamin potency common in stored feeds.

HANDY HINT 10

Aim to increase energy and protein levels by 10% per month to meet needs by adding an additional 200gm concentrate per 100kg bodyweight (remember the unborn foal adds 10% to the pregnant mare's bodyweight). In the last month before foaling, a heavily pregnant mare is often unable to consume a large bulk of feed due to less hindgut room, so hay should be limited to 1% of bodyweight (5kg in a 500kg mare) and the remaining 1% made up with a concentrate grain, pellet and chaff mix to meet nutrient needs.

Worming

It is good practice to worm the pregnant mare about 4 weeks before the expected foaling date with a broad spectrum wormer to remove internal parasites and ensure optimum feed utilisation and reduced pasture contamination at foaling. Many stud farms worm mares again on the day of foaling – modern worming compounds do not pass out in harmful amounts in the milk to the new born foal – to further help minimise pasture contamination with worm eggs and infective larvae.

HANDY HINT 11

Avoid using Dolomite as a calcium and bone mineral supplement for breeding and growing horses, as the form of calcium and magnesium in this natural soil product are insoluble in water and poorly available (3% for magnesium) during digestion in the small bowel. This is because it is a highly alkaline complex and the calcium and magnesium also compete for the same absorption sites. Dolomite is poorly absorbed in all horses and does not provide a useable source of bone minerals. Dicalcium phosphate (23% calcium, 18% phosphorus) which is slightly acidic and water soluble, is around the same price/kg as compared to dolomite and up to 75% available during digestion. **Cell-Grow**[®] and other scientifically based supplements do not contain dolomite.

Hoof Care

Many heavy pregnant mares become uncomfortable when their hindlimbs are lifted and positioned for routine hoof trimming during the last month of pregnancy. It is good practice to trim the mare's hooves about 4 weeks before foaling and repeat again about 4 weeks after foaling once the mare is not as 'foal proud' and anxious when being handled. Consult your farrier.

Avoid Excessive Condition

It is important to try to maintain a pregnant mare in a 'trim' condition, preferably with a 'fleshy covering' and last 2-3 ribs just covered. Heavily conditioned or overweight mares are more likely to have difficulties at foaling and, in fact, produce reduced volumes of lower protein milk after foaling.

Are Joint Supplements Really of Benefit?

Despite a number of studies usually involving small groups of horses or non-controlled trial designs, there is little data to support the use of many supplements. Because of the competitive market, many contain varying amounts of GAG forming ingredients and forms of these ingredients that may not be available orally to the horse because of particle size, damage during processing or loss of activity during storage before use.

One study in the USA in which joint supplements were analysed for active ingredients found that many products on the market were lower in the compounds than claimed and the quality of the ingredients varied between the dearest and the cheapest sources.

In Australia, lobbying of registration authorities has resulted in some particular products gaining market approval and this has ultimately resulted in Australia being the only country where “nutraceuticals” such as glucosamine, which is freely available for humans, now requires approval for horses, because it is deemed not to be part of a horse’s basic diet. Sale of joint preparations in Australia is now controlled by commercial interests, restricting the availability of supplements available in this country.

While the scientific jury is out, many horse owners, however, consider that joint supplements have benefits, with reports of horses with chronic joint conditions improving in gait and soundness within a few days to weeks.

One unpublished report from Germany indicated, on a limited number of horses, but with a double-blind trial design, that over a 12 month period, there was no significant difference in joint health in young horses supplemented with a glucosamine based oral supplement. However, in another observation with a supplemented group of competitive dressage horses, compared to a placebo supplemented group of horses of similar age and lameness scores, there was a significant reduction in incidence of joint related problems as the horses aged over a 5 year period. Some authorities believe that joint health can be maintained by oral use with a well formulated joint supplement.

HANDY HINT 15

A combination of management, including working bandages to reduce joint “wobble” and potential “wear and tear” movement, ice packing after exercise to reduce joint swelling, judicious use of anti-inflammatories and injectable joint therapies, based on pentosan sulfate and/or hyaluronic acid after joint injury or surgery to “clean-up” the joint cartilage surfaces, all combined with daily use of an oral joint supplement containing at least 5-7 grams of glucosamine, a cartilage source of chondroitin plus vitamin C, trace-minerals, such as organic manganese, copper and zinc, as well as MSM, may help to maintain sound joints in working horses.

Preparing Your Mare for Foaling

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HANDY HINT

Provide pregnant mares with ample opportunity to exercise, often most easily managed by locating waterers and feeders at opposite ends of a paddock to encourage exercise. **Note: Overweight mares confined to hilly country have a higher incidence of Uterine Distortion Syndrome (UDS) with bent and deviated legs in newly born foals. UDS is thought to be caused by compression of the unborn foal in womb during the last 2 months before foaling as fat mares walk to graze in hilly country.** It is advised to shift heavily pregnant mares to flat, but well drained, pastures.

Prelactation

Most mares start to ‘bag up’ and ‘wax up’ within the last 2-3 weeks before foaling. However, up to 24.7% of mares prelactate or run their milk before foaling, which if it occurs for more than 3-4 days before foaling in large volumes splashed down their hindlimbs, colostrum milk may be drained away. Check with your vet and arrange a concentrated antibody drench or transfusion during the first 12 hours after foaling.

14 HANDY HINT

Always locate heavily pregnant mares in a well drained paddock, preferably with a firm, sheltered rise or mound so that they can move away from wet, low lying areas during rainy periods to keep their hooves (hind hooves in particular) dry and better able to support the increased hindlimb loading during late pregnancy (up to 70kg, consisting of a 50kg foal, 20kg fluids and membranes, in a 500kg mare).

Joint Supplements – Latest Findings

Our 1800 Free Call advice line receives numerous calls each week about the benefits or otherwise of glucosamine and other cartilage supplements to reduce or prevent joint arthritis in valuable competition horses. There’s a lot of confusion about the choice and effectiveness of oral joint supplements!

Joint supplements usually contain the glycosaminoglycan substances (GAG’s), consisting of glucosamine and chondroitin sulfate, as the major constituents that make up the resilient joint cartilage matrix and collagen fibres.

Joints also contain natural joint lubricating fluids based on hyaluronic acid. Joint surfaces thicken in response to controlled, step-wise loading of a training program. However, sudden or repeated overloading and “wear and tear” of joint cartilage causes damage to the structural layers and can reduce the nutrition and lubrication function within the joint. Cartilage lacks its own blood (or nerve) supply and it does not regenerate once damaged, but it can repair itself in time when rested and provided with nutrients to facilitate its repair. Lameness develops when the cartilage is eroded or worn away and causes pressure and nerve contact with the highly sensitive underlying bone (subchondral bone).

HANDY HINT 16

Early signs of joint unsoundness include a shortened stride, “scratchy gait”, stiffness and the requirement for a longer warm up time, heat in the joint, mild puffy swelling and resting the leg(s) after exercise.

PRODUCT OF THE MONTH

Kohnke's Own

Energy-Gold

Golden Oil with a Difference!



Kohnke's Own **Energy-Gold** is the world's only Omega oil blend with added fat soluble Vitamin E to protect its fat (oil) being degraded in muscle cell membranes during exercise. The pure garlic oil (not an imitation flavour) helps ensure acceptance and increases the overall palatability of the ration.

It can be used in 3 ways:

- ★ As a 'cool' energy food – 125-250mL per day
- ★ As an Omega Oil supplement – 75-100mL per day
- ★ As a coat conditioner – 50-75mL per day

Some Hints and Tips for using Energy-Gold:

1. In show horses, horses for sale or for a horse with a dry, brittle coat, use a combination of Kohnke's Own **Cell-Vital**® or **Cell-Provide**® to supply copper, zinc, iron and Vitamin A for skin condition and give 15 mL/100kg body weight of **Energy-Gold** to add the shine and condition for a soft, manageable coat.
2. If you are adding **Muscle XL** to build topline (recently voted as the best product to build topline without fat and flab) in a small feed after work daily for 10-14 days, mix the **Muscle XL** into a double handful of chaff, add a 'slurp' of **Energy-Gold**, mix it in (it improves the taste and stops the dust) and serve! (It works well with **Gastro-Coat** too.)
3. To make up a 'yummy' paste for a powder (eg Bute) add the powder to a cup, add 10mL water and 10mL **Energy-Gold** – mix well and then load into a syringe for dosing – it's easy!

Winners of the "Cell-Grow[®] Foal" Competition

Thank you to all of you who entered our competition. We were virtually inundated with entries for the competition in last issue's mailout to name the lazy, cheeky colt snoozing on the new label of our **Cell-Grow**® 3.5kg and 20kg buckets. There were some very cute names, but after a lot of deliberation, we chose "Jackson" as an interesting, distinctive name that reflected his nature.

The winning name was sent in by Mrs Sheryl James of Parafield Gardens, South Australia – congratulations Sheryl – you have won a 3.5kg bucket of **Cell-Grow**® and a 1 litre **Kleen-Sheen**® "easy-rinse" shampoo.

We also decided to award a few additional prizes to horse owners who were enthusiastic and creative in forwarding numerous entries and even letters! The following entrants will receive a 500mL can of **Hoof-Seal**® to help maintain their horse's hooves in excellent condition over winter. Nicky Goodison ("Tyler"), Sophie Needham ("Razz"), Julie Stork ("Jasper"), Jane Matthews ("Monty") and Melissa Longhurst ("Leopold"). A special prize of a 1 Litre **Kleen-Sheen**® for a great letter was awarded to a thoroughly "Miss Modern", Miranda Love of Caulfield Victoria who wrote "You guys rock ... keep up the good work! Cya! Bye!"

Seasonal Reminders

Winter Woollies

As night time temperatures fall below 10°C, horses start to lose body heat at a higher rate, even greater under cold and wet conditions with a high wind chill factor. Feeding extra roughage, simply as dampened lucerne or good quality grass hay, even some oats to paddock horses will help to provide internal "warmth" as heat is generated during hindgut fermentation of the fibre in the under belly area.

Providing a warm lined rug with a long tail flap to reduce wind carrying heat away through the legs and under the belly helps to keep a horse warm. **Note:** A fact sheet "Feeding Horses in Cold Weather" is available by phoning 1800 112 227 or email adminjkp@bigpond.com.

Feeding to Breed

If you are planning to send your mare to stud in early spring, ensure that she is maintained in a trim, light to moderate condition over the winter period. If she is a heavy weight, she could afford to lose some weight under the colder conditions. Then about 4-6 weeks before she is to be bred, increase her energy by providing more concentrated feed on a rising plane to help increase her chances of optimum ovarian function.

Hoof Care

Wet weather can soften hooves and reduce their weight bearing capacity, especially in heavy weight horses. A weekly application of **Hoof-Seal** over the hoof wall, sole and frog will help to regulate moisture variations, and under wet conditions, applying a mid week application to the soles and frog helps to maintain a protective adherent layer that resists "wear and tear". **Kohnke's Own Hoof-Seal's non-stick surface also allows mud to be cleaned out more easily from the sole and around the frog.**

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HANDY HINT

The major minerals, trace-minerals and vitamins required for optimum fertility in a mare are an adequate intake of phosphorus, selenium, Vitamin A and Vitamin E. Providing a supplement of Kohnke's Own **Cell-Grow** to help make up any shortfalls in the winter feed in older mares may be of benefit, and in all mares, a 4 week supplement at 15g/500kg mare of Kohnke's Own **E-Se Supplets** to provide organic selenium and Vitamin E prior to breeding.

What's In the Next Issue?

- 'Fizzy' and 'Spooky' Horses – is it all in the head?
- Chronic Fatigue – Does it affect horses?
- Joint Disease in Foals – typical early signs.
- Plus handy hints and practical advice