TALKING HORSES YEARLINGS

ISSUE 2 2011 Special Yearling Sale Issue 2011

In this issue...

Handy Hint 1: Improving Coat Condition and Gloss

Many of the sale prep feeds contain additional polyunsaturated oils to help improve coat skin condition and hair gloss. However, in a yearling with a dull coat, an additional daily supplement of **60g** (1½ scoopsful LARGE END) of **Kohnke's Own Cell-Grow®** daily will provide a full range of additional trace-minerals, including zinc, copper, iron and Vitamin A for depth of coat colour and condition, as an insurance against bone growth abnormalities on high energy yearling prep rations. Providing a daily supplement of **60mL** of **Kohnke's Own Energy Gold™** oil also has a role in shine and condition of the coat. To improve coat gloss, walk the yearling out in the sun on a warm day until it starts to sweat. Then take the horse to the wash bay or stable aisle and brush it all over with a soft grooming brush in a massaging action whilst it is still hot and damp from sweating. The massaging action on the warm skin will facilitate the spread of oils from the skin glands, which will promote a natural shine and softens the coat. Repeat at 3-4 day intervals for the best effect. Shampooing the yearling once a week in a non-soap, foam lifting shampoo, such as **Kohnke's Own Kleen-Sheen®**, will avoid stripping out the natural oils from the coat and help maintain a natural smooth coat shine due to its built-in conditioners and silicon dust repellent. Only **50-60mL** of **Kleen Sheen** is needed with minimal water to rinse off the horse.

FROM THE EDITOR...

It has been almost 5 years since the publication of Talking Yearlings #1! The first issue has been a popular guide to preparing yearlings for sale. However, whilst the information in Talking Yearlings #1 remains practical and highly relevant, many stud managers and yearling prep staff have asked for more information regarding the preparation of yearlings leading up to sale. If you do not have a copy of Talking Yearlings #1, please email Gary at **newsletters@kohnkesown.com** to request a copy. If you are working with breeding and young horses, you may also be interested in subscribing to our regular newsletter 'Talking Breeding' which is published at regular 3 month intervals. Please subscribe by emailing Gary at the above address.

In this issue we discuss in more detail some of the problems such as epiphysitis, filling in the legs, contracted tendons and foot soreness often encountered in young horses during yearling prep. Many of these problems are related to increased energy content of the feeds provided during yearling prep, especially in young horses which are naturally 'good doers' or those which are a little backward in comparison to others in the draft being prepared for sale. In my experience, it is often the quest to meet the industry standard for condition and size, which leads to minor limb abnormalities well before yearling prep, which only become more evident in the 3 month period of final prep for sale.

We also include some hints on exercise and grooming to put the final finishing touches to a yearling prior to sale.

I hope that you enjoy reading Talking Yearlings #2 and that you are able to present the best draft of yearlings in the forthcoming sales.

Kind regards,

Dr John Kohnke BVSc. RDA

Epiphysitis - is it normal during yearling prep?

Some degree of epiphysitis or swelling of the cartilage 'growth plate' layer on the ends of the long bones will develop during yearling prep, normally on the lower end of the radius bone just above the knee joint. Up to 80% of yearlings in sale condition at the yearling sales will have signs of epiphysitis or 'big knees'. It gives the appearance of 'open knees' as the swelling and inflammation forms a distinctive ridge around the upper borders of the knee joint.

It is a sign of excess energy intake and overweight body condition, which has caused an inflammatory reaction in the growth plate. If it becomes obvious, then a reduction in energy intake for 10-14 days will help reduce the ridging effect as the growth plate swelling subsides.

Extra trace-minerals and vitamins should be given to make up the short falls if the feeding rate of a commercial yearling prep ration is reduced and replaced with the same weight of roughage as chaff and hay. For example an additional **20g** (half a scoopful LARGE END) of **Kohnke's Own Cell-Grow™** per 1 kg of prepared yearling prep feed removed.

Did you know that...

- The period up to weaning age provides the foundation for the development of bones, tendons and joint structures. A combination of adequate and balanced nutrition in the mare will provide nutrients in milk during the period of most rapid growth up to 3 months of age which corresponds to the peak of lactation in a mare (between 4-10 weeks after foaling). After 3 months of age milk production slowly decreases in a lactating mare. As a foal begins to graze more independently, the continued development and growth must be fuelled by access to a well formulated creep or co-fed mare ration and pasture grazing. Studies by Dr Peter van Werrin and co-workers in Holland in 2003, linked the provision of an adequate, but not excessive dietary intake of energy, protein, bone minerals and trace-minerals, with daily paddock exercise, as the most important factors required for the development of bones, joints and tendons up to 5 months of age as the foundation for soundness in young horses.
- The 6-7 month period from weaning to yearling age is a critical time for continued steady development and growth of a young horse, in order to reach yearling size standards without causing limb and joint problems. **Developmental Skeletal Problems** (DSPs), often referred to as Developmental Orthopaedic Disease or DOD commonly become apparent during this growth phase, although many of the conditions have their origin in the unborn foal, during the early developmental period and even a genetic influence in a bloodline. The term DSP is more accurate because **physitis** ('apple joints' in the fetlocks in weanlings); **epiphysitis** (enlarged growth plates above the knees in growing horses and yearlings) and **OCD** (Osteochondritis dessicans due to joint cartilage formation abnormalities) are not actually diseases, but indicate a problem with joint and limb development.
- During these periods of growth, over-supply of energy above 125% of requirements, can increase the risk of DSPs. This also applies to the yearling prep phase where an increase above a steady rate of growth is deemed necessary to reach sale standard. This is often fuelled by the increased starch and protein intake in grain based yearling prep diets with an inadequate intake of calcium and trace-minerals, such as copper, zinc, manganese and even selenium, in the rapidly growing young horse.

Kohnke's Own®

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Trim the Hooves Regularly

Broken away and chipped hooves are often a focus during inspection of a yearling by a prospective buyer at the sales, despite the young horse being well rounded off and well presented in other aspects. Trimming and hoof shaping should start prior to sale prep in a yearling with wall splits or 'tatty' hooves in the paddock. Hooves grow at a rate of around 1cm per month and large sections of hoof wall break-away can take 3 months to grow out prior to sale time. Regular trimming and rounding off of the front edges every 4 weeks in the lead-up to yearling prep should be planned to ensure time for growing out hoof wall defects. Some horses may benefit from fitting front shoes if the hoof wall edge is brittle and broken-away when brought in for yearling prep. The front shoes also protect the hoof wall edges against break-away when parading or walking a yearling out for buyer inspection during the sales. In most cases, regular bare foot trimming to maintain the correct angles with adequate heel height and shorter toes, especially on the back limbs to avoid 'stifle lock' in a young growing horse, will help ensure that the hooves complement the high standard of yearling prep with a more natural appearance.

If the hooves are brittle, then give a supplement of calcium and trace-minerals/vitamins including zinc, copper and Vitamin A, such as **60g** (1½ scoopsful LARGE END) of **Kohnke's Own Cell-Grow** supplet pellets. Combine this with a supplement of 15mg biotin daily in the feed, both have roles in normal hoof growth. Many yearlings develop 'growth rings' on the front hooves in particular as a result of a high energy diet to improve condition. This can be a sign that the yearling was 'pushed' too hard to gain condition for the sales, especially if it has epiphysitis as well. If the hooves are slow to grow, then fitting a magnetic bell boot (3,000 gauss strength) to the problem hooves overnight in the stables, will help to improve coronary blood flow and overall rate of growth of the hoof walls to grow out cracks, defects and broken-away edges. The formation of 'growth rings' can be avoided by not putting the magnetic boots on full time (24/7). Where all hooves are slow to grow out, fit the bell boots to the hind limb hooves during the daytime and the front hooves overnight in the stable.

Ensure that the hooves are rounded off on the front edges about a week prior to transport to the sales. Often a young horse scrambling up the ramp onto the horse transport is likely to tear away the front edge of the hooves if they are not rounded off. In some cases during yearling prep, getting a young horse accustomed to wearing and walking with hoof boots and bell boots to protect the hooves and pasterns and fitting them just prior to loading is a good way to avoid break-away of the wall edges when loading. Also, wrapping the hoof edges in a couple of layers of conforming elastic tape (eg VetWrap®) or adhesive elastic bandaging tape, will help protect the hoof wall edges during loading and transport.

Painting the hooves with a thin coating of a mixture of 80mL of **Kohnke's Own Hoof-Seal** and 20mL of Blac-it® hoof paint will provide an even, semi-gloss natural colour which does not chip off or wash off during the time at the sales. This mixture dries on the hoof, in contrast to oily hoof creams, does not collect dust or bedding or wear off and resists water and urine. It helps reduce the risk of 'tatty' edges at the sales when a young horse walks or scuffs the hooves on cement or bituminized parade areas.

Well-manicured and maintained hooves add extra glamour to a well prepared yearling.

Exercise during Yearling Prep
how much is too much?

Exercise is important to complement the higher energy diet fed to a yearling in sale prep. The type, intensity and the duration of exercise are important factors when planning a 'get fit' program and to encourage muscle and bone development in a relatively young horse. The practice of working yearlings on a small radius lunge at the canter in deep, dry sand is a sure recipe for musculoskeletal damage due to overloading and strain injuries.

However, just how much exercise is too much?

There have been a number of studies to correlate the energy content of the ration with the intensity of exercise and the risk of joint and DSP problems in young growing horses from weaning to yearling age. Many studs walk yearlings out in a safe area in groups over 2-3 km each day (when weather permits) to help provide safe and controlled low intensity exercise, as well as education in handling during the walk out time. This exercise regimen is staff intensive to ensure that the youngsters are well controlled and walked in an escape proof raceway. It is a relatively safe way to 'burn up' energy, as well as provide exposure to other horses, machinery and wildlife to allow conditioned and more tolerant behaviour in preparation for the bustle of sale time.

Over the years, the use of walking machines has been popular to exercise yearlings. The biggest advantage is the minimal staff needed to supervise the exercise period and the relative safety of having young horses confined within the walker during exercise. There is a risk of injury if a horse falls or tries to escape, but careful introduction initially with loose lead hand walking helps reduce the likelihood of misbehaviour and subsequent injury. However, the initial costs of installation and set-up are high and if they are not used for exercising horses in training, the walker may lie idle for most of the year. There is also a concern about the surface type and cushioning on the walking route and the radius of the machine. A walker suited to 8 horses and at least 16 metres (50 feet) in diameter is preferable to reduce the twisting stress on developing joints as the young horses walk in the circle. The walking surface is also critical. A surface which is firm, such as rubberised pavers set on the horizontal well drained base, provides cushioning with less risk of banking on the outside and adequate drainage during wet weather. Poorly maintained, deep sand pathways, banked on the outside edges, increase the risk of strain injuries and hoof and limb angular stress as the young horses walk in the circle on an inward sloped surface.

Handy Hint 2: Take Care when Conditioning by Treadmill Exercise

Recently, treadmills have become another way to exercise young horses with minimal staff supervision. They provide the safety of padded sides and rubber belt floors. However, the speed and intensity of the exercise and the degree of incline and work effort on the treadmill has to be well managed to avoid lower joint concussive and sprain injury. Treadmills are useful in a covered shed during wet weather, but as only one horse at a time can be exercised, it is impractical for large drafts of yearlings and often boring for youngsters working themselves on the treadmill.

Filling in the Legs – avoiding the problem

Yearlings being 'prepped' on a high starch based diet are prone to develop soft fluid swelling or oedema in the lower legs, particularly the hind limbs when standing in a stable overnight.

In most cases it is triggered by a high energy and protein diet, which can lead to protein-rich extravascular fluid accumulating under the skin and around the joints and tendons of the lower limbs. Exercise by walking each morning will help to dissipate the fluid which is returned to the circulation by the lymph drainage channels within the subcutaneous tissues.

If the fluid does not dissipate on walking, then hosing the lower limbs down with cold water for 10 minutes daily will help to hasten the removal back into the blood. Lightly wrapped lower limb elastic polo bandages will also help to reduce fluid retention in the lower limb overnight when the horse is standing in a stable. If the swelling is allowed to remain for a few days, often the extended subcutaneous tissue will become stretched and result in a permanent lower limb swelling which can detract from the yearling's presentation at sale time.

It is also a good idea to reduce the protein content of the diet to around 14%. This can be done by reducing the amount of lucerne hay fed and replacing it with dampened good quality grass or meadow hay with minimal clover. Also cut the grain intake, particularly oats, to half and replace some of the energy with oil, such as **150mL** (about half a cupful) daily of **Kohnke's Own Energy Gold™** to replace 3 cupsful of oats. If you reduce the amount fed each day, ensure that you provide an extra amount of a trace-mineral and vitamin supplement, such as an additional **20g** (half a scoopful LARGE END) of **Kohnke's Own Cell-Grow™** per 1 kg of grain or prepared yearling prep feed removed. This will make-up the shortfalls of nutrients to help reduce the risk of bone and joint abnormalities on the overall high energy ration. If the lower limb oedema persists, discuss the problem with your vet.

Lactating fillies *the underlying cause*

It is not uncommon for a yearling filly to develop oedema around the udder area, 'bag-up' and begin to produce small volumes of milk which drip from the teats and splash down the inside of the hind limbs. In some cases, a filly will develop mastitis with a hot, hard and painful swollen udder. Higher energy feed, heavy body weight and advanced condition of the filly, as well as the increasing daylight and ovarian activity in summer during yearling prep, will all increase the risk of milk production, albeit in small volumes. It will often attract flies which risk introducing infection to the teat canals and the development of mastitis. If the filly has a swollen and painful udder, seek advice from your vet immediately as an antibiotic course may be necessary to clear the infection and make the filly more comfortable. Although it will help to reduce subcutaneous oedema, avoid hosing the udder with cold water as it can introduce bacterial infection into the teat canals and increase the risk of mastitis.

Handy Hint 3: Reduce the Energy Intake if Yearlings Become too Fat

If you are feeding a commercial feed at the suggested feeding rate and the yearlings are gaining condition too quickly (often fillies will start to lactate on high energy rations), cut back the feeding rate and make up the **bulk** with extra hay and chaff. A bundle of 1-2kg of green feed each day helps to maintain the appetite. Do not reduce the calcium or trace-mineral intake. It is important to ensure an adequate intake of trace-minerals as a 'buffer' against over-supply of energy, even when a commercial yearling prep feed is being used to condition a yearling for sale. Even if the energy intake is higher than required and fuels a rapid growth rate, additional bone minerals and trace-minerals will help to provide some degree of protection against joint cartilage (OCD), epiphysitis, contracted tendons and bone development problems.

Contracted tendons – a problem just before sale time

Upright conformation of the front pastern and fetlock gives the appearance of 'contracted tendons'. However, it is an artefact in that the tendons have not shortened at all, but the straightening of the angle of the fetlock joints and bending forward at the knees is most commonly due to pain in the joints of the lower limb.

Handy Hint 4: Managing 'Contracted Tendons'

In cases of upright pasterns and 'contracted tendons', prompt reduction in the energy intake by cutting grain starch in the diet to reduce insulin hormone excess which has a direct effect on the formation of cartilage, will help to resolve the problem within 2-3 weeks. If the condition occurs within the last month before sale time, then increasing the bone mineral, cartilage forming trace-mineral and vitamin content of the ration, will help to complement the reduced energy and trimming of overweight body condition. Exercise should be limited to short walks daily. A joint supplement, such as **Kohnke's Own Nutricart®** will help provide specific nutrients to assist joint health and function.

Did you know that…

The front legs carry 60% of the weight when standing. Heavy body condition, combined with confinement and standing in stables during yearling prep can increase the weight loading on the 'force lines' or contact points of the cartilage covering the subchondral bone in the fetlock joints. In some cases, excess weight loading during hard exercise can lead to cartilage distortion and subchondral pain from overloading. Both scenarios can lead to 'squishing' of the thin cartilage layer over the underlying hard bone and devitalisation of the cartilage structure because of poor nutrition. Joint cartilage does not have a blood or nerve supply, so that it cannot sense pain or receive a continuous supply of blood borne nutrients. It relies solely on drawing in nutrients from the joint fluid as it compresses and rebounds during exercise. Overloading also causes inflammatory enzyme flood into the joint fluid, which further reduces the nutrient quality of the fluid and the vitality of the cartilage layer. Once the cartilage becomes devitalised, the loading is felt by the vascular and sensitive subchondral bone, which can devitalise when overloaded. In an attempt to take weight off the painful subchrondral bone surface, the animal transfers more loading to the tendons to share some of the weight and shift the weight loading off the painful 'force line' in the joints, giving the appearance that the tendons have contracted. If the affected horse is given 'bute' for 2-3 days, the subchondral pain will resolve and the fetlocks will return to normal angles. However, the cartilage deterioration and subchondral overloading continues and can result in collapse or 'implosion' of the joint. **This is the typical progression of early OCD (Osteochondritis dessicans) where devitalisation and inflammation of the cartilage layer leads to death, separation and tearing of a flap of cartilage from the underlying subchondral bone surface. It exposes the sensitive nerve endings in the bone cap under the cartilage and if not recognised, can lead to lameness and premature breakdown within the affected joint(s).**

Foot Soreness *– too much grain or exercise?*

Occasionally, a young horse in sale prep will start to shorten its stride when being walked and appear to be 'foot sore'. In more severe cases, the hooves will be warm to touch, indicating inflammation and low grade laminitis within the front hooves in particular. Again, it is often triggered by excess grain intake and starch overload into the hind gut, leading to hind gut acidosis and toxin production from the death of fermentation bacteria. The toxin has a direct effect on the vascular supply and vitality of the basement membrane of the lamellae within the hooves.

Low grade chronic cases will develop 'growth rings' and increased coronary band reaction on the hooves. It is essential that the laminitic reaction is recognised early to avoid more serious damage within the hooves as occurs in founder.

Reduction of the grain starch content within the ration by feeding extra oil for energy and more roughage can help resolve the problem in time. However, prevention is better than cure. Supplementing the diet with Founderguard® or EquiShure® will help to reduce the risk of hind gut acidosis. Both these preventative measures may reduce the appetite for a week or so, which in itself will help resolve the problem. In severe cases, the hooves may need to be hosed with cold water for 10 minutes 3-4 times per day, or the hooves iced 2-3 times per day, to reduce the inflammation. The animal may need to be given an anti-inflammatory course of 'bute' until the soreness and internal inflammation subsides. Avoid excess doses of 'bute' as it can result in gastric ulceration and reduced appetite in the yearling. Consult your vet for advice.

Handy Hint 5: Reducing Hind gut Acidosis

A simple effective way to reduce hind gut acidosis in the short term, is to reduce the starch grain content in the ration and give 30g (1½ tablespoonsful) of sodium bicarbonate (carb soda or cooking soda) mixed into **60mL** of a palatable oil, such as garlic flavoured **Kohnke's Own Energy Gold™** over the tongue twice daily as the yearling feeds. This can be discontinued if Founderguard or EquiShure are added to the ration. In this case, more grain may be given to maintain condition in the lead up to the sales. If the yearling develops an overly 'cresty' neck, such as a 'good doer' young filly in an overweight condition, supplementing with K**ohnke's Own Trim®** as directed for 7-10 days will provide nutrients which have a role in metabolism and weight reduction on a reduced grain ration.

Maintaining the Appetite at the Sales

Some yearlings will lose their appetite following long distant transport and the stress of relocation, anxiety and change in feed at the sales. They may become aggressive, lose weight and chew wood rails in the stables. In most cases, the stress and anxiety, combined with altered feed times, can trigger the development of a gastric acid 'burn' on an empty stomach or erosion ulcers on the upper lining of the stomach.

In severe cases, medication with an ulcer treatment under veterinary supervision may be necessary to obtain the most rapid resolution of an ulcer and recovery of the appetite.

Feeding a small meal of 5 litres of lightly dampened lucerne chaff, with **50g** (4 scoopsful) of **Kohnke's Own Gastro-Coat®** and **40g** (2 tablespoonsful) of limestone and **30mL** of **Kohnke's Own Energy-Gold™** to encourage the appetite, will have a role in assisting salivation and natural buffering of the stomach when given prior to each grain based meal at the sales. If this pre-meal small feed is given daily for 5-7 days prior to travelling or for the duration of the sales, it should minimise the risk of gastric ulceration and the loss of appetite at the sales.

Handy Hint 6: Drinking Excess Water?

Often a young horse will begin to drink excess volumes of water when confined to stables during yearling prep, even during cooler weather. It is usually related to boredom and gives the animal a feeling of a full stomach, but often results in water overflow into the droppings, leading to soft, watery diarrhoea. The habit can be resolved by offering a 15 litre bucket of water twice daily rather than allowing uncontrolled intake from an automatic waterer. If the problem persists, then try the following. Provide **20 litres of fresh water and add 20 mL** of 10% Betadine® (iodine solution) to the water. Offer it as a single drink during the day. In most cases, water consumption will return to normal overnight. If not, repeat two days later and this will normally correct the habit. A daily supplement of a product such as **Kohnke's Own Formex™**, containing nutrients which have a role in maintaining normal digestive function, as directed for 5-7 days, may help normalise faecal consistency.

Handy Hint 7: Full of feed and 'full of Beans'

A yearling which is over-energetic, strong and frightened by sale routines when being paraded for inspection can be difficult to handle and risk injury to itself, other yearlings, buyers and the public. A supplement of **Kohnke's Own Mag-E®**, given at double doses in the feed for 5-7 days before travelling and at the sales will provide organic magnesium and a natural source Vitamin E to correct low dietary levels in yearling prep high energy feeds. On sale day, give a double dose mixed with **20mL** of water and **20mL** of cooking oil (or **Kohnke's Own Energy-Gold**), mixed into a slurry about 4 hours before sale time. This will help to maintain an unfazed, safe manner during separation from companion yearlings and the duration of the sale parade and the unfamiliar, noisy auctioning process. Recommend daily supplementation to the buyer until the young horse settles into its new environment.

IMPROVING TOPLINE

About 3 weeks prior to sale, it is helpful to evaluate the yearling's 'topline', muscle bulk and physical development. Generally, carbohydrates and fat **put on condition**, whereas limited amounts of high quality protein, when combined with exercise, will help **develop 'topline' and muscle bulk**. High energy feeds, besides adding weight gain and a 'podgy' fat appearance, can increase the risk of joint disease. Despite popular beliefs, fat cannot be converted to muscle with exercise. Horses have a set sequence of fat deposition as body weight increases on a high energy diet. Fat deposits first accumulate behind the shoulders, then above the tail butt, then behind the withers, elbow and over the ribs and finally on the neck and crest.

A yearling for sale is best conditioned to a 'trim' Condition Score 2½-3, with fat accumulation behind the shoulders and a little over the tail butt, but not excess over the ribs, withers or neck.

A combination of diet with added muscle building amino acids and exercise to stimulate muscle development is necessary to improve topline and physical 'bulk' and appearance. There are a number of supplement type products available based on gamma-oryzonal, branched chain amino acids, high doses of Vitamin E and chromium, as well as anabolic hormones, which claim to improve muscle bulk and strength. However generally, if they are effective at all, supplementation needs to be given over at least a 6-10 week period.

Handy Hint 8: Improving Topline the Quick and Easy Way

Once a yearling is conditioned for sale, 'topline' can be improved by feeding a product such as **Kohnke's Own Muscle-XL®**, which has been formulated especially to synthesise protein in the tissues from branched chain amino acids and other nutrients. When given strictly as directed, it will help build muscle in 10-14 days - an ideal and affordable way to add muscle bulk and physical proportions. **It's ideal for yearlings which lack topline, slabby sided types and ones that just haven't reached their peak in physical appearance within 2-3 weeks of sale**.

Muscle-XL is also a useful product to supplement at the sales to maintain muscle bulk in horses confined to stables without adequate exercise, especially when they are under stress of relocation and being inspected and paraded for buyers.

Product of the Month

Kohnke's Own®

Activ-8

Vitamin E supplement with Immune Active Co-Factors for the Nutritional Support of the Immune System

Activ-8, as its name implies, contains 8 nutrient co-factors including Vitamin A, Vitamin E, along with organic zinc, selenium, manganese and copper, Vitamin B2 and Vitamin B6, as well as Vitamin C, at supplementary doses to correct low or inadequate levels in grain and hay based diets. These nutrients are well recognised as providing nutritional support to the immune system

Highly palatable powder that adheres to the feed to prevent sift-out and waste

Pack Sizes: 1.0kg (21 days of daily supplement)
2.5kg (enough for 3 horses)