

C* and K Certificate Newsletter

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Welcome everyone,

Congratulations to Lisa Morrison, Sherise Spooner and Rianna Tromp who successfully completed their 40K ride during the Easter Holidays. Mind you, I think that they selected the hottest day on record for April, however all horses came home in fine spirits. One horse lost a shoe during the ride, and luck was with the rider as a farrier was located and the shoe was replaced during the half time break.

The one day C* and K Clinic at Ringwood Pony Club kept riders busy, preparing for K Option Examinations. We had Rachel Keskinen and Melissa Ball and their respective horses looking very swish, as they presented for and passed the Showing Option. Our thanks to Diane Baxter who was able to organise the examiner, at short notice, for this option. Rachel also passed her pace option. Well done. Melissa, on a very talented horse, also passed her Show Jumping Option. Two riders were tested on Lungeing, but both were not ready to be signed off as passed. They will need to represent at a later date.

Could all people interested in the Lungeing Option for K certificate and C (compulsory) please read the information presented in this newsletter. You must be very competent at Lungeing before asking to be testing. You must know what you are doing, and what to do to train your horse correctly. It is not difficult, but you must KNOW what is required and how to achieve it.*

At the Clinic, Sue Chandler was able to fit in some flat work, show jumping and formation team riding. Sue noted that many riders are not ready for C Grade Show jumping, as they were letting their horses rush at the jumps, not showing rhythm and control. Also, in flat work, riders need to concentrate more on using their seat and legs, less hands and reins, and have their horse listening to their aids. Our formation riding was good - it got us thinking about movements to develop for our Musical Ride for Zone flat teams. Thanks Sue for all the useful ideas and patience in teaching our less experienced riders.

I have also included an article on the requirements for PACE WORK. Please read through it, and aim to practise on a regular basis at your pony club. This is a great option to do, and is compulsory for C*

In July/August riders will be given opportunity to practise riding for the "Speed to Safety" competition. Practises will be organised by Prudence King (ring 9844 2332) and will be held at the Yarra Glen Race Track. These practises may be used as a basis for your Pace Option.

K Option - Pace Work

The Syllabus states that the Candidate should be able to ride at 220, 300, 350, 400 and 450 metre per minute. This is also a compulsory requirement for C*, so it is very important that you know your horse's speeds, and how fast you need to travel in Show Jumping and Cross country. We only touched on pace work at the recent Clinic. This is an area which needs to be covered on a regular basis at your Pony Club.

It is important to be able to judge pace for the following reasons:

Competition - which may be as diverse as Endurance Riding, Steeplechasing, Showjumping, Cross Country, etc. A rider may need to ride to ideal time, or may have to face penalties if under or over a time allowed. Often in jumping competitions penalties are incurred after exceeding the Time Limit, whereas in other events, such as Navigational Rides, penalties are incurred if the rider arrives either before or after the time set. Often an early arrival incurs a greater penalty than a late arrival.

Conservation of horse & rider - This may or may not be for competitive work. The 40K ride comes into this category. The rider needs to complete the ride within a given time, without exhausting the horse or himself. Those riders who did their 40K ride had to work out the required average speed that they had to travel, to cover the 40 kilometres in three and a half hours. It was calculated that if the rider travels at 13km per hour he would have time to rest, and to still finish the ride with plenty in reserve. The amount of "resting time" and speed of travel should be worked out well before the ride. If a Candidate is keen on Endurance Riding or Eventing, judgement of pace is very important in preserving a horse's energy.

A knowledge of a horse's average speed at the various paces is useful for calculating the time that will be needed to ride a given distance - for treks, exercising or going to Pony Club, for example.

Learning to judge pace and speed

This is essentially a "feel" exercise and can be learnt in two ways -

- by following a car at the pace desired. Often competitive cyclists use this method in training
- by timing oneself over a given distance.

You can measure a distance (minimum 100 metres) and practise your paces and times over that distance. If you do it regularly, you will be amazed at how accurate you can judge your horse's speed. My horse's paces are shown in the table below. Try to work out your own horse's speeds, on a similar basis. Remember that all horses are different. It is the rider's responsibility to discover the exact speed of his horse's paces.

Speed metres per minute	Campbell's pace (flat to undulating ground)	kilometres per hour - on car speed
100 mpm	walk	6 km per hour
200 mpm*	A working trot	12 km per hour
265 mpm	A medium trot	16 km per hour
300 mpm*	A collected canter, sitting upright, dressage style	18 km per hour
350 mpm*	A forward canter with rider leaning forward, Show Jumping Speed	21 km per hour
400 mpm*	Loose rein canter, rider leaning forward, and using legs to push horse along, as between jumps in Cross Country	24 km per hour
450 mpm*	An extended canter, the beginning of a gallop, for my horse this requires some effort on the part of the rider!	27 km per hour
500 mpm	Gallop (take care!)	30 km per hour

* Speeds that riders will be tested on at Pony Club. The other speeds have been included for rider's interest.

Practising Pace:

Please note, when learning to judge speed, start with the slower paces. Try to find a measured kilometre between signposts on a quiet road, or use the speedometer of the car to measure a kilometre between landmarks. See if your horse can actually walk a kilometre in ten minutes, or trot one in five. Then try timing yourself between power poles, which are usually evenly spaced, to test the regularity of your speed. You will need a digital watch for this, or a cheap stop watch.

For faster paces, a large flat paddock is ideal. Once again use a measured distance, or have someone drive a car beside you and call out the speeds you are travelling. You will be going at 20km/h for the canter. 455 metres per minute is a strong canter or steady gallop, and you will be travelling at about 28 km/h. Practise until you can feel these speeds beside the vehicle - until you can tell the driver if it is correct. You should not be able to judge your speed over a measured distance without the aid of the vehicle.

This judgement of speed is essential for event and endurance riders.

K Option - Lungeing

Over half of the riders who ask to be tested on this Option, fail. Don't assume that you can do it, because your horse usually runs around in circles when you put it on the lunge rope - have at least two lessons from an experienced instructor, read the lunge notes from the "B Certificate Book", Lungeing Guidelines from an earlier "C and K newsletter", and the Pony Club Manual No 2.*

The Candidate must:

- Know the principles, uses and benefits of lungeing a horse.
- Know the equipment needed to lunge a horse properly and how to fit the same.
- Wear safe clothing (full pony club uniform for the test), and handle the horse and equipment safely and efficiently.
- Keep the horse out on the circle and maintain a good even contact on the rein.
- Lunge the horse correctly on both reins at the walk and trot (canter is not required)
- Be able to recognise when the horse is not performing correctly, and if not, why?
- Have a clear idea of how to go about teaching the horse to lunge.

The Gallop

Please read this article before you try galloping your horse. Accidents can happen all too easily.

An occasional gallop is good fun, and makes a welcome change from more restricted training. Apart from this, it is an essential part of getting a horse fit for hunting, or eventing. It clears his wind, encourages the horse to lengthen his stride, and can be useful to sharpen up a lazy horse.

Too much galloping hots a horse up, runs condition off him, and can do great damage to his legs, especially on hard or heavy going.

Never gallop on roadsides, even if there is a wide grass verge; on rough or hard ground; in long grass where holes or snags could be concealed, downhill; especially if the gradient is steep or the going slippery; or anywhere other people could be endangered.

When to Gallop

- ◆ Preferably, when you have done some pace work at the canter, as suggested above, and the horse will canter quietly in the open.
- ◆ The horse must be well worked in, and thoroughly loosened up.
- ◆ Never gallop with a totally unfit horse, or if there is any suspicion of unsoundness in the horse.

Method

- ◆ Check your girth. It is normally best to use jumping length stirrups and a forward position. Steadily increase the speed from canter until you feel (and probably hear) the beat change from three- to four-time. Maintain the gallop for about 200-400m, then slow down through the canter, trot, to walk, praise, long rein. Never pull up abruptly - it can cause strained tendons.
- ◆ It is essential to have a firm hand and leg contact at the gallop, to keep the horse balanced and under control. He should really stretch out and there is more movement of the head and neck than at the canter. Your hands must follow to allow for this, while keeping an even contact.

If your horse is inclined to be hot and excitable:

1. Don't gallop until you have sure control at canter. Practise alternate periods of about 200m canter, progressive transition back to walk, long rein, calm down, canter again. Gradually increase the speed of the canter as the horse settles.

2. Go away from home, if possible slightly uphill.
 3. Don't gallop with other horses until the horse is under control when galloping on his own.
 4. If you have trouble steadying, first use your voice quietly. Sit more upright and apply 'downward transition' aids - on no account lean back with your hands in the air. If the horse ignores your aids, fix the inside hand on his neck so that his head is placed very *slightly* in that direction, then use the outside hand and arm in a series of definite pulls (not jerks). Continue the quiet use of voice.
- If the horse still won't slow down and you feel you are losing control, bring him on a large circle - if you pull him round sharply you may bring him down. Decide on which way you are going and stick to it - don't suddenly change direction - and steadily reduce the size of the circle. If you use an open inside rein, firmly supported by the outside one to prevent excessive neck bend, and by the outside leg, the horse *must* come round. Keep calm, and when you have him on the circle, apply the strong aids as above. Always fix the inside hand and check with the inside one.

These aids can also be useful when steadying a strong horse in front of a fence in cross country.

For the lazy horse, or one who has difficulty in lengthening his stride:

1. Go towards home.
2. Go 'upsides' with another horse who has a good long gallop stride. This means that you keep the two horses level and really close - stirrup-irons just about touching. If you feel your horse begin to stretch out to go with the other one, praise him heartily and don't ask too much too soon. Galloping usually comes naturally to thoroughbred horses, but others often have to be taught to do it..

If you are asked to gallop in the show ring - in a hunter class, for example, you would retain your full-length stirrups and a more upright position.

Is your Horse really Fit?

For harder work, such as eventing and the 40 kilometre ride, the horse must be fitter. To bring a horse from good working condition to hard condition will probably take about four weeks. He should be ridden six days a week, of possible. He will need a suitable program of work and exercise, with feed adjusted accordingly.

What is the difference between Work and Exercise?

Work	Exercise
Work for the horse requires physical effort of one sort or another, plus concentration and often considerable courage. If he is properly conditioned and trained, he should enjoy it. Training (work), dressage, jumping, etc, often require more concentration, especially when he is learning new things.	This is sustained, steady activity, comparable to an athlete's jogging, which gradually develops muscles and lung capacity. It must be interesting and mentally relaxing to both horse and rider.
Fast or 'pace' work - Strong canter or gallop. Some is essential for horses whose work requires speed or endurance, to clear their wind, strengthen muscles and, in some cases, to sharpen them up. Too much, especially if the horse is a highly strung thoroughbred type, may hot him up, run him up, put him off his feed or cause unsoundness. Once a week is ample for most horses, but if pace work is new to you, do get advice from an experienced person as to what your particular horse needs.	Pace - mainly a brisk walk or a steady trot Terrain. As varied as possible - on the road, around the farm, on hills, on the beach, what ever is available. Some road work helps to harden the horse's legs, but the pace must be steady and the surface smooth, not stony. If you must cross any ground that is rough, heavy or slippery, do so at a walk. Long steady trots up a gradual incline are wonderful for building up the muscles of the loins and hindquarters and clearing the wind.

Finding the Balance Between Work and Exercise

1. Most horses need an average of one and a half hours overall riding daily to get and keep them even moderately fit.
2. Training is necessary to develop the ability of both horse and rider. The essential thing here is quality, rather than quantity - half an hour is usually enough.
3. Therefore the balance must be made up of exercise

With too much work, the horse may become stale and edgy and go back on performance. He may even go off his feed and lose condition. If any of these signs appear, give exercise only for a few days. In any case, one day a week could be devoted to a good, long exercise ride.

You may find it more convenient, and better for some horses, to divide your riding time, perhaps working the horse in the morning and exercising him in the afternoon.

Signs of fitness

As the horse gets fitter, he should:

1. Lose any excess fat, but he must not be run up or show ribs or poverty marks.
2. Become more muscular, especially on the crest, shoulders, loins, hindquarters, forearm and thigh. The muscles should be strong, but rippling, not rigid.
3. Sweat less, and sweat should become clearer and dry more quickly.

4. Feel stronger and probably livelier when ridden. You should feel that he is enjoying his work, and that it is becoming easier for him.
5. Show all the signs of good health - clear eyes, alert expression, loose shining coat, cool fine legs with no suggestion of puffiness or heat, good appetite.

Since every rider's objectives will vary to some extent, and every horse is an individual, hard and fast rules cannot be laid down. It may, however, be said that to get and stay fit, any horse must have:

1. Regular dosing, to keep internal parasites to a minimum
2. Unlimited fresh, clean water.
3. Feed of the right type and in the right quantity for the work he is doing. The harder the work, the more hard feed will be needed, but he must always have sufficient bulk.'
4. Thorough daily grooming.
5. Rest - a day off once a week. A period of peace and quiet during each day, especially if he is being ridden twice, is most important.
6. A balanced program of work and exercise, tailor-made for him. Ask your instructor to help you work this out.

The whole art of conditioning lies in bringing the horse to a state where he has the necessary energy and stamina for his work, while remaining sensible and manageable. Acute daily observation is the crux of the matter, so that you notice the smallest changes in condition and behaviour at once, and adjust your management accordingly.

Roughing off

The gradual letting-down of condition before giving the horse a spell. Suddenly to stop riding or feeding a horse who has been in hard work on a concentrated diet would be just the kind of abrupt change that is to be avoided.

Cut down both work and feed gradually, confine grooming to remove mud and sweat and keeping the horse tidy. If he is to have his spell at a warm time of the year, he will be better without a rug, so start by taking it off in the daytime. The process should take about two weeks from hunting or eventing fitness to turning out.

If the horse has been stabled, letting him down slowly is even more important. He should only be put out in the paddock for about an hour at first, especially if the grass is rich, so that his system can adjust to the change in diet.

It is best to have the shoes removed and the feet trimmed before turning out. This helps to ensure greater frog contact which keeps the heels open, and the feet will benefit generally from the spell without shoes. If the feet are brittle or the ground rough and hard, the front feet may be left shod with "grass tips" (short half sized shoes).

A horse in constant work should have at least three or four weeks' spell yearly. During this time, if he normally lives in a small paddock, it would be an advantage if grazing on a farm could be arranged. This would provide an opportunity to clean up and manure his paddock and make a most welcome change for the horse.

Round Bales - A Square Meal?

From: "Equinews", Kentucky Equine Research's Nutrition and Health Quarterly

Question: How can we know that we are getting the best hay for our horses?

Harvesting your Hay

Firstly, to maximise the nutritional content of round-baled hay, it should be mowed when plants are still immature, just prior to developing a head (in grasses such as rye, fescue, or phalaris) or blossom (lucerne or clover). Young plants pack the greatest nutritional punch because of their nutrient rich leaves, low lignin content and soft, lithe stems.

As forages grow into and beyond the bloom stages, their nutrient density wanes. stems become coarse and stiff, which boosts the fibrous fraction of the hay, and leaves are less likely to remain anchored to the plant. Leaf loss is note notable in overmature lucerne hays.

In the production of round bales, grass hay keeps better than lucerne hay, as the grass forms a close-knit thatch, or outer covering, that protects the inside of the bale from moisture.

All hay should be baled when moisture content is 15% or less. Sweating, the heating of baled hay due to plant respiration and microbial activity following baling, cannot occur if the hay is baled below 15% moisture.

When hay is baled between 15% and 18%, enough heat is generated to cause a slight drop in digestibility. From a visual standpoint, heating may cause hay to lose much of its colour, though no significant effect on quality occurs.

Hay that is baled at greater than 20% moisture will undergo profound nutrient losses and extensive loss of colour, often darkening to a deep brown or black. Spoilage brought about by heating and development of mould can be quite intensive. Mould (microbial) growth is the primary cause of dustiness in hay that is baled too wet. What appears to be dust is actually fungal spores, which can give rise to digestive and respiratory disorders in horses.

A safety concern also exists when plants are very damp at the time of baling. Temperatures within high-moisture bales can easily soar past 60 degrees C, and spontaneous combustion is likely if core temperature exceed 76 degrees C. Self ignition can be disastrous, particularly if the hay is stored in a wooden structure.

Storing Round-baled hay

Second only to careful harvesting, storage is a critical consideration if round baled hay is to be fed to horses. Storing well-preserved hay in a shed or barn eliminates virtually all losses associated with exposure to elements, also known as weathering. A simple pole shed is all that is needed to protect the hay from weather-related spoilage. The shed size will depend on how much hay you wish to store, though ceilings should be sixty centimetres higher than the tallest stack to allow for air circulation and for ease of bale handling.

Less expensive ways of storing round-baled hay are available. Storing hay outdoors and uncovered is a low cost option. Losses caused by weathering, however, can be quite high. In dry areas, losses may be less, but in areas that have more than 600 millimetres of rain per year, nutrient values of the hay will plummet and wastage will skyrocket. The percentage of hay affected by weathering depends on bale size.

On an average sized round bale (1.5m diameter) if rain penetrates 5cm, 13% of the bale is ruined. If rain or ground moisture soaks into the bale up to 20 centimetres, then 46% of the bale may be ruined.

If outdoor storage is unavoidable, there are steps that can be taken to prevent weathering losses. Stacking hay directly onto the ground will cause wicking of moisture at the base of the bale and will heighten wastage. To stop this, hay can be stacked on wooden pallets, railway sleepers, or old tyres. Another way to reduce base deterioration is to stack bales on ten to twenty centimetres of crushed rock. Stones that 5 centimetres or larger will work best. A rock foundation allows rain to drain quickly away from the hay. One significant advantage of a stone surface is ease of operating bale-moving machinery. While the initial investment may seem somewhat expensive, a dedicated area for round-bale storage will last several years.

Though it may seem like a logical location, round bales should not be situated under trees as their canopies will block wind and sunlight, two factors that speed drying following rain. In hilly countries, bales should be stacked on ridges rather than in valleys as this will maximise exposure to wind. In addition, water is more likely to pool in valleys, increasing the likelihood that bales will sit in moist areas for longer periods. One disadvantage of stacking hay on hilltops is uncertain accessibility during wet or muddy conditions.

Method of stacking is also an important consideration. Round bales should be stacked so there is approximately 45 centimetres between them. Not only does this space allow for increased airflow, but it keeps rainwater from being trapped among bales. When several bales of hay must be stored, a north-south orientation with bales positioned end to end is ideal. By doing this, the sides of the bales receive an equal amount of sunlight, which encourages more uniform drying.

Hay may also be draped with heavy, reusable tarps. If tarps are used, stack the hay in a pyramid formation so a peak is created; this arrangement allows water to run off immediately. Tarps should be constructed of canvas or other durable material and must be securely fastened to the ground. Plastic tarps should be avoided as water can condense on the underside, which may contribute to spoilage. The use of plastic tarps, however, is preferable to not covering bales at all.

If the haymaker is using a late-model baler, plastic wrap can be applied to round bales at the time of baling to help preserve the hay. Different types of plastic can be used. Specialised plastics, such as those with ultraviolet inhibitors, can be costly. A less expensive alternative is net wrap, a porous covering that shields bales from water but allows greater airflow than plastic.

For horses?

Round-baled hay offers several advantages to horsemen. At the top of this list is cost. On a weight-for-weight basis round bales are often less expensive than square bales because manufacture of round bales is less labour intensive for hay producers.

For large bands or several small groups of horses, round bales offer the distinct benefit of convenience. Manoeuvring round bales with machinery one or twice a week (or however often is necessary) is easier than throwing individual portions over fences several times a day.

If enough horses dine on the hay, a round bale may not last long enough in a group feeding situation to worry about wastage. Four horses can usually consume a round bale before significant wastage occurs. If, however, the bale will keep fewer horses satisfied for a longer period, it is best to offer the hay in a covered area such as a run-in shed. If more than six horses are pastured together, at least two bales should be placed in the field in separate locations to prevent a dominant horse from monopolising the meal.

Round-bale feeders specifically designed for horses are available. One distinct advantage of these feeders is a reduction in wastage when compared to offering free-standing bales. Horses will often soil unwanted hay and have been known to bed down on generous expanses of hay if it is not contained in a feeder.

Feeders intended for cattle should be avoided. Most horses are tall enough to reach over the top of these feeders, misshaping the bars of the feeder in the process. As the hay is eaten, the bale often collapses, and horses may have to put their heads between narrowly spaced bars. Such tight places can lead to head and neck injuries if horses are startled when feeding.

Horseman should be aware of one decided disadvantage to feeding round-bale hay. Round bales stored outdoors are more likely to develop mould than those protected by a barn or otherwise covered. If horses eat mouldy hay, there is a chance that colic may ensue. Low levels of mould may also increase the possibility of respiratory disease. Therefore, it's imperative that only high-quality hay be offered to horses. Any hay that appears mouldy should be discarded.

Nutrition

As with other horses on all-forage diets, those that consume only round-baled hay, regardless of its quality, should be fed a vitamin and mineral supplement. Even the finest hay loses much of its vitamin content between cutting and feeding. A well-balanced vitamin and mineral supplement will compensate for such imbalances in key nutrients.

When round-baled hay is used, horse owners forfeit the ability to closely monitor intake. This may result in easy keepers becoming obese.

Round-bales hay can be a safe forage for horses. Selection criteria for round-baled hay differs little from that of traditional, square-baled hay. Aromatic hay that is free of weeds, dust, and foreign objects is always the right choice. If large quantities of round-baled hay are purchased, proper storage is imperative to reduce the amount of forage affected by weathering.

Stabling Your Horse

From: "Equinews", Kentucky Equine Research's Nutrition and Health Quarterly

Horses are stabled for a variety of reasons. Injured or sick horses are often confined while they mend or recuperate. Quarantine regulations, either to prevent the spread of disease or as part of importation and exportation requirements, sometimes dictate that horses be housed for long stretches. In recent years the dwindling number of acres dedicated to horse production have drastically altered traditional, free-roaming management systems such that horses are spending more time in stalls than ever before.

Show horses spend much of their lives in the calm and usually comfortable surroundings of spacious stalls. Which such a management system reduces the risks of blemishes that are almost inescapable in turnout situations and ensures a rich, flawless coat necessary for the show ring, continual stalling has its downsides. One possible disadvantage, even danger, is exposure to aerial ammonia. (The smell of horse urine)

The short-term athletic ability and long term welfare of horses are largely dependent on respiratory health and well-being. Although high levels of ammonia may not directly cause respiratory disease, sustained exposure to the irritant may weaken the defence mechanisms of the lungs, giving pathogens such as bacteria and viruses the opportunity to take hold and flourish.

From Feed Stuffs to the Stable floor

The chief waste product of protein digestion is urea, the majority of which is excreted from the horse in urine. The concentration of urea in urine is largely relative to the amount of protein being consumed by the horse. As more protein is digested, levels of urea voided in the urine escalate. Any condition that impairs this elimination can lead to uremia, a potentially fatal buildup of urea and other nitrogen wastes in the blood.

Once released by the horse in its urine, urea is employed by certain bacteria as a source of energy. A product of this secondhand usage by bacteria is ammonia, which yields the familiar pungent smell. Tightly closed, heated barns, like those that house show horses, or poorly ventilated stables are frequently rife with ammonia fumes.

Because ammonia lingers near the stable floor, specific attention must be given to stalls inhabited by foals, weanlings and yearlings. Young horses spend much of their time lying down and therefore can be subjected to more concentrated levels of ammonia.

It has been learnt that the more protein a horse intakes in his diet, the more water he is required to drink. One undeniable effect of increased water intake is a ride in urine output.

Superfluous protein may be caused by the feeding of legume hays, namely lucerne. Lucerne hays contain significantly more protein than grass hays of similar quality. (Twice as much protein) Though lucerne hay is appropriate for some classes of horses, particularly those with above average energy requirements, most adult horses fare well on grass hay or lucerne/grass mixed hay. If you are feeding mainly lucerne hay, less protein is needed in the rest of his "concentrate" diet.

Through providing a balanced protein diet to the horse, urea concentration in the urine will be kept to a minimum and aerial ammonia will decrease.

Keeping Ammonia at Bay

Stable maintenance is important, when horses are stall-bound. (eg: illness). Removal of all waste and soiled bedding is an obvious must-do. Bedding type (straw, sawdust, sand and shredded newspaper) does not seem to affect the ammonia levels. However bedding depth may. If the bedding is deep enough that the urine soaks through to the floor without appreciable accumulation on the surface, ammonia odour will be diminished. If a scant amount of bedding is used, obvious wet spots or, in worst case scenarios, pools of urine are likely and aerial ammonia will be profound.

The use of certain substances, such as zeolite, hydrated lime, or sodium bi-sulfate reduces the level of ammonia in stables by absorbing moisture from the stall floor and neutralising foul odours.

In addition to wise stable-keeping, atmospheric ammonia levels can be diluted by appropriate ventilation. Properly situated and adequately sized wall and roof vents are necessary to make full use of natural ventilation forces. In barns that are particularly long or wide, powerful, industrial-strength fans may aid ventilation efforts.

Reducing the ammonia build-up in stables is achieved by offering well-balanced rations that contain enough protein for optimal growth or performance without surplus, by cleaning stalls fastidiously, and by ensuring well-ventilated housing for stalled horses. Reducing aerial ammonia will promote long-term respiratory health and provide yet another step in ensuring that equine athletes lead long, productive careers.