

Feeding the Horses at the 2000 Olympics

BY PETER HUNTINGTON, BVSc. AND JOE D. PAGAN, Ph.D.

Providing feed for the horses at the 2000 Olympic Games in Sydney presented unique challenges in transportation, housing and the acquisition of feeds and bedding. Over 240 horses competed; 220 arrived on charter flights in mid-August. They were joined by Australian and New Zealand horses that were resident in those countries along with the US eventing team horses that had arrived earlier in the month. The first horses were housed at Horsley Park on August 21, and they did not begin to leave until October 2. At the 1996 Olympics in Atlanta, horses were present for a much shorter period of time, and many European teams were able to supply their own feed. However, the Australian quarantine

logistical exercise as it required supply of both feed and bedding. The bedding included nearly 10,000 bales of shavings. KER provided advice to Salmon River and to various teams leading up to the event. Consultation efforts included the formulation of several custom feeds which contained ingredients that could be sourced both in Australia and in the US or Europe. Allowing horses to be put on feed prior to shipment reduced any problems that may be associated with acclimatization to a different feed type once in Australia. Among others, the US eventing team and the Dutch dressage team utilized this system, and both of those came home with individual gold medals. A special web site was also created by KER to communicate with all the Olympic teams and riders and to show them the range and quality of feedstuffs that would be available in Sydney. This proved to be an excellent method of communication for competitors as there is nothing quite like seeing what the hay and feed will be like before you arrive at the competition. This web site also allowed competitors to order grain and hay for the Olympic Games off the available menu so that it would be ready for them when they arrived at Horsley Park. Dr. Joe Pagan, president of KER, was present at Horsley Park before the arrival of the first horses and was able to advise teams, riders, grooms and veterinarians about nutrition issues and assist with finding and supplying particular feedstuffs or supplements. One example of how this advice assisted involved devising a diet for an event horse that had suffered two bouts of tying-up. The horse had no further problems on the feed program devised by Dr. Pagan, which included a local feed, Hygain Release. The horse was subsequently part of a successful medal-winning event team.



restrictions on certain feedstuffs meant that many more horses had to be maintained on local feedstuffs. Most imported feed required irradiation before quarantine authorities would permit it into the country. Despite the cost of irradiation and the time and cost of shipment, a number of foreign feed companies and teams did import feed.

At the 1996 Atlanta Games, the feed supply was managed by Kentucky Equine Research (KER). In Sydney, Salmon River, headed by Peter Chilwell, managed the feed supplies. This was an immense

Forage

While chaff is frequently fed in Australia, it is not commonly fed in the US, Canada and Europe, and most forage was fed as hay or haylage (silage). One of the key areas in the feed supply process was obtaining adequate stocks of high quality grass and mixed hay from last season. The new season's hay was not yet in, so all the hay for the Olympics was

from the previous year's crop. Australian farmers harvest high quality alfalfa (or lucerne) and clover hay, but cannot produce the same quality of grass hay as North Americans farmers. In Australia, horses would often rather lie on grass hay than eat it! To accommodate the diverse needs of the 240 Olympic horses, four types of hay were supplied. There was a high quality ryegrass hay that was low in protein. Two types of grass/clover hay, which contained about 10% protein, were offered as well as a high quality lucerne hay. Because of the difficulty involved in producing high quality hay in England, many horses in England and Ireland are fed silage or haylage. A large amount of this forage was shipped out for the Games and was fed to the English, Irish, French and Spanish horses. Haylage is typically less dusty and is more digestible than the average British grass hay and provides around 40% more energy. However, given the quality of the hay available at the Olympics, it is questionable whether it was worth importing haylage as some teams did. About one-third of the hay used was grass hay; this was the preferred hay of the Italian, Japanese, Brazilian and British teams. The two clover blends were the most popular hays fed, particularly by the US, Canadian and Australian teams. Surprisingly, nearly 10% of the hay used was lucerne hay, and this was popular with the New Zealand, Australian and some of the South American teams.

Table 1. Hay and other forage products used at the 2000 Olympic Games.

Forage Type	Sydney 2000 (tons)
Grass clover hay	32.5
Grass hay	17.5
Haylage	12
Alfalfa (lucerne) hay	5
Alfalfa (lucerne) chaff	1.4
Oat/wheat chaff	9
Imported chaff mix	1.3

Average hay consumption was very high in the days following arrival but dropped off during the competition periods as workloads and feeding practices changed. On average, nearly 7 kg (15 lbs) of forage was fed per horse per day, mostly as hay, and this was supplemented with some grazing during walk periods. More hay was fed than grain, and this is consistent with sound feeding prac-

tices. Teams took at least one bale of hay for each of their horses for the flights home.

Grain and Concentrates

Most of the grain fed to horses in Sydney was commercially prepared. Nearly 50 tons of commercial feed products were consumed while just over 11 tons of straight grains were used. KER also formulated several custom feeds which were manufactured by its Team Members in Australia, Hygain Feeds and Prydes Specialty Feeds. These included high, medium and low energy sweet feeds or grain mixes and pellets. Feed specifications were published on the web site prior to the Games so that horses could be acclimated to similar feeds made by local manufacturers before they traveled. Pennfield Feeds in the US manufactured the high energy Olympic sweet feed for the US eventers, Brooks Feeds in Ontario made a similar formula for the Canadian team, and Parvo Feeds in Holland collaborated with KER to have its feeds made in Australia by Hygain Feeds. In these situations, there was minimal difference between the feeds offered before and after the flight. Amongst these special Olympic feeds, the high energy feeds were the most popular, particularly with the eventers; this is not surprising as they work the hardest.

Some leading horses were switched to lower energy feeds when they wanted to buck their riders off when put back into work shortly after arrival. Some of the dressage horses did too well on the high energy feeds and were switched to lower intakes of lower energy feeds. Consumption of the customized Olympic feeds and the total usage of commercial feeds favored sweet feeds and grain mixes over pellets on a 3 to 1 basis. Some of the grain mixes contained mixer pellets. Only a few bags of fully extruded feeds were used, although some of the European grain mixes contained extruded components. KER formulated the Olympic custom feeds to exclude some of the uniquely Australian ingredients such as lupins and sunflower seeds. Consequently, the acceptance of the feeds by foreign horses was very good. This is a tribute to the high standards of feed manufacturing in Australia. In contrast, the irradiation of feeds required for quarantine purposes caused some of the imported sweet feeds to be spoiled thus negatively altering the palatability of these feeds.

Oats were the most popular of the individual grains fed. Two-thirds of the oats were fed as steam-rolled oats, and this form was popular with the Germans, Russians and Danes. Recognition of the fact that the starch in oats is very available in the whole oat and digestibility differences from processing are marginal meant that 14 countries used whole oats; in particular whole oats were

popular with the Brazilian and Dutch competitors. A small amount of naked oats was used; naked oats are hullless and therefore are higher in energy and lower in fiber content. Naked oats are popular in England even though they are a less safe method of feeding oats and use in Australia has been fraught with danger.

Table 2. Concentrate use at the 2000 Olympic Games.

Concentrate Type	Sydney 2000 (tons)
Commercial grain mixes and sweet feeds	37
Commercial pellets	12.5
Extruded feeds	0.4
Oats	8.3
Barley	2.3
Corn	0.7

Barley was the next most popular whole grain. Because barley requires processing to enhance starch digestibility, one half of the barley used was fed as micronized barley. Micronizing is a relatively new process in Australia but has been popular in Europe for some years. The Belgians and Italians used micronized barley, whereas the Swiss used the more traditional steam-rolled barley. Micronized barley is available in a number of commercial sweet feeds or as a straight grain from Hygain. Relatively little straight corn was fed, although eight countries did feed micronized corn and the Uruguay team used some cracked corn. When compared to the feeding practices in Atlanta, a reduction in the use of straight grains and an increase in commercial premixed feeds prevailed in Sydney. This trend is also being seen in the feeding of competition horses around the world and is a recognition of the quality, convenience and value of many of the pre-mixed feeds on the market today.

Fat Supplements

As in Atlanta, oil was a popular additive, although a wider range of oils was used in Sydney. The average oil consumption was 60 ml per horse per day. For those horses that were given oil, average consumption would have been higher as many horses did not receive sup-

plemental oil. The most popular oil was corn oil, which accounted for over one half of oil use, while sunflower, linseed and soya oil were also used in significant quantities. Six countries used raw linseed as a fat source which is not recommended unless it is cooked, and the only use of sunflower seeds was by Australians. One Australian also used copra (coconut meal), which contains 8% fat. Stabilized rice bran is a popular high energy, high fat additive in the US and its eventing team used the stabilized rice bran product Equi-Jewel.

Other Feeds and Supplements

Bran continues to be a popular feedstuff among the elite competitors of the Olympics with almost universal use of bran mashes after arrival in Australia and just prior to travel. The average bran consumption was 250 g per horse per day, and 30 countries used it. Research has shown that bran is not the effective laxative many people believe, but it is still a very popular additive. With the range of feeds available today, it is surprising that two countries used pollard (a bran derived from feedstuffs such as rice or wheat), as there are plenty of better alternative energy sources.

Despite the fact that all of the commercial feeds used were liberally fortified with vitamins and minerals, supplement use was widespread. A number of teams imported supplements, although irradiation did reduce the palatability of some products.

In Atlanta there was grave concern over the effects of the heat and humidity and electrolyte use along with the use of intravenous fluids was very common. In Sydney, there wasn't the same concern, but it was quite warm on some days, such as on team cross-country day. Salt blocks were used principally by the Germans, Swedes and the US team as well as the Swiss, while the Australians and some other teams added loose salt to the feed. As would be expected, electrolyte use was greatest by the event riders



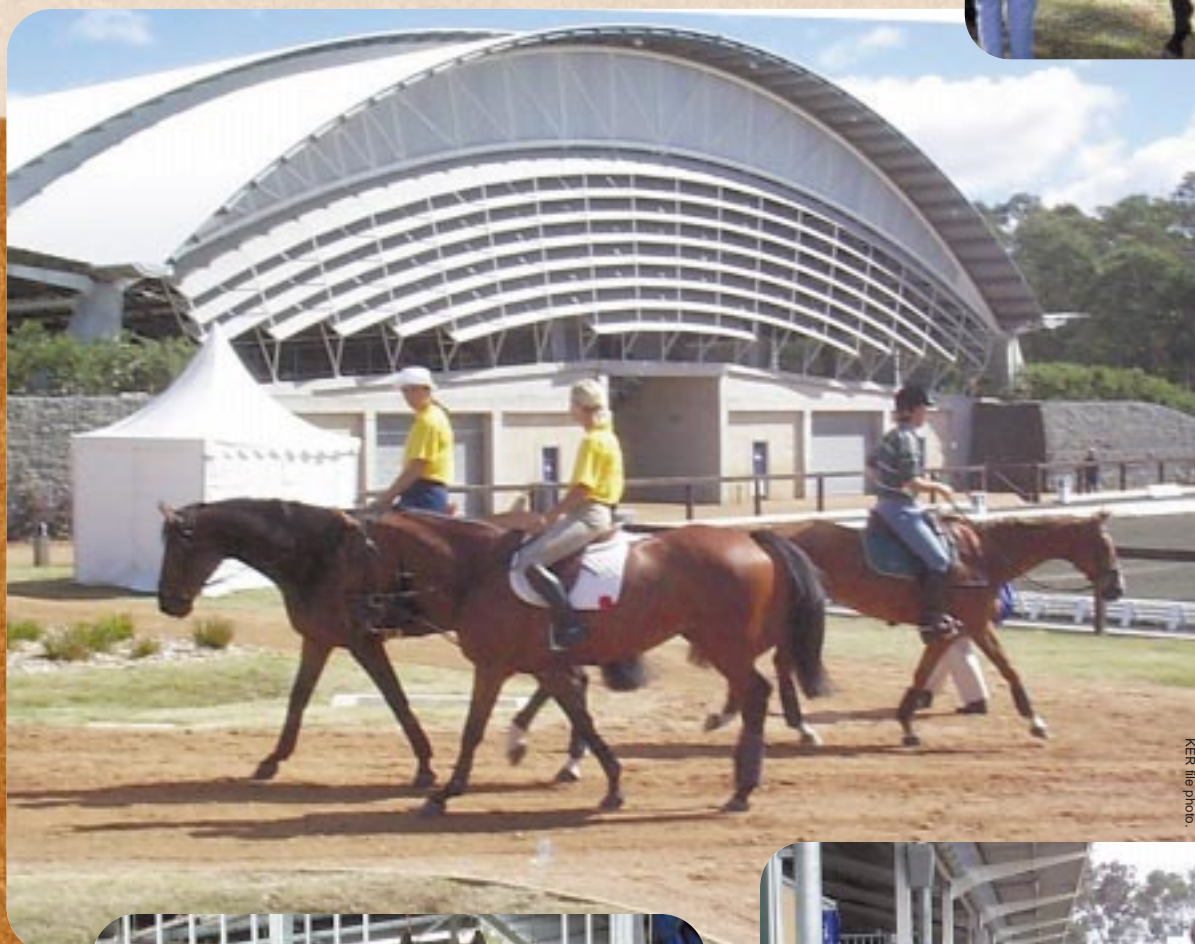
Horses at the 2000 Olympic Games ate nearly 20 tons of carrots.

and a number of horses were given a minimum of 10 liters of fluid intravenously after cross-country day. The Swedes paid particular attention to electrolyte replacement and used both oral and liquid electrolytes. Equivit Restore was the electrolyte used by most teams. Vitamin E and antioxidant supplements such as Equivit Preserve and E-Concentrate were popular in an effort to reduce muscle damage after training and competition. There was widespread veterinary use of injectable joint products and a number of horses were fed on both imported and local joint supplements such as Saddleworld Joint Food. Garlic is reported to have beneficial effects on the immune system and this was used by competitors from 11 countries during the Games.

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KER file photo.



KER file photo.

Behind the scenes at the 2000 Olympics was a busy hustle of activity from the barn aisles to the warm-up rings.



KER file photo.




KER file photo.

Fruits and Vegetables

One of the unexpected issues was the demand for fruits and vegetables such as carrots, apples and bananas. Nearly 20 tons of carrots were supplied to horses during their stay at Horsley Park. This equates to an average consumption of nearly 2 kg of carrots per day. Reasons for feeding carrots included their high palatability and the wish of competitors to introduce some variety into the diet. What about their nutritional value? Carrots are only 11% dry matter, so 90% of the carrot is water. Therefore, carrots did contribute to some water intake, but apart from vitamin A carrots supplied only small amounts of other nutrients. At the average intake level for a horse in moderate work, carrots would supply about 75% of the vitamin A needs but less than 2% of other nutrient needs such as energy or other vitamins. Perhaps there is a market for a commercial horse feed with plenty of carrots in it! The other popular fruit was apples with an average consumption of over three apples per horse per day. The French and Spanish team horses were the largest consumers of apples. Again, apples are high in water and the major value is to introduce variety into the feed and give the horses something they like to eat. A more surprising fruit fed to the horses was bananas. Bananas were fed to horses from seven countries and were a large part of the diet of the lone horse from the Philippines and an Australian dressage horse as well as some Russian dressage horses. Bananas are a high energy feed and they also contain high levels of phospholipids that can assist in lining the horse's stomach and preventing acid damage to the stomach and thus ulcers. To realize there were more pounds of fruits and vegetables consumed at this event than straight grains is amazing and perhaps the organizers of equestrian events should be approaching the carrot grower's federation for sponsorship from now on!

Summary

All the visiting teams were very complimentary about the wide range and quality of feeds supplied to their horses at the 2000 Olympics. After being involved with the 1996 and the 2000 Olympic Games, KER hopes to be instrumental in feeding the equine athletes competing in Athens in 2004. 

The 2000 Paralympic Games Provide Opportunities for Athletes Challenged by Disabilities

BY MARITA HIRD

Editor's Note: The Paralympic Games began when Sir Ludwig Guttman organized a sporting competition for World War II veterans who had sustained spinal cord injuries. The program he devised was so popular that four years later similarly injured veterans from Holland joined the competition and the Paralympic Games were born. The Games weren't officially organized until 1960 when they immediately followed the Rome Summer Olympic Games. Since that time, the Paralympic Games have been a popular sporting competition for many people challenged by a wide variety of disabilities. The Games closely follow the quadrennial Olympic competitions and are held in the same venues. The first organized competition in Rome saw 400 competitors from 23 countries taking the field. In Sydney last fall over 4000 athletes from 125 countries came to compete in 18 sports from equestrian competition to wheelchair rugby. Kentucky Equine Research is very proud to have been a sponsor of Marita Hird, a Paralympic equestrian who epitomizes all of the most courageous qualities necessary in an Olympic athlete. The following is her story.

I have found the secret to world peace - twenty-four hour free food, laundry service, masseur on call and thousands of athletes from all over the world living their dreams!

I had a wonderful time at the Sydney 2000 Paralympic Games. It was like living in another world, one with a very friendly environment. We were not judged by the way we looked or how we walked. Everyone there had to overcome great odds just to have the honor of competing at an elite level for their country. We were there to show the world our abilities, not our disabilities.

I competed in the equestrian field. This can be a difficult task for many of us, but it is made more so as we were unable to bring our own horses and had to ride those provided for us. Athletes are classified into four categories. Grade 1 athletes are the most severely disabled and are mainly mobile via wheelchair. Their disabilities usually affect all four limbs. The dressage test required of them is mostly done at a walk with a bit of a trot thrown in. Grade 2 riders walk and trot but may canter in their freestyle tests. These riders have severe loss of use in two or more limbs. Grade 3 is the section in which I strut my stuff.