Going against the grain

Modern-day competition horses that are kept in, worked on artificial surfaces and fed high-concentrate feeds have little in common with their wild ancestors. What are the health implications of domestication? Ellie Hughes investigates

A wild horse lives in a hard environment. He spends 60-70% of his time eating a wide mix of plants, trees and grasses, with his head lowered and wears no form of shoes, boots or blankets. He treks an average of 20 miles per day, mostly in walk and canter, with his neck outstretched, helping him balance over all sorts of rugged terrain.

Few — if any — of these things will be familiar to domesticated equines. Today’s performance horse is more likely to be stabled for at least 16hr a day, receive two or three meals of high-energy concentrate (probably from a manger) and be exercised on a horse-walker or worked in a round outline on an artificial surface for more than an hour a day.

We need to control our horses’ management regimes to produce them as athletes, but in making these lifestyle changes we have created a plethora of unnatural illnesses and training issues.

So how has this happened and what can we do to limit the effect of these changes on our horses’ well-being?

**Conditioning conundrum**

Nature intended that horses have their necks down, foraging for 18hr a day. If we insist that they carry their heads high — to eat or work — we subject horses’ skeletons and musculature to unnatural forces.

Equine biomechanics expert Dr Sian Lawson explains that it’s not just the stresses and strains of the different head positions we ask our horses to conform to, but the fact they are worse conditioned for exercise than their ancestors.

“A horse in the wild would be far more able suddenly to take flight and cope with the associated strains, as it will have been walking and moving around for 24hr a day, building up strength in its bones, ligaments and tendons,” she says.

“Conversely, a modern competition horse requires a strengthening programme and a great deal of warm-up to achieve the same resilience to injury.”

A wild horse combines eating with exercise by moving on in walk every few bites it takes.

“At walk, the horse’s back is flexible and moves passively with little muscle movement,” says Sian. “But as soon he breaks into trot or canter, the support the back needs requires more rigidity and muscle activity.

“To prevent injuries in performance horses, we need to build their abdominal strength and hip extensors to stabilise the back and prevent these problems.”
to create more elevation.

"Lower head and neck positions increase the rounding of the back and the mobility of the vertebrae, while higher head positions — as used in competition — will decrease the movement and flexibility in the spine," says Sian.

"In the long-term, this could potentially increase the risk of kissing spines and other back-related problems."

**Modern day living**

It is not just riding activity that goes against the grain.

"The stress of modern-day living can lead to stable vices.

"A stabled horse rarely chooses his neighbour," points out Nick Thompson, MRCVS. "Chances are he is probably boxed next to someone he doesn’t get on with and the only way he can show this disapproval is through aggressive behaviour such as laying his ears back and biting and kicking.

"Owners can be quick to blame a bad temper for these actions."

**Competition animals**

Kept in stables also have restricted movement and tend to suffer more from respiratory problems.

"Dust from bedding and hay spores can be damaging. All the while a horse is eating out of a haynet and a manger, his head and neck are not in the low, draining head position that allows mucus to run freely away," continues Nick.

**Food for thought**

**HORSES** who are kept in for any period of time need a forage alternative to grass. This will usually be supplied in the form of hay or haylage.

"But the overuse of fertilisers has resulted in pasture that, instead of containing 20-30 species of grass per metre squared, now often has less than 10.

"In the wild, horses would have been eating a broad spectrum of vitamins and minerals via the various grasses and varied herbs that grew from season to season. In today’s world this is not the case," says Nick.

He advocates feeding a wide-ranging mineral supplement to ensure that a horse is receiving the correct vitamins and minerals in his diet.

"There are a lot of supplements on the market that claim to treat, cure and prevent. The most important aspect is that the horse is receiving the correct balance of nutrients. Allowing him access to soil in the field is important, as the soils contain essential vitamins and minerals," Nick points out.

**Fighting evolution**

EQUILIBRATION equipped a horse to run away from predators — even with a full stomach.

"Horses have traditionally been taught to take away a horse’s feed for a period of time before they work, but when a horse is ridden, his abdomen muscles will tense and the contents be squeezed upwards through the gut.

"Having something in the stomach at all times will protect it against the harmful acid that can splash up and lead to damage, including the formation of ulcers."

A horse exercised on an empty stomach will have no natural food “barrier” to prevent the gastric fluid coming into contact with the ulcer, which is vulnerable to ulcers.

"Making sure a horse has a small amount of fibre in its stomach before exercise will help prevent this," says Nick.

There are myriad other situations that domesticated horses have had to learn to adapt to: wearing boots and bandages, being shoed and travelling long distances, to name but a few.

To exploit a horse’s usefulness as an athlete, it is necessary to make some changes to his lifestyle that would, ordinarily, go against the grain.

"The key to a happy horse — and therefore a horse who will perform to his best — is to minimise the effects of these changes through careful management."

**Horse walkers: friend or foe?**

Horse walkers play an important role in many horses’ daily exercise programmes, but as practical as they may be, there is a question mark over the effect they have on horses’ limbs.

"Horse walkers are a modern convenience, but the unnatural turning forces on the limbs as the horse walks round in a circle on a hard surface put strain on the fetlock and pastern joints," says Dr Sian Lawson. "Walkers have been strongly associated with lameness in competition horses."

More research is clearly needed in this area, but it is worth remembering that, although horse walkers have their place, care is needed that they are not used as a substitute for hacking out and slow, ridden work.