

ADVICE ON
Pasture Management

The
British
Horse
Society



Pasture for equine use serves many different purposes. It is a food source, exercise area, latrine and a secure environment to socialise with other horses. Whether your horse lives out 24/7 or is turned out for a few hours a day, pasture management is of the utmost importance to your horse's health. Horses will spend up to 16 hours a day eating so investing time, money and resources into your pasture will be beneficial in the long-term.



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Minimum land requirements

The BHS recommends a ratio of two horses per hectare on permanent grazing (1-1.5 acres per horse). However, this recommendation can only ever be a guide as it is subject to numerous factors, such as:

- Size and type of horse/pony
- Fat score of horse/pony
- Length of time spent stabled or exercised off the pasture
- Time of year
- Quality of the pasture and type of soil
- Number of animals on the pasture
- How well the pasture is managed and cared for

In all circumstances, stock densities must take individual requirements into consideration. This is essential to help reduce the chances of fighting or bullying where several animals are turned out together.

Research has found that during the winter 73 percent of horses are turned out during the day for approximately eight hours. However, grazing time increases in the spring and summer with nearly 50 percent of horses turned out on permanent grazing¹. With an increase in grass quantity and quality throughout the spring and summer, studies have shown that horses can eat up to four percent of their bodyweight (BW) as grass per day^{2,3}. As guidance, it is now recommended that horses at maintenance or in light exercise require two percent of their BW per day, whereas overweight horses require only 1.5 percent of their BW per day. It is therefore very important to balance a horse's need for free exercise and interaction with other horses in a field environment to exhibit their natural behaviour against the danger of consuming excess calories from grass.

Management considerations

Horses are selective grazers and therefore do not make the most of their pasture. Over-grazing, over-stocking and poor management can result in the pasture becoming 'horse sick'. Such pastures develop 'roughs' which are unpalatable areas avoided by horses and 'lawns' which are over-grazed, sparse areas. An invasion of weeds and poached ground will contribute towards a horse sick pasture. Within the field, bare patches can

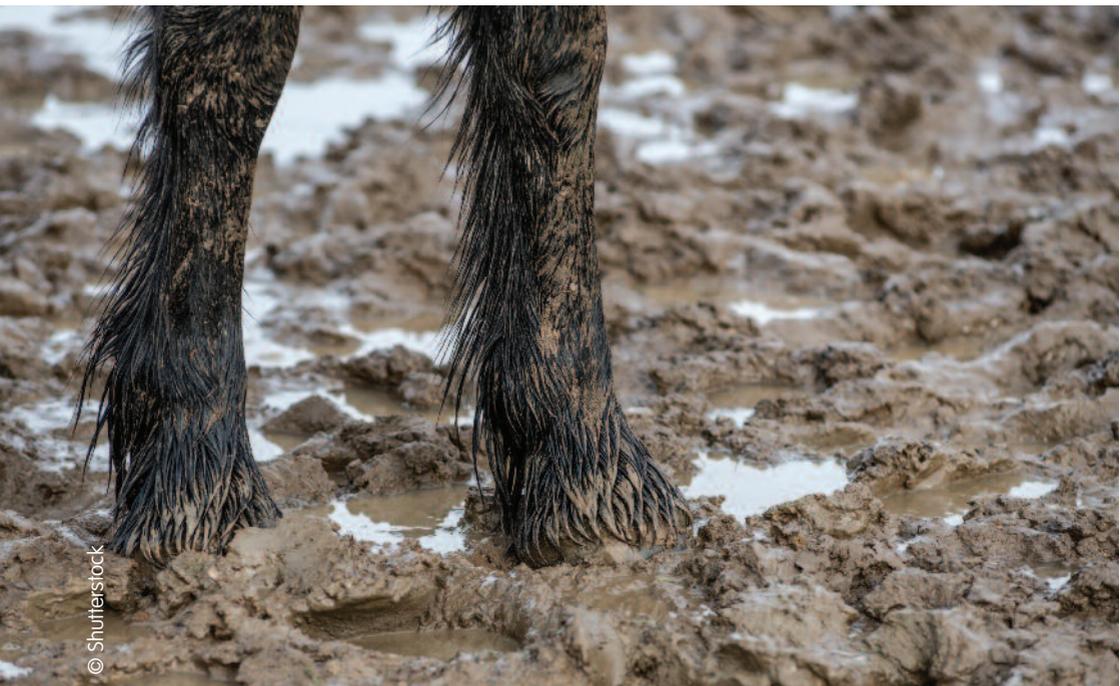


occur as a result of horses rolling or congregating in specific areas, for example under a tree or by a fence line. The more acres you have available the easier it is to maintain good quality pasture through rotation and resting of land.

Essential Maintenance

Time of year and weather conditions will dictate the pasture management work required to maintain paddocks in an ideal condition. Extreme weather conditions

can cause problems for even the most conscientious of landowners. Alternative options may have to be considered for the horses, if for example, the paddock becomes too poached with deep mud and excess water. Land with clay soil can be particularly difficult to manage in wet conditions.



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Maintenance Methods

The use of mechanical equipment can greatly assist with the maintenance of fields. Although potentially more expensive than manual maintenance each method has its benefits and where appropriate can help improve the pasture. When used, consideration should be given to any nesting birds on the pasture. Where possible, a strip of land left to grow by hedgerows can help promote wildlife.

Topping

Ideally, fields should be topped a minimum of once a year during the spring or summer, but not too frequently as this can damage the grass root system. Topping improves the pasture by encouraging the grass to establish a thick turf, encourages new leaf growth and decreases the opportunity for weeds to grow. Horses must not be allowed to graze the pasture until any cut grass has completely dried out or has been removed.

Harrowing

Harrowing has a variety of benefits for pasture including:

- Removal of dead grass from the base of healthy grass
- Levelling uneven and poached ground
- Helping to remove lightly rooted weeds

Traditionally, harrowing has been used to spread the droppings on the pasture to act as a natural fertiliser. However, due to the risk of spreading internal parasites (worms) and making the grass unpalatable this practice is now not recommended.

Rolling

Uneven, rutted and poached land will benefit from rolling when the ground has dried out. Timing is crucial, as rolling on wet ground or heavy clay can cause compaction which would impact negatively on drainage and grass growth.



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Seasonal maintenance guide

SPRING

From March onwards, harrow to remove dead vegetation and to aerate the soil.

Reseed any bare patches using a suitable mix.

Roll the pasture to flatten poached areas and consolidate loose soil.

Rest pasture that will be used for growing hay.

Take action against weeds and poisonous plants. If the infestation is heavy, expert advice should be sought as specific herbicide may need to be applied.

Remember - only take machinery on to ground that is dry enough to prevent damage and compaction.

SUMMER

Late spring/early summer – continued weed control should be undertaken including the immediate removal of any poisonous plants.

Top the pasture to remove long, stalky grass and rough areas. **Do not top ragwort or foxglove as these become more palatable to horses when dried but retain their toxicity.**

If conditions were too wet in the spring, harrowing and rolling can be undertaken if required.

Hay crop can be cut and baled.

AUTUMN

Maintain existing drainage by keeping ditches clear of plants and debris.

Continue to control any ragwort growth.

Water trough pipes should be checked and insulated ready for the winter.

Where possible, keep horses away from falling acorns and sycamore seeds.

Plant any new hedges and trees if required; ensure the species are safe for horse paddocks.

WINTER

In poached areas, such as gateways, grass matting (ideal to lay during the spring), wood chip or gravel can help minimise damage.

Where spare pasture is available rotate the paddocks or designate a field specifically for winter turnout. Ideally use the paddock with the best drainage, which is unlikely to flood and where possible has two access points to prevent the same areas becoming badly poached.

Conduct soil analysis in February to identify any nutrients that are lacking from the pasture. Seek expert advice regarding any liming of fertiliser application that may be needed in early spring.

Grass nutrients

Soils that are deficient in key nutrients will produce poor quality grass. The main nutrients required for plant growth are:

- Nitrogen – promotes rapid, leafy green growth and builds plant material
- Phosphorous – helps the plant produce seeds and root growth
- Potassium – improves quality and disease resistance

If the above nutrients are deficient the balance can be re-established with the application of a fertiliser. Specialist slow releasing fertilisers are available for equine pastures and contain the correct ratio of nitrogen, phosphorous and potassium including additional nutrients. The wrong type, unnecessary application or applying excessive amounts of fertiliser will produce rich grass, which may cause colic, laminitis or obesity. Some fertilisers can result in the growth of dominant grasses resulting in the loss of biodiversity within the pasture, so expert advice should always be sought.

The ideal pH level for horse pastures is between pH 5-6.5. If soil becomes too acidic an application of lime will help to restore the ideal pH for grass growth. As a suitable alternative, calcified seaweed can be used as a liming agent which also has the benefits of additional minerals and trace elements.

Weed and poisonous plant control

Weeds can be defined as any undesirable plant that grows abundantly where it is not wanted. Weeds and poisonous plants thrive on poor pasture by establishing themselves on under-developed grass swards, bare patches, latrine areas or poached and rutted ground. Pasture should be checked regularly for weeds and poisonous plants throughout the year. Any poisonous plants should be removed immediately or the horses prevented from grazing the area until the plants are



This pasture is at risk of weeds establishing their growth due to the poor condition of the land

eradicated. Methods of control will vary depending upon the plant and amount of land affected. If ragwort is a problem on your horse's pasture refer to the BHS Ragwort Toolkit available from bhs.org.uk.

The list of poisonous plants, shrubs and trees is extensive and horse owners must make themselves aware of what

is unsafe for their horses. A brief guide like this cannot mention every poisonous species, although a great deal of information is available on the internet and in reference books. Further advice can be sought from the BHS Welfare Department.

Cross Grazing

Cattle and sheep are not selective grazers and therefore can prove beneficial in helping:

- To graze down areas of rough grass that horses avoid
- Sheep moving around the pasture also help to level out the damage caused by horses' hooves
- Control the amount of grass available during the spring and summer months.



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As most parasites are species-specific, cross grazing can help to reduce the pasture's burden of equine parasites. For example, sheep ingesting equine parasites will halt their lifecycle without having any adverse effect on the sheep. All animals on the land will need a worming programme for their own welfare. If cross grazing is to be undertaken, boundaries must be safe and suitable for all the animals on the land.

Reseeding

Pasture that becomes bare over the winter may benefit from reseeded. Specialist seed mixes which incorporate a mixed sward of grasses and herbs are widely available for equine pasture to help provide the correct balance of nutrients.

The majority of commercial seed mixes are based on varieties of ryegrass. Ryegrass has been a popular choice for agricultural land as it grows quickly, produces seed easily and is cheap to obtain. However, in the right conditions, ryegrass is dominant when growing and will quickly take over meadow grasses. Farmers diversifying their business need to be aware that agricultural grassland, often fertilised with nitrogen, will be too rich for horses and could lead to colic or laminitis (especially ryegrass and clover which are high in sugar and low in fibre). An equine nutritionist or seed mix supplier will be able to advise on an appropriate mix for your pasture.

Horses should not graze young grass until it is well established. New growth should ideally be five to six inches long before it is grazed to allow a strong root system to establish. Horses must be introduced to new pasture gradually to help their digestive system adapt to the change.

Parasite control

Droppings should be removed from the pasture on a regular basis, ideally every day, to help control parasite burdens. It will also prevent the grass beneath the droppings from becoming sour and unpalatable and thus decreases the number of latrine areas.

Further information on parasite control is available from the 'BHS Guide to Worm Control'. As general guidance a combination of rotating paddocks, regularly removing droppings, using faecal egg counts and having an appropriate worming programme will result in effective parasite control. Seek veterinary advice if you need specific guidance on formulating an effective worming programme for your horse.

Water Supply

It is imperative that there is a constant supply of fresh clean water available in the

field. This may be from large buckets or an automatically filling trough. There are some essential requirements that apply to all types of water supply:

- Water containers must be large enough to provide a constant supply of water for all of the horses in the field
- Containers must be sturdy and free from sharp edges
- The water supply must be easily accessible for both horse and keeper, checked daily, cleaned regularly and placed away from trees to avoid falling debris



This water supply is not adequate and should be filled up more often or additional troughs provided to ensure a plentiful supply

- If possible, position the water source away from the corners of the field so that more dominant herd members cannot trap other horses
- Extra care must be taken in extremes of weather. In very hot weather more water may be consumed and therefore containers will need to be topped up frequently if they are not self-filling. In very cold weather the water source may freeze over and therefore any ice must be broken to allow the horses to drink. In both scenarios the water will need to be checked several times daily.

Natural water supplies such as streams, rivers and ponds may seem to provide an easy and readily available supply of water, but they are often not suitable. Due to their unregulated source they pose the risk of being contaminated, polluted or stagnant and may also dry up during prolonged hot weather. Streams in particular can often have a sandy base which may result in the ingestion of sand potentially leading to sand colic. The approach to a natural water source may also be unsafe increasing the risk of an accident. Where natural water supplies are available it is usually advised that they are fenced off and an alternative supply is provided.

Fencing

Fencing options are diverse, each with advantages and disadvantages to their use. However, when selecting any fencing the major consideration is to ensure it is safe and sufficiently strong. Fencing should be inspected daily; it is important to note that if your horse escapes from their pasture because of inadequate or unsafe

field boundaries you may be liable for any damage caused. Caution needs to be taken where hedgerows are used as the sole boundary as they can become weak and gapped so may require reinforcement via post and rail fencing.

The BHS recommends in general that fences should be 1.25m (4ft) high with the lower rail set 0.5m (1ft 6in) above the ground; more specifically we suggest fencing heights of:

- Horses: 1.08m-1.38m (3.6ft-4.6ft)
- Ponies: 1m-1.3m (3.3ft-4.3ft)
- Stallions: 1.25m-2m (4.1ft-6.5ft). Where the minimum height is used, a double fence line is also advisable. It may be necessary to run an electric fence line along the top of the stallion field boundary in order to reduce aggressive or amorous behaviour over the fence. Preventing stallion nuisance and/or straying are particularly important where boundaries are between neighbouring horse owners.

Type of fencing	Advantages	Disadvantages
Wooden Post and Rail Fencing	Safe and secure Highly visible	Expensive Requires periodic preservative treatment Some horses will chew wood
Stone Walls	Durable Provides some shelter	Expensive Require skilled labour to install Time consuming to maintain
Plastic Fencing	Low maintenance	Expensive May become weak and brittle over time
Electric Fencing	Versatile Can be used in conjunction with other fencing Ideal for dividing pasture into paddocks	Can be insecure Must be carefully introduced to horses Not suitable as the sole boundary fence

Unsuitable fencing for horses



Plain wire

Wire should only be used if it is kept completely taut and with at least a top rail of timber.

Stock fencing (mesh)

Potentially injurious for horses, with particular risk of hooves becoming caught. If stock fencing has to be used to secure other animals in the field, such as sheep, then a secondary fence line such as electric fencing is ideal to place inside the boundary to prevent the horses reaching the stock fencing.

Barbed wire

Barbed wire should never be used with horses as it can cause severe and potentially permanent injury.

Gates

Gates and gateways should allow the safe passage of horses and their handlers and must fasten securely to prevent injury or animals escaping. Ideally, gateways should be sited in areas with the best drainage. If gateways become very wet and poached it may be necessary to create an area of hard standing with material such as hardcore. For security purposes, gates, particularly those leading on to the road, should be padlocked.



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Shelter

Horses need access to shelter not just from the winter weather but also during the summer from the sun and flies. Shelter can either be man-made in the form of a field shelter or natural, for example trees or hedges (although deciduous trees will have obvious limitations!). Rugs also provide a degree of shelter for the horse. Horses, particularly cobs and native types, are well adapted to living outdoors all year round with the correct management methods.



Field shelter specifications include:

- Ideally large enough to safely accommodate all horses in the field
- Depth of 3.65m (12ft) and width of 3m-3.65m (10ft-12ft). Extra width of 1.5m (5ft) should be added for each additional horse
- Roofs – there should be a minimum clear space to the eaves of 60-90cm (2-3ft)
- Sturdy construction
- Situated on hard standing or at least a free draining site
- Always seek planning permission from your local council before purchasing or erecting a permanent field shelter. Be aware in some areas permission may be required for temporary, moveable shelters

Safe hedges for horses include hawthorn, hazel and quickthorn; a consideration is that some hedges grow thorns which could cause eye injuries to horses foraging in the hedgerows. Trees that are safe for horse pasture include ash, birch, poplar and willow.

Hedges that are poisonous to horses include privet, leylandii, broom, box and laurel (please note this list is not exhaustive). Be aware that The Hedgerows Regulations 1997 stipulate that in certain circumstances hedgerows must not be removed without first submitting a removal notice to the Local Planning Authority. The trees yew and laburnum are highly toxic.

What if I have limited or no access to pasture?

If limited grazing is available, careful management will be required to help protect the pasture. This may include stabling horses for a period of time, providing supplementary feed or strictly rotating fields.



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During the winter months some yards restrict or completely cease turnout. Where possible it is preferable for horses to have access to a secure area to enable free exercise than to be continuously stabled. Access to an area of hard standing, all weather surface, or barn allows the horse more opportunities to exhibit natural behaviour and exercise; for example, youngsters wintered in a barn together. It is essential that if several horses are managed in this way the area is large enough to accommodate the horses and that they are used to being turned out together. This type of management would not be suitable if one

horse was particularly dominant or if inappropriate horses were mixed, such as two stallions. If horses are spending a significant period of time in an all-weather area, forage, water and shelter must be provided.

Daily checks and routine jobs

- Gates and boundaries are secure and fencing is in good repair
- Adequate supply of fresh water provided
- Remove droppings
- Check and remove any poisonous plants
- Check for and remove any rubbish or dangerous objects
- Check for rabbit holes and badger setts – badgers are protected by law so areas surrounding their setts should be fenced off
- Check horses for injuries and monitor body condition



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The British Horse Society
Abbey Park, Stareton, Kenilworth, Warwickshire CV8 2XZ
Tel: 02476 840517 Fax: 02476 840501
www.bhs.org.uk Email: welfare@bhs.org.uk

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