

Feeding in Cold Weather

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The primary needs of a grazing horse during cold weather are an adequate supply of good quality roughage, shelter from cold wind and rain, free access to clean water and room to exercise to keep itself warm. Older horses, in particular, are more likely to lose condition during cold, wintery weather as they may not be able to graze for long enough each day or walk comfortably to harvest their feed due to arthritic conditions.

A horse does not start to lose significant amounts of body heat until the temperature falls below 8°C.

Horses adapt to cold conditions by growing a longer coat, (which requires extra energy and protein to grow additional hair), by grouping together to conserve body heat and increasing their appetite and feed intake by up to 30% to provide more energy and roughage to help maintain their body heat.

- A horse which is maintained in 'fleshy' condition (condition score 2.5-3) will be more comfortable under cold conditions as the subcutaneous fat layer helps insulate against heat loss.
- A thin horse needs more energy to maintain its body heat. Once condition is lost, it is often difficult to regain it, especially in older horses, unless the animal is stabled overnight to help conserve body warmth during cold overnight conditions.
- **It is also important to keep a horse dry during wet, cold weather, either with a water proof rug or providing a shelter shed, as the hair coat is less insulating against the cold when wet or when standing in a paddock under windy, high chill weather conditions.**

An unlined rug actually makes a horse feel the cold because the air layer naturally trapped in the fluffed-up hair coat to shield against the cold is displaced by the weight of the rug. A lined, insulated or quilted rug, or even double-rugging (avoid very heavy rugs as they have to be carried around when grazing) is beneficial, especially during wet, high wind chill conditions.

Feeding Roughage

- Certain feeds have a higher 'heat waste' which is produced during hindgut fibre fermentation. Feeds such as cereal chaff, lucerne and clover hay, which have a 70% energy loss as 'heat waste' during digestion, will help to provide internal warmth during cold weather as their fibre content is fermented in the hindgut.
- During bleak, wet or windy weather, or where a horse is losing condition, concentrate feeds containing fibrous foods, such as chaff and oats (oats has 10% fibre and 30% 'heat waste' which ferments to produce more 'heat waste' as compared to starch based grains, such as corn or barley with 20% 'heat waste') can provide additional energy and 'heat waste' and are suitable, along with good quality hay, for a pastured horse. If meadow hay is used, then lucerne chaff and oats will provide extra energy and adequate protein.
- Hay alone provided at the rate of 1-1½ kg/100kg (3-4 biscuits for a 500kg horse) on sparse, winter pasture will usually maintain condition. Only good quality, leafy hay should be provided, preferably in a hay rack or trough to reduce wastage.

Handy Hint

Feed Twice Daily

It is best to feed a hard feed or hay in the morning and evening (ie twice daily), rather once daily, as the horse will have an energy source provided to help regain energy and warmth after a cold night, especially where grazing is short and sparse during the winter months on frosted and cold pastures until they warm up by mid morning. An evening feed with extra hay will help to provide available energy and fibre for hindgut fermentation to prepare for the cold overnight conditions and help keep the horse warm and contented with a full belly. This is particularly important in the case of mares and foals, weanlings and yearlings, where heat loss from cold weather will sap energy for growth in young horses and development of the unborn foal in late pregnant mares.

Feeding Concentrates

During very cold or wet weather, a concentrate mix of 50:50 lucerne chaff and oats (or alternatively pellets) by volume can be provided at the rate of 500g/100kg body weight in addition to hay, when the maximum daily temperature remains below 10°C.

- Feed bins should be located on the leeward side of a hill, sheltered from prevailing winds by a windbreak or warm comfortable shelter shed. Horses often stand at feeders for a number of hours to consume their feeds and windy exposed sites can significantly increase the chill factor in wet weather. Avoid watercourses and boggy gullies as horses standing for 1-2 hours at a time in wet conditions may develop hoof abscess and become lame.
- Do not feed large amounts of ad-lib concentrates, such as oats or pellets, to hungry, cold horses, as they may ingest the ration too quickly and suffer choke, digestive upset and colic. Alternatively, provide them with a portion of dampened hay to eat first to fill them up, then provide a measured portion of concentrate or pelleted feed.
- Aged horses at pasture and horses in work should be double-rugged overnight or preferably stabled and given concentrates and hay depending on their exercise level.

Handy Hint

Rug Horses in Winter

Provide an insulated (eg quilted) and waterproof rug (ventilated if possible) for horses that are left outdoors during cold, wet conditions and overnight. Horses normally stand with their hindquarters facing the prevailing wind, sleet or rain. Ensure that the rug has a long tail flap which hangs down to just above the hocks, so as to prevent cold air and draughts from drawing heat from the under belly area where body heat is produced as a by-product of the fermentation of fibrous food during hind gut digestion.

Handy Hint

Energy Loss as Heat in Feeds

One biscuit (about 2kg) of lucerne hay provides extra energy, protein and calcium as a base for feed supplements for a horse under limited grazing conditions, with 2-3 biscuits (4-6kg) of meadow or grass hay to make up the shortfalls in bulk for a 450-500 kg resting horse. **Note:** Although warm bran mashes and boiled barley are often offered to horses as a 'warm' feed at night and are relished by horses, the amount of 'warmth' contributed to the body heat is very small as compared to heat generated as a result of fibre



Handy Hint

Energy Loss as Heat in Feeds

A twice weekly application of **Kohnke's Own Hoof-Seal®** to the whole hoof, or once a week to hoof wall and twice a week to the sole only, is useful to prevent excess moisture uptake which could soften the hooves under wet conditions. Softened hooves can lead to 'sore feet' and lameness and restrict the ability to walk to graze or shelter in horses grazing in a paddock under cold, wet conditions.

Handy Hint

Check the Skin

Under wet conditions, check regularly for skin conditions, such as rain scald, on the topline if the horse is rugged with a windproof rug and mud fever or greasy heel on the limbs below the fetlocks. The immunity defence in the skin of very young or aged horses may not be adequate to resist fungal and microbial invasion, especially under stressful cold and wet conditions over winter.

A supplement of trace-minerals with zinc, copper, iodine and selenium, with Vitamins A and E, such as in **Kohnke's Own Cell-Vital®** or **Cell-Provide®** (which provides extra calcium for aged horses) may help maintain immunity, appetite, health and vitality under very cold conditions.



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