

# Feed Quality and Alternative Feeds During Drought Conditions

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Please refer to Factsheet No. 21 “Drought Management” for guidelines on feeding and management of horses during drought and after drought breaking rains. When pasture is sparse and is likely to be eaten out, access to grazing should be restricted to 2-3 hours per day. Hard feed mixes and hay should be provided in a holding yard or ‘sacrificial paddock’ to meet full nutritional requirements.

### Deteriorating Feed Quality

Hay from sheds or stacks following long term storage, is often the only form of roughage available for hay or the base of chaff. Hay and chaff are ‘dead’ pasture that slowly deteriorates during storage. The content of natural vitamins, which are sensitive to heat, oxidation and light, is often degraded over extended periods of storage.

### Check Hay and Chaff Carefully

The organic matter in hay, such as lucerne hay, slowly degrades to dust, which can be accelerated by retained mould on the plant. It is also important to check hay for dead animal matter, in large bales in particular, such as rabbit, snake and bird parts or feathers and rodent droppings, which are common sources of Botulism and Salmonella infection.

### Dampen Hay

The calcium, protein and major vitamin content of lucerne is contained in the leaves. Long term storage of lucerne results in deterioration and brittleness of the leaves, which shatter easily and fall off under dry, hot conditions, low moisture baling or long term storage. Dampening lucerne hay by wrapping in a hessian bag saturated with clean water from morning to night, or night to morning (no longer than 8-10 hours), will reduce dust by 70%, leaf loss by 45% and wastage by at least 30%. Placing a biscuit of hay inside a poly-woven chaff bag, spraying it with clean water and wrapping it to soak for 1-2 hours before feeding helps reduce leaf loss, wastage and makes hay easier to chew for horses. The use of hay bags (dampen hay in bag) and troughs (soak hay in water for 5 minutes in a bucket and drain) helps reduce wastage.

### Add Supplementary Nutrients

Normally 3kg or more of lucerne hay and chaff combined each day provides an adequate intake of calcium. On the contrary, mill run or bran is low in calcium, but high in phosphorus and up to 10% of the diet can help to provide additional calcium. Loss of leaves from dry, brittle lucerne reduces calcium, phosphorous and magnesium content. A supplement of CALCIUM, PHOSPHORUS and MAGNESIUM such as Kohnke’s Own **Cell-Osteo**® (also contains vitamin A and vitamin D) will make up the shortfalls in diets containing stemmy, dry lucerne, or minimal amounts of lucerne. Vitamin A and vitamin E are two essential vitamins that must be supplied in the feed as horses cannot synthesise them by microbial fermentation of fibre in the hindgut, as well as B-group and vitamin K, in the liver (vitamin C), or in the skin (vitamin D).

Many alternative feeds (see reverse side) contain low or inadequate levels of essential vitamins and imbalanced calcium and trace-minerals. Feeds grown on trace-element deficient soils may contain low levels of selenium, as well as many other trace-minerals, including copper, zinc, manganese and iodine. **Often the origin of grain and hay is not known when transported over long distances into drought affected areas.**

### Did You Know That:

- Lucerne hay loses 80% of its vitamin A activity (from carotenes in feed) when stored under summer conditions for 3-6 months
- Lucerne and grains lose 75%-90% of vitamin E potency after harvest and storage for 6 months
- Horses are unable to synthesise these 2 vitamins in their body and require an adequate intake in their feed each day.

**A daily dose of a well formulated supplement to meet the needs of specific horses is recommended when feed quality and nutritional content could be compromised by long term storage, uncertain origin or natural imbalances or deficiencies.**

Kohnkes Own Product	Horse Use	Contains	Daily Dose
Cell-Provide®	Resting and lightly worked adult horses, ponies and miniatures	Calcium, phosphorus, trace-minerals and a complete range of vitamins	30g resting 50g light work 60g medium work
Cell-Osteo®	Working horses – low lucerne diet Young horses adopting to training	Calcium, phosphorus (2.7:1 ratio), magnesium, vitamin A + D)	60-90g
Cell-Grow®	Growing horses, broodmares, aged horses	Calcium, phosphorus, magnesium, high levels of trace-minerals and complete range of vitamins.	60-120g
Cell-Vital®	Working horses on high lucerne diets	Trace-minerals and vitamins	30-40g
Cell-Vital Premium®	Hard working racing and equestrian horses	“All-in-one” supplement to correct low or inadequate nutrient intake. Also contains Live Yeast Culture.	60-120g

**The Kohnkes Own range of highly palatable Supplet® pellet blends reduce WASTAGE by sift-out, dust or sludging, as well as nutrient interaction in moist stored feeds. They do not blow out of paddock feeders and mix easily into grain, muesli or chaff mixes.**

# DROUGHT FEEDING

## Common Alternative Feeds

Horses require around 1.75-2.0% of bodyweight in kilograms of dry feed each day to maintain themselves and meet energy needs for light work (ie. a 500kg horse requires approximately 7.5-10.0kg dry feed each day)

When prices for chaff, hay and grains increase during drought conditions, many horse owners seek alternative feeds to make their feeding \$\$ go further and to keep within their horse feeding budget. However, in most cases, a “budget” stud mix or pelleted feed is more convenient and less of a hassle to feed than many alternative feeds. (Do not feed more than 20 grams of kelp each day to a 500kg horse to avoid iodine excess).

Feed (as fed)	Energy MJDE/kg	Protein %	Comments
<b>ENERGY SOURCES</b>			
Oats (standard)	12	9-10	Safe as a grain to feed with at least an equal volume of chaff plus hay
White Bread	10	8-10	Maximum 40% of concentrated mix or 300g/100kg bwt/feed. Break up and mix with chaff to avoid choke. Dampen if dry but do not store wet. Do not feed MOULDY Bread!
Pollard	13	15	Limit 0.5/L100kg bwt/feed. Dampen and mix with chaff.
Cornflakes	14	10	Limit 300g/100kg bwt/feed. Avoid mould. Mix 50:50 with chaff
Weet-Bix	13	9	As for Cornflakes. Not sugared. More fibrous than cornflakes
Brewers Grains (dry)	8	17-20	Limit 250g/100kg bwt/feed – do not mix damp & store.
Molasses	11.4	4.3	Sweetener at 25g/100kg bwt/feed. Energy source at 100g/100kg bwt/feed.
<b>PROTEIN SOURCES</b>			
Lucerne Hay (standard)	9	17	Good source of energy, protein and calcium – price is often limiting.
Lupins Feed only WHITE lupins	12	22	Palatable energy & protein source. Limit to 250g/100kg bwt/feed. Mix with chaff.
Cottonseed Meal (Do not feed Cotton Seeds)	14	41 (no hulls)	Varies in quality. Limit to 70-100g/100kg bwt/feed.
Copra Meal	13	23	Up to 400g/100kg bwt/feed. Good coat conditioner. Ensure dry, free flowing, no mould. Wet before feeding to reduce ulcer risk.
Faba Beans (Tick Beans)	13.7	33	Palatable when crushed or soaked. Limit 150g/100kg bwt/feed.
<b>CHAFF SOURCES</b>			
Cereal Chaff(standard)	7.4	8.6	Long chopped chaff improves digestion. Holds water. Avoid mould/dust.
Oat Hulls	6	3.8	Low digestibility. Mix with 5% molasses. Limit to 750mL/100kg bwt/feed.
Lupin Hulls	8.1	8.2	High digestibility. Limit 500mL/100kg bwt/feed. Mix with 5% molasses.
Sunflower Hulls	4.3	4.8	Moderate digestibility. Limit 600mL/100kg bwt/feed.
Rice Hulls	1.9	2.8	Poor digestibility. High in silica. Soaked or ground. Limit 400mL/100kg bwt/feed.
<b>HAY SOURCES</b>			
Lucerne Hay (standard)	9	17	Leafy, thin stalk hay utilised best. Avoid mould/feathers etc.
Cereal Straw	6.2	4.0	Limit to 500g/100kg bwt/feed. Avoid mould & dust. Dampen before feeding.
Millet Hay	5	7	Often wasted. Palatable when dampened. Avoid mould. Limit 500g/100bwt/feed.
Pea Hay	8	13	Sweet. Avoid mould. Can provide 30-40% of hay roughage.
Grass/Legume Silage 70% moisture	4	9	Must be sweet smelling. Maximum 300g/100kg bwt/feed. Mix with chaff to improve acceptance.
Rice Straw	5	4	Coarse. Dampen. Limit 200g/100kg bwt/feed. Low digestibility.
Cardboard	4	0.6	Chopped. Non-printed. No staples/tape. Can make up 25% of chaff roughage use with lucerne only. Only use in an absolutely desperate situation.

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