

# Practical feeding of horses

## Bruce Mackay

Former Technical Specialist (Beef Grazing Systems)

### Warning

Chemicals and other pollutants can exist in stockfeeds. Horse meat can be used for human consumption, and it is the responsibility of the owner/carer to ensure that feeds fed to horses do not contain residues which may be harmful to humans. Refer to [Primefact 312 Drought increases residue risks](#) for details before purchasing stockfeed or making feeding decisions.

## Introduction

Horses must be fed adequately in order to perform at their best. Correct feeding is both a science and an art; the science is in knowing what to feed to satisfy the requirements of the horse, and the art is in knowing how to feed to get the best results.

Some basic guidelines and principles should be followed if top performance is to be achieved.

## The horse

Horses have only one stomach, and consequently they must eat small amounts often. Horses must also chew their feed well before swallowing, and will therefore take longer over their feed than cattle and other ruminants. Also, horses are unable to digest low-quality feeds as efficiently as ruminants, and should therefore be given only high-quality feeds.

Horses vary greatly in their individual likes and dislikes. Factors such as the horse's type, age and weight, and the work a horse does, will influence feed requirements.

Most horses at rest can be maintained on good-quality pastures; however, pastures vary greatly in type and value, and may need supplementing, particularly in late summer and winter. Growing foals, lactating mares and horses doing heavy work may also need a supplement.

## The feeds

A well-balanced horse ration should provide the nutrients required for body maintenance, growth, gestation, lactation and work. Such a ration will have balanced amounts of energy, protein, minerals and vitamins. The ration must also be palatable, economical and practical.

Rations need not be complicated mixtures, and most rations can be made from locally available ingredients. These ingredients usually comprise roughages (such as hays and crops) and concentrates (such as grains and meals).

The most commonly used roughages for horses are pasture, legume and cereal chaffs, and hays. No nutritional advantage is obtained from chaff, but chaff mixed with grain will prevent horses from eating too rapidly.

Oats are the safest and best grain to feed because of their palatability, digestibility and safety. Other grains are best fed in mixtures containing at least 50% oats; however, replacement must be made on an equivalent basis. As a guide:

5 kg oats	=	4.2 kg barley or wheat
	=	3.5 kg maize
	=	4.4 kg sorghum

Whilst oats can be fed whole to horses (other than foals or very old horses), all other grains should be coarsely crushed or rolled. Boiling is of no nutritional advantage, other than improving digestibility and palatability.

Linseed grain must be boiled for at least 2 hours, to destroy the toxic prussic acid content.

High-protein concentrates can be added in small amounts when protein is lacking, particularly for growing horses. The order of preference, based on palatability, is soybean meal, cottonseed meal, sunflower meal, linseed meal and peanut meal.

It is possible to calculate the best ration scientifically, but adjustments must be made for each horse's taste and requirements. The ration must also be complemented by good husbandry,



with careful attention being paid to general health, teeth care, parasite control and regular exercise.

## How much to feed

Mature horses will generally eat 1.5–2.5% of their bodyweight in dry matter per day, depending on the type of feed and variation between individual horses. Growing foals may eat up to 3% of their bodyweight in a day.

Table 1 can be used as a guide to the amounts of roughage and concentrate required when fully handfeeding various classes of horses. These amounts must be adjusted to take into account variations in feed quality and individual needs.

When you are feeding a supplement, the amounts fed will depend on the amount and quality of grazing available.

*Table 1. Feed required by horses per 100 kg liveweight*

	Roughage (kg)	Concentrate (kg)
Idle	1.5	
Light work (2 hours/day)	1.25–1.5	0.5–0.75
Medium work (2 hours/day)	1.25–1.75	1.0
Heavy work (4 hours/day)	1.0	1.0–1.5
Unweaned foals (145–160 kg)	0.5–0.75	0.5–0.75
Weanlings (160–200 kg)	1.5–2.0	1.0–1.5
Yearlings (200–320 kg)	1.25–1.75	0.75–1.25
Rising 2-year-olds (320–420 kg)	1.0–1.5	0.5–1.0
Pregnant/lactating mares (400–650 kg)	0.75–1.5	0.75–1.5
Stallions (400–650 kg)	0.75–1.25	0.75–1.25

Commercial mixes that contain grain, protein meals, minerals and vitamins can be useful as a supplement to available roughages, and are often cheaper and more convenient to feed than grain and high-protein concentrates bought separately.

## Feeding management

### Feed little and often

The horse's small digestive tract means that it must eat often and in small amounts. Working horses need to be fed at least three times a day – morning, noon and night. When fully handfeeding, give a quarter of the concentrate at the morning and noon feeds, and the remaining half at night.

### Feed regularly

Feeding should be at the same time and in the same place every day. A horse is a creature of habit, and learns to expect food at set times.

### Make ration changes gradually

Sudden food changes can lead to digestive upsets, especially in grain diets. A slow replacement over 7–10 days or longer is required, whether you are changing from one grain to another, or just changing to grain from a new source.

### Weigh amounts to feed

Always weigh the amounts of grain, hay, minerals and so on, because measuring feeds by volume can give poor results. Feeds from different sources have different densities.

### Mix daily and remove leftovers

Mix the ration in amounts sufficient for only one day's feeding, to prevent it from souring, turning rancid or attracting flies – any of which can cause digestive upsets. Clean any leftover feed out of the trough before each feeding.

### Use only the best quality feeds

Poor-quality, unpalatable, dirty, mouldy or contaminated feeds can cause more problems than savings in cost. They must not be used.

### Reduce grain when horses are not working

Working horses on high concentrate rations should be fed 50–70% less concentrate when they are not being worked. Failure to do this can cause a metabolic disease called azaturia, or 'Monday morning disease', which can be fatal.

### Give horses plenty of exercise

Avoid enclosing horses in restrictive yards for long periods, unless regular exercise is given. Exercise periods should be planned to coincide with times of minimal food intake. Don't work the horse until at least 2 hours after its last feed.

### Always have clean fresh water available

Clean, fresh water, free of organic matter and sediment, should be available to horses at all times. A horse can drink up to 70 litres a day. After heavy work, water should be limited to between 2 and 4 litres until the horse has fully cooled.

### **Check teeth regularly**

Regular inspection and rasping of teeth is often necessary, to prevent sore gums, as well as feeding and digestive problems.

### **Control parasites**

A regular drenching program is required to minimise worm build-up.

NSW DPI Diagnostic and Analytical Services provide a horse WormTest kit for worm-egg sampling. For information, contact 1800 675 623, or pick up a kit from your local NSW DPI office.

### **Provide shelter**

In cold, windy weather, provision of some form of shelter can reduce stress and the amount of feed needed to maintain body temperature.

---

© State of New South Wales through NSW Department of Primary Industries 2007. You may copy, distribute and otherwise freely deal with this publication for any purpose, provided that you attribute NSW Department of Primary Industries as the owner.

ISSN 1832-6668

Replaces Agfact A6.5.3

Check for updates of this Primefact at:

[www.dpi.nsw.gov.au/primefacts](http://www.dpi.nsw.gov.au/primefacts)

Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (September 2007). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of New South Wales Department of Primary Industries or the user's independent adviser.

Job number 7315