



## Small Farm: Grazing management for horses

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### Horses were designed to graze

Horses are “browsers”. In nature they tend to select grasses, clovers and herbs and then move to new areas. They can travel over five kilometres a day and sometimes they never return to the same area to graze. Horses prefer not to graze areas soiled by manure. This self-imposed lax grazing enables them to avoid manure contaminated pasture which minimises their parasite burdens. Given the nature of horse grazing it is not surprising that pasture management problems emerged when man first began to confine horses. These problems have increased with the intensification of horses.

### Grazing behaviour

Grazing behaviour greatly affects the performance of horses. Forage selection and intake, grazing period and the defecation pattern of horses make their grazing behaviour unique. This behaviour is the basis for a number of the pasture management problems currently experienced by horse managers.

### Pasture selection and quantity

A grazing horse cannot see what it eats due to a blind spot immediately in front of its head. Pasture selection is based

on smell, touch and taste. Smell is the most important and is critical in determining the palatability (acceptance) of pasture. The smell and avoidance of pasture soiled by manure causes “horse-sick” pastures.

Taste tends to be strongly related to smell. Individual horses have preference for certain forages and horses are generally accepted as having perceptive palates with an ability to distinguish between sweet and bitter tastes. Taste allows horses to avoid poisonous plants. Touch is also important in forage selection. Tactile hairs, or touch receptors, on the lips allow horses to determine what to graze and inform the horse how far its nose is from the ground or objects. The combined effects of smell, touch and taste normally ensure that harmful forage is not swallowed. A simple estimate of how much pasture (or feed) a horse can eat as a percentage of its liveweight is shown below (Table 1).

Horses spend between 16 and 18 hours a day grazing. The exact length of time depends on pasture quantity, quality and the level of supplementary feed. Horses have a grazing behaviour and physiology that enable them to be extremely selective in what they consume.

**Table 1. Amount of feed a horse can eat (as a percentage of its liveweight)**

Class	Forage	Concentrate	Total
<b>Mature horse</b>	.	.	.
Maintenance	1.5-2.0	0-0.5	1.5-2.0
Mare, late gestation	1.0-1.5	0.5-1.0	1.5-2.0
Mare, early lactation	1.0-2.0	1.0-2.0	2.0-3.0
Mare, late lactation	1.0-2.0	0.5-1.5	2.0-2.5
<b>Working horse</b>	.	.	.
Light work	1.0-2.0	0.5-1.0	1.5-2.5
Moderate work	1.0-2.0	0.75-1.5	1.75-2.5
Intense work	0.75-1.5	1.0-2.0	2.0-3.0
<b>Young horse</b>	.	.	.
Nursing foal, 3 months	0	1.0-2.0	2.5-3.5
Weanling foal, 6 months	0.5-1.0	1.5-3.0	2.0-3.5
Yearling foal, 12 months	1.0-1.5	1.0-2.0	2.0-3.0
Long yearling, 18 months	1.0-1.5	1.0-1.5	2.0-2.5
Two year old, 24 months	1.0-1.5	1.0-1.5	1.75-2.5

### Horse sick pastures

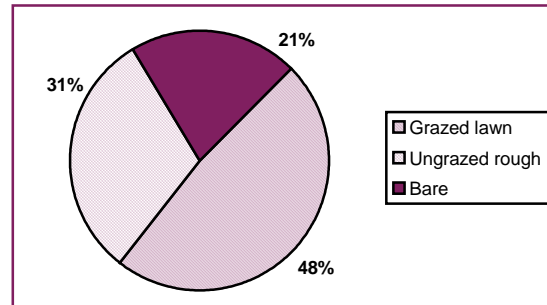
Manure causes “horse-sick” pastures. Manure pattern tends to be influenced by the gender of the horse. Stallions approach a manure pat, smell it, turn around, and manure on top of it. Paddocks containing stallions tend to have several large piles of manure. Mares also approach and smell manure, they however manure without turning around and as a consequence manure patches become progressively larger.

Geldings appear to be less particular as to where they manure. In contrast, other animals such as cattle, do not have special manure places and drop their dung haphazardly throughout the grazing process. Their manure tends to accumulate in areas around water troughs and where stock clump together at night.

A mature horse will generate around 7 kg dry-weight/m<sup>2</sup> of manure, and the average area covered by a horse’s manure heap is about 0.05 m<sup>2</sup>. Manure, and to a lesser extent urine, affect pasture composition in two ways: by directly increasing growth (transfer of nutrients), and by the rejection of pasture around manure by horses. The pasture around manure therefore grows rapidly due to increased nutrients and a lack of grazing. These areas quickly become tall and rank and are further avoided. Paddocks develop a pattern of tall under-grazed areas (roughs) and short over-grazed areas (lawns). These paddocks are frequently described as “horse- sick”. Grazing selectivity of horses also contributes to the development of horse sick pasture.

Horses break up the pasture sward and expose bare ground through overgrazing and exercise. Galloping horses can damage the soil with their hooves and cause soil compaction which make conditions more favourable for weeds. Any exposure of bare ground provides an opportunity for weeds to enter and spread in a pasture. Horse-sick” paddocks can have up to 50% of the area rejected and therefore the carrying capacity of the property is effectively reduced by half. The time “horse-sick” pasture takes to occur will depend upon: pasture type, stocking rate, grazing management, pasture management,

paddock dimensions (rectangular paddocks may result in more uniform grazing).



### Managing horse pastures

Manure management is important in the prevention of “horse-sick” pastures. The best method of managing manure is **manure collection**. To obtain all the benefits, manure must be collected every 24 hours. **Pasture harrowing**, trailing an implement to spread manure evenly across a paddock and to desiccate parasite larvae, should only be done in hot weather after rainfall. **Pasture sweeping and vacuuming** are used on some horse studs. Their use is restricted due to purchase cost of equipment and their requirement for flat, even ground and year-round trafficability.

Grazing management of pastures is also important. **Rotational grazing** can reduce the rate by which a paddock becomes “horse-sick”. Rotational grazing is when grazing is followed by a period of rest. The length of this rest is normally determined by the growth rate of pasture (2 weeks grazing and 6 weeks rest is a good general rule). **Cross or mixed grazing** with sheep and cattle offers advantages for pasture and hygiene management. Pasture management can also include slashing to remove poor quality clumps of pasture, which recover and grow pasture of improved quality that is more palatable to horses. The flow chart below provides a simple management plan.

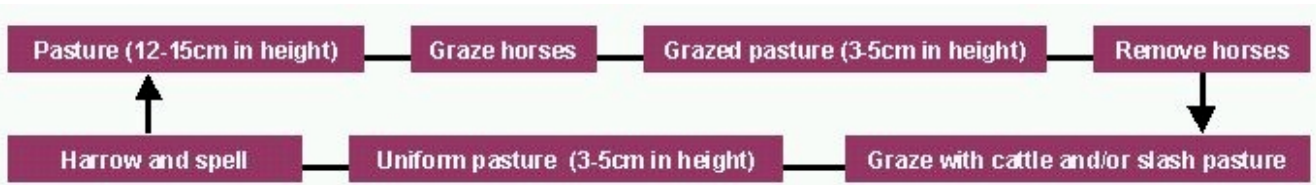


Figure 1. Managing horse pastures

### Further information

This publication has been developed as part of the Future Family Farms Initiative. For further information 136 186 or <http://www.dpi.vic.gov.au/farming/smallfarms>.

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