

PERPETUAL CALENDAR

Horse Keeping & Land Management

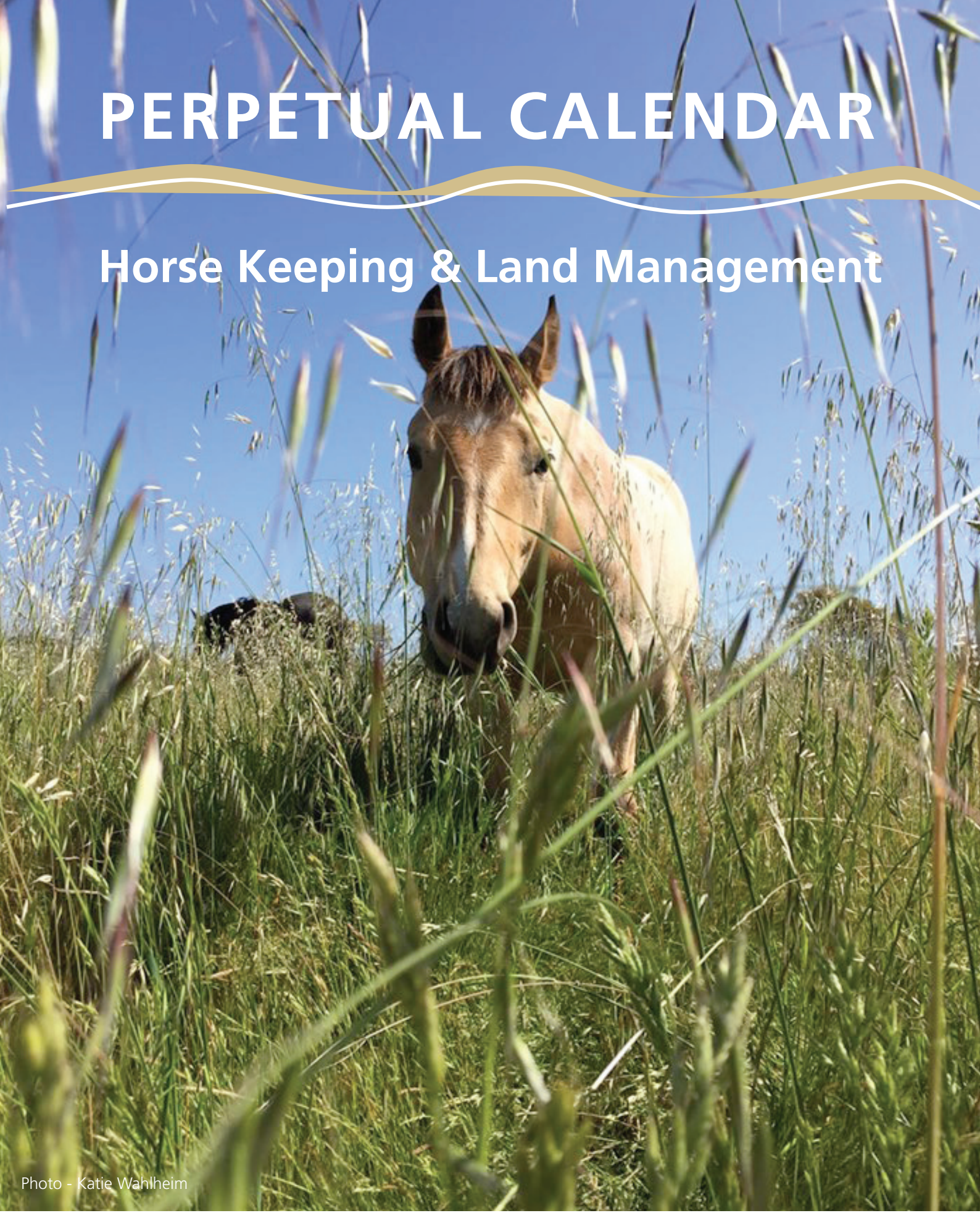


Photo - Katie Wahlheim

Supported by



Government of South Australia

Adelaide and Mount Lofty Ranges
Natural Resources Management Board



Horse keeping systems

Horse property managers take in a range of factors when planning how to manage their land including personal goals, the number of horses, amount of suitable grazing, topography, soil type, rainfall, as well as the location of native vegetation and water courses.

'Inputs' including personal time, money and ongoing land improvements which all contribute to deciding how horses will be kept.

Low input: (paddocking/no or little seasonal handfeeding)

- Has fewer horses than the nutritional potential (carrying capacity) of the land
- Does not require stables/yards or a daily input of labour but does require pasture management throughout the year

Medium input (paddocking/occasional yarding/hand feeding)

- Has the same number or marginally more horses than the nutritional potential of the land
- Has stables/yards for routine management e.g. when paddocks are waterlogged

High input system (stables/yards)

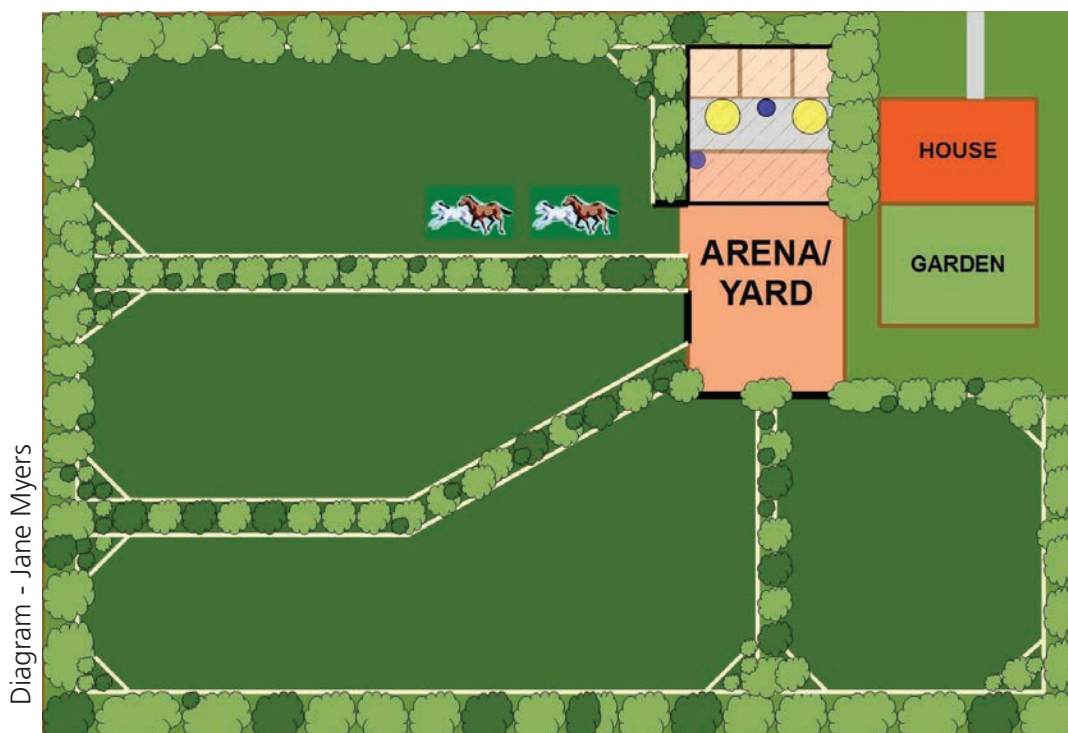
- Has many more horses than the nutritional potential of the land
- Has stables/yards where horses spend most of their time except when being exercised or let out into a paddock for a few hours *garden or gardening group to regularly access your property for manure*
- Stable waste from quarantined or sick horses should be disposed of separately.

Your local NRM Office will be able to assist with property management information.

<https://www.naturalresources.sa.gov.au/adelaidemetrotyranger/home>

A significant online resource to help small landholders with horses is found on Equiculture

<https://www.equiculture.net>



January



Photo - Catherine Hollingsworth

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Pasture grass management

Ideally, grass height is managed to keep between 5 and 12 cms for grazing. Too short and the grass weakens, eventually disappearing but when too long, it becomes unpalatable for horses along with posing a higher fire risk.

Horse management systems can assist to manage grass height, including rotational grazing which allows paddocks to recover, or grazing with another species such as cattle, which is useful for times of year when grass is plentiful.

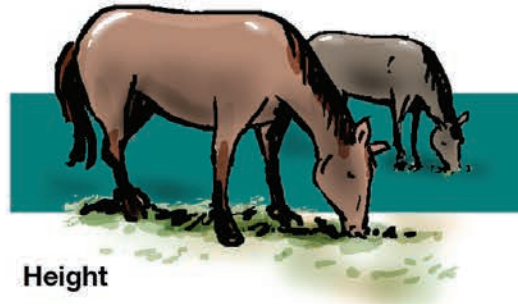
Temporary fencing can be used to help manage grass, through dividing up an existing larger paddock into smaller sizes, often for ease this is done in 'strips'.

Too many horses on a small area of land without good land management practices will lead to overgrazing, compacted soil and resulting dust and mud, as well as bare areas risking soil erosion. Grass which is overgrazed is weaker, taking longer to return to being a healthy plant. If there are not enough grazing horses or livestock, long grass may need slashing to avoid becoming long and rank, this can extend the time that the paddock remains suitable for grazing.

Infrastructure, such as yards, is a key to successful grass management on many small properties. Horses can be placed in yards when grass becomes too short (and no other paddocks are available), and if paddocks are very wet. If horses are allowed to graze in very wet paddocks the soil becomes 'pugged', where deep hoof prints fill with water.



Paddock Rotation Helper



Height (cm)

14 & over	MANAGE	Extra growth may require cross-grazing, slashing unless allowing to go to seed or grow for hay.
13		
12		
11		
10	GRAZE	Ideal range
9		
8		
7		
6		
5		
4	REST	Too short. Increases health issues, leads to erosion, weeds and inhibits regrowth.
3		
2		
1		

<http://www.horsesa.asn.au>

Adapted from MLA Pasture Ruler

February

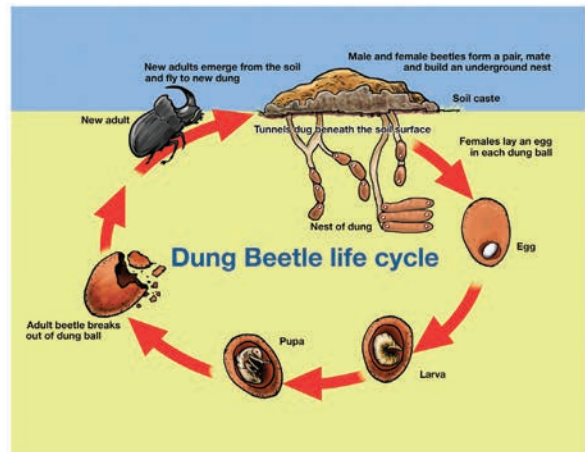
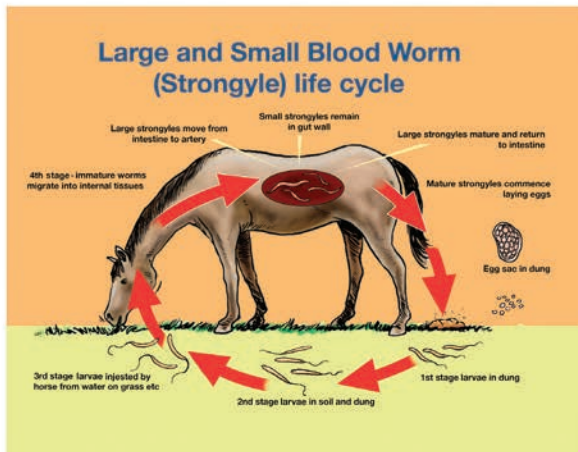
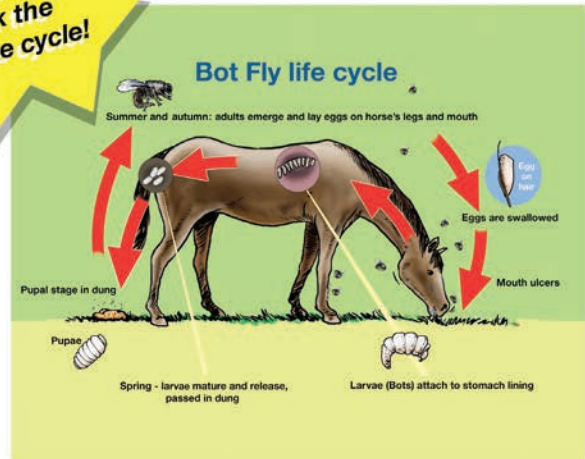
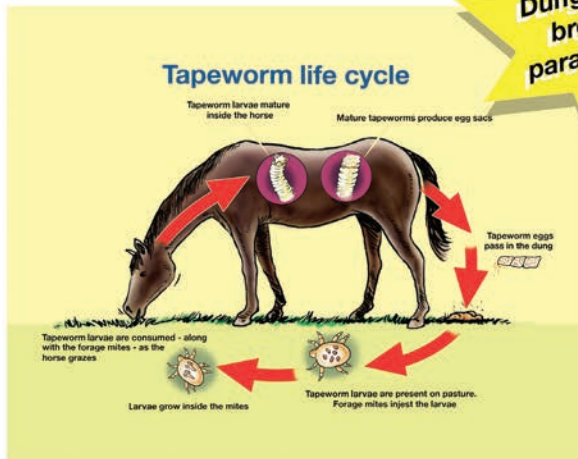


Photo - Jacqui Dowden

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Dung beetles & horse parasites

Dung Beetles break the parasite cycle!



Dung beetles break the parasite cycle by breaking down the horse dung as they build their nests and lay their eggs, in the process destroying parasite eggs and larvae.

Many farm and veterinary chemicals can kill dung beetles; however, there are dung beetle-friendly chemicals available.

Pasture spelling helps to control infective larvae on pasture.



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There is an increasing awareness about dung beetles and the role they play in breaking down manure, soil aeration and reduction of fly larvae. Horse owners are able to help care for dung beetles through reducing chemical usage, including selection of horse de-worming products. Horse SA and Dung Beetles Australia have produced a set of fact sheets for horse owners, with the chemical status of de-worming products provided in fact sheet no. 4. Fact sheets can be downloaded from www.horsesa.asn.au under horse and property management.

March



Photo - Jeanne Wilksch

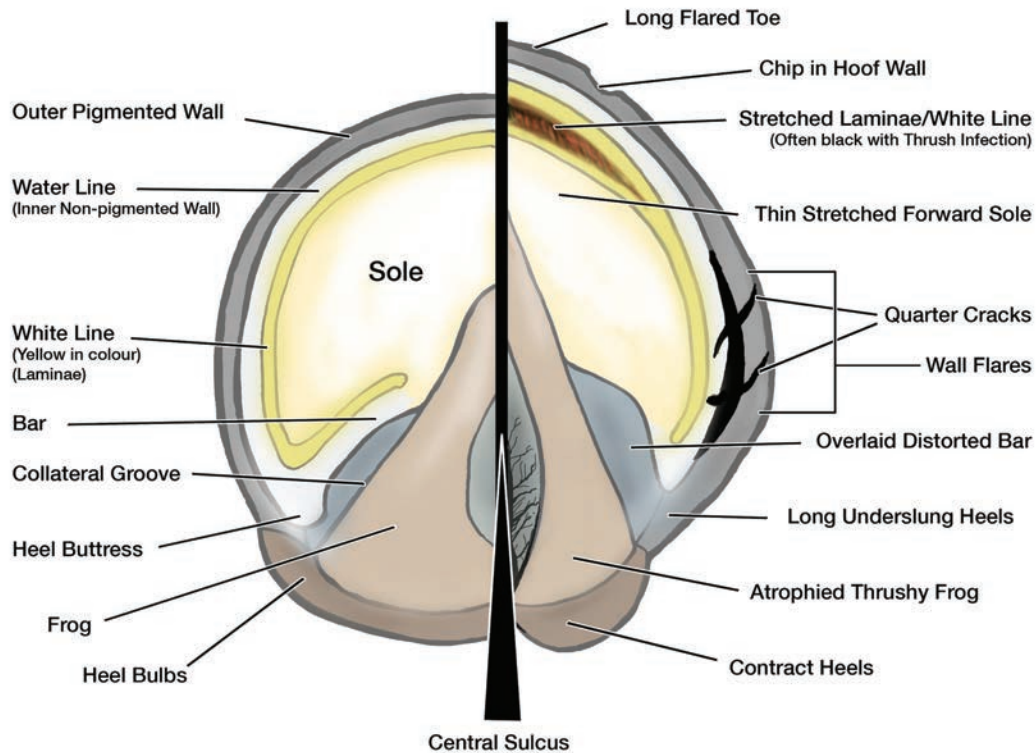
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Hoof & Dental Care

Hoof Care

Healthy Hoof

Showing signs of poor Hoof Health



2019 www.horsesa.asn.au



Dental Care

All new horses, and horses with an unknown history, should have teeth checked soon after arrival. Young, old and horses in regular work should have teeth regularly checked by the owner and professionally checked twice a year. Annual check-ups are recommended for regular horses without any known underlying dental problems. Check-ups should be carried out by a veterinarian or qualified equine dentist.

Dental problems: What to look for - Unpleasant smell from mouth or nose; Weight loss, dull coat; Salivation and drooling when eating; Eating slowly and with effort; Abnormal jaw chewing pattern Unusual facial expressions and head angles when eating; Opening mouth and dropping food when eating; Struggling to eat food like carrots; Course manure containing undigested grain or hay; Facial swelling; Colic; Temporomandibular Joint (TMJ) soreness; Quidding - packing of feed into the horse's cheeks over the painful area; Unusual head movements; Showing signs of discomfort and unusual head movements such as head tossing, lugging or resistance; Fussing with the bit, avoidance of bit contact; Unable to sustain a comfortable body frame; Swellings and discharges; Signs of pain and discomfort when touching the face and head; Lips and front teeth for cuts and ulcers; Discoloured dark teeth which will be dead; Periodontal disease (gum disease); Receding gums; Muscle asymmetry in the horses face.

Adapted from Horses and People Magazine Dental Care Fact Sheet' <https://horsesandpeople.com.au/>

April



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Horses and climate change

The South Australian climate is naturally variable and we are used to extreme weather events including droughts, floods and heatwaves. Climate change is projected to increase the intensity and frequency of these events. Projections indicate that in the future we will see:

- Less rainfall and more frequent drought with the annual average rainfall to decrease across southern Australia.
- More frequent and intense rainfall events.
- Hotter temperatures and more heatwaves, with average annual temperatures projected to increase across South Australia.
- Longer and more frequent heatwaves are also projected with higher maximum temperatures.
- Increased evaporation, reducing the amount of water available for run-off or to recharge aquifers.
- More days of extreme fire danger.
- Global average sea level is projected to rise by up to 0.81m by 2100. Coastal inundation, storm surge and coastline erosion are also projected to increase.

Climate Change Action Plans for horse owners and clubs can be downloaded from www.horsesa.asn.au under Horse and Property Management.



Awarded to HORSE SA



Photo - K Dudley

May



Photo - istock

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Caring for Horses - Beyond the basics



For more information visit www.equitationsscience.com

June



Photo - Sue Brown

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How do your horses interact with their natural living environment ?

As horse owners we need to regularly observe how our horses interact with their living area, not only for their own health and welfare, but to help us to manage the environment and associated man-made infrastructure. Behaviour observations may include noting time spent doing the behaviour, frequency, location and if alone or with company. Observations may include :

- Patterns of walking and standing showing us as 'wear and tear' on the ground
- Patterns of grazing or browsing on different pasture plants and trees
- Patterns associated with use of water or feed points, natural or man-made shade and shelter, gates or other infrastructure.

Behaviours can be influenced by many things, including the type of work, daily routine, competition for resources (e.g. feed) and companions. Unchecked, behaviour will also impact on the natural landscape in a variety of ways, including soil compaction and erosion.

Behaviours are influenced by many factors, and not easily put into one category or the other. In some cases, consulting a practitioner specialising in equine behaviour or land management may be required.



Photo - istock



Photo - J Fiedler

July



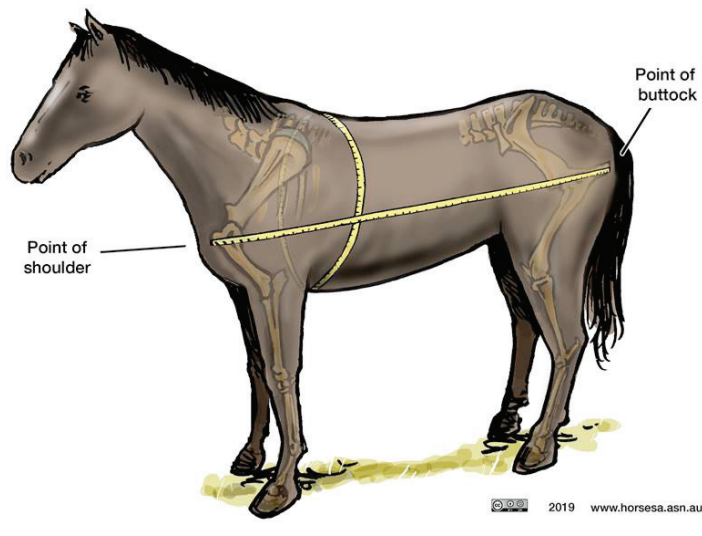
Photo - Penny Stewart

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Estimating the weight of your horse

Knowing the weight of your horse helps to manage health, and assists when it comes to calculating feed rations, or administering veterinary medicines. The most accurate way to weigh a horse is on scales, which are located at many equine clinics.

Less accurate than scales, but more accurate than a commercial equine measuring tape with pre-calculated weights displayed, is to work out the approximate weight of your horse using a standard measuring tape. The amount of coat the horse is carrying, seasonal conditions and horse management methods are a few factors that affect final calculation. Consult your veterinarian if concerned if your horse may be over or under weight.



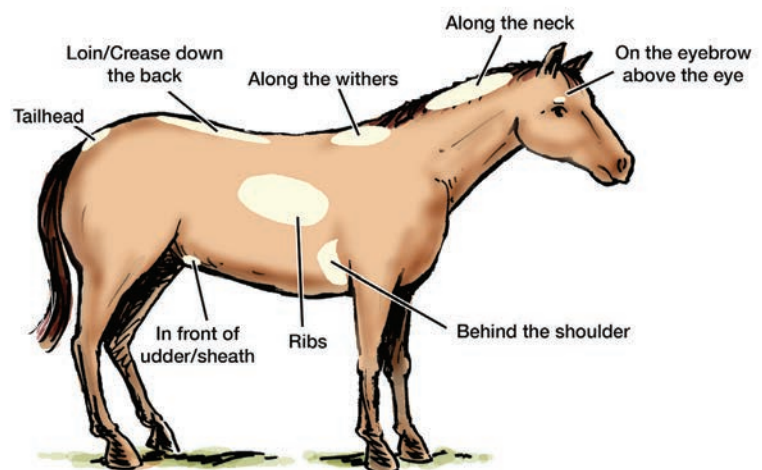
Steps :

1. Make sure the horse is standing square
2. Practice keeping the same tension on the tape with each horse
3. Place tape evenly around each side of the barrel, a few centimetres behind the wither, and close to the elbows (Refer to video link below)
4. Multiply the answer by itself
5. Measure from the point of shoulder to the point of buttock
6. Multiply the answer from no. 3 with the length of the horse
7. Divide by 11,880

Answer: The approximate weight of my horse is..... kg

How fat is your horse?

Checking fat deposits on a horse provides a useful method of monitoring body condition. Poor body condition is not always due to lack of feed; the problem may be related to parasite infestations, poor dental health, overwork, chronic injury or illness, or lack of mobility. Fat horses are also a welfare issue, becoming prone to metabolic disorders and hoof problems. When assessing a horse, it is important to feel for fat deposits and use visual cues to aid in assessment. Do not hesitate to seek professional advice with health, exercise and diet.



August



Photo - Nicki Stuart

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Manure Management

Horse property managers can become over-whelmed with a large pile of stable waste if plans are not in place for regular, scheduled removal or composting on site. Care needs to be taken to ensure that heavy rain does not cause excess nutrient run off from manure storage areas. Listed below are some disposal options for horse owners to consider.

Recycle on site

- Use manure around household gardens, which is only practicable for one or two horses (as many trees & plants do not like too much manure around their base)
- Compost manure for re-use around house garden and paddocks

Remove from site

- Engage a company to remove the manure on a regular schedule, usually this involves an industrial bin
- Place signage on busy roadways inviting motorists to come and help themselves
- Bag up manure for sale on roadsides (check local council by-laws) or at farmers markets
- Advertise the manure or compost for collection or sale in bags through online sites and gardening networks
- Invite a community garden or gardening group to regularly access your property for manure
- Stable waste from quarantined or sick horses should be disposed of separately.

General

- Keep manure cleaning utensils clean, dry and stored safely when not in use.
- Consider workplace safety (lighting, lifting, slip & trip) when selecting waste management methods.



Photo - Julie Fiedler



Photo - Julie Fiedler

September



Photo - Emily Behan

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Prepare for emergencies

Natural disasters including bushfire, floods, storms, heat waves and earthquakes may be life threatening to humans and horses. As a horse owner, you are responsible for your horse and early planning may save not only the life of your horse but your own and the lives of your family.

- Include horses in your emergency plans. Have plans for staying on and leaving a property.
- Permanently identify your horse (microchip), and ahead of a disaster, add temporary identification e.g. write phone number on the horse with stock markers.
- Pre-arrange, with written agreements, temporary sites to relocate to ahead of an emergency or if one occurs. Agistment venues outside of your geographic area are ideal.
- Act early ahead of a known impending disaster to implement your emergency plans
- Don't risk your own or other human lives trying to save your horse

After a natural disaster, tasks may include checking water sources for contamination, ensure trees are safe to be around, control weeds, restore pastures and revegetate.

**Further emergency planning information visit
www.cfs.sa.gov.au or www.ses.sa.gov.au
and www.myhorsedisasterplan.org.au**



Photo - SA SES

Photo - Julie Fiedler

October



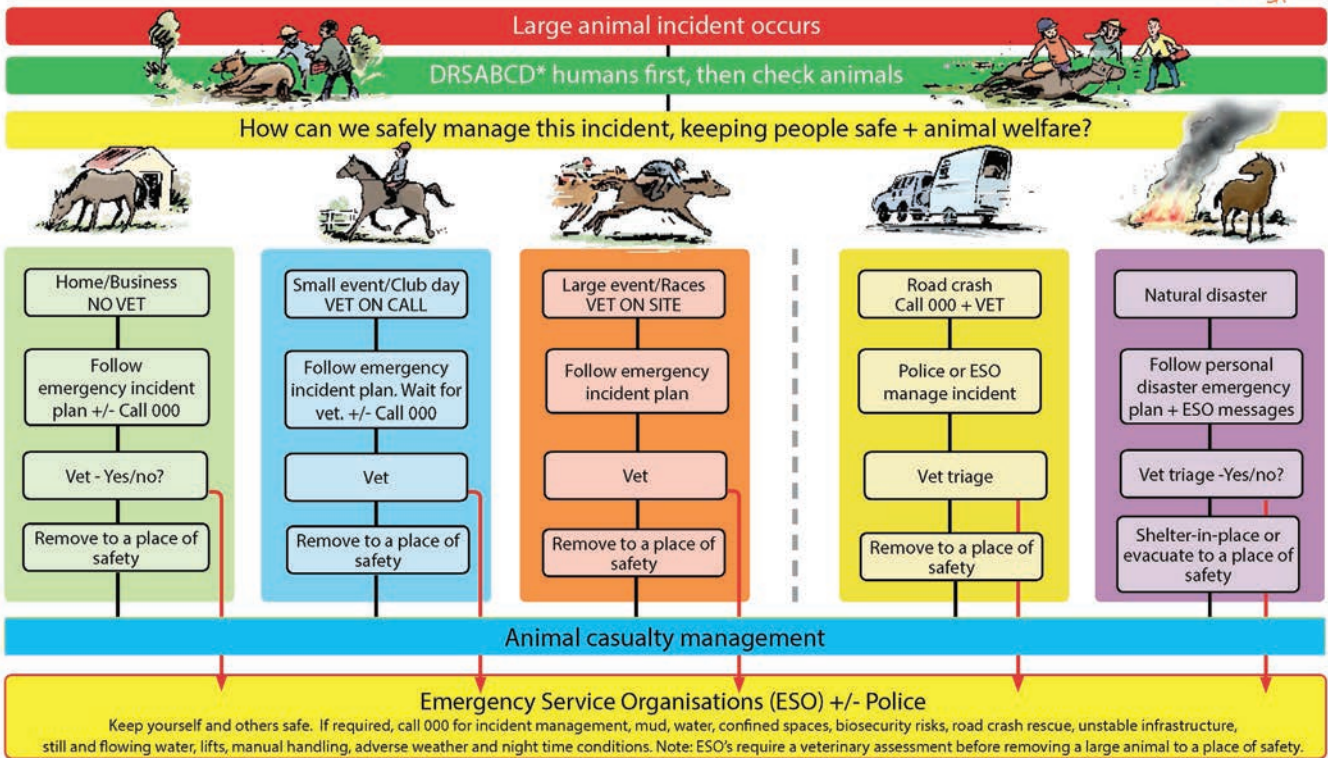
Photo - Georgie Ray

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Safety zones & horses



INCIDENTS INVOLVING LARGE ANIMALS - WHAT'S YOUR PLAN?



All workplaces, staff, events and volunteers: SafeWork NSW Code of Practice: Managing risks when new or inexperienced riders or handlers interact with horses in the workplace.
 * DRSABCD = Danger, Response, Send for Help, Airway, Breathing, CPR, Defibrillation



This project was funded through the Commonwealth and States and Territories through the Natural Disaster Resilience Program

Horse SA 2017 www.horsesa.asn.



November



Photo - Steph Power

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Healthy soils

Healthy soil provides a better growing environment for preferred pasture plants, worms and beneficial micro-organisms. Poor soil promotes weed growth, bare patches and is more prone to turning to dust or mud.

Soil testing helps to identify if there are any shortfalls and how much and what type of soil improvers need to be added. A test may even determine that no action needs to be taken, potentially saving money. In South Australia, the best time for sampling is November to March.

To arrange a soil test:

1. Collect a soil sampling information kit from your local Natural Resources Centre or agronomist. Some fodder stores may also have kits.
2. Borrow a soil sampler, as shown in the photograph or use a shovel or other tools.
3. Collect soil samples from different points in the paddock, mix up.
4. Package approx 400 grams according to the soil kit directions and put into the post (or else arrange for pick up by your agronomist or local fodder store).
5. Arrange for an interpretation of results with any recommended soil treatments.



Photo – Andy Cole

December



Photo - Julie Fiedler

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South Australian pasture plants which may be toxic for horses

While many of the plants listed below are often unpalatable, and horses will generally avoid the odd plant growing if there is plenty of other pasture feed. Horse owners are advised not to place horses in paddocks or yards infested with plants known to be toxic for horses.

Symptoms of plant poisoning in horses vary, but may include: weight loss, off feed, muscle tremors, poor condition, falling, profuse sweating, severe convulsions, blindness, scouring, paralysis and depression. Remove horses to a weed-free environment and seek early advice from a veterinarian as this may avoid potential death.

Cape Tulip (*Moraea species*) One and two leaved Cape Tulip is a declared weed. All parts Cape Tulip are toxic to all types of grazing animals.
https://pir.sa.gov.au/biosecurity/weeds_and_pest_animals/weeds_in_sa

Marshmallow (*Malva parviflora*) Small flowered mallow has been implicated in poisoning of horses in South Australia, leading to death.
Media story: <https://www.adelaide.edu.au/news/news81882.html>

Soursob (*Oxalis pes-caprae*) Soursob has been implicated in the poisoning of horses in South Australia where clinical signs indicated acute chronic oxalate toxicity. In Australia, soursobs are spread as bulbs in contaminated soil or attached to machinery. See pic right - photo Jess Cavallo.
Case report: Acute and chronic oxalate toxicity in Miniature Horses associated with soursob (*Oxalis pes-caprae*) ingestion.
<https://onlinelibrary.wiley.com/doi/pdf/10.1111/eve.12605>

Common Heliotrope (*Heliotropium europium*) A summer growing herb which contains pyrrolizidine alkaloids particularly toxic to horses. The plant is spread by grazing animals as the plant seed passes through the body unharmed, or through contaminated hay.

Capeweed can cause nitrate/nitrite poisoning. Other names for this common plant include Dandelion.

Guildford Grass is a bulb from the Iridaceae family. It's tough leaves can form an indigestible fibre ball which blocks the small intestine causing death. It thrives in acidic soils with low phosphorous levels. See pic right - photo Bill Strong.

Salvation Jane contains up to ten types of toxic pyrrolizidine alkaloids which are toxic to the liver. The weed has been associated with many horse deaths in recent years. All parts of the plant are toxic and the toxicity is not lost in dried plants.

Flat weed may be associated with Australian stringhalt but this has not been confirmed. Stringhalt usually occurs in late summer or early autumn and it most commonly occurs after a break in dry weather or drought conditions.



Cape Tulip
Photo - K Warner



Soursob
Photo - J Cavallo



Guildford Grass
Photo - B Strong

Silver leaf nightshade is a common plant found in paddocks, around yards and in hay. The plant produces a glycoalkaloid toxin which can have effects on the gastrointestinal tract and/or the nervous system. The ingestion of large amounts can result in sudden death. See pic right - photo John Heap PIRSA.



Silver leaf nightshade
Photo - J Heap PIRSA

Perennial Ryegrass Some cultivars of perennial ryegrass contain an endophyte fungus which can affect the nervous systems of animals causing 'grass staggers'. The levels of endophyte differ between varieties and between seed batches. Horses and alpacas are particularly susceptible. It is not usually fatal, although animals can be severely injured as a result of falling. They will generally recover quickly if removed from those paddocks and fed non-toxic feed. In severe cases pastures may have to be re-sown.

Annual Ryegrass (*Lolium Ridgium*) Annual ryegrass toxicity (ARGT) is caused by a bacterium *Rathayibacter toxicus* which can be carried by an *Aguina* species nematode into the developing seed heads of some annual grasses, such as Wimmera Ryegrass where it eventually produces a powerful poison called corynetoxin. Poison production occurs when grass is 'haying off' or 'senescing'. The toxin is cumulative, so animals can consume small amounts over time until fatal symptoms appear. Any livestock that eat infected seed heads may die. 'Safeguard' annual ryegrass is resistant to this toxicity. SARDI provide grass and hay testing services.

Barley grass This is an annual grass which, after it dries off in spring, can cause problems with eyes, ears and gums of livestock. Horses must be checked daily, including inside the mouth. Check hay coming onto the property does not contain this grass.

Weed control Horse property managers may consider developing a weed control plan. The plan includes establishing plant biosecurity practices and adopting an integrated approach to weed management. Weed control options may include hand pulling and manure disposal for small infestations, or slashing, grazing and a herbicide spraying regime for larger infestations. Advice can be obtained from your local Natural Resources Management or PIRSA office.

Adapted from notes provided by Andy Cole, Land Management Advisor



Salvation Jane
Photo - Adelaide & Mt Lofty Ranges NRM Board

New, returning or visiting horses

Keep your horses healthy

Suspect ill horses

Isolate at first signs of illness until determined if contagious.
Handle, feed sick horses last, wearing protective clothing.
Call 1800 675 888 if unusual sickness or unexplained death.
Do not move sick horses unless under vet advice.

Group horses

Group competition horses and keep visiting horses separate from stay at home horses.

New horse arrivals

Isolate for 10 days to check health status.
Verify horse identification and proof of vaccination.

New horse arrivals

1. Isolate for 10 days to check health status.
2. Verify horse identification and proof of vaccination.
3. Consider a guttural pouch endoscopy to determine if strangles is present.

All horses

4. Ensure vaccinations up to date.
5. Use clean equipment for all health treatments and vaccinations.
6. Take daily rectal temperatures of stabled/performance horses.
7. Group horses e.g. separate competition from stay-at-home horses.
8. Wash hands, use separate protective clothing between groups.
9. Keep records of horse movements off/on property.

Suspect ill horses

10. Isolate at first signs of illness until determined if contagious.
11. Handle, feed sick horses last, wearing protective clothing.
12. Call 1800 675 888 if unusual sickness, unexplained death.
13. Do not move sick horses unless under vet advice.

Property Management

14. Avoid locating horse venues in swampy areas, near bat colonies or intensive piggeries.
15. Shelter belts, double fencing provide a biosecurity barrier.
16. Regularly clean and disinfect stables, equipment, vehicles.
17. Regularly clean & disinfect tooth rasps, brushes, twitches etc between horses
17. Control insects and rodents

Travel

19. Avoid use of communal watering points

Vital Statistics

- Vital signs for horses at rest
- Temperature: 36.5-38.5 degree C
- Heart rate: 25-45 beats per min.
- Breathing: 8-16 breaths per min.
- Capillary refill time: 1-2 sec.
- Hydration status (pinch test): 1-2 secs.
- Gut sounds: gurgling, no sound- call vet
- General: Clear eyes, normal stance, no nasal discharge



Supported by



Government of South Australia
Adelaide and Mount Lofty Ranges
Natural Resources Management Board



Horse SA
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This project is supported by the Adelaide and Mount Lofty Ranges Natural Resources Management Board, through funding from the Australian Government's National Landcare Program and HorseSA.

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