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Horses and Bushfires

This agriculture note describes how fire may affect horses and how landholders can deal with the situation.

How can I protect my horses and property from a bushfire?

What should I do when a fire threatens?

What should I do during and after the fire?

Planning for Fire Safety

Unfortunately, Victoria is one of the most fire prone areas in Australia. High temperatures and limited summer rainfall produce conditions of very high fire danger in Victoria's large eucalypt forests. Strong sudden wind changes, which can cause fires to become uncontrollable, are often common.

Bushfire danger becomes serious in some part of Victoria every two or three years. Bushfires as severe as the 1983 Ash Wednesday fires tend to occur six to ten times a century.

In times of crisis, people worry not only about their family and property but also about their livestock and pets.

There are steps that horse owners can take to prepare themselves in case their property ever lies in the path of an advancing bushfire. The key to survival is forward planning and self reliance.

Leave or Stay? ... It's Your Decision

The Country Fire Authority emphasises that bush fire protection strategies include forward planning. You are responsible for developing a survival plan for your family and horses. Leave or stay? ... it's your decision.

The first and most important thing to decide is whether you intend to stay on your property if there is a bushfire. Assess your risk from a fire and understand how safe your property would be if a fire occurred in the immediate area.

If you decide you will leave, with or without your horses, you must do it early on a high-risk day and in advance of knowing there is fire in your area. The announcement of a Total Fire Ban should be the trigger for your decision. Late evacuation can be deadly.

The risk of losing life and property during a bushfire is influenced by:

- the location, aspect and accessibility of your property,
- the amount, type and location of surrounding vegetation,
- the condition and placement of buildings,
- availability of water,
- your physical capabilities and those of family members and employees.

Everyone's situation differs according to the size and nature of their horse enterprise. That's why each and every horse owner needs to develop an individual survival plan, coolly and calmly, before the hot weather arrives.

Have a Plan

If you live in a high risk area it is essential to develop a fire safety plan before the fire season. This may include:

- a plan for early evacuation of horses to a safer district. Horse evacuations present unique problems. Make arrangements ahead of time for a place to temporarily relocate your horses. Options may include showgrounds, sale yards, parks, racetracks, pony club grounds or placement with family and friends; Identify several possible retreat routes from your property in case fires block your escape. Decide in advance which horses you will evacuate and make sure they are suitably trained for transport,
- identifying a 'safe' area on the property where horses can be placed if evacuation is not possible or practical. This area should be as large as possible and may be a closely grazed paddock or be created from several paddocks by opening gates. Ideally it should have a dam with clear access. An alternative 'safe' area might be a large well fenced sand menage provided there are no trees or building nearby that will burn readily,

- posting your plan in a clearly visible place together with the telephone number of the local fire brigade and your property's CFA map reference,
- making sure that everyone who lives, works or agists at your property understands the plan,
- on days of Total Fire Ban, putting your horses in the designated 'safe' area or, if you work away from the property, you might do this the night before,
- contacting the CFA Community Service Facilitator in your area,
- having an annual meeting with neighbours, friends or other mutual interest groups to discuss fire contingency plans and establish ahead of time who will check on and help whom and which resources will be shared,
- setting up a bushfire emergency plan with the landholder if your horses are agisted, and
- leaving horses in well grazed paddocks if they are on 'weekenders' in high-risk areas, or moving them to a safer location during the fire season.

Reduce Fire Hazards

Reduce fire hazards before the fire season starts:

- remove all fire fuel such as excess grass, sticks, leaf litter etc for 20 to 30 metres around buildings,
- store hay, straw, shavings, scrap wood, fuel supplies and chemicals safely away from important buildings,
- clean roof surfaces and gutters regularly,
- create firebreaks in strategic locations,
- develop a grazing plan to reduce fire risk,
- a well maintained garden and well watered lawn will help protect the house,
- use fire-resistant plants on your property,
- post 'no smoking' signs in and around the stable and in vegetated areas as appropriate,
- make sure chainsaws and other equipment are fitted with an Australian Standards approved spark arrester,
- if you live in a high risk area, invest in a rainwater storage tank, a sprinkler system and a firefighting pump, and consider erecting fireproof fencing, ie steel or concrete posts, particularly if you own a stallion; and
- if your fences are electrified, make sure the remainder of fences are 'horseproof', as often power is out during a bushfire.

Maintain a Fire Cache

Tools to have on hand at your property:

- a ladder long enough to reach the roof of buildings in case of a roof fire,
- a minimum of 30 metres of pre-connected garden hose (or adequate length to reach all parts of your buildings) with a spray nozzle,
- a shovel for clearing vegetation and throwing dirt,
- a rake for clearing vegetation,
- water buckets,
- a torch,
- a battery-powered radio for monitoring news.

Keep these items together in an easily accessible place.

Don't let the tools be used for any purpose other than fire fighting. Mark them with red paint if necessary.

Make sure **everyone** who lives, works, or agists at your property know where the cache is located.

Prepare an Evacuation kit

Equip a plastic rubbish bin (with lid) with the following:

- wirecutters and a sharp knife,
- torch, portable radio and fresh batteries,
- water bucket,
- extra lead rope and head collar,
- woollen blanket and towels,
- equine first aid items, and
- whatever else you feel is essential for the first 24 hours.

Store the kit in an easily accessible location and don't use it for anything but emergencies.

Identify Your Horses

Permanently identified horses (microchipped, branded or identified by a drawing, which includes whorls and white markings) will be more speedily reunited with their owners if separation occurs during a disaster.

In an emergency at the very least be prepared to 'paint' your name and phone number on the horse itself using livestock grease crayons like the ones used to number horses in endurance rides, or clip similar details on its hair coat or paint its hooves. Neckbands, hip stickers and identification tags on leather head collars can also be useful.

Just do it!

It has been shown time and time again, if you don't take the above precautions within the next 24 hours, the chances are

very good that you won't do anything at all to prepare for a fire emergency.

If Fire Threatens

Decide Quickly

If you decide to evacuate with or without your horse/s, this decision must be made very early. Late evacuation is a deadly option. Once the fire is close, visibility will be very poor and travel will be hazardous. Fallen trees, powerlines, abandoned cars and even firefighting vehicles can easily block roads. Even quiet horses may panic in a float filled with smoke or when exposed to the noise of sirens.

Wear Safe Attire

In the event that a fire threatens you, whether you decide to evacuate or stay, the right clothes can help shield you from radiant heat, burning embers and flames:

- cotton fabrics are essential. Synthetics can melt and cause serious burns,
- wear long pants, a long-sleeved shirt with sleeves down or a woollen jumper, and a wide brimmed hat,
- sturdy leather gloves, while cumbersome, are essential to protect your hands from painful and disabling burns,
- leather boots are the safest footwear. Tennis shoes or rubber shoes will melt, causing serious burns,
- wear a damp cotton scarf or handkerchief 'bandit-style' to shield your nose and face,
- goggles will help protect your eyes from smoke and burning embers.

A word to the wise: condition your horse to your strange appearance ahead of time!

Fire-safe Gear for Horses

The same principles for fire safe clothing apply to your horse:

- don't use synthetic (nylon or plastic) halters or lead ropes. These may melt and cause serious burns to your horse and its handler. Leather halters and cotton lead ropes, while generally not as strong as nylon, will be safer,
- don't use nylon fly masks or other synthetic tack or equipment.

When Fire Strikes

You should plan on the basis that you will receive no official warning that a fire is coming. You must be aware that firefighters will be concentrating their efforts on controlling the fire. When fire comes your way, your personal safety and that of the people working with you must be your first concern, so:

- try to remain calm and alert, think clearly and act decisively,
- pay attention to weather conditions and fire behaviour. Watch for a sudden change in wind direction or speed, a dramatic change in air temperature or humidity, or smoke and ash or burning embers dropping around you,
- monitor weather forecasts and media broadcasts, especially ABC radio and local community radio stations for emergency information,
- maintain good communications with the people you're working with; give clear instructions and make sure they are understood,
- co-operate with firefighters and other emergency services. Your safety and the safety of other civilians and emergency personnel are their paramount concern.
- If your property is closely threatened by a bushfire and you cannot move your horses to a safer district:
- fill troughs, baths, sinks and metal buckets (plastic ones melt) with reserve water for later use,
- turn off power and gas and disconnect electrical fences,
- remove all equipment from your horse. Rugs burn, plastic headstalls melt and metal buckles may get hot,
- move your horses into your previously identified 'safe' area,
- if you take horses out of stables, close the doors to prevent them running back into their perceived 'safe' area,
- if you are shifting fractious horses when a fire is very close, a temporary blindfold over the eyes may help,
- if hoses are still operational wet tails and manes or drench the horse in water if it has to pass near or through fire. Early veterinary literature based on stable fires suggests that this will protect a horse from serious burns for about half a minute afterwards.

Remember; give your horses plenty of room to move. Past experience of bushfires indicates that horses will suffer minimal burns if given maximum space. They will gallop through flames, or around their edges, and stand on the blackened, previously burnt area and remain there until the fire has passed.

Do not shut horses in stables or small yards. Never turn them out on the road. They will be in danger from traffic and the fire. There is also the risk that they may cause a car accident, leaving you legally responsible.

The main fire-front usually passes relatively quickly (10 - 20 minutes in bushland and a few minutes for grass fires). There

is little one can do during this time. While horses might gain confidence from the nearness of humans and a calming voice, you cannot provide this assurance when smoke is everywhere and the sound of the fire is deafening. Go inside the house and do not put your own life in additional danger. Your horse will cope well on its own if it has a chance to move in open space.

After the Fire has Passed

Deal with spot fires first. As soon as it is safe check your horses for burns and other injuries to see whether veterinary attention is required. It is important that horses are regularly rechecked after the initial assessment to ensure that symptoms that arise a few days or weeks after the fire are adequately treated and the physical environment changed by the fire continues to meet the horses needs ie there is still adequate uncontaminated water, shelter, fencing, feed and unburnt cool ground available for the horse.

First Aid

DPI animal health staff, RSPCA, local councils and local vets will all be working to assist animals affected by the fires. They will be working under emergency circumstances and access and communications may be disrupted so expect some delay before help arrives. You must therefore be prepared to monitor the progress of your horses and to administer appropriate first aid while you are waiting for professional advice.

Possible Problems

Horses commonly suffer facial burns, presumably obtained when they turn and run through the fire front. Other possible injuries include burns to other areas of the body including eyelids, smoke inhalation, hoof damage from standing on hot ground and eye injuries from particulates in the air. It is also important to check for other injuries sustained during the fire such as lacerations from running into fences etc. Along with specific medical care and attention, you should also attend to all other needs of your horse. This includes ensuring it has adequate shade, water and feed.

The nature and extent of the injuries sustained can vary widely between animals, depending on the nature of the fire and the degree of exposure. Some may be more severely burned than others in the same group. Situations which may warrant emergency destruction on humane grounds include:

- Severe burns to greater than 50% of the body surface with severe charring of limbs, muscles or facial tissues,
- Animals suffering from severe smoke or flame inhalation resulting in respiratory distress, as shown by facial burns, laboured breathing, frothing at the mouth and nose, and coughing,
- Animals which are down and unable to rise due to injuries or burns sustained during the fire.

If an insured horse has to be destroyed, make sure the company is notified as soon as is practicable.

Burns

In the immediate post bushfire period, it is essential to assess your horse for injuries, and obtain veterinary advice and treatment as soon as possible. Skin burns produce severe inflammation, indicated by heat, pain and swelling. Thus first aid must be anti-inflammatory, i.e. cold water delivered by a hose or gently sponging if you still have access to a water supply.

Once the immediate needs of the horse have been met, attention then turns to long term care and management of your horse's welfare. Horses with quite severe burns will require intensive treatment that is likely to be time consuming, very costly and painful for the animal. Your veterinarian is best placed to give you advice on how to treat injuries which require ongoing care.

Burn wounds require effective management to reduce scarring where possible and to achieve the best outcomes for your horse. It is difficult to provide generic advice on effective strategies. It very much depends on the individual circumstances of the wound including the degree of the burn, the extent of the burn and the anatomical location of the burn. Veterinary advice must be sought to recommend appropriate long term treatment options.

Fly protection is recommended, but do not spray fly repellent onto affected burns areas. It is important to keep your horse comfortable and well hydrated to assist with its recuperation.

Smoke Inhalation

A common cause of death in fires and in the days afterward is complications from smoke inhalation. Particulates from smoke tend to be very small, which allows these to reach the deepest airways within the lung. Severe smoke inhalation can cause delayed lung damage, which may not be immediately obvious. Horses may appear normal after the fire but in 3-4 hours can become anxious with rapid, sometimes laboured breathing and an elevated heart rate. Particulates can also alter the immune system and reduce the ability of the lungs to remove foreign materials, such as pollen and bacteria, to which horses are normally exposed. If smoke remains in the air, the effects of smoke particulates in the lungs may not be obvious for a number of weeks. Limit exercise when smoke is visible and provide plenty of fresh water. Horses that display signs of reduced lung function, higher than normal body temperature or burns around the eyes, singeing of the mane and forelock, muzzle burns or soot stained discharge from the nose need urgent veterinary treatment.

Hoof Damage

An immediate threat to horses left in burnt properties is damage to hooves. Prolonged exposure to hot ground will cause a low grade overheating that can develop into heat induced laminitis. The prognosis for horses suffering this condition will be extremely poor. It is important to get the

horse off hot burnt ground as quickly as possible. If your horse displays signs of lameness in the days after a fire consult a veterinarian immediately for advice on treatment.

Nutrition

The care and management of your horse is likely to be significantly changed as a result of a bushfire, there are many factors to consider to ensure its ongoing needs are met. One important consideration is diet. Bushfires can have a devastating affect on pasture, which is the main source of food for most horses in rural areas.

In non emergency situations, good quality pastures can provide the food requirements for most horses, except those in work and lactating mares. However, after a bushfire, feed may have to be supplemented to provide the necessary nutritional requirements. This is especially important for horses that may have suffered some degree of burn injuries. Horses with these injuries have increased energy requirements, and in particular, increased protein requirements. Supplementary feeding may be required for up to twelve months after the fire has passed. Temporary relocation of horses to areas unaffected by fire should be considered.

Roughage (fibrous feed such as hay and chaff) should continue to form a significant part of the horse's diet, to provide sufficient bulk and fibre to enable the digestive system to function normally. Horses need at least 1% of their body weight in roughage daily. Good quality pasture hay is an excellent source of fibre.

It is important to introduce new feeds gradually into a horse's diet. Quick changes in diet are not recommended. However, in the case of pasture depletion due to bushfires, circumstances may require that horses are introduced to new feeds more quickly than they would under usual conditions. If this is the case, it is recommended that horses are fed small meals more frequently – rather than one or two large meals a day. This will assist with digestion and allow the horse to adapt to the new feed.

It is important to only feed good quality feed and to discard mouldy produce. Horses with burns around their muzzle may require special attention with their feeding as it may be painful for them to eat hay. Feeding chaff and processed feed in this instance may be appropriate.

Produce merchants are able to provide specific advice on the energy content of processed feeds – and this information is available on product labels. It is recommended that horse owners take advice on energy requirements and follow the directions on the feed label.

It is important that where horses undergo a dramatic change in their diet over a sudden period, that their condition be monitored closely to ensure that they are adapting to the new diet. Colic is a common problem that occurs when diets are changed too quickly. Owners should be aware of the symptoms of colic which include loss of appetite, restlessness and excessive rolling. Owners should contact their vet immediately if they suspect colic. Your vet will also be able to

advise on more specific aspects of nutrition and general care for your horse in the aftermath of a bushfire.

Re-entering Burned Areas

Care must be taken to assess whether a recently burnt area is suitable for horses. There may be hot spots that could flare up without warning or a contaminated water supply. Partially burned structures and trees may be unstable and suddenly fall over. Make sure the fencing is secure and the ground area is no longer warm. Check for ash pit areas where root systems have burned underground, downed power lines and dangerous debris before turning horses out into a burned paddock.

Develop and Practice your Fire Safety Plan Now!

The distress of having a horse burnt in a bushfire can be magnified by the lack of readily available first aid measures. This can be compounded if the fire destroys facilities and prevents any form of communication to seek help.

Good forward planning will protect the safety and well-being of your horses if you live in a high fire risk area.

Carefully consider the needs of your animals when developing your household survival plan, develop your fire safety plan now and practise it regularly!

References

- The “Animals in Disasters Independent Study Course” prepared by the Emergency Management Institute, the educational wing of the Federal Emergency Management Agency in the United States of America.
The course is available in two modules:
Module A: Awareness and Preparedness (IS-010)
Module B: Community Planning (IS-011)
Copies can be downloaded from:
<http://www.fema.gov>
- Coghill K (1979) *Saving burnt livestock*. Department of Agriculture pamphlet. Agdex No 400/29. Victorian Department of Agriculture, Melbourne.
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- Duckett WM (1995) Acute care of burn victims *Journal of Equine Veterinary Science* **15(4)** 157-159
- McFarlane D (1995) Smoke inhalation injury in the horse *Journal of Equine Veterinary Science* **15(4)** 159 - 162
- Herbert K and Heath S (1999) Disaster Planning. In *The Horse* published by The Blood-Horse Inc, Kentucky, June issue, pp 20 – 35.
- Information provided by Dr Graham Tudge and others of the Australian Equine Veterinary

Association after the Victorian fires of February 1983 and February 2009.

- Extension material from the Country Fire Authority
<http://www.cfa.vic.gov.au>
- The Fire and Other Emergencies Web pages of the DSE Internet site:
<http://www.dse.vic.gov.au/fires/index.htm>

The Victorian Horse Council has also prepared a leaflet entitled "Bushfires and Your Horse" which can be obtained from Ms Naomi Pearson, Bureau of Animal Welfare.

Further Information

Further information on horse safety during fires may be obtained from:

DPI Customer Service Centre

Ph 136 186

Email customer@dpi.vic.gov.au

Or visit www.dpi.vic.gov.au/farming/horses

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