



LIVESTOCK AND BUSHFIRES

By Dr Zoe Vogels and Dr Liz Bramley, collated from the following resources:

www.dpi.nsw.gov.au/_data/assets/pdf_file/0007/96811/Assessing-bushfire-burns-in-livestock.pdf [Accessed 1/1/15]

<http://agriculture.vic.gov.au/about-us/media-releases/be-prepared-fire-plans-for-livestock> [Accessed 22/9/17]

http://www.dpi.nsw.gov.au/_data/assets/pdf_file/0008/96821/bushfire-preparedness.pdf [01/01/15]

https://www.rfs.nsw.gov.au/_data/assets/pdf_file/0003/9453/Prepare-your-horse-for-bush-fire.pdf [Accessed 21/9/17]

https://www.rfs.nsw.gov.au/_data/assets/pdf_file/0019/9451/Guide-to-Farm-FireWise.pdf [Accessed 21/9/17]

Bushfire preparation – Livestock owners: ask yourselves these questions...

- When and where will you move your livestock on days of Extreme or Catastrophic fire danger or if a fire is imminent in your area? Who will be responsible?
- Do you have adequate low risk areas where potential bushfire fuel is minimal?
- Low risk areas include: bared out paddocks, ploughed paddocks, irrigated paddocks and green summer crops, yards and paddocks protected by laneways or ploughed firebreaks
- Do these low risk areas have enough drinking water? Stock may need to stay there for many hours or days when temperatures are high to extreme and will be susceptible to dehydration.
- Are low risk paddocks large enough to allow stock to move far enough away from the fire?
- Horses are good at moving themselves to safe open areas if able to do so. If equipment such as rugs, halters and flyveils remain on horses, the plastic may melt and metal buckles can burn the animal. Consider using rope halters for easier handling and management.
- Are boundary fences stock proof even without electricity?
- Have you thought where it might be useful areas to have mown or ploughed firebreaks (3–6m wide)? eg along roads, beneath power lines, around haystacks and buildings, along fence lines.
- Are all your animals identified (NLIS, ear tags) in case of fences being destroyed and stock escaping? (Photographic records of valuable stock are useful to keep). Consider microchipping horses so that they have a permanent identification if they go missing.
- Is your farm inventory up to date? Take photos of your stored feed and machinery, building interiors and exteriors.
- Are the areas around buildings, yards and fuel supplies grazed/slashed to reduce fuel levels?
- Is your property name and number clearly visible from both directions at the property entrance? Is there room for a fire truck to turn around?
- Are gutters cleared and potential ember entry points blocked?
- Do you have adequate, current insurance for the value of your stock and infrastructure (fences, fodder, cost of clearing/rebuilding if burnt out)?
- Are important documents and farm records (along with other valuables) easy to grab if you need to move them quickly? Do you have copies/back-ups of all this information off-site?

- Are your tractors etc. equipped with fire extinguishers and a shovel? Do all staff know the risk in harvesting, grinding, welding or slashing on hot, dry, windy days?
- Is hay and silage stored in multiple locations to avoid large losses?
- Who is responsible for monitoring the “Fires near me NSW” app, the www.rfs.nsw.gov.au website, or listening to the local ABC radio to keep aware of bushfires/conditions?
- Do you have a battery driven radio in case you lose TV/mobile reception? Do you have chargers for phones/batteries?
- Do you have fire-fighting equipment? Does everyone know how to use it? Have you practised?
- Have you planned where you and your staff will shelter if a fire is imminent in your area?
- Do you have appropriate clothing ready in the event of a fire? Eg heavy duty drill cotton overalls, pure wool pullover, brimmed hat, leather boots/strong shoes, eye protection. Are they readily accessible and are there spares for visitors?
- Do you have adequate equipment in your ute/car in the event of a fire? Eg Water bottle to stay hydrated, phone charger, woollen blanket for sheltering under, fence cutters to rescue trapped stock or to drive into cleared stock-free paddocks if you get trapped by fallen trees on road.
- Is the back of the ute cleared of hay debris and other flammable materials?
- If your livestock are agisted, have you developed a livestock bushfire plan with the landholder?
- Do you have a plan for your home and family on your property?
- Do you have a plan for your pets/ horses/ chickens etc? **In the event of a bushfire, a safe area will be available to bring pets and horses to Marulan Rural Supplies on Portland Avenue, Marulan.** Any injured animals will be assessed by Cooina Vet Hospital staff and may be taken to Cooina Vet Hospital for treatment if necessary. There will be room for horse floats at Marulan Rural Supplies. If you are going to evacuate animals, please leave early. Leaving at the last minute is the most dangerous option for you and your animals.
- If you are away or work a long distance from your property, have you organised for a relative or friend to evacuate your pets or move them to a safe area?
- Do you have cages/ medicines etc ready in case you need to evacuate your pets?

If caught in the car/ute: pull over into a cleared area or behind a solid structure. Position car/ute towards the approaching fire. Headlights and hazard lights on, engine off, windows and vents closed. Get down below window level, covered with woollen blanket. Drink water.

If caught in the open, last resort options include large open areas (like a ploughed paddock) or a large dam or river (NOT a water tank). Protect self from radiant heat (eg woollen blanket, mud).



After a fire: animal assessment and treatment

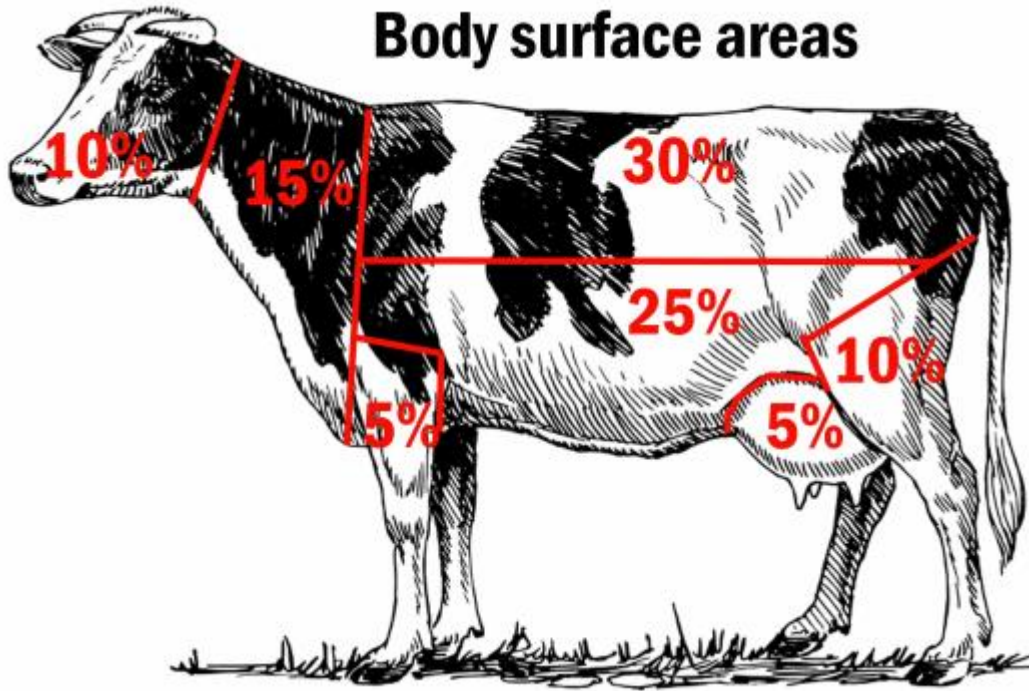
- Stock should be assessed by a veterinarian/s and records kept of the type, numbers and condition of animals killed directly by the fire or destroyed due to injuries. Take photos to show condition of stock.
- Vets may be unable to get to you for some time after the fire passes due to road closures and workload. Initially, while waiting for veterinary care, remove animals from hot ground as soon as possible. Offer plenty of fresh water and hose (or sponge if on the face) any burns for as long as the animal will allow. Check for laboured breathing, wheezing or black discharge from the nose; this may indicate respiratory burns or smoke inhalation. The animal should be referred to a vet as soon as possible.
- For stock that can walk, yard them for adequate individual inspection. Areas on the animals that will need inspection include the face, ears, lips, legs, anus, teats, reproductive organs, axilla, inguinal areas, legs and feet.
- Affected animals will fit into one of 2 categories. They will either need to be euthanased immediately due to injuries sustained or they will need to be nursed and reassessed later.

1. Euthanase immediately

- Severely burnt animals that are unconscious or in obvious agony.
- Animals which are down and reluctant/unable to rise because of burn injuries.
- Deep burns or substantial swelling to the face and eyes.
- Extensive damage to the legs and feet with swelling of the legs and dry leathery skin, or separation between the hoof and coronary band.
- Partial burns to more than 25% of the body, deep burns to more than 10% of the body.
- Animals suffering from severe smoke or flame inhalation as evidenced by laboured breathing, frothing at the nose and mouth and coughing.

5 signs of death:

- Fixed dilated pupil
- No rhythmic breathing
- Flaccid jaw
- No tongue tone/withdrawal
- No pupil reflex



Percentages estimated by Dr Zoe Vogels. eg. one front leg would be 2.5% of total body surface area; two front legs would be 5%

2. Nurse and reassess

- Mobile and alert animals with minor or moderate burns of their body are generally good candidates for retention, provided that veterinary care, facilities, labour, fresh water and suitable feed are readily available **and** you are willing and able (both physically and emotionally) to undertake this often difficult task: owners need to be aware that nursing injured cattle can be costly, take a long time and may not be successful.
- Animals must be able to be yarded: temporary yards may be required at out paddocks or where yards have been destroyed.
- Animals recovering from burns should be placed in a separate paddock or yards with a soft, even surface and access to shade.
- Animals need to be reassessed daily for the first 10 days then every 2–3 days and should either receive veterinary treatment or be humanely destroyed should their health deteriorate.
- Animals need adequate supply of feed and ready access to water. Burnt animals are reluctant to move and usually do not feed for a few days. They generally regain appetite after about a week, when they should be given high-protein feeds if possible (such as good lucerne hay or green summer crops – protein helps skin fight infection and heal). Animals which are unable to drink should be destroyed.
- Lack of appetite and inability to chew along with impaction or other disorders of the gastrointestinal tract can be seen when the head and face are burned. Soaking feed with water allows for easier eating.
- Be aware of the potential for flystrike both on burnt areas and on the feet. Protect the wounds from fly strike with appropriate repellents.
- The sheath of male animals should be specifically examined after about 4 days to remove any scabs that have formed and may be causing urinary obstruction.
- Sperm quality and fertility for animals with scrotal burns will be reduced for several months.

- In the case of cows with calves at foot or sheep with lambs, teat function must be assessed. Burnt teats may mean the cow will reject a young calf which will need to be cared for.
- Particulates from smoke are very small and allows them to reach the deepest airways of the lung. High concentration can cause persistent cough, increased nasal discharge, wheezing and reduce the ability of the lungs to remove foreign materials, such as pollen and bacteria, to which livestock are normally exposed.
- Give livestock (even those without apparent burns) 4–6 weeks to recover from smoke induced airway injury.
- Minimise handling, moving, transport to avoid aggravating damaged airways and delaying healing.
- Provide plenty of fresh water located near feeding areas. The consumption of easily accessible water keeps the airways moist and facilitates clearance of inhaled particulate matter from the airways.
- Limit dust exposure by feeding low or dust-free feeds and sprinkling or misting the livestock holding areas.

Depth of burns:

- **Superficial partial thickness:** red, painful, brisk bleed on needle prick, 2 weeks healing time
- **Deep partial thickness:** blotchy red/white, hair loss, oedema, reduced pain, slow bleed on needle prick, no blanching on pressure, 2–4 weeks healing time
- **Full thickness:** no pain, no blood on needle prick, black, leathery skin (eschar). Escharotomy (cutting away of dead skin and suturing together) indicated at 5 days, will take more than 4 weeks to heal.

Severity of burns:

- **Minor:** less than 15% partial or 2% full
- **Moderate:** less than 25% partial or 10% full
- **Severe:** more than 25% partial or 10% full; orifices; feet → **euthanase**

Other things to consider:

- Feed, water, labour, insurance shortages or inadequate yard or fencing may lead to agistment or selling of stock or salvage slaughter. Bushfire-affected animals should only be transported for salvage slaughter if they meet **all** of the following criteria:
 - They do not show severe respiratory distress
 - They are able to walk without signs of lameness
 - They do not have raw burnt skin.