



primefacts

FOR PROFITABLE, ADAPTIVE AND SUSTAINABLE PRIMARY INDUSTRIES

FEBRUARY 2010

PRIMEFACT 849

SECOND EDITION

Animal health problems following floods and drought-breaking rains

Belinda Walker

Technical Specialist, Animal Biosecurity, Gunnedah

Marilyn Evers

Strategy Leader, Animal Biosecurity, Orange

Floods can result in serious short and long term animal health problems and drought-breaking rains are often a mixed blessing. Many problems relate to physical damage, e.g. foot problems after standing in water; inadequate feed; and an upsurge in infectious diseases.

Feed

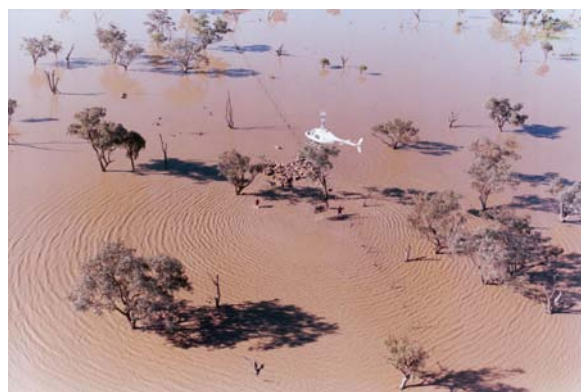
During a flood the welfare of animals is the immediate concern, and nutrition is a critical factor. Getting feed to stranded animals is vital, particularly when they have had to swim to save themselves, and have expended a huge amount of energy doing so. Many of these animals will have no reserves left, and pregnant animals in particular will quickly develop metabolic problems and die if not adequately fed.

Good quality hay is the preferred feed, as digestion of roughage generates heat that will help to keep the animals warm, particularly if they are still standing in water. Hypothermia (low body temperature) can develop rapidly in stock standing in water, even in summer. Every effort should be made to move stock to an area that is high and dry.

If stock are likely to be stranded in water for some time and cannot be effectively fed, welfare becomes the primary concern and you might need to arrange humane destruction.

As the flood recedes, other health problems will start to emerge.

You will need to work out how you are going to feed your surviving stock over the coming months, particularly if the pasture or crop you normally rely on has been ruined by flooding.



Sheep being rescued by being placed in a crate below a helicopter. These sheep would chill rapidly and die if left standing in water.



You should also be aware that, while feed is often generously donated after disasters like floods, there may be problems with its quality and suitability for your livestock. Ideally any feed change needs to be as gradual as possible (often difficult in emergency situations). Use roughage to smooth the transition onto energy dense feeds like grain, and add protein or urea supplements if your stock are going onto a feed with low nutritive value.

Moulds develop easily on feed that has been damaged by water, especially in warm weather. Moulds can dramatically decrease the nutritive value and palatability of both standing and stored feed. Some moulds are toxic and may cause sudden death or longer-term health problems such as liver damage.

If potential toxicity is a concern, mouldy feeds can be sent for testing. Alternatively, try to dilute any potential toxicity by 'shandying' small amounts of mouldy feed with good feed.

Talk to your private veterinary practitioner, Livestock Health and Pest Authority (LHPA) District Veterinarian or your livestock consultant about welfare concerns and about managing a feed program for flood affected stock.

When a drought breaks in an area, particularly if you have been hand-feeding for months, the temptation may be to heave a sigh of relief now that feed is available, and take a break from overseeing your stock constantly. This is not wise, as stock need to be checked frequently to detect any developing disease problems, particularly if they are in a weakened condition.

Water quality

Be aware that, despite stranding, stock may refuse to drink flood water if it is polluted or tastes different from their normal supply, e.g. if they are accustomed to bore water. When feeding stock, watch them carefully to make sure that they are drinking.

While full dams are a relief, floods and drought-breaking rains can dump large quantities of silt and organic material into creeks and water storages. Be on the look-out for algal blooms and polluted dam water.

Insect and arthropod problems

A very wet season (with or without a flood) is likely to result in larger than usual insect and arthropod (e.g. tick) populations. Problems due to increased insect activity are likely to become widespread, particularly if preceding seasons have been dry, resulting in limited exposure and low levels of immunity to insect-borne viruses.

- Mosquito and midge numbers can increase dramatically, causing irritation and anaemia.
- The incidence of insect-borne diseases such as Akabane virus or ephemeral fever (three-day sickness) can increase dramatically. These diseases may occur in areas where they have not been seen in the past few years.

- In coastal country, tick paralysis in calves could be worse than usual, due to high numbers of ticks.
- Other ticks could cause anaemia and irritation, resulting in loss of condition.
- The blood parasite *Theileria buffeli*, which is carried by ticks, may also cause significant anaemia in cattle when tick numbers are high.
- Fly worry, including buffalo fly on the coast, may cause loss of condition.
- Flystrike in sheep can cause major losses (see 'Skin and wool problems' below).

Bacterial disease

Most bacteria thrive and multiply in a moist environment, so bacterial diseases can become a real problem after heavy rain.

Pneumonia is likely to occur in flood-affected stock, especially if they have been swept away and get water into their lungs.

Salmonellosis may also occur due to stress and exposure to prolonged cold.

Disturbance to the soil by floods may expose dormant bacteria and result in the emergence of many diseases seen infrequently in dry seasons, such as 'mud scours' caused by *Yersinia*.

Flooding may also occasionally expose long-buried anthrax spores, resulting in unexpected incidents of anthrax.

In cross-bred ewes grazing tall grass, mastitis can become a problem from the combined effects of udder engorgement due to lush feed, udder abrasions and flies.

Vaccinating with 6-in-1 is important after floods. The sudden flush of feed will make stock susceptible to pulpy kidney, and the flood may bring to the surface the spores of other clostridia such as those causing blackleg.

Similarly, leptospirosis vaccination is recommended, as leptospirosis is more likely to be a problem in wet seasons.

Diseases that can be spread mechanically by flies, such as diarrhoea and pinkeye, are likely to become more widespread.

Foot problems

All stock are susceptible to foot problems after long periods of immersion in water.

Wet conditions can expose cases of dormant footrot. Foot abscess and other foot problems will be common where animals' feet are constantly wet.

Move stock to dry areas as soon as possible. If sheep must be yarded consider foot-bathing with 10% zinc sulphate as they leave the yards, to control foot abscess.

Seek advice from your District Veterinarian if you are unsure of the cause of lameness in your stock.

Skin and wool problems

Flystrike is very likely to occur in your sheep after wetting, especially if they have much wool on them. Flies will even attack wet sheep in quite cool weather.

Even when the fleece dries out, problems such as fleece rot and lumpy wool will continue to attract flies.

Fly preventatives can be used before flies become active. If sheep are already struck, they will need to be treated very quickly.

Diseases such as fleece rot, lumpy wool (dermatophilosis) and mud fever or rain scald can become prevalent.

Other diseases that enter the body through skin wounds, such as erysipelas arthritis, may become more common if the animals' skin has remained wet for long periods.

Contact your local Industry and Investment NSW (I&I NSW) office or refer to the [I&I NSW website](#) for further information on fleece rot, flystrike, lumpy wool and other health problems affecting sheep.

Parasites

Worm larvae survive much longer on pasture in moist conditions, and parasite burdens may increase rapidly. Strategic drench plans relevant to the particular region should be adhered to and/or monitoring undertaken to demonstrate whether drenching has been successful, or is necessary, as the case may be. See the [livestock health and disease](#) section of the I&I NSW website for more information on drenches and parasites.

Western areas of NSW that seldom see problems due to parasites may start to see clinical disease, so be on the look-out.

Protozoan parasites such as cryptosporidium also emerge in wet seasons, causing scouring in calves.

Bloat

Sudden flush of pasture, especially clover or lucerne, can cause bloat in cattle or redgut in sheep.

Plant poisonings

Many plant poisonings only occur because stock are hungry and have no access to alternative feed. When flood follows drought, you should always check early paddock germinations for poisoning potential before stopping your hand-feeding program.

Fast-germinating plant species tend to be the most prolific following drought-breaking rains. Poisonings are more likely where a single species dominates the pasture. Most producers will be aware of the poisonous plants that occur in their region and will be on the lookout for them – for example, phalaris staggers tends to be more common following good rains after a dry spell. In some cases, limiting exposure with careful grazing management may be enough to avoid problems but in other cases this may not be possible and alternative feeding arrangements will be required.

Sudden heavy rain in the west can result in diseases such as floodplain (blown grass) staggers and tribulus staggers. In the case of floodplain staggers the poisonous part of the plant is the seed head, therefore either graze heavily in early spring to prevent or delay seed head development, or move stock off blown grass once seed heads have formed and are starting to mature.

Wet summers can encourage the widespread growth of panic grasses, and this can cause outbreaks of liver damage and photosensitisation (extreme susceptibility to sun burn) in sheep, particularly young sheep. Other plants that may cause photosensitisation include St John's wort, buckwheat, and caltrop. Treatment involves removal of stock from the affected paddock and provision of shade, preferably a dark shed.

Stock grazing weeds such as Paterson's curse during drought will have chronic liver damage. Such stock will be more susceptible to photosensitisation when good feed is available.

Other poisonous plants that may cause problems include billy buttons (bachelor buttons), marshmallow, heliotrope, nardoo fern, pimelia and wild rape.

Rapidly growing plants that would normally not be toxic can also be a problem. Such plants include liverseed grass, lucerne, perennial rye grass, oats, etc. While nitrate and cyanide poisonings are probably more common in drought, they can occur in situations where the plants grow rapidly following good moisture and only develop a shallow root system. They are then prone to moisture stress if conditions become very hot, and wilting plants may contain toxic doses of nitrates or cyanide.

Where pasture is under flood water and unavailable to stock, poisoning from eating trees and shrubs such as lantana or green cestrum is a significant risk.

Stock movements

Following any sudden change such as bushfire, flood or drought-breaking rains, more livestock movements than usual tend to occur for various reasons.

- Loss of fencing allows stock to stray.
- Stock are deliberately moved off your property for safety reasons.
- You agist your stock elsewhere until your feed supplies recover.
- As your feed supplies recover you introduce other stock onto your property for agistment or replacement, or you bring your own stock home.

Every one of these stock movements brings with it a significant risk of introduced disease.

Try to minimise movements as much as you can.

Carefully check the disease status of any introductions, and if possible isolate them from your home stock for the first few weeks.

Check the complete disease history of any agistment properties to which you are considering sending your own stock.



Sheep being rescued by boat from a patch of high ground.

The [I&I NSW website](#) contains numerous publications and information to help you deal with livestock health problems. Alternatively you can contact your local I&I NSW or LHPA office.

Acknowledgement

Advice from Chris Bourke, Principal Research Scientist (Poisonous Plants) on the content of the poisonous plants section is gratefully acknowledged.

© State of New South Wales through Department of Industry and Investment (Industry & Investment NSW) 2010. You may copy, distribute and otherwise freely deal with this publication for any purpose, provided that you attribute Industry & Investment NSW as the owner.

ISSN 1832-6668

Check for updates of this Primefact at:
www.dpi.nsw.gov.au/primefacts

Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (February 2010). 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 Industry & Investment NSW or the user's independent adviser.

Job number 9864 PUB08/135[v2]